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Patient Safety and Care

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ABSTRACT : With the release of the Institute of Medicine's report on patient safety, a national agenda was set to rebuild the public's trust and create cultures of safety within all healthcare organizations. This vision of improvement is driving changes in healthcare organizations, educational institutions, and regulatory agencies to remove the blame and improve their systems. Understanding historical events, strategies for organization change, and current patient safety initiatives will assist nursing leaders to become active participants at the local, state, and national level as cultures are changed and solutions are developed to prevent patient injuries

INTRODUCTION

- Safe care is about doing the right things right. Health care is a complex environment where errors can injure or kill. Usually, the safeguards work. However, each layer of defenses such as alarms, standardized procedures and well-trained health professionals has weak spots.
- 1 When multiple system failures occur, mistakes that would usually be caught slip through. The price that we pay when such situations occur is often high, on both a human and a health-system level.
- Measuring patient safety initiatives and adverse events is essential when monitoring progress of these strategies, tracking success and helping to flag issues or identify potential areas for improvement. Patient safety indicators have already been instrumental in describing the state of patient safety in Canada. They have highlighted large variations in the risk of different types of adverse events, as well as differences in risk by patient group.
- To manage and reduce the risk of adverse events, it helps to understand the issues and be able to measure improvements.
- This Analysis in Brief provides updated information on what we know and don't know about patient safety in Canada. It focuses on results from recent surveys, as well as several patient safety indicators.

Patient safety goals for 2021 from Joint Commission

The Joint Commission recently shared seven patient safety goals for hospitals to focus on in 2021.

Every year, the organization gathers new evidence on emerging patient safety issues to inform its goals for the upcoming year.

The Joint Commission's 2021 national patient safety goals for hospitals are:

- Improve the accuracy of patient identification.
- Improve staff communication.
- Improve the safety of medication administration.
- Reduce patient harm associated with clinical alarm systems.
- Reduce the risk of healthcare-associated infections.
- Better identify patient safety risks in the hospital.
- Better prevent surgical mistakes.

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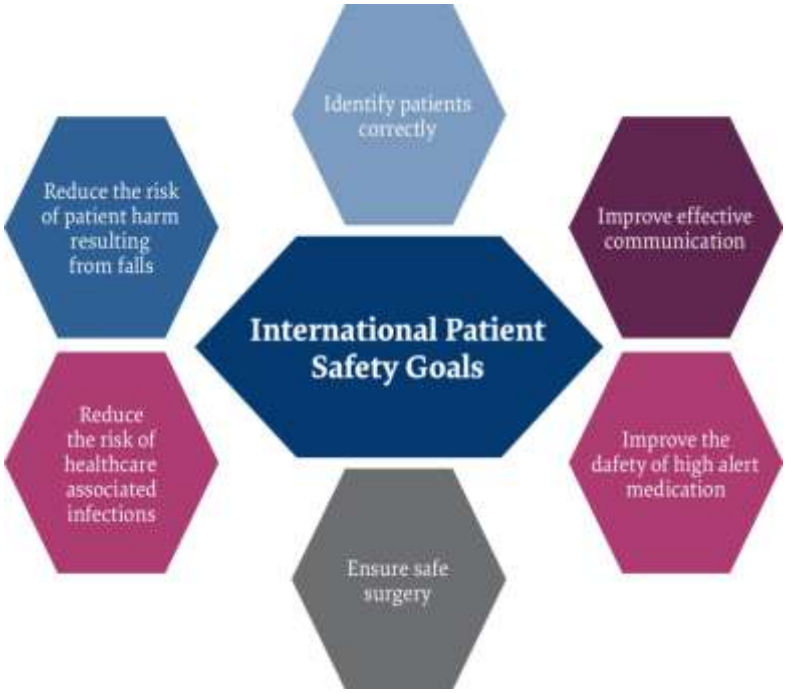

Pharmacists Role in Patient Safety

Pharmacists can play a role helping patients with chronic diseases have better medication at correct time and get good clinical outcomes. They play a key role in immunization services and identifying vaccine candidates. They Participate and maintain a significant role in multidisciplinary patient care rounds. Patients often make their own decisions about managing their medications. Pharmacists could usefully serve as patient advocates, providing information that permits patients to assess risk and enhance their autonomy.

- Key role in reducing adverse drug events
- Patient counselling
- Communication barriers
- Medical controversies
- Legal and practical aspects of prescribing
- Improving patient care in rural areas
- Reducing healthcare costs
- Improving patient safety

UNDERSTANDING PATIENT SAFETY

- Patient safety has been defined as **"the reduction and mitigation of unsafe acts within the health care system, as well as through the use of best practices shown to lead to optimal patient outcomes."2** One way to measure patient safety is to examine the risk of adverse events—"unexpected and undesired incidents directly associated with the care or services provided to the patient."2 While some risks are unavoidable based on what we know today, there is growing evidence about what works to reduce the risk.
- Progress has been made in a number of areas. For example, anesthesia is much safer than it used to be. Sometimes errors occurred when an oxygen tube was inserted into a patient's food tract rather than the airway. Likewise, it used to be relatively easy to switch nitrous oxide and oxygen canisters. By studying these and other errors, improving procedures and system design, introducing standards of practice and enhancing training programs, anesthesiology has transformed its safety record.
- Locally, provincially, nationally and internationally, people are building on these and other successes. However, important challenges remain. The first-ever Canadian adverse events study4estimated that 1 in 13 adult medical and surgical patients admitted to acute care hospitals in Canada in 2000 experienced an adverse event provided further information about how often different types of adverse events occur in Canada. Likewise, in a 2006 survey, approximately three-quarters of heath system managers and nurses reported that they thought it was likely that they would experience a serious medical error if they were treated in a Canadian hospital

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What Do Patients and Health Care Providers Say About Patient Safety?

Surveys of patients and health care providers are an important source of information for enhancing our understanding of patient safety. For example, in a recent international survey of adults with health problems administered by the Commonwealth Fund,7 approximately 10% of Canadian respondents reported receiving a wrong medication or dose from a health care provider in the previous two years. Moreover, 15% reported experiencing a medical mistake in the care they received and, of these respondents, nearly half indicated that the medical mistake caused a very/somewhat serious health problem. However, as Figure 1 illustrates, there appear to have been some improvements since 2002.

Perceptions of patient safety were also recently examined in the 2006 Health Care in Canada Survey. The results show that over half of adults surveyed believed that they were likely to experience a serious medical error while in hospital (Figure 2).

The percentage was even higher among nurses, health care managers and pharmacists. In contrast, doctors were the least likely to agree that a serious medical error would occur (differences between rates of agreement of doctors and other groups are statistically significant).

