Concise Incident Analysis Tool

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* This document has been updated for Round 2 Testing. Changes to content are highlighted in yellow.

Co-Investigators

Julius Cuong Pham, MD, PhD
Armstrong Institute for Patient Safety and Quality,
Johns Hopkins University School of Medicine

Carolyn Hoffman, RN, MN
Quality & Healthcare Improvement,
Alberta Health Services

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CHAPTER 1: BACKGROUND

Root Cause Analysis (RCA) investigations of patient safety incidents (an event or circumstance that could have resulted, or did result, in unnecessary harm to a patient)[1] have played an important role in improving care. This rigorous methodology is designed to ensure that all relevant aspects of an incident are understood and that effective actions are taken to reduce the risk of recurrence.

Given the complexity of the healthcare environment and the significant resource requirements of an RCA (a form of comprehensive incident analysis), health care leaders and patient safety experts have begun to look for a more "*concise*" method of incident analysis to identify a more timely yet accurate approach. Examples of abbreviated incident analysis methodologies exist[2-4] but evaluation of their effectiveness has been limited.[2]

Comprehensive incident analysis is defined as: analysis by an inter-disciplinary group of staff and physicians that is facilitated by a person(s) with knowledge of the process, human factors and effective solutions development in healthcare. The process may take up to 90 days due to the depth and breadth of the analysis. Incidents **resulting in none, mild, moderate, severe patient harm and/or death** may receive **Comprehensive Event Analysis.**

Why would you want to use the concise method?

Concise Analysis is a less resource intensive approach to incident analysis that may contribute important knowledge regarding a larger number of incidents. A conscious and deliberate decision has been made to focus primarily on four aspects: the agreed-upon facts, key contributing factors and findings, actions for improvement (if any), and evaluation. The local learning can then flow into the higher organizational level for prioritization of risks and integration into a systematic quality improvement approach for improving patient safety. A concise incident analysis uses a systems approach and consideration of human factors.

Concise incident analysis is defined as: analysis that is usually conducted by a person with knowledge of the incident analysis process, human factors and effective solutions development in healthcare with input gathered from staff and physicians local to the event. The process is often completed within hours or days due to the less intensive approach. Incidents **with none, mild, and moderate patient harm** may receive **Concise Incident Analysis.**

Who should use the concise incident analysis tool?

This tool should be used by a facilitator (analyst/reviewer) with knowledge and skills in incident analysis, human factors, systems approach and effective solution development. The facilitator usually gains this expertise through a formal education program and/or mentored experience. Several resources for incident analysis training are available online.[5,6] The individual may be a healthcare provider or other professional such as a process improvement expert; this individual does not necessarily have to be a risk manager or quality improvement consultant.

****Please note**:** This tool should **only** be used by a facilitator (analyst/reviewer) with knowledge, skills and experience in incident analysis, human factors, systems approach and effective solution development. Several resources for incident analysis training are available online.[6]

Note: incident analysis should comply with all local policies and legislation. A Concise approach is not suitable for all types of reviews. It may be useful to transition from a Concise approach to some other type of analysis as new information is available.

CHAPTER 2: OVERVIEW OF CONCISE INCIDENT ANALYSIS METHODOLOGY

A. Case selection

- Determine if incident analysis is appropriate.
- Determine if concise incident analysis is appropriate.

B. Understand What Happened

Obtain sufficient information to understand the incident.

- Identify a facilitator to conduct analysis.
- Gather facts from records and other applicable documents.
- If applicable, examine the equipment, product, or environment.
- Have informal discussions with patient/family, provider(s), manager(s), attending physician and/or expert(s) in the specific circumstance, equipment, and/or product.
- Develop a high-level timeline or narrative description.

C. Determine How and Why It Happened

Analyze information to identify key contributing factors and the relationships among them. Use systems approach and human factors.

- Use the guiding questions to BRIEFLY explore all the domains of contributing factors.
- Select some specific guiding questions.
- Identify and map the contributing factors as well as the relationship between them.
- Summarize findings as summary statements.

D. Develop and Manage Actions for Improvement

If there is sufficient evidence to formulate actions for improvement to reduce the risk of recurrence and make care safer:

- List actions for improvement (evidence-based where possible and always striving to select the most rigorous action possible on the Hierarchy of Effectiveness);
- Include proposed persons accountable for implementation, timeline and an evaluation strategy for each action;
- Discuss the list with applicable decision maker for decision and action.

E. Evaluate the effect of the actions for improvement

The implementation status of each action is followed through and its effect evaluated based on the strategy identified in the previous phase.

The general lessons and findings should be disseminated within and, where applicable, outside the organization to prevent a recurrence of the incident.

A. Case Selection

Determine if incident analysis is appropriate

Because the concise analysis method is not suitable for all types of analyses, the first step in the process is to determine if systems-based incident analysis is appropriate. The following types of incidents are not recommended for a systems-based incident analysis:

1. Events thought to be the result of a criminal act;
2. Purposefully unsafe acts (an act where care providers intend to cause harm by their actions);
3. Acts related to substance abuse by provider/staff; and
4. Events involving suspected patient abuse of any kind.

