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RCA^2: Root Cause Analyses and Action: A Blueprint for Prevention of Harm

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Learning Objectives

Upon completing this session, attendees will be able to:

- Identify methodologies and techniques leading to more effective and efficient RCAs (RCA^2)

- Describe tools to improve the process of completing RCA^{2}s to increase patient safety

- Develop clear and credible action plans to ensure sustainable safety improvements

"We Positively Excel at Acknowledging Other People's Errors…."

- "…In fact, if it is sweet to be right, then — let's not deny it — it is downright savory to point out that someone else is wrong"

Being Wrong: Adventures In The Margin Of Error *by Kathyrn Schulz*

We Are Hard Wired to Remember and Think About the Negative

- On making errors…

The Root of RCA^2

Key Challenges: Why This, Why Now?

- Lack of leadership understanding and advocacy; not part of "real work"
- Focus on what went wrong (often absent "how do we prevent future error and harm")
  - Harm based versus risk based
  - Reactive versus proactive
  - Punitive
- Lack of standardization; inconsistent processes, teams, tools, success
- Actions missing/weak; poor implementation of solutions
- Loops not closed; lack of transparency
- Exclusion of key stakeholders, including patients & families

Definition of "Root"

Noun:

The part of an organ or physical structure by which it is attached to the body

Verb:

To encourage a team or contestant by cheering or applauding enthusiastically

Reachitecting RCAs: RCA^2

Why Root Cause Analyses and Actions?

- Identify system vulnerabilities so they can be eliminated or mitigated

    – ID methods and techniques that will lead to more effective and efficient RCA

    – Provide tools to improve RCA reviews so that significant flaws can be identified and remediated to achieve the ultimate objective of improving patient safety

Root Cause Analysis and Action

- Expert panel convened: produce document of successful practices to improve the manner in which we can learn from adverse events and unsafe conditions, and take action to prevent their future occurrence.

- From RCA to RCA^2 (Root Cause Analysis and Actions)
  - Result in the identification and implementation of sustainable systems-based improvements that make patient care safer

- Grant from The Doctor's Company Foundation
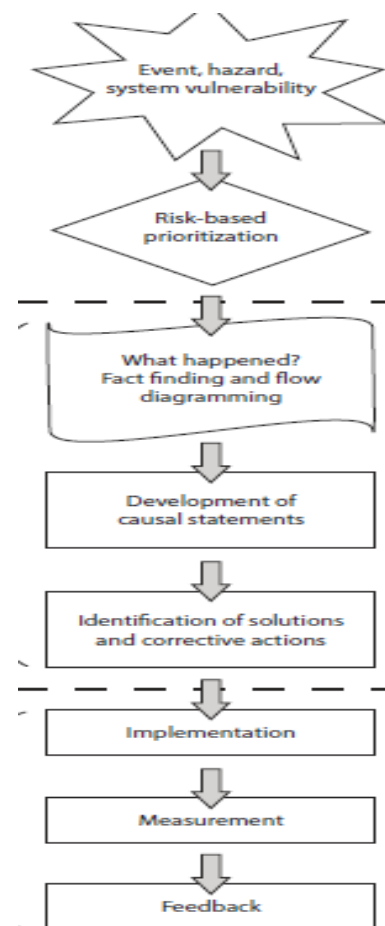 - No role in the content or recommendations from the report

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RCA^2

Standardize Process

Risk-based rather than severity-based

Systems-based approach

Goal is real ACTION & Improvement

Sustainable results

RCA²

Leadership & Boards

NPSF RCA^2 Survey (April 2016)

- Key Highlights

  - Majority of 370 reported implementing some or all of the RCA^2 recommendations

  - Main reason for not implementing recommendations: lack of leadership buy in to improve the way we do RCAs

Frequent Comments on Leadership and RCAs

- Leaders "know" they need to be done; but…

  - Lack a total systems approach to safety
  - Awareness of importance; process
  - Don't see or hear stories
  - Not part of the daily work; no protected time
  - No need for a "core team"
  - Blame and shame
  - Only if something "really bad" happens

Risk Based Prioritization

Risk Based Prioritization (RBP)

- Most RCAs done on basis of harm

- RCA^2: Uses transparent, formal, and explicit RBP system to ID adverse events, close calls, and system vulnerabilities requiring RCA^2 review
  - Incorporate both the outcome severity or consequence and the probability of occurrence
  - Allows for aggregated review of similar events to look for common causes
  - Close calls occur 10-300 times more frequently than harm events; are precursors that enable system to identify and correct vulnerabilities

Risk Based Prioritization*

Severity	Frequency

- Catastrophic (death or major permanent loss of function; includes all sentinel events)
- Major (permanent lessening of bodily function)
- Moderate (Increased LOS or level of care)
- Minor (no injury, increased LOS or level of care)

- Frequent (Likely to occur or within a short period; 1-several times/year)
- Occasional (Probably will occur several times every 1-2 years)
- Uncommon (Possible to occur; every 2-5 years)
- Remote (Unlikely to occur; every 5-30 years)

*RBP also includes visitor safety, and equipment or facility harm

Severity Assessment Code Matrix

Example 3 SAC Matrix

| Severity and Probability	Catastrophic	Major	Moderate	Minor
Frequent	3	3	2	1
Occasional	3	2	1	1
Uncommon	3	2	1	1
Remote	3	2	1	1

Critical Elements

Areas with Potential for Improvement for Most Hospitals

- **Nonpunitive Response to Error** (45% positive): Staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file

  - **Handoffs and Transitions** (48% positive)

  - **Staffing** (54% positive)

The *Hospital Survey on Patient Safety Culture 2016 User Comparative Database Report* consists of data from 680 hospitals and 447,584 hospital staff respondents.