Fostering a Culture of Patient Safety

There are many ways that health care facilities can foster a culture of patient safety. Experts suggest that supporting an open and non-punitive environment for reporting patient safety incidents, including patient safety reporting at senior management and board levels, are some examples of high-level strategies that can be implemented. More targeted interventions include, for example, hand-washing protocols to minimize hospital-acquired infections and the use of systems that minimize the incidence of medication errors.

Prevention of Medication Errors

- Medication safety has become an area of increasing awareness.34 However, 72% of primary care doctors in Canada reported that it was somewhat or very difficult to generate lists of all of the medications taken by individual patients, if at all, including those prescribed by other doctors.
- The Institute for Healthcare Improvement suggests that one of the primary ways in
- which a health care organization could improve medication safety is to reduce the risk of adverse drug events.35 One way to do this is through the use of automated drug alerts, which provide information on potential drug interactions or dose problems.
- Although some primary care doctors in Canada do use computerized systems to alert them to potential drug interactions, when compared to other countries participating in the International Health Policy Survey of Primary Care Doctors, fewer Canadian doctors tend to use computerized systems to alert or prompt doctors about potential drug dose or interaction problems. Where 10% of Canadian primary care doctors reported that they used such a system, 93%, 91% and 87% of their counterparts in the Netherlands, the United Kingdom and New Zealand, respectively, responded likewise (Figure 7).9
- A recent review has suggested that electronic prescribing of medication might also
- reduce the number of prescribing errors.36 It has been reported that 11% of primary care doctors in Canada use electronic prescribing, the lowest of all of the surveyed countries.9 This compares to over 80% in both the Netherlands and Australia, which both reported a high percentage of doctors using electronic prescribing (85% and 81%, respectively). Medication reconciliation, a formal process for creating a list of all patients' current medications when admitted to hospital, and using it when prescribing new medications, has been suggested for reducing adverse drug events.37

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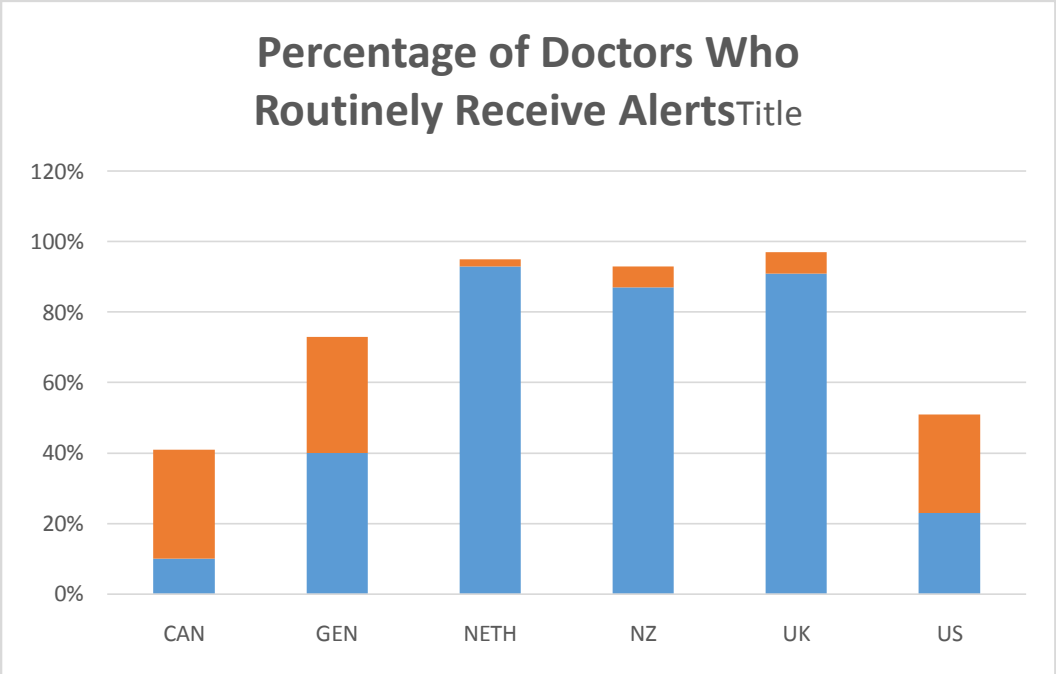

Yes, Using a Computerized System Yes, Using a Manual System

Source: Commonwealth Fund International Health Policy Survey of Primary Care Doctors, 2006.9

PATIENT SAFETY ISSUES

This chapter presents those results of the study that are concerned with the specific patient safety issues (those issues that may cause harm) faced by patients with learning disabilities in NHS acute hospitals. patient safety is concerned with any issue that could have or did cause harm to a patient as a result of the health care received. It is estimated that around half of all patient safety issues are preventable.[75]

This chapter also reports on the findings concerning incidents and complaints involving patients with learning disabilities.

Examples of preventable deterioration

- A number of examples of patient safety issues were recounted to the research team, some of which have already been described in this report. Further examples are given in Box 1.

BOX 1

- Examples of preventable deterioration A. An elderly, blind man with profound learning disabilities was admitted to hospital as his residential care home manager believed he was in pain. The cause of this pain was unknown. The medical staff initially refused

Difficulties in establishing preventable deterioration

- These examples, taken from all six study sites, demonstrate a wide variety of ways in which preventable deterioration may occur in different clinical settings within acute hospitals, and show that patients across the spectrum of learning disability have been affected.
- However, attributing failures in care to the existence of a patient's learning disability is extremely complex and usually requires a full and detailed investigation and analysis, as is demonstrated by the reports of the Health Service Ombudsman[2] and CIPOLD.[3]
- Therefore, although many of the examples in Box 1 appear to demonstrate clear-cut service failure resulting in harm, the extent to which these failures are directly caused by discrimination against patients who have learning disabilities or lack of reasonable adjustment to accommodate their needs is difficult to assert with full confidence. Similarly, it is often the case that the 'preventability' of deterioration is difficult to define as, even with the best medical and nursing care, deterioration is often a natural consequence.
- For instance, it may be difficult to assert that the harm described in example E was indeed preventable.