These situations should be referred to suitable administrative, professional, or regulatory bodies for resolution.

Determine if concise incident analysis is appropriate.

If a systems-based incident analysis is suitable, the following attributes may be used to determine if concise incident analysis is appropriate for that case.

- Incidents that resulted in **no** or **low harm** to the patient.
- Incidents primarily limited to **one work area, division, or department**.
- New incidents for which a comprehensive analysis was recently completed.
- Initial review to determine whether or not a comprehensive incident analysis is warranted.

Note: not all information regarding the incident may be available during the case selection process, therefore the facilitator selects the optimal method and anticipates the potential for changing the method as new information emerges.

Table 2.1: Characteristics of Concise and Comprehensive Incident Analysis[3]

Characteristic	Concise	Compre-hensive?
Should include person(s) with knowledge of incident analysis, human factors, systems approach and effective solutions development	Yes	Yes
Often facilitated by an individual with input gathered from the patient, family, staff, and physicians local to the incident as well as organizational or external experts	Yes	No
Conducted by an inter-disciplinary medium to large ad hoc group (may include patients, family members, staff, and physicians local to the incident as well as recognized independent internal or external experts/consultants not involved in the incident)	No	Yes
Time taken for analysis	Short timeframe (hours to days)	Long timeframe (up to 90 days)
Identifies contributing factors as well as remedial actions(s) taken (if any)	Focus on key factors	Yes
Recommendations for improvement	Yes (if applicable)	Yes
Principles of incident analysis (begins as soon as possible, includes all involved in the incident [including patient/family] and leadership of the organization, is objective and impartial, is thorough, considers relevant literature and evidence)	Reflects the intent, but may not address all	Incorporates all principles
Evaluation strategy	Yes (if applicable)	Yes

B. Understand what happened

Identify a facilitator

** **Please note**:** This tool should **only** be used by a facilitator (analyst/reviewer) with knowledge, skills and experience in incident analysis, human factors, systems approach and effective solution development. Several resources for incident analysis training are available online.[5,6]

A facilitator (analyst/reviewer) with knowledge and skills in incident analysis, human factors, systems approach and effective solution development performs the concise analysis. The facilitator usually gains this expertise through a formal education program and/or mentored experience. Several resources for incident analysis training are available online.[5,6] The individual may be a healthcare provider or other professional such as a process improvement expert; this individual does not necessarily have to be a risk manager or quality improvement consultant. Generally speaking, a concise incident analysis can be performed by a single individual, however some organizations may find benefit in using a team of facilitators.

Gather facts

The facilitator should gather facts from different sources to understand what happened and to develop a high-level timeline or narrative of the incident from:

- Records (health record, incident report) and other documents

Discussions (interviews) with the healthcare providers, managers, experts, patients, and/or family members directly involved in the incident.[4]

- Equipment/ products examination (if applicable)
- Other techniques that might be employed include: direct observation of practice, recreating the events by "walking the process," group meetings with involved members, etc…

Interview principles

- Interviews should be conducted as soon as reasonably possible after the incident for two reasons. First, memories fade quickly and important details may be lost over time. Second, as individuals involved in the incident discuss their recollections with one another, versions may blur together and the opportunity to obtain unique perspectives and details may be missed.
- Informal interviews should be conducted one person at a time so that individual perspectives about the incident are well understood.
- A cooperative approach is encouraged, using open-ended questions. Individuals should be asked to "tell their story" and possibly re-enact the incident or portions of the incident. Ask individuals if there are any factors that contributed to the incident as well as factors that mitigated the outcome of the incident (e.g. "what went well").
- Sincerely thank people for helping and ensure that their questions about the process are answered.

Gathering equipment/ products/ items

Gather materials such as the equipment and any product/care items used during or close to the time of the incident that may have directly or indirectly contributed to the circumstances. They can be secured for testing and review. They include, but are not limited to, biomedical equipment, IV solutions, medications, packaging, garments, etc. Photographs of the items and workspace are often helpful.

Develop a timeline or narrative description

Document key factual information in the form of a high-level timeline or narrative description. It is common to provide this information in the form of a narrative chronological description. This understanding will collate information from various sources, including the health record and informal interviews with key individuals. It is important that the timeline include only the actual facts or processes as they occurred, and not what was supposed to happen.

