



ACCREDITATION CANADA
AGRÉMENT CANADA

Driving Quality Health Services
Force motrice de la qualité des services de santé



Client Safety-Related Prospective Analysis: Tips and Tools for Implementation

Greg Kennedy

Canadian Association of Paediatric Health Centres Webinar

January 28, 2011

Accredited by
Agréé par



www.accreditation.ca

Overview

- What is prospective analysis?
- Client safety-related prospective analysis ROP
 - Expectations
- Tools for prospective analysis
 - Examples from the field
- Key messages

What is Prospective Analysis?

- ★ Proactive!! Not reactive.
- A technique to identify and prevent problems before they happen to reduce the possibility of future events
 - Focus on known hazards, high-risk processes and systems, and/or high-volume processes
 - Use a team-based approach to identify and mitigate risks

Prospective Analysis ROP

- Effective Organization standards
- ROP: The organization carries out one client safety-related prospective analysis per year, and implements appropriate improvements.
- Test for Compliance:
 - At least one prospective analysis has been completed within the past year.

Key Steps in a Prospective Analysis

- Identify a high-risk process or activity in your organization
- Analyze the process or activity as it would happen in the future
- Identify opportunities to improve the process or activity, and redesign
- Implement changes
- Monitor changes over time - do they work?

During the On-Site Survey

- Surveyors will look for a prospective analysis that was completed in the past year
- A report may include, but is not limited to:
 - Rationale for the selection of a specific process
 - Methods/tools used to conduct the analysis
 - Individuals or teams involved the process
 - Findings of the analysis
 - Improvements that have been made, or that are planned based on findings

2010 Report on ROPs

ROP	Patient Safety Goal Area	2008 Compliance Rate (%)	2009 Compliance Rate (%)
Conducts one client safety-related prospective analysis per year	Safety Culture	55	81



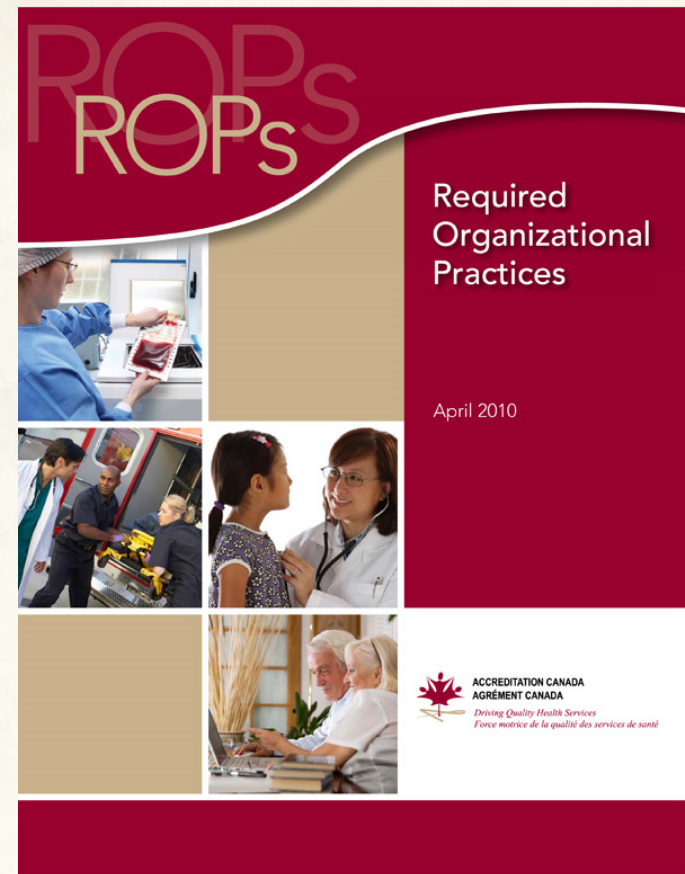
Introduced in 2009

Among the most notable improvements

- 2nd most notable improvement in ROP compliance from 2008 to 2009
 - 26% increase

ROP Handbook

- Contains all 36 ROPs, including reference sections
- New version available as of February 1st, 2011
- www.accreditation.ca





ACCREDITATION CANADA
AGRÉMENT CANADA

Driving Quality Health Services
Force motrice de la qualité des services de santé

Tools for Prospective Analysis

Tools for Prospective Analysis

- Hazard Analysis
- Simulation
- Failure Modes and Effects Analysis (FMEA)
- Errors of Omission (James Reason)
- Fault Tree Analysis
- Hazard Analysis and Critical Control Point (HACCP)
- Worst-Case Analysis