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Staff perceptions of patient safety and preventable deterioration

- Most of the tangible examples of patient safety issues that had resulted in harm (rather than general descriptions of what might constitute a patient safety issue) were provided by carers. There may be a number of reasons for this. One issue was the apparent conscious or unconscious desire of hospital staff to paint their trust in a positive light and to focus on demonstrating the steps they had taken to improve the safety of care provided for people with learning disabilities. This may have been to the detriment of openly talking about any potential gaps in safety of care or areas for improvement. For example, within the clinical staff questionnaire, participants were asked whether patients with learning disabilities had deteriorated unnecessarily within the past 3 years. Just 2.9% of respondents (24 out of 825) indicated 'yes' in response to this question (see Appendix 4).
- It also became clear throughout the interviews that a significant minority of clinical and managerial hospital staff did not think that patients with learning disabilities were at increased risk.
- I think it's the same as the safety for the rest of our patients, I don't think that they are in any further risk than the rest of the patients that we see here.
- Your special need isn't really going to kill you.

ANALYSIS OF PATIENT SAFETY ISSUES IDENTIFIED IN THE STUDY

Despite the difficulties described in Difficulties in establishing preventable deterioration and Staff perceptions of patient safety and preventable deterioration, the mixed-methods data gathered suggested that patients with learning disabilities are indeed at risk of experiencing patient safety issues in acute hospitals. A broad variety of safety issues were described. Synthesis of the data demonstrated that the following issues may be of particular significance to patients with learning disabilities (not in order of importance):

1. lack of basic nursing care
2. misdiagnosis
3. delayed investigations and treatment
4. non-treatment decisions and DNAR orders
5. Misuse of the Mental Capacity Act.

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Lack of basic nursing care

Several carers and hospital staff described a lack of basic nursing care provided for patients with learning disabilities, or an over-reliance on carers to carry out nursing tasks . Concerns relating to basic nursing care were frequently raised around feeding and hydration, and pressure area care.

Feeding and hydration problems

- Examples A, C and E in Box 1 described situations where patients had become severely dehydrated or malnourished in hospital. Examples were also given by carers describing patients who were known to have swallowing difficulties and required soft foods but did not have this nutritional requirement met.
- Most importantly, his food has to be pureed. It was so hard for us to get that message across. It was in his [patient-held information document] but they lost it, so we had to keep telling them. They kept giving him solid food. It took such a long time before it was sorted.
- Among respondents to the clinical staff questionnaire, 6.3% (52 out of 825) said that within the past 3 years a patient with learning disabilities did not get sufficient food or drink. Further examples were provided in staff interviews, in free text responses to the staff questionnaire and within incident reports.
- Identifying patients with deteriorating nutritional needs has gone unnoticed for several days. This adds an unnecessary delay in referral and then starting a nasogastric tube feed.
- One person with learning disabilities reported being regularly passed by when breakfast or coffee was served. She thought this was because staff did not want to look after someone with learning disabilities.

Pressure sores

A number of hospital staff and carers stated that patients with learning disabilities may be at particular risk of developing pressure sores during an inpatient stay . The following reasons for this were suggested: clinical settings may lack the equipment needed to turn patients; there may be delays in implementing equipment such as special mattresses; nursing staff may be unfamiliar with turning methods for patients who have physical deformities; nursing staff may wrongly assume that carers are able to assess and take care of the patient's pressure areas; and patients may not be compliant with pressure area care.

Misdiagnosis

- Examples B and D in Box 1 illustrate diagnostic overshadowing leading to misdiagnosis. Participants with learning disability expertise suggested that this was a particular risk when hospital staff failed to engage carers or LDLNs who can provide background information and aid communication.
- Difficulties in communicating with the patient about symptoms and medical history were described as being crucial in contributing to misdiagnosis or diagnostic overshadowing. Examples of misdiagnosis of patients with learning disabilities had led to varying outcomes, ranging from no known harm through to serious harm.
- I once found it difficult to assess a young patient with learning difficulties who appeared agitated after a head injury. I had to rely on the information given to me by the mother which was not accurate. The patient was discharged and returned a few hours later with an inter-cranial bleed. This could have been prevented if I had been able to assess the patient better and more thoroughly.
- However, it should be noted that a number of hospital staff did not feel that patients with learning disabilities were at increased risk of misdiagnosis in comparison with other patients. This finding could, in part, be due to the relative infrequency of misdiagnosis coupled with the relative infrequency of caring for patients with learning disabilities. This is perhaps reflected in the results of the clinical staff electronic questionnaire (see Appendix 4), where only 1.2% of staff (10 out of 825) indicated that, within the past 3 years, a patient with learning disabilities had been misdiagnosed within their clinical area.
- It may be of interest to note here that the CIPOLD report[3] stated that:
- . . . a small number of problems with diagnosing a person's illness were due to misdiagnosis (7%).
- p. 58. Reproduced with permission from Heslop P, Blair P, Fleming P, Hoghton M, Marriott A, Russ L. Confidential Inquiry into Premature Deaths of People with Learning Disabilities (CIPOLD): Final Report. Bristol: Norah Fry Research Centre; 2013
- These were mostly cases of cancer being misdiagnosed as another illness, or doctors not

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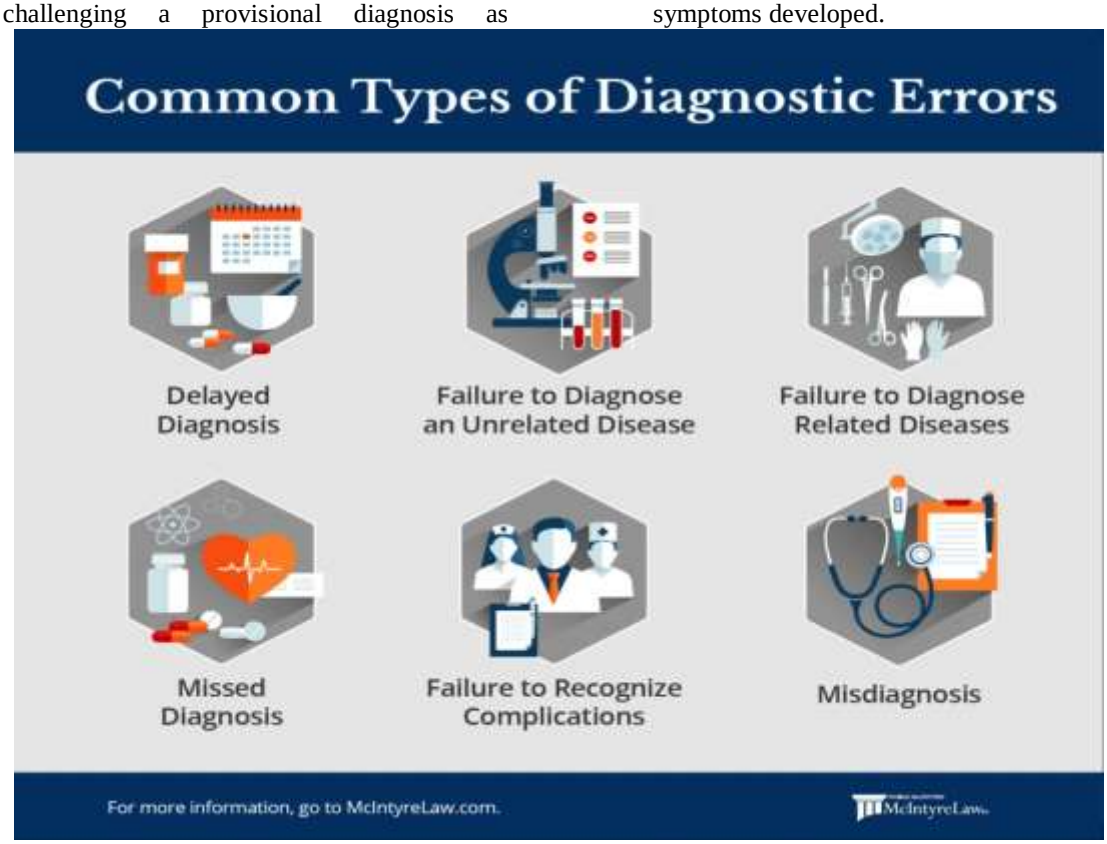
challenging a provisional diagnosis as symptoms developed.



