

Learning From Patient Safety Events Study Report – Non-Full Staff Organizations

Patient Safety. Activities to avoid, prevent, or correct adverse outcomes which may result from the delivery of health care.

Learning from Patient Safety Events: Includes three types of activities: (a) identification & reporting of patient safety events, (b) analysis of the causes of these events, and (c) taking appropriate corrective action to reduce reoccurrence of these events in the future.

Acknowledgement

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ORGANIZATIONAL PARTICIPATION REPORT
Learning from Patient Safety Events in Ontario’s Acute Care Hospitals
Full Staff Organizations

WHO IS THIS REPORT FOR AND WHAT’S IN IT?

In early 2007 your hospital participated in our study entitled “Learning from Patient safety events in Ontario’s acute care hospitals”. Your hospital was one of 68 hospitals participating in the study by allowing us to survey their patient safety officer and patient care managers. This report provides data for the group of 55 organizations we call the “non-full staff organizations” (we surveyed front-line nurses, physicians and pharmacists in an additional 13 organizations). The data provides a rough picture of where your organization sat 2-3 years ago in the area of learning from patient safety events and a few key related variables. The report provides data and straightforward suggestions for assessing the current state of PSE learning in your organization.

What Do We Mean by Learning?

Learning is defined in terms of appropriate responses to patient safety failure events. It includes actions to identify and report failures, analyze their causes, and identify and implement changes to reduce their re-occurrence.

INTRODUCTION

Study Overview

This 3-year, 2 phase study had the following overarching research question: *What sets units and organizations apart in their abilities to recognize and identify failures and near misses, to analyze the causes of these, and to implement changes to prevent similar failures from arising in the future?*

The key objectives of the research were:

- (1) In Phase 1, to define and validate a typology of Patient Safety Events (PSEs) that is meaningful to front-line staff and clinical managers and a typology of appropriate responses to these events.
- (2) In Phase 2, to examine various factors that may influence learning from (e.g. responses to) PSEs.

Phase 1. In fall 2005, we conducted 10 focus groups in 5 acute care hospitals in Ontario. A typology of Patient Safety Events that are meaningful to front-line providers and managers emerged from this work (see Figure 1 and Appendix 1(with examples)). In spring 2006, we organized an expert panel consisting of practitioners and academics to discuss and develop a typology of ideal learning responses to the events (see Appendix 2). This work was used to help structure the phase 2 survey. Both the PSE typology and the typology of Learning Responses were published this year (see Ginsburg et al., 2009a, and Ginsburg et al., 2009b).

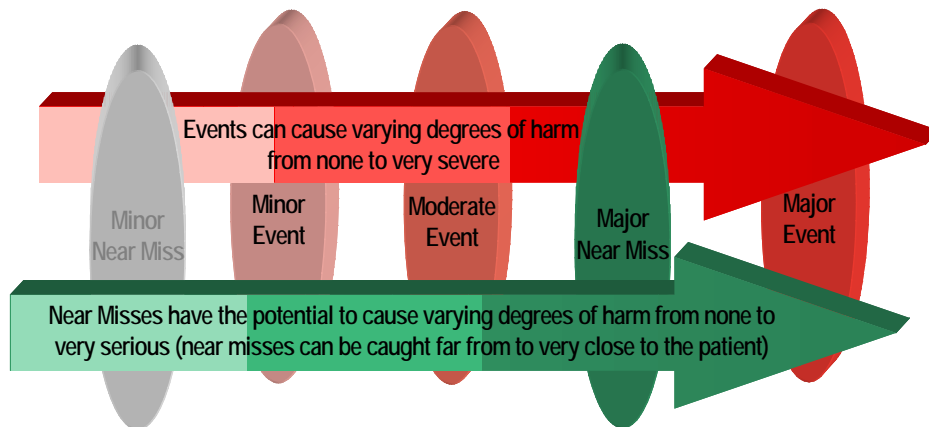


Figure 1. Typology of Patient Safety Events

Phase 2. In phase 2 we tested a model of the factors that influence learning from safety failures using a large-scale survey of several thousand front-line staff (nurses, physicians and pharmacists), clinical care managers, and patient safety leaders in 68 acute hospitals in Ontario.