Hazard Analysis

Key Steps

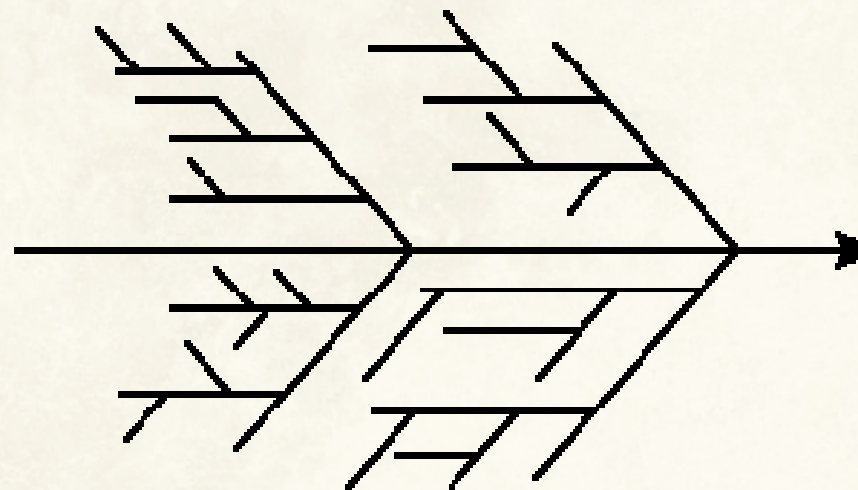
1. Identify hazards
2. Evaluate hazards associated with specific jobs, tasks etc.
3. Prioritize hazards in terms of the risk posed
4. Describe methods to control hazards and implement corrective actions
5. Write detailed practices and procedures, incorporating the hazard analysis into each

Hazard Analysis cont.