Delayed investigations and treatment

- Examples A, B, C, D, F and H in Box 1 all provide examples of compromised patient safety which resulted in harm to the patient as a result of delayed investigations and delayed treatment. Contributory factors underpinning these examples and others were wide-ranging. There could be difficulties in accessing hospital services (for example, non-attendance of outpatient appointments); failure to provide the reasonable adjustments needed to enable the patient to have the investigation or treatment (see Chapter 6); poor staff attitudes, including assumptions about quality of life (see Misuse of the Mental Capacity Act); and issues around the patient's ability to give consent or the correct implementation of the Mental Capacity Act (see Misuse of the Mental Capacity Act).
- Other examples in relation to delayed treatment included the timely recognition and treatment of pain, and problems with medication.

Recognising and treating pain

- A number of participants (including people with learning disabilities, hospital staff and carers) suggested that recognising and appropriately treating pain had been problematic.
- A couple of times on [the ward] I tried to get their attention, I was in pain and needed medication. I had to get my mum to speak to them and she had to complain, saying I need medication for my pain.
- Several nurses talked about the difficulty of assessing pain when a patient is unable to communicate verbally and the reliance they have on close carers to establish this. Similarly, some expert carers acknowledged these difficulties.

Medication

- Of respondents to the staff questionnaire, 2.1% (17 out of 825) indicated that within the past 3 years a patient with a learning disability had been given the wrong medication or the wrong dose, or did not receive their medication.
- Omissions of medication were a particularly common patient safety issue.
- On a number of occasions the care staff would come in and find that the patient's medication remained untaken on the side. When they

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checked this with the ward staff they would claim that the patient had taken it because the medication chart had been signed.

- It was proposed that some patients with learning disabilities may be less likely to challenge the omission of their medication with ward staff.
- They'd be less likely to challenge the error . . . a patient with a learning disability would be much more vulnerable in that situation.
- The degree of patients' compliance with treatment was also cited as a possible cause of drug omissions for patients with learning disabilities.
- Furthermore, it was proposed that some nursing staff working in acute hospitals may be unfamiliar with certain medications commonly taken by people with learning disabilities for their comorbidities (for example, anti-epileptics and mood stabilisers) and lack understanding of the importance of such medications, which may contribute to the increased likelihood of omission.
- In addition, several examples were given by patients with learning disabilities and their carers who had experienced problems relating to medication following discharge, and a small number of incident reports had been filed in relation to this issue. Problems included insufficient communication with the carers about medication changes, or discharge medication not being issued in an appropriate format.
- This patient with a learning disability who has support at home was discharged without being given a copy of his discharge letter. His insulin regime had been changed by the doctors here which was highlighted on the discharge letter. His carers were not informed of the changes.
- She has to have tablets in blister packs . . . and they had changed her medication, so that all had to be set up before she left the hospital. I explained all of this to them and they said 'no don't worry, that will all be set up'. I went to collect her and there were no blister packs. They gave her a bag and tablets in boxes and as much as I wanted to take her home because she was so fed up, I couldn't because she cannot read or write. She can't administer from boxes. And they then claimed it takes three days for them to get the pharmacist to do these blister packs.

Non-treatment decisions and 'do not attempt resuscitation' orders

- There were examples where carers felt that decisions about whether or not to provide active treatment for patients with learning disabilities were being inappropriately influenced by staff assumptions about quality of life or by staff members' fear of treating patients whom they perceived to be challenging. In such examples, treatment was provided at the carers' utmost insistence, and patients who may otherwise have died were able to return home.
- [The doctor in A&E] took me to one side and he said, 'What sort of quality of life is she going to have if we pull her through this?' And I said, 'She'll have a fantastic quality of life, she's got close family, she's got excellent

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carers, she's got lots of things to look forward to in her life'. And he said, 'Well, it'll be up to the ICU [intensive care unit] team whether or not they'll treat her, you do realise that she isn't going to survive if we don't treat her?'

- If my staff had not supported [patient], he would either be in a coma or dead because they just wouldn't have given him any medical intervention.
- Similarly, in some cases nursing staff and carers felt that DNAR orders were inappropriately based on staff assumptions about the quality of life of patients with learning disabilities.
- One thing, personally, which upsets me the most – I know they have learning disabilities and it's not very severe sometimes – but they just put all of them when they come in, 'Not For Resus'.