This report provides summary data from phase 2 of the study and presents data on key variables relevant to the process of learning from patient safety events.

METHODOLOGY

Phase 2 Methods Summary

Phase 2 of this study involved the collection of data using three different surveys in general acute care hospitals in Ontario, Canada. One survey was conducted with the senior person responsible for patient safety in each organization (the patient safety officer—PSO). A second survey was conducted with patient care managers (PCMs) in each hospital and a third survey was conducted with front-line clinical staff (nurses, physicians and pharmacists) in a subset of 13 hospitals. In 2006, a letter was sent to the CEO of all 118 general acute care hospitals in Ontario describing this study and inviting each organization to participate by having the PSO and PCMs complete a mail questionnaire. CEOs agreeing to have their organization participate were asked to provide the researchers with the names and contact information for the PSO and all patient care managers, excluding those responsible solely for out-patient clinics. Questionnaires and cover letters were subsequently mailed to the PSO and PCMs in 68/118 organizations that agreed to participate. In a randomly selected group of 13 of these organizations front-line clinical staff was also surveyed.

Study Questionnaires. The study questionnaires incorporated both new and validated items designed to measure a number of factors that have been hypothesized to influence organization level learning from patient safety events (including PS leadership, PSE salience, PS culture, network contacts, safety management systems) and group-level learning from PS events (including group norms, diversity and inter-group linkages among others (see Chuang, Ginsburg, and Berta 2007). Different questionnaires were used with PSOs, PCMs and staff since, by virtue of their differing roles, these groups are best able to answer different questions. Copies of the study questionnaires are available from the researchers.

This report provides data on the following variables which are directly pertinent to learning from patient safety events: PSE learning responses, perceptions of ease of reporting PSEs, and organizational leadership for patient safety (see Appendix 3 for a detailed list of the survey questions used to measure each of these variables).

RESULTS

The final sample in this study (including both full-staff and non-full staff organizations) consists of 54/68 PSOs (response rate: 79%), 282/621 PCMs (response rate: 46%), and 2,495 of 14,725 staff who completed a study questionnaire (response rate: 17%). Accordingly, we had excellent response rates from our patient safety officer group (PSOs), reasonable response rates for our PCM group and typically low response rates from our staff group. Nevertheless, low response rates from the staff group as well as the small number of respondents in the PSO and PCM groups in each hospital have implications for the use and interpretation of their study data.

How to use/interpret the reported results

This study was designed and conducted as an applied health services research study with the three objectives outlined on page 1. The data required to address these study objectives are aggregate (overall) data for the province as a whole which allows for the examination of the factors that influence learning from patient safety events. The study was *not* designed for the purpose of producing individual hospital level data that could be used for comparative purposes or for any type of public reporting. It is important to note that the science of measurement needs to be far more advanced when data are going to be used for this kind of accountability or external comparison than when data will be used to guide improvement initiatives (Solberg, Mosser, and McDonald 1997). Accordingly, we suggest that, while benchmarking is often hailed as one of the leading ways to use comparative data such as the data provided in this report, the science of measurement in the areas reported here is not well developed enough for this type of group comparison and the very public or political implications benchmarking data can have. The design of the single-respondent questionnaire (i.e., PSO survey) might also introduce plausible threats to reliability of our data, which in turn further reduce the feasibility of any comparison.

Accordingly, we provide the data in this report and suggest it be used to help guide improvement in learning from patient safety events in two ways:

- 1) To provide your organization with a very rough gauge of your own data on the degree of PSE learning response in the organization as well as data from other organizations in the province. And,
- 2) Recognizing that the above data were collected early in 2007, to encourage your organization to re-engage staff and managers in a conversation or data collection exercise to examine whether progress has been made in these three important areas for learning from patient safety events.