Transition to Comprehensive Analysis

If during the "Understand what happened" step in the concise incident analysis process there is indication that concise analysis may not be appropriate), consult with local or hospital leadership to decide if a comprehensive approach to the analysis is needed. If yes, the facts collected so far can be used for the comprehensive analysis. Factors that may be considered:

- Deviations from Case Selection criteria (above)
- Increased need of institutional resources for investigation to effectively identify contributing factors and/or develop high leverage interventions
- Involvement of several department/units
- Significant risk to institution (reputation, liability, etc.)
- Patterns of similar incidents in other work-areas

Tips for Transitioning to a Comprehensive Analysis

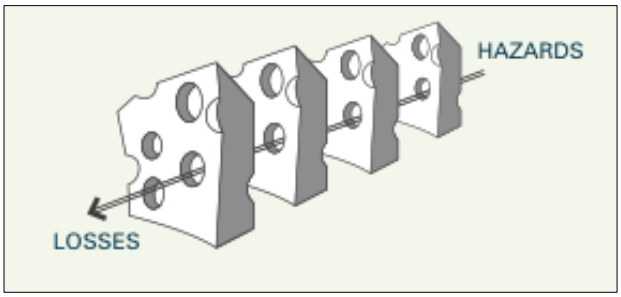
- Document findings arising from the Concise Incident Analysis and identify key additional sources of information to fully understand what happened.
- Formalize a team for the analysis (if not already established).
- Determine how and why the incident occurred.
- Refer to Table 2.1 for the characteristics of a Comprehensive Incident Analysis.

C. Determine how and why it happened

Concepts

There are two key concepts to consider when ensuring that the analysis reflects the complexities of the current healthcare system while remaining practical: the systems approach (as illustrated by the Swiss Cheese Model in Figure 2.1) and the domain of human factors. These concepts support a deeper understanding of how and why incidents occur in healthcare, including the identification of specific contributing factors.

Figure 2.1: The Swiss Cheese Model[3]



James Reason's Swiss Cheese Model[3] provides a framework for understanding and analyzing the complex and dynamic nature of patient care within a systems perspective. The model explains how the defenses, barriers and safeguards that exist in a system are not impermeable and can be penetrated. This occurs when active failures (unsafe acts) and latent conditions (dormant system conditions) combine to create the opportunity for an incident. Latent conditions can be identified and corrected. Targeted strategies can also mitigate the frequency and severity of unsafe acts. It also points to the fact that humans are fallible and errors are to be expected even in the best organizations because people are incapable of perfect performance every time.

The questions to ask when an incident happens are how and why the defenses in the system failed and in the case of a near miss, how did they succeed; in other words, look at the system as a whole, rather than just at the actions of individuals.

At its core, the science of human factors examines how humans interact with the world around them. This specialized knowledge is used to help determine how and why incidents occur as well as help design efficient, human-centered processes to improve reliability and safety.

Historically, when an incident occurred, the tendency was to look for the most obvious explanation of what and why it happened. In most cases, individual human error was identified as the cause, primarily because it was easy to identify (frequently referred to as the "sharp end" of the system) and appeared to be easy to fix. Patient safety experts advocate a way of thinking that views human error as a symptom of broader issues within a poorly designed system (often referred to as the "blunt end" of the system), such as an adverse physical or organizational environment. A deeper inquiry into the circumstances will yield system-based contributing factors. Recommended actions for improvement vary significantly and may

range from physically changing the design of a software interface, sign, form, or medical device to changing the entire design of a room in a facility to optimize safety and efficiency.

Identify key contributing factors

Use the information gathered to identify key factors that contributed to the incident occurring. Two key questions that assist in this process are: "how did this happen?" and "what else influenced the circumstances?" The facilitator continues to ask "how" and "what influenced it" questions until no further information can be generated for the key contributing factors.

Use the guiding questions (workbook) to explore different domains (task, equipment, work environment, patient characteristics, care team, organization, other) of factors that may have contributed to this incident. Briefly explore each domain. For domains that are relevant, further explore each specific question.

Table 2.2: Domains of Factors in Guiding Questions

Task (care/work process)
Equipment (including materials, fixtures, information and communication systems)
Work environment
Patient(s) characteristics: (Considered in the context of how well the system identified, understand, and acted upon these factors. It should not be the only factor considered)
Care team – Caregiver(s)
Care team – Supporting team (all involved in care process)
Organization – Policies and priorities
Organization – Culture
Organization – Capacity (resources)
Other (including Mitigating or Preventative Factors or Actions)

Identify the relationship between contributing factors using a diagram

Diagramming is a helpful exercise in understanding the relationship between contributing factors. The Tree (Figure 2.2) and Constellation Diagram (Figure 2.3) are two potential tools to accomplish this. The benefits of the constellation diagram include a visual description of the non-linear cascading aspects of each contributing factor. This allows for a better understanding of the relationship between contributing factors (horizontal and vertical integration) and identification of clusters of factors where they directly impact one another. The relationship clusters that arise from diagramming must be formalized in writing as findings. They are most often the basis for the development of recommended actions. The overall goal is to determine if an action or a small number of actions can be taken to address all key contributing factors identified.