MISUSE OF THE MENTAL CAPACITY ACT

- The study results revealed a number of problems that clinical staff working in acute hospitals have with understanding and correctly implementing the Mental Capacity Act.
- Example F in Box 1 described incorrect use of the Mental Capacity Act. Other examples included patients being asked to sign a consent form (and obliging) without any explanation being given, despite staff having been told that the patient lacked literacy skills.
- Furthermore, delays to investigation or treatment are often imposed while capacity is assessed or while a 'best interest' decision is being reached. One family carer described difficulties in trying to obtain a timely 'best interest' decision to enable her profoundly disabled son to have an urgent procedure to unblock his PEG feeding tube.
- We literally ran round . . . What they should understand is that the PEG is his lifeline, the food, water, if that's not working, he can't swallow . . . and that's where we run into trouble. People don't always get it, they don't understand that there's urgency.
- Within the staff survey, 23.8% of clinical staff (196 out of 825) said that within the past 3 years certain tests or treatments were delayed because the patient was unable to give consent. Furthermore, 8.6% of clinical staff (71 out of 825) indicated that within the past 3 years certain tests or treatments were not given because the patient was unable to consent.
- Many hospital staff appeared to misunderstand the Mental Capacity Act or lacked confidence in using it. Within the staff survey, staff were asked whether they felt confident in using the

Mental Capacity Act

FIGURE 13

- 'Do you feel confident using the Mental Capacity Act?' Responses to staff survey question 18 (n = 835).
- This uncertainty was not restricted to junior staff; during interviews a number of senior clinical staff highlighted difficulties in correctly following the Mental Capacity Act, which may result in harm or even patient death.
- [The patient] had cancer and needed surgery. I didn't realise that he didn't have the capacity to say 'no' to the operation. He didn't want the operation, and I just thought that was that. But [LDLN] came along and asked him, 'What do you think will happen if you don't have the operation?' and he really didn't know. He didn't have the capacity. So it became a best interest decision, and we decided to do the operation.
- Aside from the delays inherent in organising best interest meetings, where used these were generally thought to be productive. However, it appeared that the correct use of best interests meetings was still not 'the norm' in some settings.

INCIDENT REPORTS

Incident reports at the study sites

Incident report data were provided by five of the six study sites. Staff at the site that did not provide this information stated that they were unable to identify which incident reports involved patients with learning disabilities.

Qualitative analysis demonstrated that a wide range of incidents involving patients with learning disabilities had been reported. These spanned inappropriate management of perceived challenging behaviour; physical abuse towards hospital staff (sometimes resulting in injury and sometimes not); incorrect use of the Mental Capacity Act; delays to diagnostic tests; delays to treatment; drug errors and omissions; pressure sores; feeding problems; poor tracheostomy care; falls, accidents and injuries; hospital-acquired infections; safeguarding alerts; patients absconding/discharging against medical advice;

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treatment in an inappropriate clinical area; and unavailability of equipment.

Rudimentary assessment of the number of each type of incident reported revealed that staff often report tangible, physical patient safety issues (such as falls, pressure sores or medication errors), for which there may be a particular drive in favour of reporting at an organisational level. While this research did not seek to quantify the types of patient safety issues that are reported, cross reference to the other sources of data collated during the study may imply that important issues such as problems with feeding or hydration, or delays to patient care may be less readily identified than patient safety issues that require reporting.

Difficulties with using incident reports to monitor patient safety

- It is known that incident reports tend to be biased towards certain patient safety incidents and the study results appear to concur with this. For example, some hospitals are excellent at reporting falls, as the need to do so has been widely promoted. There are, however, a vast number of potential reasons why some incident types may be under-reported. Acts of omission are a particular concern.
- The study findings suggest that hospital staff are often unclear as to what the safety issues faced by people with learning disabilities . It can be suggested that this may make it difficult for staff to conduct thorough and appropriate risk assessments and safeguard against potential adverse events.
- A further major difficulty in using incident reports to assess safety risks was the lack of effective systems for identifying patients with learning disabilities and, therefore, accurately identifying all incident reports that involved patients with learning disabilities. Furthermore, discussions held throughout the course of the project revealed that hospital staff often felt that the person's learning disability was not relevant to the incident and therefore failed to indicate the learning disability on the incident report.
- For these reasons, incident reports which are specifically flagged as involving a patient with a learning disability are likely to be a small subset of the incidents that actually take place, and are consequently a poor method for monitoring patient safety issues in this group of people.

THE BURDEN OF HARM

Every year, millions of patients suffer injuries or die because of unsafe and poor-quality health care. Many medical practices and risks associated with health care are emerging as major challenges for patient safety and contribute significantly to the burden of harm due to unsafe care. Below are some of the patient safety situations causing most concern.

- **Medication errors** are a leading cause of injury and avoidable harm in health care systems: globally, the cost associated with medication errors has been estimated at US$ 42 billion annually.
- **Health care-associated infections** occur in 7 and 10 out of every 100 hospitalized patients in high-income countries and low- and middle-income countries respectively.
- **Unsafe surgical care procedures** cause complications in up to 25% of patients. Almost 7 million surgical patients suffer significant complications annually, 1 million of whom die during or immediately following surgery.
- **Unsafe injections practices** in health care settings can transmit infections, including HIV and hepatitis B and C, and pose direct danger to patients and health care workers; they account for a burden of harm estimated at 9.2 million years of life lost to disability and death worldwide (known as Disability Adjusted Life Years (DALYs)
- **Diagnostic errors** occur in about 5% of adults in outpatient care settings, more than half of which have the potential to cause severe harm. Most people will suffer a diagnostic error in their lifetime .
- **Unsafe transfusion practices** expose patients to the risk of adverse transfusion reactions and the transmission of infections . Data on adverse transfusion reactions from a group of 21 countries show an average incidence of 8.7 serious reactions per 100 000 distributed blood components.
- **Radiation errors** involve overexposure to radiation and cases of wrong-patient and wrong-site identification . A review of 30 years of published data on safety in radiotherapy estimates that the overall incidence of errors is around 15 per 10 000 treatment courses.

- **Sepsis** is frequently not diagnosed early enough to save a patient's life. Because these infections are often resistant to antibiotics, they

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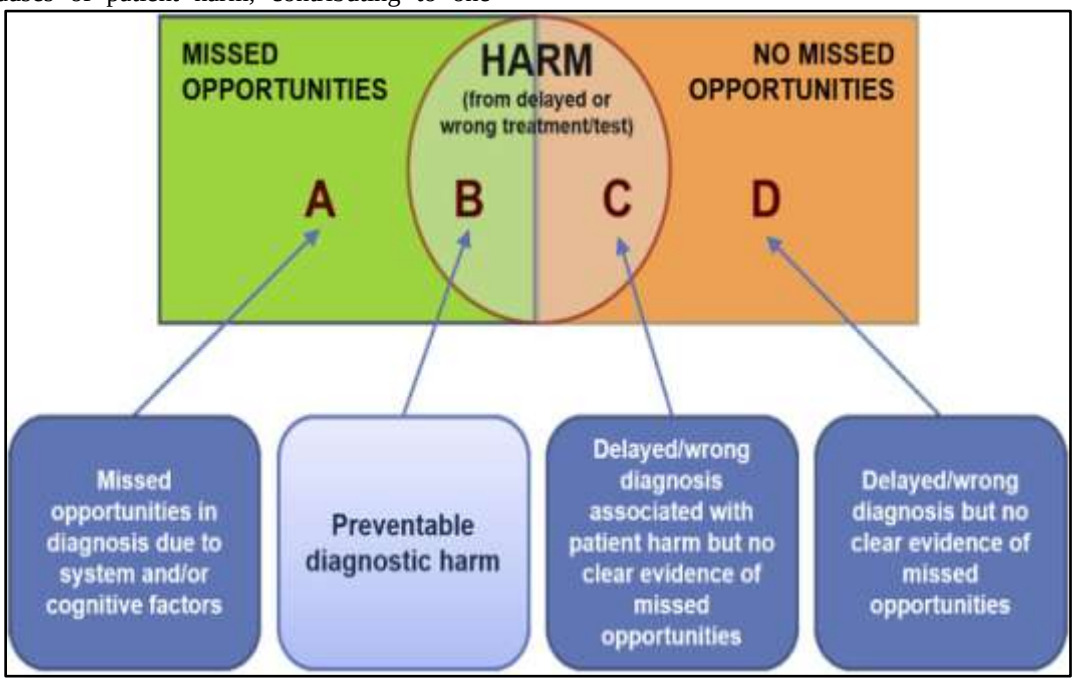
can rapidly lead to deteriorating clinical conditions, affecting an estimated 31 million people worldwide and causing over 5 million deaths per year.