The PSE learning response items in Appendix 2 can be used to start this conversation. Other survey questions used to measure PSE learning response, ease of reporting and organizational leadership for patient safety can be found in Appendix 3. More qualitative approaches can also be used to examine where the organization is in these areas.

Below, we report summary results for ease of reporting PSEs and organizational learning responses to PSEs.

Results I: Ease of Reporting Patient Safety Events

In developing our PSE Learning Instrument our expert panel work clearly indicated the importance of ease of reporting patient safety events for enhancing learning following PSEs. They were clear that having a quick and easy way for staff to report PSEs was more important than whether or not an organization had a reporting system. Data on ease of reporting from 54 hospitals across Ontario shows that PSO PCM and staff perceptions are quite different. Table 1 shows that while close to 46% - 50% of PSOs “strongly agree” that reporting minor, moderate and major near miss events is “quick and easy”, approximate 35% of PCMs “strongly agree” with this statement and fewer than 20% of staff strongly agree that individuals have a quick and easy way to capture/report what happens with minor, moderate and major near miss events.

Table 1
Individuals involved in this type of PS event have a quick and easy way to capture/ report on what happened

	Ease of reporting Minor events	Ease of reporting Moderate Events	Ease of reporting Major Near Misses
	% that “strongly agree”		
PSO	46.3	51.9	50
PCM	36.4	35.1	33.8
Staff	14.8	15.6	18.3

Results II: Organizational Learning Responses Following PSEs

As part of this study each hospital’s patient safety officer (PSO) was asked to indicate how often a number of different learning responses take place following four types of PSEs (minor, moderate, and major events, and major near miss events). The list of the learning responses for each type of event, validated by our expert panel in phase 1 of the study, can be found in Appendix 2. Those interested in detailed information about how the PSE learning instrument was developed see Ginsburg et al. 2009b).

Table 3a shows each organization’s percentile learning score for minor events, moderate events, major events and major near miss events (including both full-staff and non-full staff organizations). The percentile score indicates where a score falls relative to other participating hospitals. For instance, a score in the 90th percentile means the score is greater than or equal to the scores of 90% of the organizations in the study.

Table 3b provides the actual learning scores for the 10th to 90th percentiles and so provides your organization with an approximate idea of what your actual learning score was for each type of event (we do not provide your actual scores here because the data were provided by a single respondent and providing your individual scores would breach our confidentiality obligations). To get an idea what the actual scores reflect consider that each score is scaled from 1-4 where 1 reflects the highest score (always/almost always engaging in relevant learning responses) and 4 reflects the lowest score (never/almost never engaging in relevant learning responses). For instance a learning from minor events score of 1 for an organization would indicate that the organization engaged in all 12 minor event learning responses in Appendix 2 “always or almost always”, while a score of 2.92 would indicate that an organization “sometimes” engaged in these 12 minor event learning responses. If your organization has a percentile score of 70.9 for minor event learning in table 3a, table 3b shows you that your organization’s score for minor event learning was slightly below 1.95.

