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Saudi Physical Therapy Association

KPIS Medical
Infinite Giving
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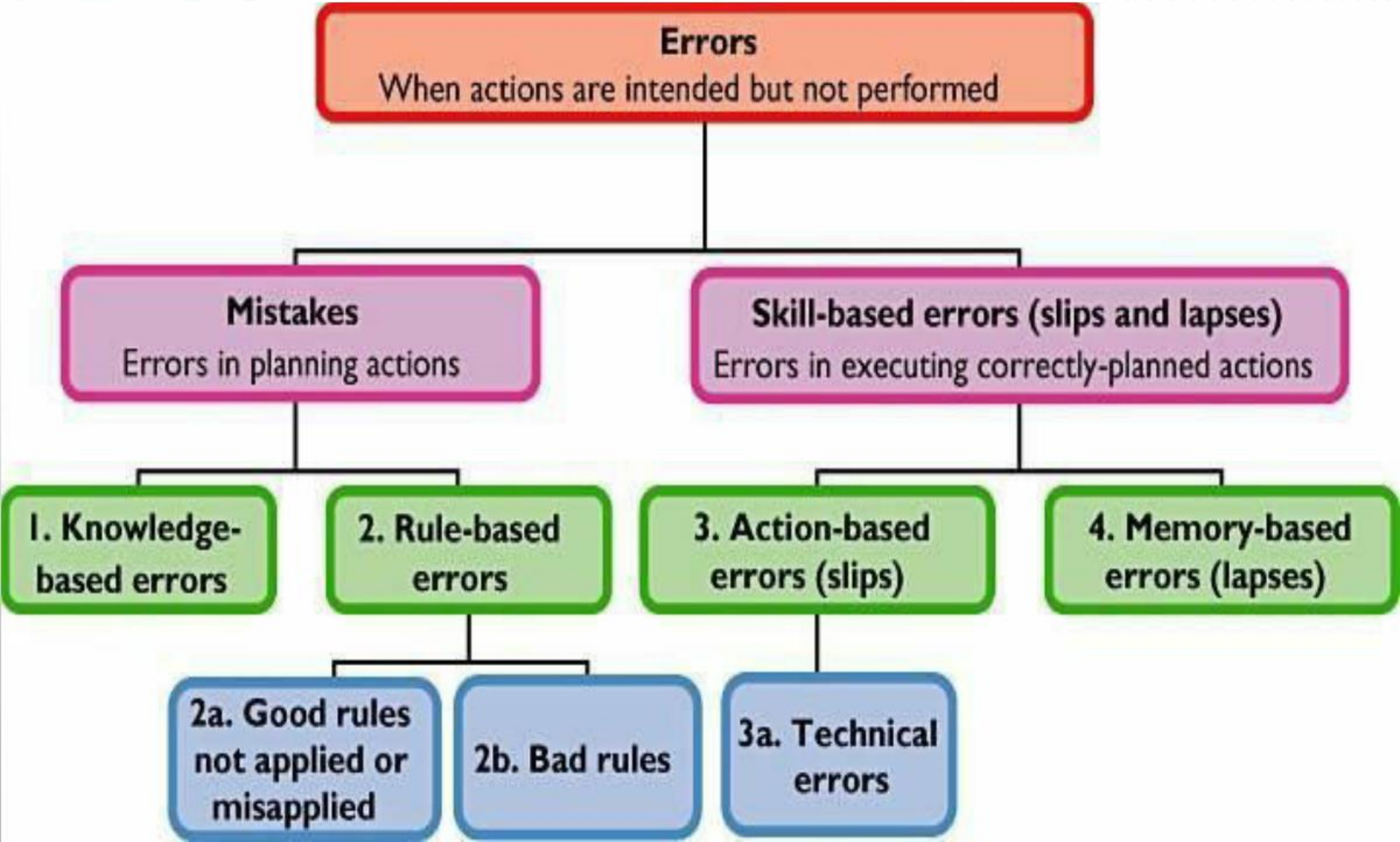
Errors
When actions are intended but not performed
Mistakes
Errors in planning actions
Skill-based errors (slips and lapses)
Errors in executing correctly-planned actions
1. Knowledge-based errors
2. Rule-based errors
3. Action-based errors (slips)
4. Memory-based errors (lapses)
2a. Good rules not applied or misapplied
2b. Bad rules
3a. Technical errors

RED RULES

- They are to be utilized to reduce the possibility of harm to patients through **work-arounds.**

- **Red Rules** foster a culture of safety because frontline workers will know they can stop the line when they notice potential hazards.

- **The most important aspect of a Red Rule** is its ability to "empower any worker to speak up when the rule is not being followed and to stop the line, regardless of rank or seniority."

- The Red Rules should be used selectively with the acts that could cause the highest probability of harm to patients, staff members, or others.

- **One example of this** use of the rule would be with a Time Out before surgery or a procedure is begun.
If someone is violating a Red Rule, **the staff should feel free to "Stop the Line" and not allow the process to continue** until the issue has been corrected.
Red Rules should be few in number, clear and obvious, identify the consequences for not utilizing the rule correctly, and focus on the decision- based (such as the Time Out) **rather than the skill-based activities.**

WHAT DIFFERENTIATES A RED RULE FROM OTHER CRUCIAL RULES SUCH AS POLICIES AND PROCEDURES:

- *Anyone who notices the breach of the Rule has the authority and responsibility to stop further progress of patient care while protecting the patient or healthcare worker from harm.*

- *Managers and other leaders (including the board of trustees) always support the work stoppage, immediate rectification of the problem, and addressing the underlying reason for breaking the rule.*

- *People breaching the Red Rule are given an opportunity to support their behavioral choices and are then judged fairly based on the reasons for breaking the rule, regardless of rank and experience.*

- *There are few Red Rules, and they must be well understood and memorable.*

Healthcare scenarios for which Red Rules can be beneficial include:

- *patient identification (using two identifiers before administering tests of any kind)*
- *sponge-count reconciliation, timeouts before an invasive procedure*
- *timely alarm response*
- *correct labeling of specimens.*

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Know and Comply with Red Rules

What Is A *Red Rule*?