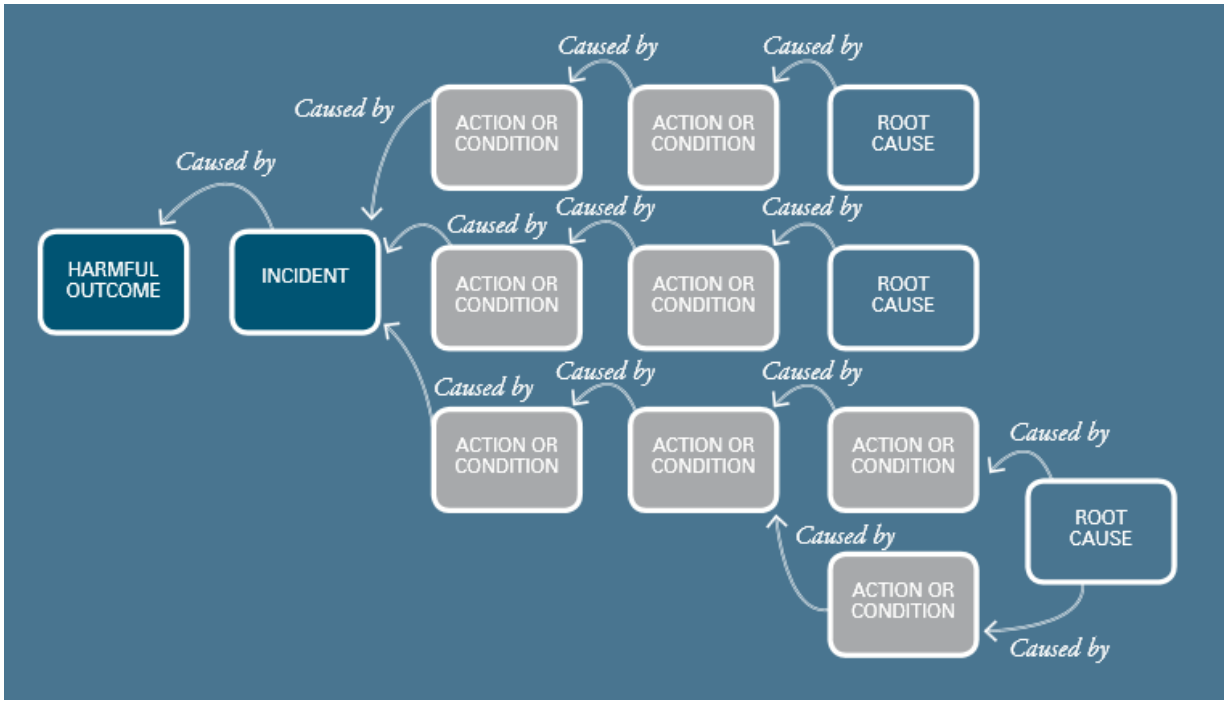


Figure 2.2 Tree diagram[3]