**Table 3a. Learning from 4 Types of PSEs
Percentile Scores for Participating Hospitals**

Org ID	Learning from Major Events Percentile score	Learning from Minor Events Percentile score	Learning from Moderate Events Percentile score	Learning from Major Near Misses Percentile score
33	100	31.8	89.6	80.4
5	100	97	100	100
20	100	89.5	71	91.7
14	100	85.7	78.4	100
15	92.6	91.4	100	100
59	92.6	87.6	59.8	89.8
86	92.6	52.3	43.1	3.7
77	92.6	95.1	85.9	78.5
85	85.1	78.3	85.9	86
126	85.1	85.7	100	100
109	85.1	43	78.4	67.4
24	79.4	59.8	56.1	78.5
47	79.4	78.3	78.4	74.8
35	75.6	57.9	78.4	65.5
43	73.7	95.1	85.9	35.5
22	71.8	56	100	74.8
135	71.8	67.2	89.6	86
156	71.8	44.9	24.5	61.7
46	71.8	70.9	43.1	44.9
129	64.3	67.2	65.4	35.5
8	62.4	48.6	30.1	43
23	62.4	52.3	80.3	100
10	62.4	7.6	22.6	26.2
37	56.7	85.7	71	74.8
70	56.7	98.9	100	86
90	56.7	31.8	18.9	22.5
133	56.7	56	46.8	61.7
120	49.2	78.3	65.4	50.5
73	49.2	37.4	30.1	7.5
132	49.2	28.1	15.1	35.5
111	49.2	28.1	30.1	28.1
101	41.7	78.3	67.3	63.6
40	41.7	18.8	39.4	61.7
28	41.7	9.5	13.2	9.4
83	41.7	43	32	26.2
55	41.7	67.2	59.8	22.5
57	32.3	18.8	56.1	74.8
67	32.3	67.2	65.4	54.2
30	32.3	70.9	56.1	56.1
76	26.6	18.8	11.3	43
51	24.7	35.5	39.4	54.2
29	22.8	28.1	22.6	50.5
50	20.9	18.8	17	43
123	19	28.1	56.1	18.8
32	17.1	85.7	56.1	35.5
142	15.2	100	100	87.9
72	15.2	35.5	39.4	13.2
95	11.4	5.7	5.7	18.8
31	9.5	43	46.8	37.4
97	7.6	3.8	3.8	11.3
118	5.7	20.7	11.3	15.1
143	3.8	18.8	11.3	5.6
71	1.9	1.9	1.9	3.7
96	N/A	48.6	39.4	50.5

Table 3b, Percentile Scores for each PSE

Learning from Major Events	
10 th percentile	2.29
20 th percentile	1.93
30 th percentile	1.69
40 th percentile	1.61
50 th percentile	1.46
60 th percentile	1.38
70 th percentile	1.30
80 th percentile	1.15
90 th percentile	1.07

Learning from Minor Events	
10 th percentile	3.29
20 th percentile	3.08
30 th percentile	2.91
40 th percentile	2.66
50 th percentile	2.33
60 th percentile	2.08
70 th percentile	1.95
80 th percentile	1.83
90 th percentile	1.50

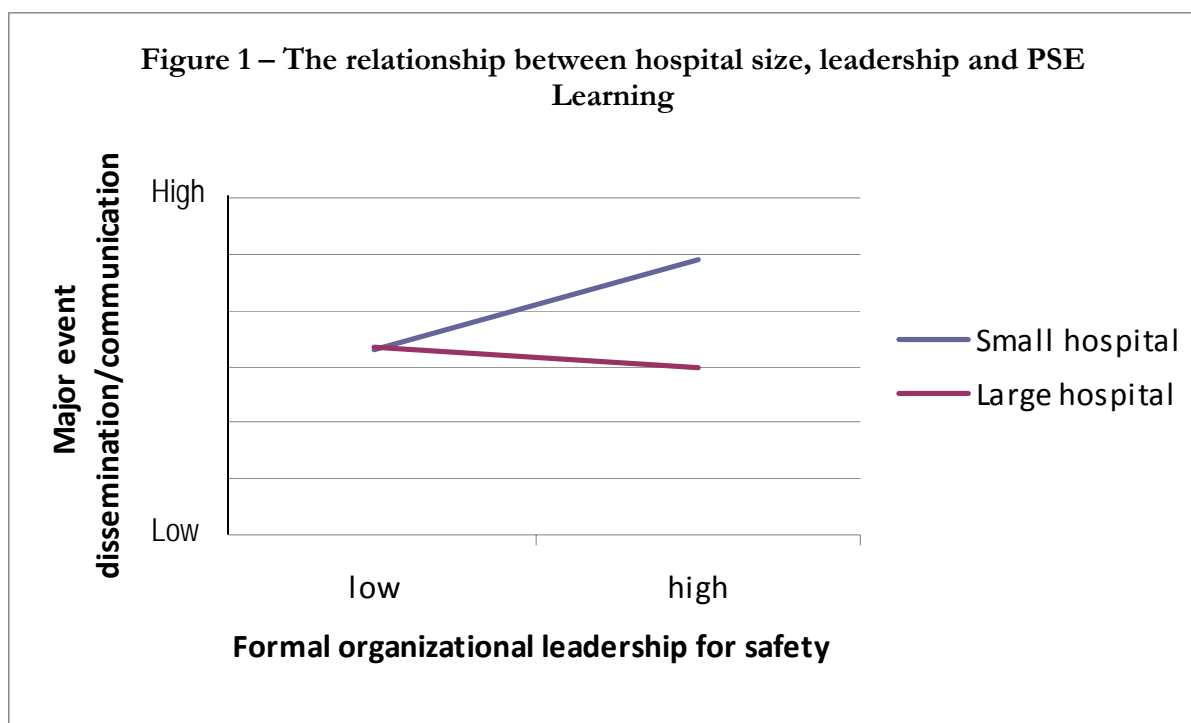
Learning from Moderate Events	
10 th percentile	3.09
20 th percentile	2.54
30 th percentile	2.22
40 th percentile	2.00
50 th percentile	1.81
60 th percentile	1.63
70 th percentile	1.41
80 th percentile	1.18
90 th percentile	1.00