An act having the highest level of risk or consequence to patient or employee safety if not performed exactly, each and every time

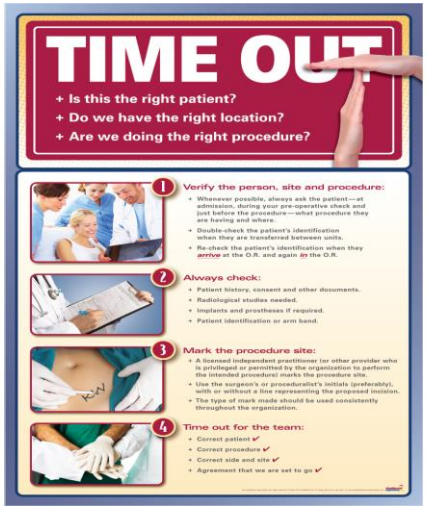
"Red" designates the rule as a **safety absolute** with the highest priority for ***exact compliance***

RULES

Red Rules Examples

- "No hospitalized patient can undergo a test of any kind, receive a medication or blood product, or undergo a procedure if they are not wearing an identification bracelet."

- Time Out.



Time Out

Red Rules
Absolute Compliance

1. Patient Identification
2. Time Out
3. Two Provider Check

Red rules

- cannot be broken
- few in number
- easy to remember
- associated only with processes that can cause serious harm to employees, customers, or the product line.
- must be followed exactly as specified except in rare or urgent situations.
- Every worker, regardless of rank or experience in the company, is expected to stop the work or production line if the red rule is violated.

Which of the following is NOT an appropriate red rule?

A. When a midwife is concerned at the bedside and asks the obstetrician to come to the bedside, he or she should come in a timely manner.

B. Elective induction of labor prior to 39 weeks for nonmedical reasons is not permitted.

C. If there is a discrepancy in the sponge count during surgery, the patient should have an X-ray before leaving the operating room.

D. Nurses should observe the —5 Rights|| of medication administration when administering any drug.

Which of the following is NOT an appropriate red rule?

A. When a midwife is concerned at the bedside and asks the obstetrician to come to the bedside, he or she should come in a timely manner.

B. Elective induction of labor prior to 39 weeks for nonmedical reasons is not permitted.

C. If there is a discrepancy in the sponge count during surgery, the patient should have an X-ray before leaving the operating room.

D. Nurses should observe the —5 Rights|| of medication administration when administering any drug.

SAFETY CHECKLIST

- ***A checklist*** *is an algorithmic, evidence-based listing of actions to be performed with the goal of "no step forgotten."*

- ***Patient safety checklists*** *"allow complex pathways of care to function with high reliability by giving users the opportunity to pause and take stock of their actions before proceeding to the next step."*

- *Checklists can be developed for internal processes (surgical checklist) or can be consumer-focused.*

- *Surgical checklists are the most commonly used, but other checklists are developed for safe childbirth, trauma care, and other patient safety events, such as blood clots and central line- associated blood stream infections.*

- *Recently, the CDC released its Checklist for Core Elements of Hospital Antibiotic* ***Stewardship Programs****, which is recommended for facilities to systematically assess the core key elements, actions to ensure optimal antibiotic prescribing, and limiting the overuse and misuse of antibiotics.*

- *Checklists are helpful in preparing, implementing, monitoring, and evaluating workforce and environmental safety.*

EXAMPLES OF SAFETY CHECKLIST

1. *ADVERSE DRUG EVENTS (ADES)* •
2. *CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CAUTIS)* •
3. *CENTRAL LINE-ASSOCIATED BLOOD STREAM INFECTIONS (CLABSIS)*
4. *EARLY ELECTIVE DELIVERIES (EEDS)* •
5. *INJURIES FROM FALLS AND IMMOBILITY* •
6. *HOSPITAL-ACQUIRED PRESSURE ULCERS (HAPUS)* •
7. *PREVENTABLE READMISSIONS* •
8. *SURGICAL SITE INFECTIONS (SSIS)* •
9. *VENTILATOR-ASSOCIATED PNEUMONIAS (VAPS) AND VENTILATOR-* •

ASSOCIATED EVENTS (VAES) 10. VENOUS THROMBOEMBOLISMS (VTES)