Fishbone Diagram

Policy & Procedures

People

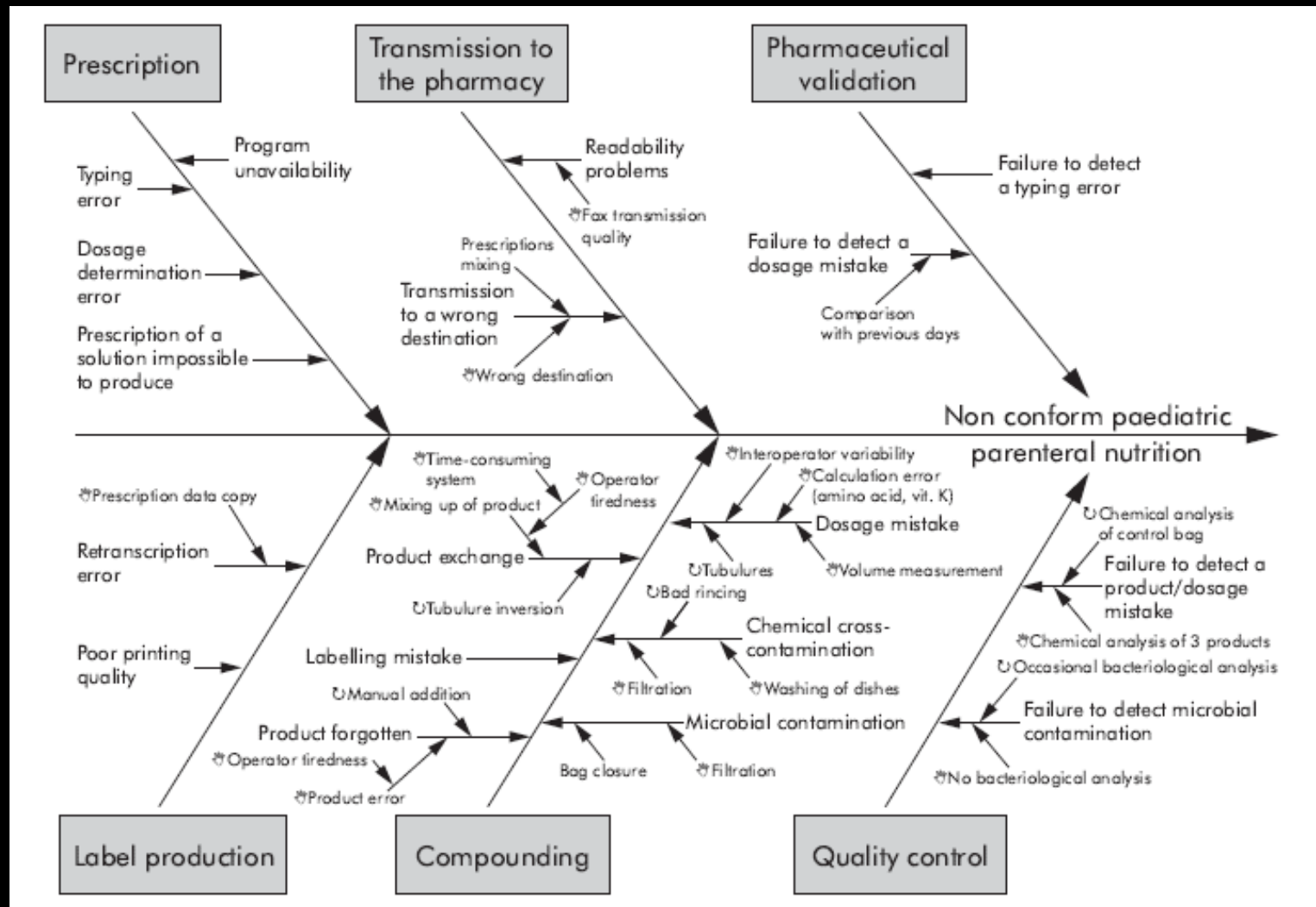


Main Outcome

Environment

Training

Figure 1 Ishikawa cause-effect diagram for the process of producing paediatric parenteral nutrition formulations.



Simulation

- A well known technique for clinical training
 - Also useful for quality and safety improvement
- By simulating a process, organizations can identify (and learn to recognize) hazards and understand the impact of different responses to a given problem
- Allows an organization to test changes made to processes in a safe and controlled environment

Simulation cont.

- Simulation forces people to review processes on a very detailed level
- True power lies in the ability to explore ‘what if’ situations
 - Identify hazards and opportunities for redesign



Simulation cont.

- Requires participation of a representative from each part of the process
- At least one external individual
 - Ask critical questions
 - Record observations, flow diagrams
- Resource impact varies greatly based on the process under simulation
 - E.g. examining and improving response to codes vs. penetrating chest trauma

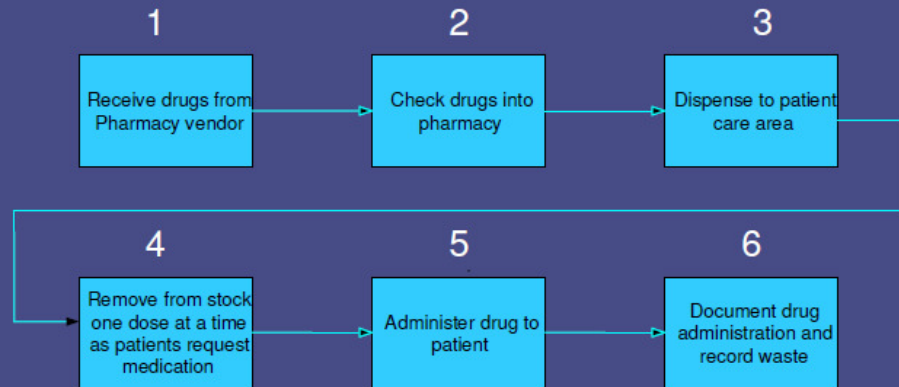
Failure Modes and Effects Analysis

- FMEA is a team-based systematic and proactive approach for identifying the ways that a process or design can fail, why it might fail, the effects of that failure and how it can be made safer.

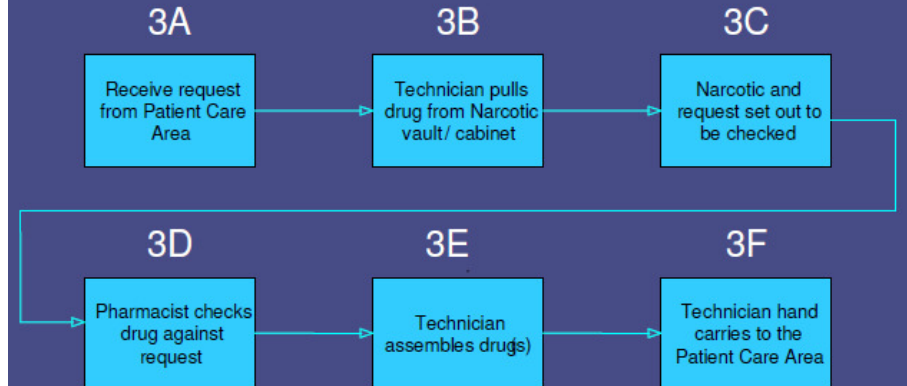
Steps in a FMEA

1. Select the process to analyze and assemble a team
2. Diagram the process to be analyzed
3. Brainstorm failure modes for the process (what could go wrong), and determine their effects (what happens when they go wrong)
4. Identify the causes of potential failure modes (why would they go wrong)