- **Venous thromboembolism (blood clots)** is one of the most common and preventable causes of patient harm, contributing to one third of the complications attributed to hospitalization. Annually, there are an estimated 3.9 million cases in high-income countries and 6 million cases in low- and middle-income countries.



PATIENT ENGAGEMENT IN PATIENT SAFETY:

Barriers and Facilitators

- Patient safety has been at the forefront of recent domestic and international policy initiatives. The release of the Institute of Medicine's (IOM) 2000 report To Err Is Human solidified the patient safety movement and the role that leadership and knowledge can play in preventing adverse events from occurring. Using information from two studies conducted in the United States in 1984 and 1992, the IOM estimated that between 44,000 and 98,000 people die annually from medical errors, with approximately 7,000 of these deaths resulting from medication errors (Kohn et al., 2000). In Canada, the seminal Canadian Adverse Events Study (Baker et al., 2004) shed light on the magnitude of medical and medicine errors within that country's healthcare system. In fact, the overall incidence rate of adverse events in Canada in 2000 was 7.5%, representing 185,000 adverse events annually (Baker et al., 2004). Astonishingly, 70,000 of these adverse events were also found to be potentially preventable.
- As a result of these findings, many patient safety strategies within hospital settings have focused on such as patient identification, surgical site identification, wound management, continuity of care, sound-alike drug names, drug labelling and storage, and allergy identification. (Cook, Render & Woods, 2000; Nolan, 2000; Burke, 2003). Furthermore, patient safety strategies have been focused mainly on error-prevention from a healthcare provider and systems perspective. This has led to increased education and awareness of patient safety issues within the workplace and targeting technologies as a means to reduce human error. While addressing these technical and complex issues is essential in reducing the number of adverse events experienced, recent studies and campaigns have begun to target the patient as an integral team member in the reduction of medical errors. Campaigns such as the World Health Organization's (WHO) Patients for

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Patient Safety have begun to highlight the role that patients can play in improving the safety and quality of care received, including being knowledgeable about their treatment plans and asking healthcare professionals for clarification when they don't understand. Understanding the role of patients in patient safety as well as the barriers and facilitators to engaging patients in patient safety practices will help reduce adverse events.

- Patient Engagement in Patient Safety Patient engagement in patient safety is aimed at increasing the awareness and participation of patients in error-prevention strategies. To better understand how to effectively engage patients in error prevention strategies, we conducted a literature review of Canadian and international articles and studies on patient engagement, patient safety, and safety culture. This resulted in a proposed framework for patient engagement in patient safety (Figure 1). The following sections will explore these barriers and facilitators in more depth and assess their effectiveness on shifting patient perceptions and behaviors. Barriers and facilitators are summarized in Tables 1 and 2, respectively.

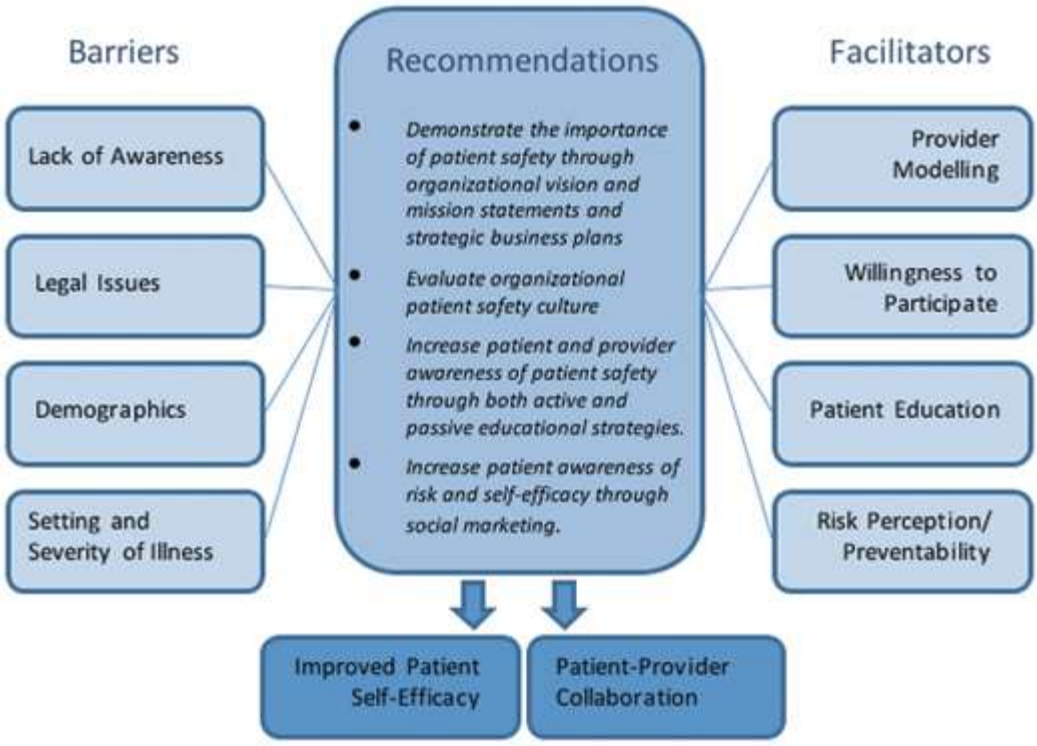

Figure1. Proposed framework for patient engagement in patient safety

Barrier	Description
Awareness	• Lack of patient awareness of healthcare risks. • Lack of knowledge of patient safety and terminology.
Traditional Patient/Provider Roles	• Unwillingness to "challenge" healthcare provider knowledge and authority.
Self-Efficacy	• Lack of awareness of patient role in preventing errors. • Patients do not see a role for themselves in the healthcare system.
Healthcare Setting and Illness	• Patients may be more comfortable communicating with family physician than in hospital setting. • Acute or emergent illness may prevent patients from engaging in error prevention behaviors.
Demographics	• Older patients may be more reluctant to become involved

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	in healthcare decisions and error prevention.
Legality	• Increased patient responsibility and involvement could affect duty to disclose and provider liability.