Learning from Major Near Misses	
10 th percentile	2.76
20 th percentile	2.41
30 th percentile	2.23
40 th percentile	2.15
50 th percentile	2.00
60 th percentile	1.77
70 th percentile	1.46
80 th percentile	1.23
90 th percentile	1.04

Results III: Organizational Leadership for Patient Safety

PCMs were asked a series of questions about the extent to which there is organizational (e.g. senior level) leadership support for patient safety in their organization (see Appendix 3). Organizational leadership support for patient safety has been found to be an important predictor of PSE learning responses, particularly in small hospitals (those with <100 beds).

Figure 1 shows major event learning scores (specifically with respect to dissemination/communication of learnings) for small and large hospitals under conditions of high and low formal leadership. Small hospitals with high formal leadership scores (1 SD above the mean) achieve *major event dissemination/communications* scores nearly one full point higher than small hospitals with low formal leadership scores. Large hospitals with high formal leadership scores achieve scores nearly one full point lower than large hospitals with low formal leadership scores.



While there is some work suggesting that the economic burden of safety programs is disproportionately large for small organizations, our findings also highlight the structural benefits that smaller organizations enjoy such as leadership that is more visible and proximal to the front-lines—something Pronovost and colleagues (2003) suggest is important for organizations trying to improve safety. In contrast, the influence of strong formal leadership for patient safety may be felt less across large organizations, suggesting leaders of larger organizations need to work extremely hard to be visible and need to motivate local unit leaders to be visible safety advocates.

Finally, it is important to note that the constructs of formal organizational leadership for patient safety and patient safety culture are intimately related in that formal leadership for patient safety is the key dimension of patient safety culture.