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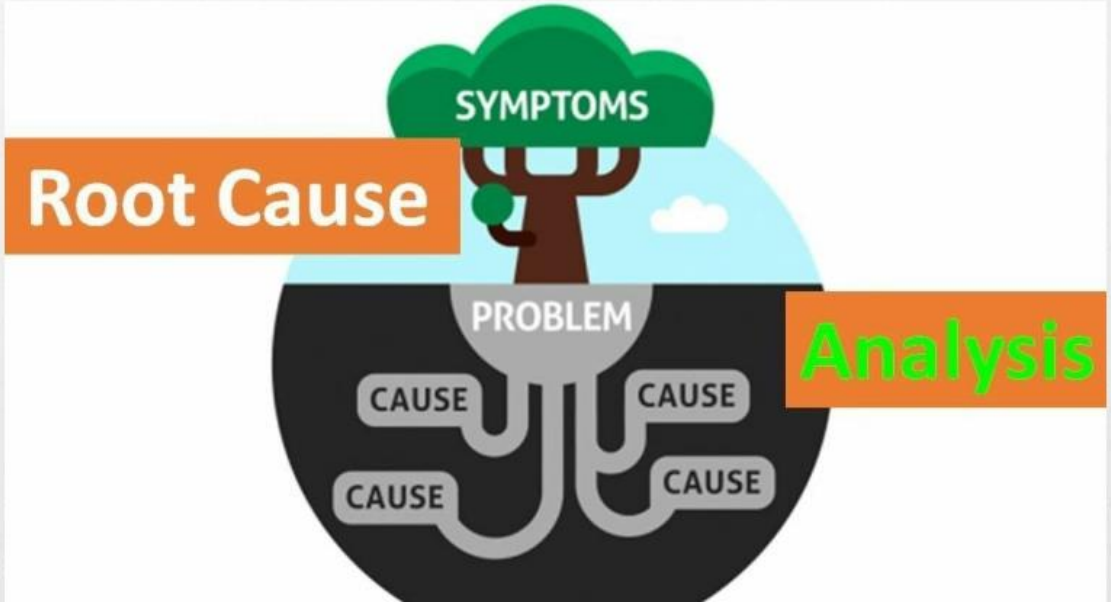
ROOT CAUSE ANALYSIS

Root cause analysis

Retrospective (reactive)



Root cause

Is a factor that caused an adverse event and should be permanently eliminated through process improvement

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Root cause analysis

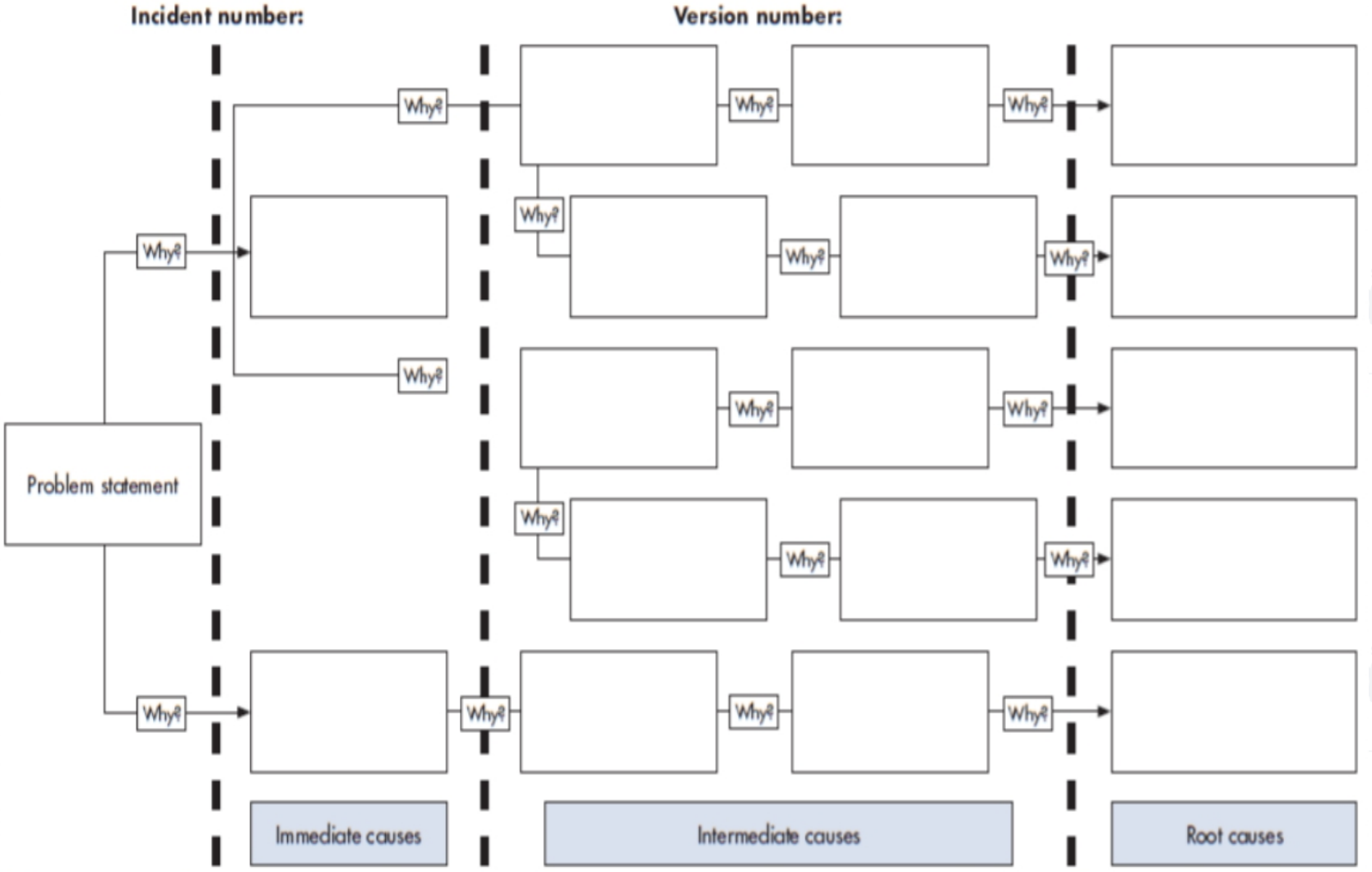
Approach ,tools and technique utilized to determine what the root cause of the problem .