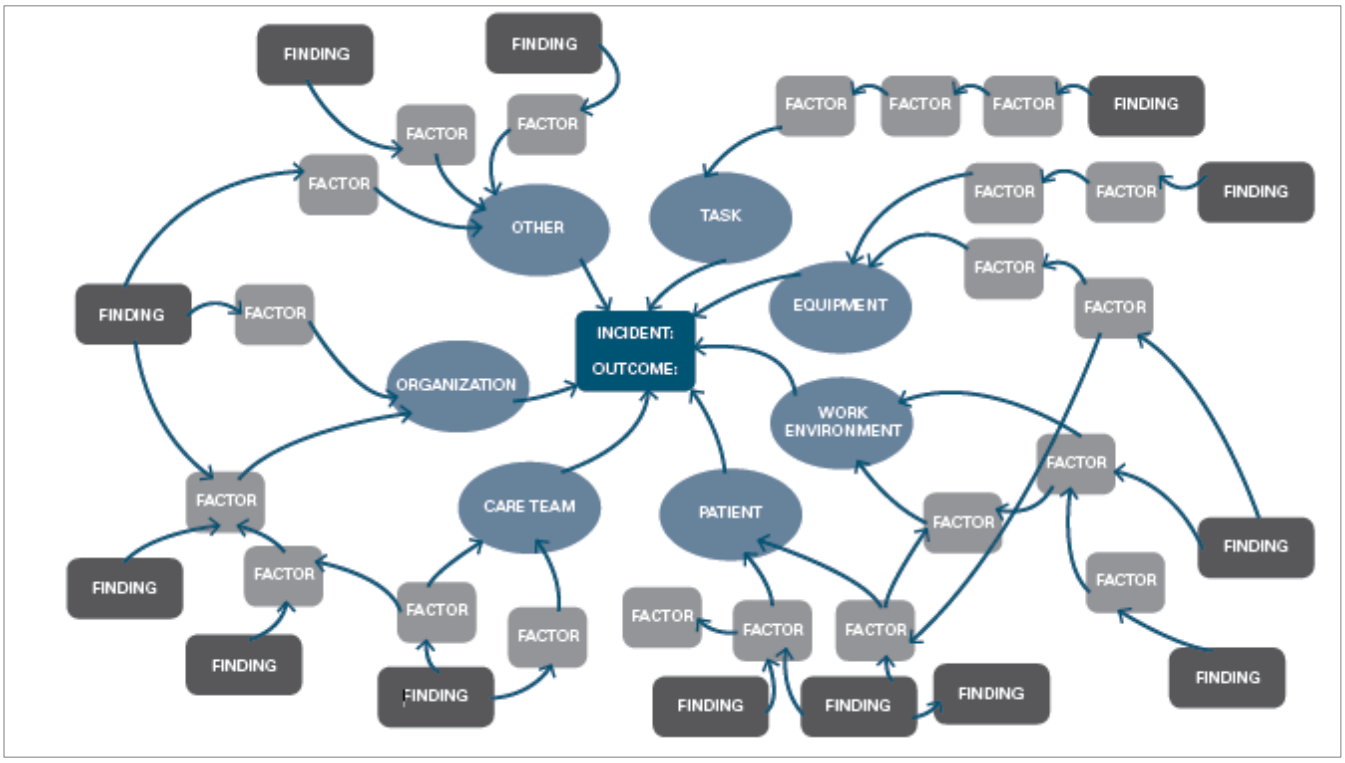


Figure 2.3 Constellation Diagram[3]

Prioritize and Summarize Findings

Once the team has completed the analysis, contributing factors should be prioritized in terms of their importance. Several attributes might be used to help in prioritizing:

How important is this factor in contributing to this incident?[7]
Factors that, if corrected, would likely have prevented the incident.[6]
Factors that, if corrected, would likely have mitigated the harm.
Factors that if corrected, would not have prevented the incident or mitigated the harm, but are important for patient/staff safety or safe patient care in general
Factors that didn't allow the incident to have more serious consequences and represent solid safeguards that should be kept in place
How important is this factor in contributing to future incidents?[6]

Statement of Findings

A summary of the findings is prepared to clearly articulate the contributing factors related to the incident and provide the backbone for development of recommended actions. This summary is provided as a series of statements of findings (sometimes referred to as causal statements). The statements of findings describe the relationships between the contributing factors and the incident and/or outcome. The statement of findings should have the following characteristics:[8]

- Clearly shows the contributing factor and effect relationship.
- Uses specific and accurate descriptions of what occurred rather than negative and vague words.
- Identifies the preceding system contributing factor of the error and NOT the human error.
- Identifies the preceding cause of procedure violations (if applicable)

The suggested statement has three parts and has following format: the contributing factor ("This happened…"), the effect ("… which led to something else happening…"), and the event ("… which caused this undesirable outcome.")[9]

Some example statement of findings:

"Lack of an explicit and formalized hand over communication protocol between the daytime and nighttime on call physicians increases the likelihood that key patient care information would not be effectively transferred and that follow up medical assessments would not occur."

"Lack of an electronic prescriber order entry system increases the likelihood of medication transcribing errors related to the illegibility of prescriber hand writing."

"Pharmacy support is not available on the weekend, which increases the likelihood that a drug allergy will be perpetuated."

D. Develop Recommended Actions

After summarizing the findings, the facilitator should determine what can be done to reduce the risk of recurrence. Note that in some instances, analyses may not generate any new recommended actions. A few

well thought out high-leverage recommendations may ultimately be more effective than a lengthy list of low impact actions. The recommended actions should address the risks and contributing factors identified during the analysis.

Develop Recommended Actions

In order to develop robust, credible, and more precise recommended actions, try to include as many of the features of effective recommended actions below.
Whenever possible, review the literature for the most evidence-based actions. Aim to use the highest level of evidence available (Table 2.3. Levels of Evidence). Consider "best practices" or practice guidelines that are recommended by professional organizations. Several resources for practice guidelines are available online.[10-12] In the absence of evidence-based recommendations, consider best practices within your organization or at other reputable organizations.

Table 2.3. Levels of Evidence[11]

Randomized controlled trial (highest)
Cohort Studies
Cohort Studies
Case-Control Studies
Case Series
Expert opinion
(Non-expert) Peer opinion (lowest)

Table 2.4 Hierarchy of effectiveness[13]

Type of Intervention	Effectiveness
Forcing Function and Constraints (e.g. different connectors for oxygen and air)	High leverage – Most effective
Automation/Computerization (e.g. automated alerts for drug allergies)	
Simplification/Standardization (e.g. standard dosing of antibiotics)	Medium leverage
Reminders, Checklists, Double-Checks (e.g. central venous catheter insertion checklist)	
Rules and Policies (e.g. policy on patient rounding to assess fall risk)	Low leverage – Least effective (while these are important, they will not result in sustained practice change when used alone)
Education and Information (e.g. educate staff on high-alert medications)	

- Utilize the most effective solution on the Hierarchy of Effectiveness (see Table 2.4).
- Offer a long-term solution to the problem.
- Actions should have a greater positive than negative impact on other processes, resources, and schedules. Balancing measures should be in place to ensure that unintended consequences are known and understood.
- Provide enough context (explanation and facts) to ensure that if the action is implemented, those responsible for implementing it will understand the rationale behind it.