CONCLUDING NOTE

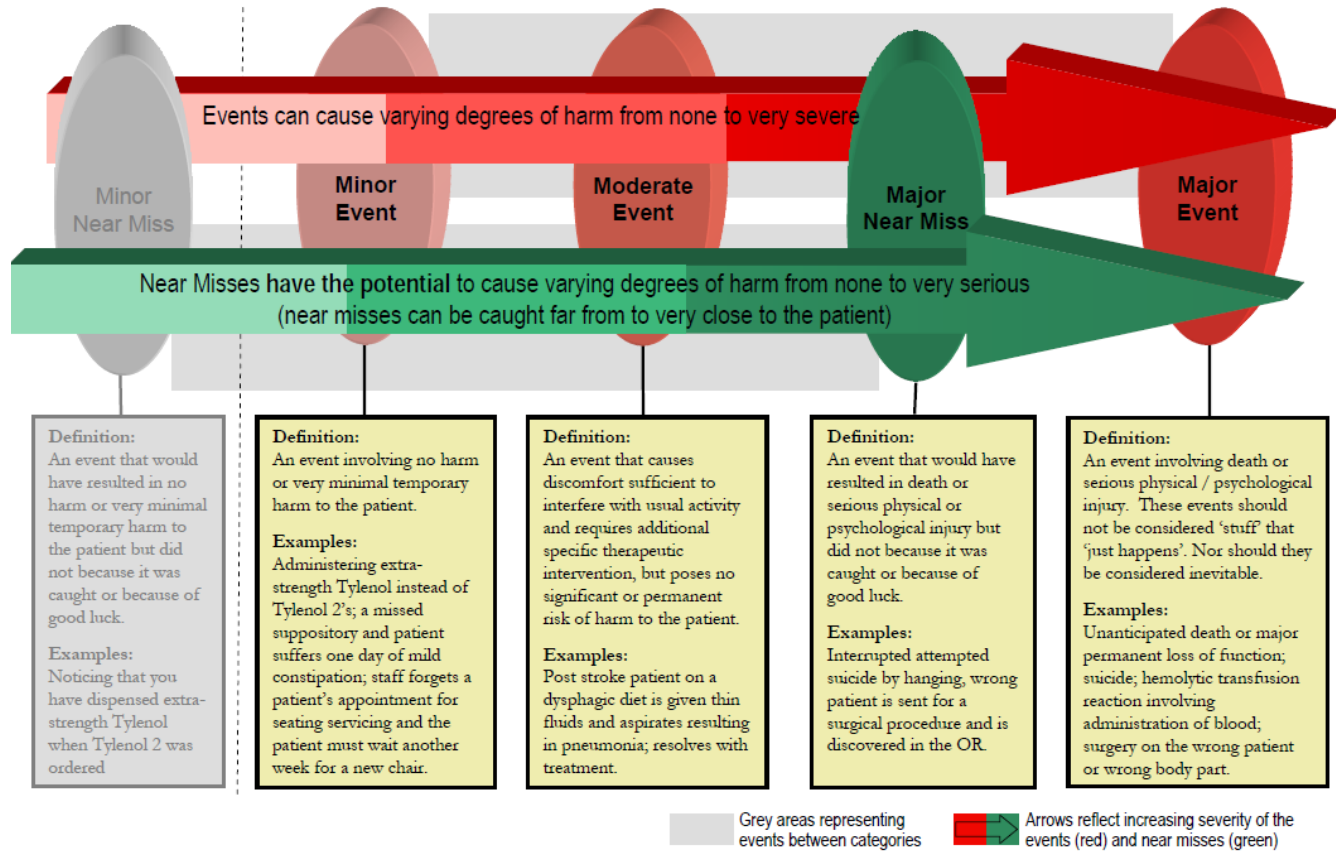
Recommendations for how to use this Report

As noted above, we recognize that organizations wish to know how they perform on several of the metrics reported here and how they compare to their peers. While these data are not sufficient for rigorous comparison, they can provide a basis for discussion and quality improvement within an organization. Accordingly, we suggest the report be used in the following two ways:

- 1) To provide your organization with a very rough gauge of your own data as well as data from other organizations in the province with respect to the degree of PSE learning response in the organization. And,
- 2) Recognizing that the above data were collected early in 2007, to encourage your organization to re-engage staff and managers in a conversation or data collection exercise to examine whether progress has been made in these three important areas for learning from patient safety events. Survey questions used to measure PSE learning response can be found in Appendix 2, along with instructions for calculating a more up-to-date learning score for each type of PSE. Questions used to measure ease of reporting and organizational leadership for patient safety are in Appendix 3. More qualitative approaches can also be used to examine where the organization is in these areas.