Techniques we use

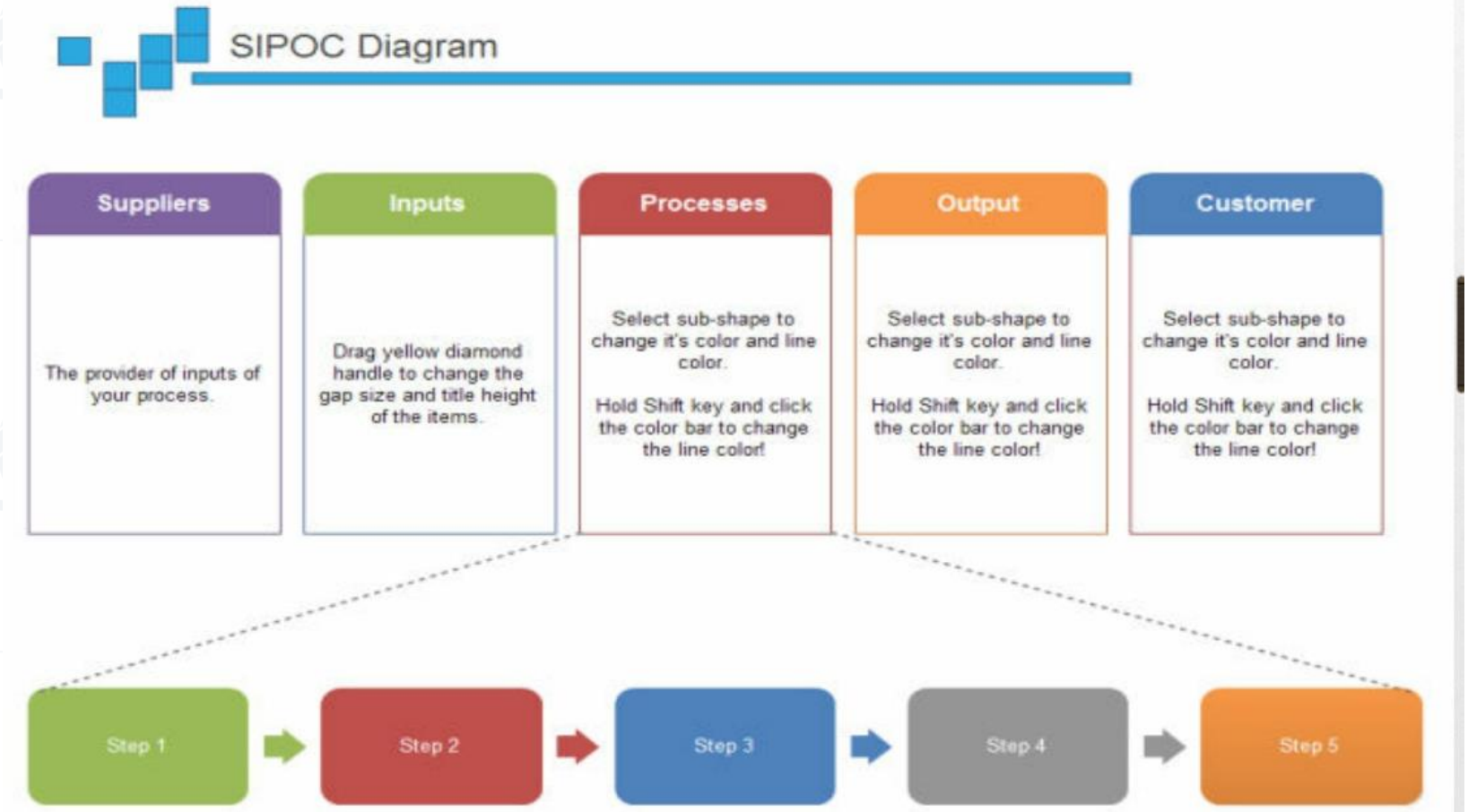
* *Five Whys technique*
* *SIPOC (Suppliers, inputs, processes, outputs, customers diagram) .*
* *Flowcharting*
* *Fishbone diagrams.*
* *Pareto chart.*
* *Prioritization matrix*
* *Gantt chart*

5 why :