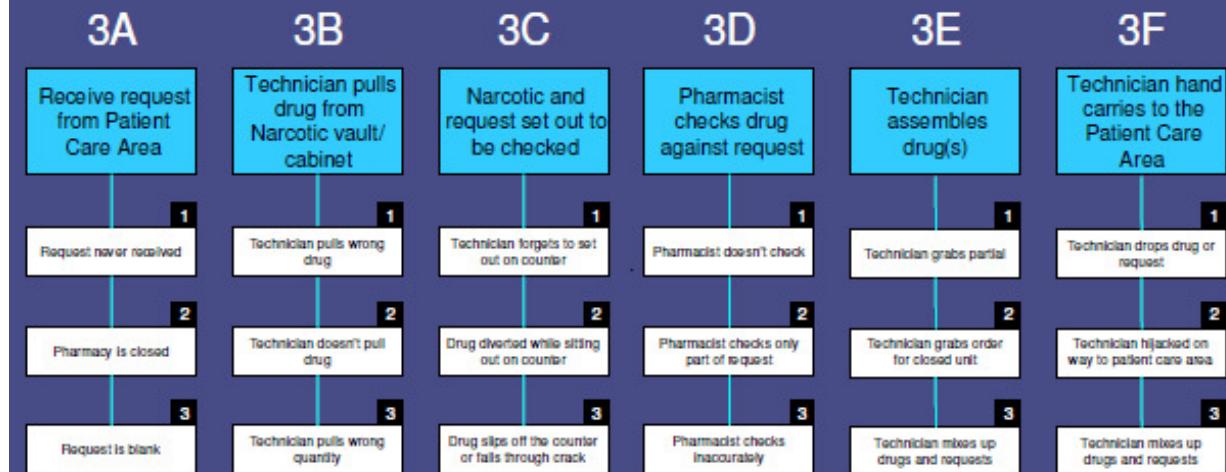
Narcotic Drug Use Process Number Basic Steps



Narcotic Drug Use Process Number the Sub-Process Steps



Narcotic Drug Use Process Number Failure Modes



FMEA cont.

5. Prioritize failure modes by assigning each a score:

- Severity of failure should it occur (S)
- Likelihood of detection before harm is caused (D)
- Likelihood of occurrence (O)
- $S \times O \times D = \text{Risk Priority Number (RPN)}$

<u>S</u>	<u>O</u>	<u>D</u>	= <u>RPN</u>
10	2	2	40
3	10	2	60
2	5	10	100

<u>S</u>	<u>O</u>	<u>D</u>	= <u>RPN</u>
2	10	10	200
10	10	2	200
10	2	10	200

Failure Modes and Effects Analysis cont.

6. Redesign process to address potential failure modes
 - Simplification, automation, standardization, fail-safe mechanisms, forcing functions, redundancy
7. Analyze and test changes
8. Implement and monitor redesigned process
- ★ Start small and achieve success early on
- www.ismp-canada.org

Additional Tools

- **Errors and Omissions Assessment**
 - James Reason identified leaving out necessary tasks is the single most common human error
 - ‘Affordances’ are characteristics of a process that promote omissions; identify and attach reminders

- **Fault Tree Analysis**
 - Provides a systematic description of possible occurrences in a system that may result in a ‘Top Event’

Additional Tools

- Hazard Analysis and Critical Control Point (HACCP)
 - Identify critical control points where a hazard can be controlled or eliminated; establish preventive measures

- Worst Case Scenario
 - Tends to be overly pessimistic, and can lead to over-design

Key Messages

- Proactive!...not reactive
- The right people
 - Direct care staff must be involved, commitment of team members is fundamental
- Resource impact will vary greatly depending on project scope
 - Support from organizational leadership is key
 - Seek administrative sign-off
- Celebrate small successes and have fun!



ACCREDITATION CANADA
AGRÉMENT CANADA

Driving Quality Health Services
Force motrice de la qualité des services de santé



The leader in raising the bar for health quality

**Le leader qui hausse la barre en matière
de qualité de santé**

Accredited by
Agréé par



www.accreditation.ca