Appendix 1: Typology of patient safety events, definitions, and examples

Typology of Patient Safety Events



Appendix 2: Lists of learning response items used in the PSO survey

Calculating Learning Scores for your Organization

The score for each event type is simply the mean of all item response for that event type. To calculate a learning score for each type of event:

- (a) Answer each item using 4 response options: (1) “always/almost always”, (2) usually, (3) sometimes, (4) never/almost never.
- (b) Sum your responses for each item in that type of event (e.g. if you answered 2, (usually) to all of the major event learning items your responses would sum to 26 (13 items @ a score of 2 (usually) = 26))
- (c) Divide your sum from (b) by the number of items in the event that you answered...in the previous example you would divide $26/13 = 2$ and you would get a score of 2 for major event learning.

Major events

- (a) A formal process for disclosure of major events to patients/families is followed and this process includes support mechanisms for patients, family, and care/service providers.
- (b) Following major events, a systematic approach is used in this organization (e.g., root cause analysis) to understand *what* occurred, *how* and *why* it happened
- (c) Individuals involved in major events contribute to the understanding and analysis of the event
- (d) A multidisciplinary review team in our organization helps with the analysis of major events
- (e) In discussions around major events, the focus is mainly on system-related factors, rather than on the individual(s) most responsible for the event
- (f) The patient and family are invited to be directly involved in the processes that follow major events (analyzing what occurred and making any necessary changes)
- (g) Individuals involved in major events contribute to the generation of possible solutions
- (h) Changes are made to reduce re-occurrence of major events
- (i) Procedural changes resulting from analysis of major events are followed up on a regular basis
- (j) The processes that follow major events (analyzing what occurred and making any necessary changes) are handled in a timely way
- (k) Information about major events is shared with staff informally (e.g., through personal communications, emails, communication books, bulletin boards).
- (l) Things that are learned from major events are communicated to staff *using more than one method* (e.g. communication book, in-services, unit rounds, emails) and at *several*/times so all staff hear about it
- (m) Major events, and a description of changes/improvements made following them, are included in regular reports to our Board

Major near misses

- (a) Major near misses are reported to a reporting system that is internal to the hospital
- (b) Major near misses are reported to a reporting system that is external to the hospital
- (c) Major near misses are discussed in dedicated “patient safety rounds”
- (d) Following major near misses, a systematic approach is used in this organization (e.g., root cause analysis) to understand *what* occurred, *how* and *why* it happened
- (e) Individuals involved in major near misses contribute to the understanding and analysis of the event

- (f) A multidisciplinary review team in our organization helps with the analysis of major near misses
- (g) In discussions around major near misses, the focus is mainly on system-related factors, rather than on the individual(s) most responsible for the event
- (h) A systematic approach is used to identify strategies to reduce re-occurrence of major near misses in this organization
- (i) Individuals involved in major near misses contribute to the generation of possible solutions
- (j) Changes are made to reduce re-occurrence of major near misses
- (k) Procedural changes resulting from analysis of major near misses are followed up on a regular basis
- (l) Things that are learned from major near misses are communicated to staff *using more than one method* (e.g. communication book, in-services, unit rounds, emails) and at *several* times so all staff hear about it
- (m) Recommendations or changes made following major near misses are discussed openly across the organization

Moderate events

- (a) In this organization, a process is followed for identifying those moderate events that require in-depth review
- (b) Information about moderate events is collated and analyzed by people with appropriate knowledge and skills to look for solutions to reduce re-occurrence of these events
- (c) Following moderate events, a systematic approach is used in this organization to understand *what* occurred, *how* and *why* it happened
- (d) Individuals involved in moderate events contribute to the understanding and analysis of the event
- (e) In discussions around moderate events, the focus is mainly on system-related factors, rather than on the individual(s) most responsible for the event
- (f) A systematic approach is used to identify strategies to reduce re-occurrence of moderate events in this organization
- (g) Individuals involved in moderate events contribute to the generation of possible solutions
- (h) Changes are made to reduce re-occurrence of moderate events
- (i) Procedural changes resulting from analysis of moderate events are followed up on a regular basis
- (j) If there appear to be trends in moderate events (e.g. other events with similarities), information about the causes and resolutions are disseminated in all relevant areas of the organization
- (k) Recommendations or changes made following moderate events are discussed openly across the organization