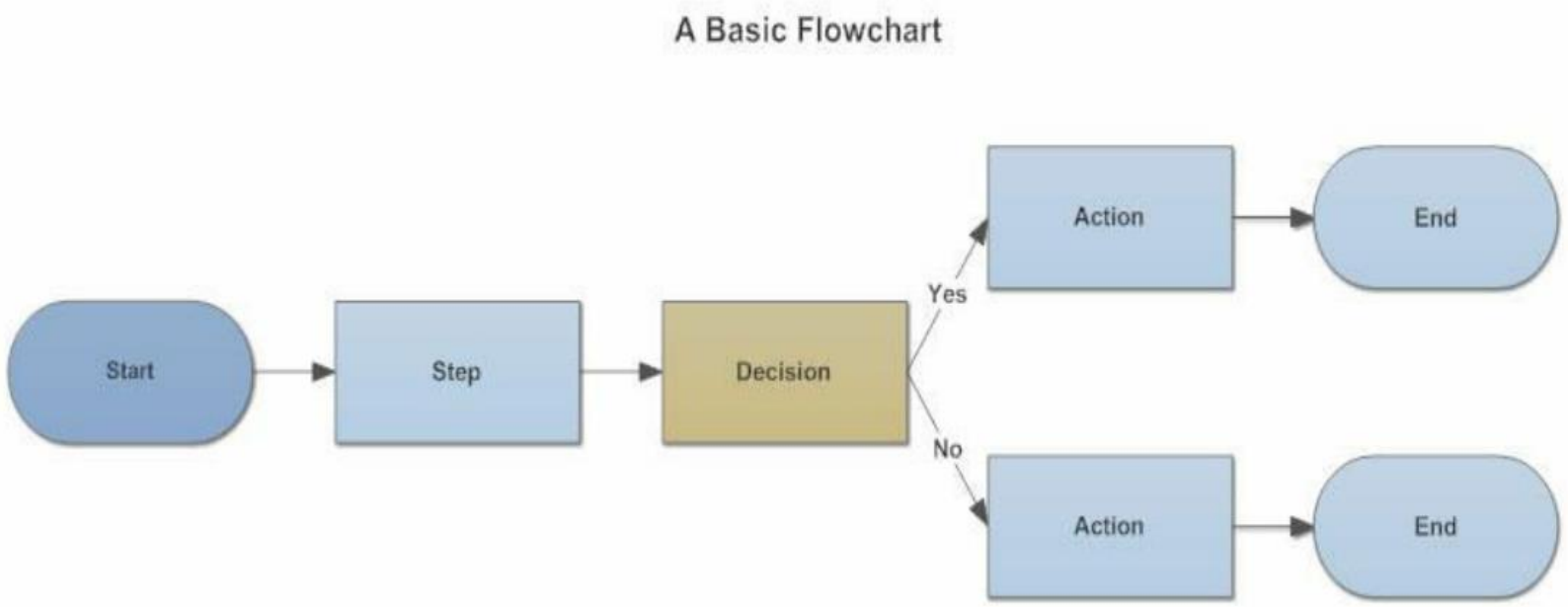

Problem: Ran through a red light.
Why?
Late for work.
Why?
Woke up late.
Why?
Alarm clock broke.
Why?
Didn't check if it worked.
Why?
Forgot to do it last night.


Incident number:
Version number:
Problem statement
Why?
Immediate causes
Intermediate causes
Root causes

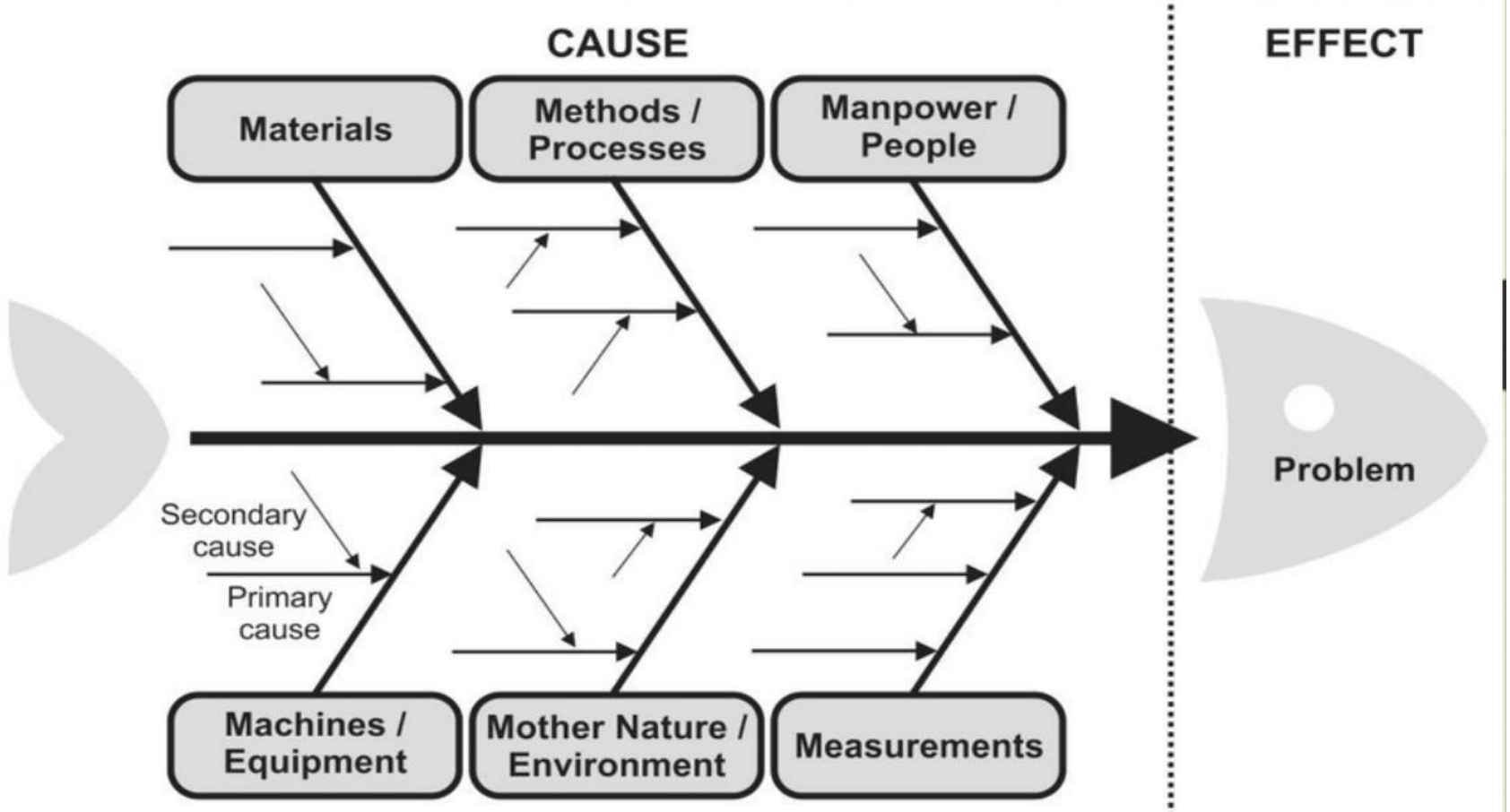
SIPOC


SIPOC Diagram
Suppliers
The provider of inputs of your process.
Inputs
Drag yellow diamond handle to change the gap size and title height of the items.
Processes
Select sub-shape to change it's color and line color.
Hold Shift key and click the color bar to change the line color!
Output
Select sub-shape to change it's color and line color.
Hold Shift key and click the color bar to change the line color!
Customer
Select sub-shape to change it's color and line color.
Hold Shift key and click the color bar to change the line color!
Step 1
Step 2
Step 3
Step 4
Step 5