- Actions are written using the "SMART" format:
    - Specific – tackle a clearly defined issue and have a clear scope;
    - Measurable – can demonstrate impact on process and outcomes;
    - Assignable – can be allocated to one individual to be accountable for implementation;
    - Realistic – ensure that the action is possible; and
    - Timely – have a timeframe for implementation.

Where possible, consultation with providers from the area where the incident occurred, experts, and in some cases patients/families may be beneficial. This step helps ensure that the recommendations are appropriate, the identified risks have been addressed, and there is a high probability to reduce the reoccurrence of this or similar incidents..

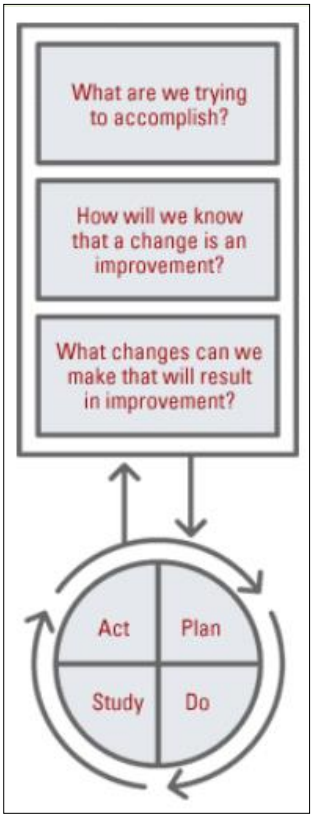
Discuss recommended actions with leadership/administration

The facilitator discusses the recommended actions with key local decision makers and experts. An assessment of the risk, benefits, costs, and logistics of implementation of the recommended actions are discussed. It is an opportunity to consider the potential for introducing unintended consequences to processes (e.g. creating unnecessary steps or added workload, possibly leading to unsafe workarounds). At this time, also confirm the individual or team assigned to implement each recommended action.

Recommended actions that are accepted by organizational leadership become action items for implementation.

E. Implement and evaluate the effect of actions items

Figure 2.4.
Improvement Model



Implement the action items

The facilitator, or other person(s) designated by the organization, oversees the implementation status of each action item. Since this is the output of the CIA, it is important that action items are fully implemented as intended. It is important to clearly state who will be responsible for and the process of action item implementation.

Evaluate the effect of action items

At times, monitoring the effect of action items on patient safety might seem like "just more work." Some action items, though well intentioned and planned, may not have the desired effect in practice. Thus the effectiveness of the implemented action items should be monitored. This will determine if the changes helped make the system safer, had no or limited impact, or actually made the system less safe.

Use of a change management[14] or improvement tool[7] can help to facilitate implementation of action items in a way that will support success.[15,16] The Improvement Model (Figure 2.4) is a commonly used and effective tool that can be used to provide guidance for establishing measures and tracking progress.

Share learning

The general lessons and findings should be disseminated within, and where applicable, outside the organization to prevent harm recurrence. This is the final objective of the analysis. Without learning and sharing, the organization is still vulnerable as the same or similar incidents could happen again and no other external systems or organizations have the benefit of the learning. Results of the analyses should roll up into organization-wide reporting and learning system and be shared with the senior leadership and board. It may also be shared with the public, and the global community (e.g., by contributing to the Global Patient Safety Alerts).[12]

CHAPTER 3: WORKBOOK

(All elements of the workbook can be adapted to fit the incident and the organization to ensure ease of use and remove duplication of effort)

A. Case selection criteria

Determine if an incident analysis framework is appropriate.

	Yes/No
Is the event thought to be the result of a criminal act?	
Was the event a purposefully unsafe act?	
Was the event related to substance abuse by provider/staff?	
Did the event involve suspected patient abuse?	

If the answers to any of these are clearly yes, do not proceed with an incident analysis framework; rather refer to suitable administrative, professional, or regulatory bodies for resolution.

Determine if a concise incident analysis is appropriate.

	Yes/No
Did the incident result in no or low harm to the patient?	
Is the incident primarily limited to one work area, division, or department?	
Is this a new incident for which a comprehensive analysis was recently completed?	
Is this an incident where you have insufficient information as to whether to perform a comprehensive or concise incident analysis?	

If the answer to any of these questions is yes, consider using the concise incident analysis tool.

B. Interview sheets

Interviewee:	Date of Interview

What happened?

Factors that may have contributed to the incident

Factors that may have mitigated severity of the incident

How might an incident like this be prevented in the future?