Minor events

- (a) Minor events are discussed in dedicated "patient safety rounds"
- (b) Timely responses are provided to those who report minor events (e.g. to discuss these events, possible solutions, etc.)
- (c) In this organization, a process is followed for identifying those minor events that require in-depth review
- (d) Information about minor events is collated and analyzed by people with appropriate knowledge and skills to look for solutions to reduce re-occurrence of these events
- (e) Following minor events, a systematic approach is used in this organization to understand *what* occurred, *how* and *why* it happened
- (f) Individuals involved in minor events contribute to the understanding and analysis of the event
- (g) A systematic approach is used to identify strategies to reduce re-occurrence of minor events in this organization
- (h) Individuals involved in minor events contribute to the generation of possible solutions
- (i) Procedural changes resulting from analysis of minor events are followed up on a regular basis
- (j) Information about minor events is shared with staff informally (e.g., through personal communications, emails, communication books, bulletin boards).
- (k) Things that are learned from minor events are communicated to staff *using more than one method* (e.g. communication book, in-services, unit rounds, emails) and at *several* times so all staff hear about it
- (l) If there appear to be trends in minor events (e.g. other events with similarities), information about the causes and resolutions are disseminated in all relevant areas of the organization

Appendix 3. Questionnaire Items for Ease of Reporting PSEs, Organizational and Supervisory Leadership Support for Patient Safety

Variables Reported	Questionnaire items	Questionnaire
PSE Learning Response score at the organizational level	A learning response score is provided for each organization for 4 types of PSEs: minor events, moderate events, major near miss events, major events. Percentiles (an organization's score relative to the other 53 organizations that provided these data) are also provided (see Appendix 2 for a list of learning response items for each type of PSE).	PSO Survey
Learning response items	<ul style="list-style-type: none"> a. Following moderate events, a systematic approach is used on this unit to understand <i>what</i> occurred, <i>how</i> and <i>why</i> it happened b. In discussions around moderate events, the focus is mainly on system-related factors, rather than on the individual(s) most responsible for the event c. Changes are made to reduce re-occurrence of moderate events d. Procedural changes resulting from analysis of moderate events are followed up on a regular basis e. If there appear to be trends in moderate events (e.g. other events with similarities), information about the causes and resolutions are shared across our unit f. A systematic approach is used to identify strategies to reduce re-occurrence of major near misses on this unit g. A multidisciplinary review team in our hospital helps with the analysis of major near misses h. Changes are made to reduce re-occurrence of major near misses i. Things that are learned from major near misses are communicated to staff <i>using more than one method</i> (e.g. communication book, in-services, unit rounds, emails) and at <i>several</i> times so all staff hear about it 	PCM survey (Questions 13a-13i)
Ease of reporting	<ul style="list-style-type: none"> a. Individuals involved in MINOR events have a quick and easy way to capture/report on what happened b. Individuals involved in MODERATE events have a quick and easy way to capture/report on what happened c. Individuals involved in MAJOR NEAR MISSES have a quick and easy way to capture/report on what happened 	PCM survey (Questions 15a-15c)
Organizational leadership for patient safety	<ul style="list-style-type: none"> (6a) Patient safety decisions are made at the proper level by the most qualified people (6b) Good communication flow exists up the chain of command regarding patient safety issues (6d) Senior management has a clear picture of the risk associated with patient care (6g) Senior management provides a climate that promotes patient safety (6k) Senior management considers patient safety when program changes are discussed (6x) My organization effectively balances the need for patient safety and the need for productivity (6y) I work in an environment where patient safety is a high priority 	PCM survey (Questions 6a, 6b, 6d, 6g, 6k, 6x, 6y)

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