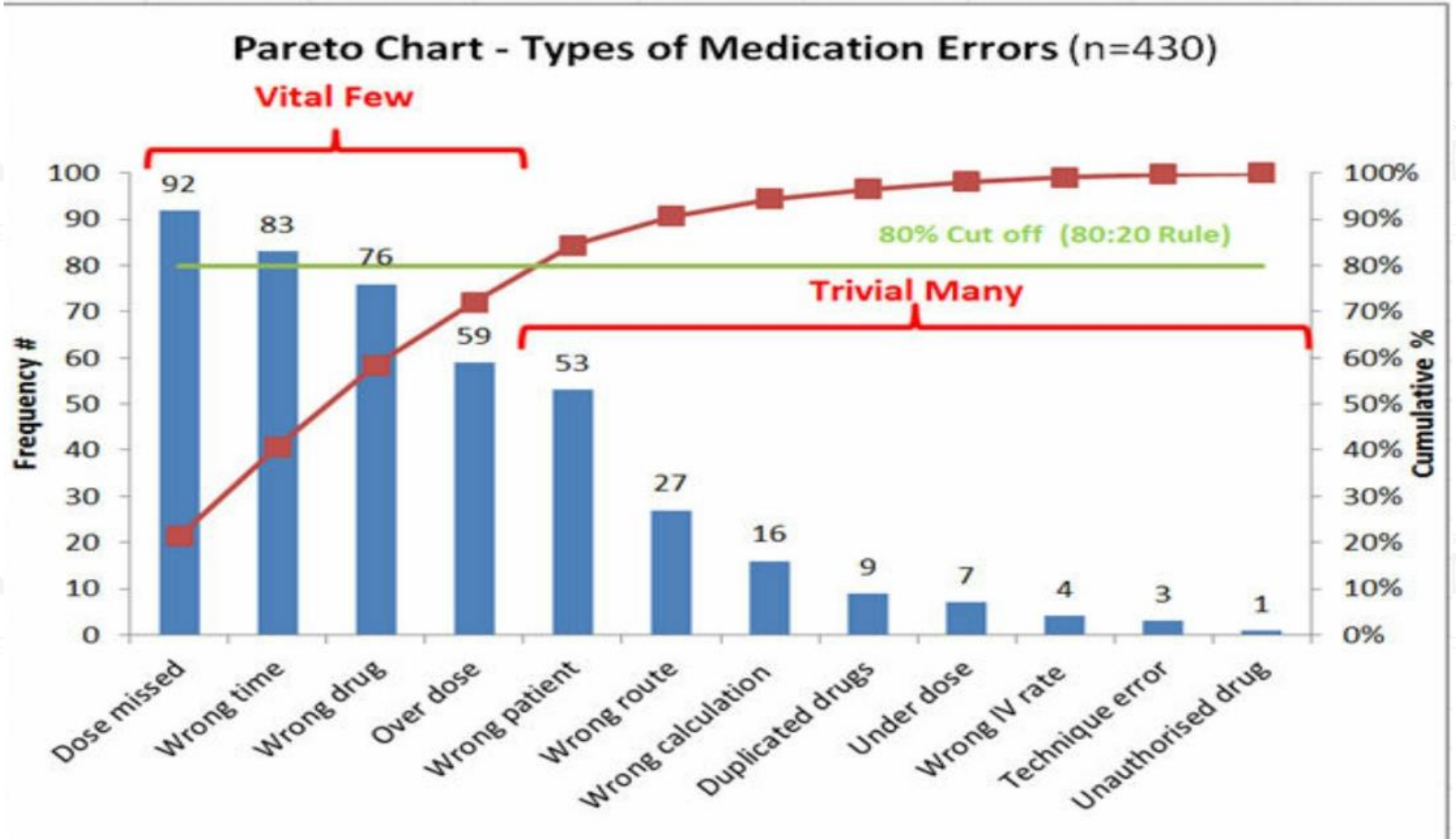
FLOW CHART


A Basic Flowchart
Start
Step
Decision
Yes
No
Action
End
Action
End

Fish bone


CAUSE
EFFECT
Materials
Methods / Processes
Manpower / People
Problem
Secondary cause
Primary cause
Machines / Equipment
Mother Nature / Environment
Measurements

Pareto chart :



Prioritization matrix

	High Risk	High Volume	Problem Prone	Cost	Customer Satisfaction	Regulatory	Total
Infection Rates	3	2	2	3	1	3	14
Surgical Complications	2	1	2	3	1	3	12
Emergency Department Time to Treatment	1	3	1	1	3	0	9
Falls with Injuries	2	1	1	2	2	2	10
Medication Safety	3	3	3	2	1	2	14

How to construct

1. Create an L-shaped matrix with identified areas on one side and evaluation criteria on the other side.
2. Prioritize and assign weights to the list of criteria that will be used in the prioritization. Define a scoring mechanism such as 1–3 or 1–5. In the example 1–3 is used with 1 = least important and 3 = most important.
3. Prioritize the list of options based on each criterion. Usually, key leaders come to agreement on the ratings.
4. Prioritize and select the items across all the criteria. Use the total scores to order the items from high to low.