C. Timeline

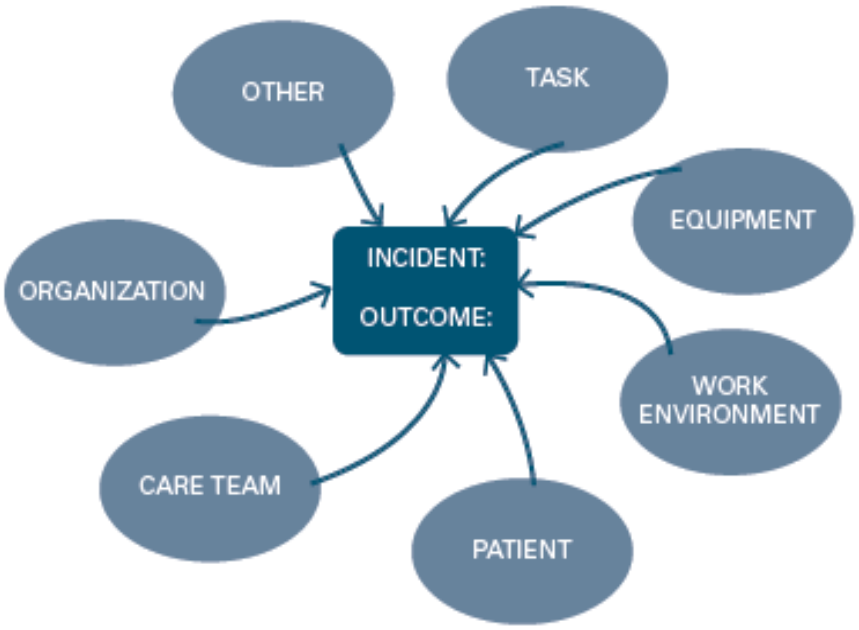
Date/Time	Information	Source/Comment

D. Guiding questions

Domain/ category of contributing factors	Relevant?
Task (care/work process):	
Were there previous or predicted failures for this task or process?	
Were specialized skills required to perform the task?	
Was a fixed process or sequence of steps required (e.g. order sets, checklists)?	
Did it exist, and was it followed?	
Was a protocol available, was it up-to-date, and was it followed in this case?	
Were there constraints or pressures (e.g. time, resources) when performing the task?	
Was the information required to make care decisions available and up-to-date (e.g. test results, documentation, patient identification)?	
Was there a risk assessment/audit/quality control program in place for the task/process?	
Other?	
Equipment (including materials, fixtures, information and communication systems):	
Were the displays and controls understandable?	
Did the equipment automatically detect and display problems?	
Was the display functional?	
Were the warning labels, reference guide and safety mechanisms functional and readily visible/accessible?	
Were the maintenance and upgrades up-to-date?	
Was the equipment standardized?	
Would the users describe this equipment as "easy to use?"	
Were the communication systems (phone, pager, software, hardware, etc.) available and operational?	
Other?	
Work environment:	
Did noise levels interfere with the alarms?	
Was the lighting adequate for the task?	
Was the work area adequate for the task(s) being performed (e.g. space, layout, location and accessibility of resources)?	
Other?	
Patient(s) characteristics: (Considered in the context of how well the system identified, understand, and acted upon these factors. It should not be the only factor considered)	
Did the patient(s) have the information to assist in avoiding the incident?	
If not, what would have supported the patient in assisting their care team?	
Did factors like age, sex, medications, allergies, diagnosis, other medical conditions, contribute to the incident? How did they contribute?	
Did any social or cultural factors contribute to the incident?	
What factors? In which way?	
Was language a barrier?	
Other?	
Care team – Caregiver(s):	
Were the education, experience, training and skill level appropriate?	
Was fatigue, stressors, health or other factors an issue?	
Was the workload appropriate?	

Were appropriate and timely help or supervision available? Other?	
Care team – Supporting team (all involved in care process):	
Was there a clear understanding of roles and responsibilities?	
Was the quality and quantity of communication (verbal and/or written) between team members appropriate (clear, accurate, free of jargon, relevant, complete and timely)?	
Were there regular team briefings/debriefings about important care issues?	
Was team morale good? Do team members support each other?	
Were the communication channels available and appropriate to support the needs of the team (e.g. email, pager, and phone)?	
Other?	
Organization – Policies and priorities:	
Were the relevant policies and procedures available, known, accessible, and did they meet the needs of users?	
Were there workarounds to the documented policy/procedure?	
Was there a mechanism in place to identify and resolve gaps between policy and practice?	
Were the strategic priorities of the organization clear to all?	
Other?	
Organization – Culture:	
Was everyone (patients, clinicians, other staff) comfortable to speak-up about safety concerns?	
Was there visible support from leadership and board for safe patient care?	
Was communication between staff and management supportive of day-to-day safe patient care?	
Were incidents considered system failures with people not blamed?	
Other?	
Organization – Capacity (resources):	
Did scheduling influence the staffing level, or cause stress, fatigue?	
Was there sufficient capacity in the system to perform effectively (e.g. access to resources)?	
Were formal and/or incentives appropriate?	
Other?	
Other – consider:	
Are there any factors that prevent this event from happen on a more regular basis?	
Where there any factors or actions taken that mitigated the severity of the event?	
Were there any local conditions or circumstances that may have influenced the incident and/or an outcome?	
Were there any sector specific conditions or circumstances that may have influenced the incident and/or outcome?	
Other?	