Table 1. Barriers to patient engagement in patient safety practices.

Facilitator	Description
Provider Modelling	• Patient instruction may increase patient comfort level in asking questions. • Inviting patients to ask questions lessens the notion of "challenging."
Perception of Risk and Preventability	• Creating a sense of worry may increase patient likelihood of engaging in error prevention behaviours. • Specific knowledge of how patients can prevent errors may increase participation.
Willingness to Participate	• Patient surveys suggest that patients are willing to engage in patient safety practices. • Patient safety initiatives should tap into specific patient motivators for involvement.

Awareness : The most commonly cited barrier to patient engagement in patient safety practices is an individual's lack of awareness and understanding of what patient safety is. In fact, in one survey of patients in the United States, the term "patient safety" was actually viewed as less important than the term "medical errors," suggesting that patients do not understand that patient safety and medical errors commonly refer to the same topic (Hibbard, Peters & Tusler, 2005). Interestingly, the convenience sample within this study contained a large percentage of university graduates (55.4%), suggesting that even educated individuals may be unaware of the term and concept of patient safety. While patient safety is an often used and understood term between healthcare professionals, we believe that to obtain maximal impact of patient safety issues within the public, it may be more appropriate to frame the concept around medical errors as this is typically taken more seriously by patients. However, the study also showed that increased education surrounding patient safety did mitigate this confusion.

To capitalize on a greater knowledge of patient safety and ensure engagement of patients in error prevention strategies, many experts purport that education must occur before the provider encounter. Brennan and Safran (2004) suggest that public awareness of safety issues could be increased through public education and public negotiation of safety goals. Peters et al. (2006) suggest that patient safety awareness might be best achieved through an increased perception of risk and preventability. Specifically, if patients are not aware that medical or medicine errors constitute a risk for them while receiving treatment, then patient engagement is unlikely to occur. Moreover, if there is a perception of risk, but patients do not feel like their actions can prevent errors from occurring, patients will be unlikely to become active participants in error prevention strategies (Peters et al., 2006). Patients must also be aware of the proper reporting mechanisms for when errors do occur and understand what steps they can take to address medical errors within the public sphere (Brennan and Safran, 2004).

Traditional Patient and Provider Roles

The traditional patient-provider relationship has also been identified as an impediment to greater patient participation in patient safety. Three major patient safety studies in the United States (Marella et al., 2007; Waterman et al., 2005; Davis et al., 2008) identified that patients feel less comfortable asking direct and confrontational questions of their providers, such as, "Did you wash your hands?" or asking if the physician could mark their surgical site. Davis et al. (2008) also found that patients are less willing to adhere to patient safety practices that they view as challenging to the healthcare staff's clinical abilities. This was somewhat mitigated by the healthcare professional's designation, with more individuals willing to ask challenging questions of nurses than of physicians. Waterman et al. (2005) reported similar results with only 45.5% of the respondents indicating that they would feel comfortable asking medical personnel whether they

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had washed their hands. Even more shocking was the fact that only 4.5% of respondents actually did ask their care provider if they had washed their hands, indicating a large discrepancy between feeling comfortable to perform an error prevention action and actually performing that action. The traditional patient-physician relationship, in which the physician is perceived to have more knowledge about individual health concerns, is an impediment to patients asking questions of their physician, even if they feel that that their safety might be compromised and that they could play a role in preventing an error. This disconnect might point to broader cultural issues.

SELF-EFFICACY: Self-efficacy refers to the ability of patients to perceive themselves as playing an important role in error prevention. Essentially, it measures whether or not they view their participation in patient safety as being efficacious. Hibbard et al. (2005) asked respondents, "How much can you rely on your own knowledge and alertness to protect yourself from medical errors?" with a possible range of 0 (not at all) to 6 (can rely a lot). Results indicated that the majority of respondents had moderate self-efficacy and that this was related to the presence of family members in the hospital and having previously read about medical errors. Moderate to high perceived health efficacy was strongly related to the likelihood of taking error prevention actions and was also found to be related to the likelihood of taking unfamiliar prevention actions and questioning healthcare workers about washing their hands. However, 21% of respondents indicated that they had low self-efficacy for error prevention This is a substantial hurdle to involving patients in patient safety and needs to be addressed through further education and awareness. However, with little research and data on how effective patient engagement in patient safety is or could be, patients may continue to view their involvement as mere lip service.

- **Healthcare Setting and Illness**

The healthcare setting and nature of illness can in and of itself prevent some patients from engaging in error prevention strategies. A critical literature review conducted by Davis et al. (2007) found that patients are more comfortable communicating with their family physician than with hospital staff, which might impede increased participation of patients within the hospital setting. While this information is discouraging in that many preventable medical and medicine errors happen in hospital and post-discharge, it does signal that increased educational opportunities within the primary care setting might exist. In addition to feeling uncomfortable, hospital settings present a number of other difficulties to engaging patients, particularly with critically ill patients and those admitted to the emergency department. Waterman et al. (2006) found that patients who were critically ill lacked the capacity to fully involve themselves in error prevention even if they had wanted to do so. To date, it has also been difficult to involve critically ill patients in patient engagement studies,

- So there is not a great deal of information available about patient representatives as a means of greater patient involvement in patient safety. The emergency room setting also presents a number of obstacles for involving patients. Emergency patients are often unaware of their healthcare problem, and this may create difficulties when asking patients to participate in decision processes and also discourages patients from speaking up

Demographics:Patient demographics have been shown to have some impact on the likelihood of patient involvement in error prevention strategies. In a survey of 2,078 hospitalized patients discharged from 11 Midwest hospitals in the United States, Waterman et al. (2006) found that older patients and Caucasians were less likely to ask the purpose of a medication when compared to other groups. Davis et al. (2007) found that, in general, younger patients want to be involved more than older patients. On average, however, older patients have more complex and chronic health issues and are on a greater number of medications, suggesting that for this demographic, greater awareness and education of patient safety issues may be necessary. Also, the use of patient representatives or proxies may help ensure that older patients are involved in their treatment. Other study results cited in Davis et al. (2007) stated that women wanted more involvement than men and that highly educated patients opted for a more active role in the quality of their care.