When to use

When problems are identified and options must be narrowed down, when options have strong interrelationships, and when all options to be done but prioritization or sequencing is required

Gantt chart

	Week ending															
Check	Initial Tasks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Establish team (minimum 2-3 people)															
	Schedule initial meeting															
	Notify relevant people															
	Initiate communication with family															
	Write brief synopsis															
	Information gathering															
	Develop brief flow chart															
	Identify documentation required															
	Identify interviewees															
	Send Part A REB to HQSC within 15 working days															
	Conduct interviews															
	Collect additional information															
	Analysis															
	Causation statements															
	Recommendations/actions															
	Complete and circulate draft report															
	Check feasibility of action plan															
	Complete final report															
	CEO/CMO Sign off															
	8 week Timeline															
	Action plan to appropriate personnel															
	Final meeting with patient/family															
	Send Part B REB to HQSC within 70 working days															

Data collection tools

Spreadsheet

OVR

Interview

interview tips

- Best to have one person to conduct the interview and another person to record the conversation
- On completion of the interview the interviewee should be provided with an accurate transcript of their interview and given the opportunity to read and make any amendments before signing it

- Explain the purpose of the interview
- questions Ask questions in the order the story is presented
- Don't rush the interview - this allows time for the person to recall events
- Avoid using judgmental comments, as this will make the interviewee defensive
- Generate a chronology of the incident with times
- Allow person to ask any questions

STEPS OF RCA

Identify the event to be investigated and gather preliminary information:

Events and issues can come from many sources (e.g., incident report, risk management referral, resident or family complaint, health department citation). The facility should have a process for selecting events that will undergo an RCA.

select team

Team members are people with personal knowledge of the processes and systems involved in the event to be investigated.

<u>Should clarify :</u>

What expertise is required ?

Who fits that role ?

Selected to participate ?

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RCA COMMISSIONING DOCUMENT

ROOT CAUSE ANALYSIS COMMISSIONING DOCUMENT

As the Commissioning Authority for the *(insert name)* District Health Board, I authorise the appointment of a Root Cause Analysis (RCA) Team to conduct an investigation into the following Reportable Event

Incident Number:	Date event occurred:
Brief description of event:	

I authorise the following employees to undertake a RCA for this event:

Team Role	Name
RCA Team leader	
Team Member	

The authorised RCA team will:

- commence a Root Cause Analysis
- determine the root causes and contributing factors for this Reportable Event
- recommend a corrective action plan
- provide a report to me within **70 working days from notification of event**.

AUTHORISATION

Commissioning Authority Name: _____

Signature: _____ Date: _____

Support for staff

Staff are often very traumatized when involved in a health care incident .

Describe what happened :

Collect and organize the facts surrounding the event to understand what happened.

Like staff interview

identify the contributing factors :

The situations, circumstances or conditions that increased the likelihood of the event are identified

Identify the root causes :

A thorough analysis of contributing factors leads to identification of the underlying process and system issues (root causes) of the event

Design and implement changes to eliminate the root causes :

The team determines how best to change processes and systems to reduce the likelihood of another similar event

Measure the success of changes:

Like all improvement projects, the success of improvement actions is evaluated.

Types of actions level

	Action Category	Example
Stronger Actions	Architectural/physical plant changes	Replace revolving doors at the main patient entrance into the building with powered sliding or swinging doors to reduce patient falls.
	New devices with usability testing	Perform heuristic tests of outpatient blood glucose meters and test strips and select the most appropriate for the patient population being served.
	Engineering control (forcing function)	Eliminate the use of universal adaptors and peripheral devices for medical equipment and use tubing/fittings that can only be connected the correct way (e.g., IV tubing and connectors that cannot physically be connected to sequential compression devices or SCDs).
	Simplify process	Remove unnecessary steps in a process.
	Standardize on equipment or process	Standardize on the make and model of medication pumps used throughout the institution. Use bar coding for medication administration.
	Tangible involvement by leadership	Participate in unit patient safety evaluations and interact with staff; support the RCA[2] process; purchase needed equipment; ensure staffing and workload are balanced.

Intermediate Actions	Redundancy	Use two RNs to independently calculate high-risk medication dosages.
	Increase in staffing/decrease in workload	Make float staff available to assist when workloads peak during the day.
	Software enhancements, modifications	Use computer alerts for drug-drug interactions.
	Eliminate/reduce distractions	Provide quiet rooms for programming PCA pumps; remove distractions for nurses when programming medication pumps.
	Education using simulation-based training, with periodic refresher sessions and observations	Conduct patient handoffs in a simulation lab/environment, with after action critiques and debriefing.
	Checklist/cognitive aids	Use pre-induction and pre-incision checklists in operating rooms. Use a checklist when reprocessing flexible fiber optic endoscopes.
	Eliminate look- and sound-alikes	Do not store look-alikes next to one another in the unit medication room.
	Standardized communication tools	Use read-back for all critical lab values. Use read-back or repeat-back for all verbal medication orders. Use a standardized patient handoff format.
	Enhanced documentation, communication	Highlight medication name and dose on IV bags.

Weaker Actions	Double checks	One person calculates dosage, another person reviews their calculation.
	Warnings	Add audible alarms or caution labels.
	New procedure/ memorandum/policy	Remember to check IV sites every 2 hours.
	Training	Demonstrate the hard-to-use defibrillator with hidden door during an in-service training.