E. Diagramming contributing factors and their interconnection around domains (categories of contributing factors)



Use this template to diagram contributing factors around the 7 domains and to identify the interconnections among the factors. For a learning session on how to develop the constellation diagram in Excel click here: http://www.patientsafetyinstitute.ca/English/toolsresources/IncidentAnalysis/LearningOpportunities/Pages/The-constellation-diagram---a-deep-dive.aspx

F. Prioritize and Summarize Findings:

Priority #	Domain (task, equipment, etc.)	Contributing factor	Comment

G. Developing action items

Priority #	Contributing Factor	Recommended Action	Hierarchy of Effectiveness	Level of Evidence	Costs

Table 2.4 Hierarchy of effectiveness[13]

Type of Intervention	Effectiveness
Forcing Function and Constraints (e.g. different connectors for oxygen and air)	High leverage – Most effective
Automation/Computerization (e.g. automated alerts for drug allergies)	
Simplification/Standardization (e.g. standard dosing of antibiotics)	Medium leverage
Reminders, Checklists, Double-Checks (e.g. central venous catheter insertion checklist)	
Rules and Policies (e.g. policy on patient rounding to assess fall risk)	Low leverage – Least effective (while these are important, they will not result in sustained practice change when used alone)
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Table 2.3. Levels of Evidence[11]

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Cohort Studies
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Case-Control Studies
Case Series
Expert opinion
(Non-expert) Peer opinion (lowest)

H. Oversee implementation of action items

Priority #	Action Item	Measure of effectiveness	Responsible Person	Target Completion Date	Status

I. Incident report template
(NOTE: OPTIONAL RESOURCE FOR CONFIDENTIAL HOSPITAL USE ONLY)

1. **Date of Incident** (___ ___/___ ___/___ ___)
   MM DD YYYY

2. **Time of Incident (24 HOUR CLOCK)** (_____ :_____)

3. **Date of Incident** (___ ___/___ ___/___ ___)
   MM DD YYYY

4. **Date that the Incident Analysis process was initiated:** (_____/_____/_____)
   MM DD YYYY

5. **Date that the Incident Analysis process was completed:** (_____/_____/_____)
   MM DD YYYY

6. **Patient's demographic information:** **Date of Birth:** (___ ___/___ ___/___ ___)
   MM DD YYYY

   Gender _____

7. **Medical Record Number** _____

8. **What was the patient's principal diagnosis? (Please use ICD code and note country specific ICD modification if possible)**

   _____

9. **If applicable, what was the patient's principal procedure related to the admission? (Please use ICD code and note country specific ICD modification if possible)**

   _____

10. Select the first applicable category below (in descending order) that best describes the extent of harm to the patient as a result of the incident assessed 24 hours post event or at the time of death if less than 24 hours post event.

a. **Death**

b. **Severe permanent harm.** Severe life-long bodily or psychological injury or disfigurement that interferes significantly with functional ability or quality of life

c. **Permanent harm.** Life-long bodily or psychological injury or increased susceptibility to disease

d. **Temporary harm.** Bodily or psychological injury, but likely not permanent

e. **Additional treatment.** Injury limited to additional intervention during admission or encounter and/or increased length of stay, but no other injury

f. **Emotional distress or inconvenience.** Mild and transient anxiety or pain or physical discomfort, but without the need for additional treatment other than monitoring (such as by observation, physical examination, laboratory testing, including phlebotomy, and/or imaging studies).

g. **No harm.** Event reached patient, but no harm evident

(PATIENT OUTCOME HARM SCALE – Based on a preliminary version of the Agency for Healthcare Research and Quality Harm Scale)

11. Location of Incident (more than one may be selected if applicable)

a. ❑ Emergency Department
b. ❑ Inpatient Unit
c. ❑ Outpatient Unit
d. ❑ Pharmacy
e. ❑ Intensive Care Unit / Coronary Care Unit (other high intensity unit)
f. ❑ Long Term Care / Skilled Nursing Facility
g. ❑ Other (please specify) _____
_____

12. Was a device or product directly involved in the event?

❑ Yes* *If Yes, describe the devise or produce and how it was involved*

_____

_____

_____

❑ No

13. List the medication(s) directly related to the event. Specify the generic drug name, dose and how the medication was related to the event (if any).

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

(add to medication list if required)

14. Narrative of Event…What happened? *Do not include provider or patient identifiable information.*

(add additional pages as required)

15. What were the factors that contributed to the occurrence of this event?

Please indicate all that apply and provide a short description of the selected factors and how they contributed to the event (see Guiding Questions)

Conclusions of incident analysis

16. a. Following the Incident Analysis, are there recommendations for improving the safety and reliability of the applicable care process?

- ❑ Yes
- ❑ No

If so, please specify

_____

_____

_____

_____

_____

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