Legality: The expectation that patients will become increasingly involved in their own care and error prevention has come with some uncertainty how this may change the responsibility of both provider and patient. Critics of increased patient involvement in patient safety have cited that it is unreasonable to expect patients to assume more responsibility for their health when they are already

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in the vulnerable position of being ill. Lyons (2007) argues that if patients are entrusted with the task of ensuring their safety, then physicians may rely too heavily on this, leading to a reduction of safeguards on the physician side. Liability for medical and medicine errors could also be called into question. However, it is important to note that patient engagement in patient safety practices is not intended to enforce a standard on patients; rather, it is to encourage patients who are interested and willing to become more involved in their care and to become better educated about potential risks. Nonetheless, it will be necessary to ensure that the scope of patient engagement is well defined and that neither the legal responsibilities of physicians are reduced nor that patient responsibility is increased.

FACILITATORS

- **Provider Modelling**

One of the most commonly cited facilitators of patient engagement in patient safety is provider behavior or physician modelling. Patients are less likely to engage in behavior that they perceive to be confrontational or challenging. Davis et al. (2007) found that when patients were instructed by a doctor to ask challenging questions of themselves and nurses, patient willingness to ask was significantly increased. Thus, physician instruction and education surrounding the reasons why patients should ask questions may have a significant impact on patient error prevention behaviors. Waterman et al. (2006) found similar results with their survey and suggest physician modelling as an integral part of patient education of patient safety practices. The authors propose that patient safety programs should target patient fears about challenging and insulting their healthcare provider by posting education material in hospital and waiting rooms encouraging patients to ask questions or having providers wear reminder buttons that encourage patients to ask them if they've washed their hands (Waterman et al., 2006). Fundamentally, provider modelling and education surrounding the acceptability of asking healthcare providers questions should ultimately lead to greater patient comfort in engaging in these behaviors. Hibbard et al. (2005) also suggest that training patients to be more assertive in their encounters with healthcare providers may lead to greater involvement in error prevention behaviors, as it has previously been shown to enhance patient involvement in their own care and improve care outcomes.

Perception of Risk and Preventability: One of the greatest barriers to patient involvement in patient safety is patient awareness of the potential risks of encountering the healthcare system; if patients do not feel that they are at risk for a medical or medication error, they are unlikely to take preventative actions. Furthermore, even if patients are aware of risks, they might not be able to determine if or when an error occurs.

A survey conducted in the United States found that although patients were aware of medical errors, they were unable to determine if they had in fact received proper treatment, making it impossible to identify potential errors (VHA, 2000). When patients understand the consequences of errors, they experience heightened perception of risk and worry, and the timing of those perceptions is predictable and manageable (Peters et al., 2006). Essentially, medical errors must be perceived by the public as real and definable risks and must be viewed as preventable through engagement in patient safety practices. Hibbard et al. (2006) build upon the concept of perceived preventability by arguing that patients must perceive their actions as being effective in preventing errors from occurring. In order to increase this feeling of effectiveness, the authors suggest exposing patients to specific information about errors and how error prevention can mitigate these risks.

- **The Role of Organizational Culture**

The role of organizational culture in the adoption and dissemination of patient safety practices has been examined increasingly in the past few years. The role of a "safety culture" is well documented in other high-risk sectors, such as the airline industry, but is a relatively new approach in healthcare. Nieva and Sorra (2009) describe safety culture within healthcare as a "…performance shaping factor that guides the many discretionary behaviours of healthcare professionals toward viewing patient safety as one of their highest priorities." Essentially, a safety culture acknowledges that errors will occur and strives to identify and reduce potential risks. Creating a culture that is aware of patient safety risks, supportive of employees, and values leadership accountability is vital to ensuring that patient safety practices are effectively incorporated throughout a healthcare organization. A major component of provider uptake of patient safety and error prevention is the creation of an atmosphere of trust and openness. When healthcare providers are

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worried about the ramifications of error reporting, or feel that such reporting would tarnish their reputations, then there is a decreased likelihood they will speak up when an error or near miss occurs—making it impossible for the organization to learn and develop safer practices. Furthermore, healthcare professionals may be less willing to share information with patients when an error or near miss has occurred.

- Assessing the safety culture of an organization is the first step to introducing cultural change (Nieva and Sorra, 2009). Safety culture assessment tools seek to examine the values, behaviors, and perceptions of organizational members to better understand the organizational culture and capacity for adoption of safety practices. The most effective tools survey both frontline staff and administrators to better understand the cohesiveness of culture and to determine whether there are major discrepancies between the vision of the organization and the actual adoption of safety practices by frontline staff.
- Assessment tools can also be used as part of a broader adherence to continuous quality improvement (CQI) by completing the tool annually, comparing results, and enhancing organizational learning. Continual cultural assessments are vital in ensuring a consistent and continuing patient safety culture within a healthcare organization. Interestingly, assessing the patient safety culture of an organization inherently raises staff awareness of patient safety issues and practices, whether intended or not (Nieva and Sorra, 2003). The initiation of patient safety cultural assessments can signal to organizational members that patient safety is a strategic priority for the organization. Thus, safety culture assessments are an ideal first step in raising organizational awareness of potential issues and creating a shared understanding of changes to take place.

CONCLUSIONS

Examining the barriers and facilitators to patient engagement in patient safety leads to a number of conclusions. Firstly, a significant disconnect exists between the willingness of patients to engage in patient safety practices and their actual likelihood to take action. Within a healthcare organization, changes in organizational and professional cultures may help improve patient comfort levels and involvement in patient safety practices. The adoption of a safety culture can enhance patient engagement through increased provider modelling, patient education, and enhanced awareness. Patient self-efficacy should be enhanced through increased patient education and greater transparency of medical and medication errors. Increasing patient knowledge that risks exist and that many errors are preventable could greatly improve patient participation in patient safety practices. Recommendations for greater patient engagement in patient safety are provided in Figure 1. Fundamentally, healthcare organizations should strive to facilitate greater patient involvement in patient safety practices through the identification, assessment, and elimination of potential barriers and the adoption of a proactive safety culture.

RESULT

Patient and staff involvement is another important factor that should be considered by healthcare providers in both developing and developed countries

Patients can help healthcare practitioners improve their practices, services and decision making processes through reflecting upon their experiences

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