Joint commission and RCA

Joint commission has atool and divided the RCA to 3 parts :

1- understanding the event

2- contributing factors

3- action plan

Figure 5-2. A Framework for a Root Cause Analysis and Action Plan in Response to a Sentinel Event, *continued*

Level of Analysis		Questions	Findings	Root Cause?	Ask "Why?"	Take Action
What happened?	Sentinel event	What are the details of the event? (Brief description)				
		When did the event occur? (Date, day of week, time)				
		What area/service was impacted?				
Why did it happen?	The process or activity in which the event occurred	What are the steps in the process, as designed? (A flow diagram may be helpful here.)				
What were the most proximate factors?		What steps were involved in (contributed to) the event?				
(Typically "special cause" variation)	Human factors	What human factors were relevant to the outcome?				
	Equipment factors	How did the equipment performance affect the outcome?				
	Controllable environmental factors	What factors directly affected the outcome?				
	Uncontrollable external factors	Are they truly beyond the organization's control?				
	Other	Are there any other factors that have directly influenced this outcome?				
		What other areas or services are impacted				

Figure 5-2. A Framework for a Root Cause Analysis and Action Plan in Response to a Sentinel Event, *continued*

Level of Analysis		Questions	Findings	Root Cause?	Ask "Why?"	Take Action
Why did that happen? What systems and processes underlie those proximate factors?	Human resources issues	To what degree are staff properly qualified and currently competent for their responsibilities?				
(Common-cause variation here may lead to special-cause variation in dependent processes)		How did actual staffing compare with ideal levels?				
		What are the plans for dealing with contingencies that would tend to reduce effective staffing levels?				
		To what degree is staff performance in the operant process(es) addressed?				
		How can orientation and in-service training be improved?				
	Information management issues	To what degree is all necessary information available when needed? Accurate? Complete? Unambiguous?				
		To what degree is communication among participants adequate?				
	Environmental management issues	To what degree was the physical environment appropriate for the process(es) being carried out?				
		What systems are in place to identify environmental risks?				
		What emergency and failure-mode responses have been planned and tested?				

Figure 5-2. A Framework for a Root Cause Analysis and Action Plan in Response to a Sentinel Event, *continued*

Level of Analysis		Questions	Findings	Root Cause?	Ask "Why?"	Take Action
	Leadership issues: —Corporate culture	To what degree is the culture conducive to risk identification and reduction?				
	—Encouragement of communication	What are the barriers to communication of potential risk factors?				
	—Clear communication of priorities	To what degree is the prevention of adverse outcomes communicated as a high priority? How?				
	Uncontrollable factors	What can be done to protect against the effects of these uncontrollable factors?				

Action Plan	Risk-Reduction Strategies	Measures of Effectiveness
For each of the findings identified in the analysis as needing an action, indicate the planned action expected, implementation date, and associated measure of effectiveness. OR . . .	**Action Item #1:**	
If, after consideration of such a finding, a decision is made not to implement an associated risk-reduction strategy, indicate the rationale for not taking action at this time.	**Action Item #2:**	
Check to be sure that the selected measure will provide data that will permit assessment of the effectiveness of the action.	**Action Item #3:**	
Consider whether pilot testing of a planned improvement should be conducted.	**Action Item #4:**	
Improvements to reduce risk should ultimately be implemented in all areas where applicable, not just where the event occurred. Identify where the improvements will be implemented.	**Action Item #5:**	
	Action Item #6:	
	Action Item #7:	
	Action Item #8:	
Cite any books or journal articles that were considered in developing this analysis and action plan:		

Under conducting a sentinel event review, a RCA:

A- Provide judgment of staff behaviors

B- Requires team consensus

C- Identifies gaps in patient care processes

D- Proactively identifies causes & effects

Failure mode and effective analysis

	Failure Mode	Failure Causes	Failure Effects	Occurrence	Detection	Severity	RPN
1	Wrong med ordered	MD wrote medication for wrong patient	Patient could have a reaction to the medication from little to severe	5	5	10	250
2	Medication dispensed differently than before	Pharmacy changed medication brands and did not communicate the change	Medication administered, but should have been 2 pills so med not as effective	2	2	7	28
3	Wrong med administered	Nurse did not check patient ID before administering med	Patient could have a reaction to the medication from little to severe	7	3	10	210
4							
				1-10	1-10	1-10	O x D x S

“isatooldesignedto proactivelyandsystematically ~~evaluate~~processtodetermine whereandhowitmightfail.“

- *Analysis of new services or redesigned processes for risk potential before they are implemented.*

-Analysis of current processes that you put you at risk before they cause adverse events.

FMEA is

proactive - prospective - forward thinking.

FMEA model Steps:

.- 1) define purpose and scope of FMEA

.- Process or service under review must be clearly described

- Scope includes which aspects team responsible for must be .clearly defined

:- 2) Assemble the team

- Interdisciplinary, involve closest people to process (process .)owners

.- team leader & facilitator understand concepts of FMEA

3) Describe & understand the process:

team creates flowchart of service. dividing process into steps.

if complex process, prioritize steps that need focusing.

4) Brainstorm potential failure modes:

Brainstorming include people, processes, equipment...

affinity diagrams to organize Brainstorming process using same major categories in variation.

5) Identify potential causes for each failure mode:

- *may use potential causes in RCA.*
- *OR five whys.*
- *think of all possible causes that may lead to probability of failure.*
- *record these possible causes.*

6) Calculate RPN:

- *for each cause find **severity, frequency, delectability.***
- *RPN = DOS = delectability * occurrence * severity.*
- *RPN provides criticality index , way to rank and prioritize failure modes and associated effects to determine which is highest risk and warrant corrective action.*

note

Occurrence	Low	High
Severity	1	10
Detectability	10	1

7) Take actions to eliminate or reduce high risk failure modes:

brainstorm control measures

8) identify performance measures to monitor

effectiveness of redesigned process to reduce criticality index by reducing severity, frequency, delectability of high risk occurrences.

*Determine **process vulnerability***

A- Flow chart

B- FMEA

C- RCA

D- PDCA

*FMEA uses which type of **review**?*

A- Concurrent

B- Retrospective

C- Proactive

D- Recurrent

*A hospital considering **changing the process** of admission from emergency department. To support patient safety when this process deployed. What should the healthcare quality professional during redesign the process?*

A. Complete FMEA of the new process

B. Analysis incidents reports of the last year using Pareto Chart

C. Examining the stability and variation of the new process by using control chart

D. Conducting RCA for predict errors of the new process

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