What is Blameworthy?

- Blameworthy: events that are the result of criminal acts, patient abuse, alcohol or substance abuse on the part of the provider, or acts defined by the organization as being intentionally or deliberately unsafe

- If an event is discovered to be blameworthy, the team should notify the convening authority to be dealt with as dictated by local policy
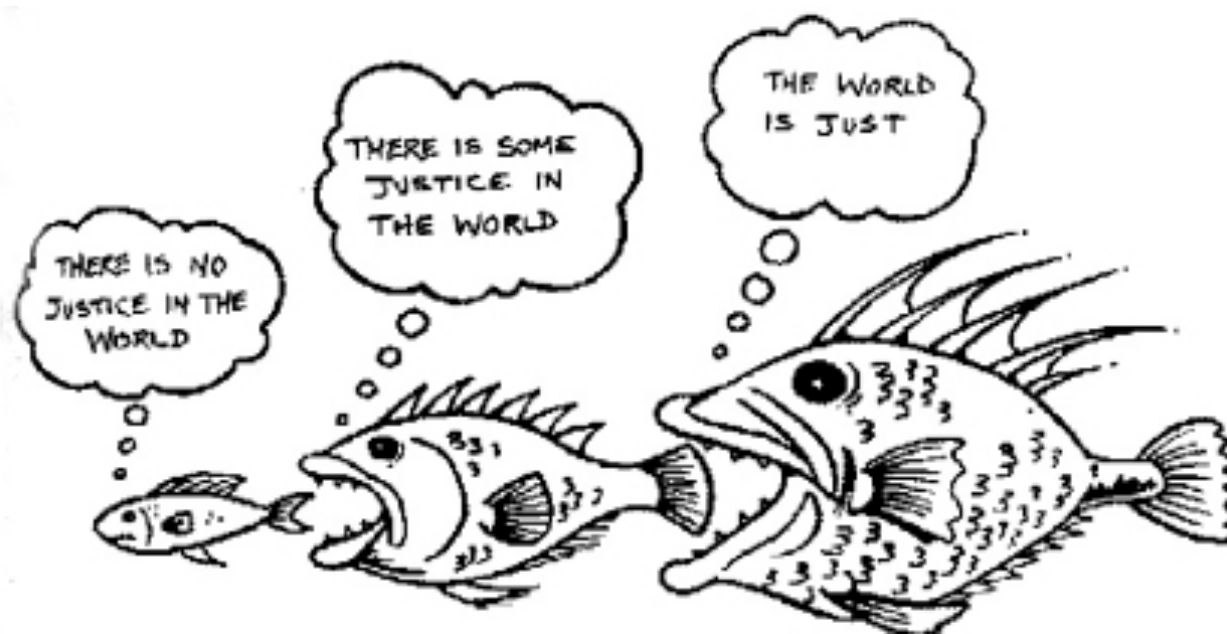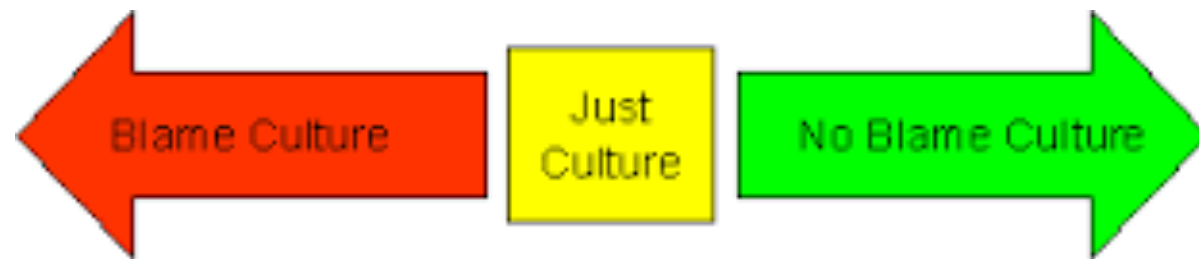
Timing

- Immediately identify/mitigate risk to the patient

- Review process should begin within 72 hours; scored using RBP system
  - Completed within 30-45 days

- Scheduled meetings in place
  - 1½ to 2 hours for each meeting
  - More than 1 meeting; requires team member work between meetings
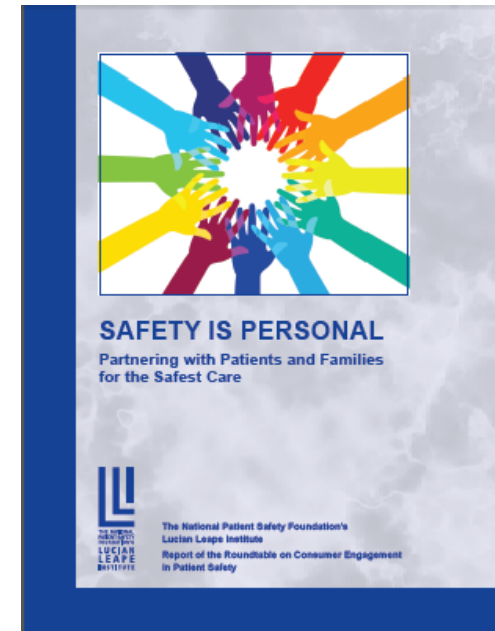
Team Membership

Team Membership

- Sees RCA^2 from start to finish

- Fundamental knowledge of subject area and RCA^2 process

- Conflict of interest minimized – should not include those that are part of event

- Consider limited membership: 4-6 team members

- Team lead: Experienced and skilled

- Is "real work"…not "additional work as assigned"

Safety is Personal: Patient & Family Engagement

- Involve patients and families as equal partners in the design and improvement of care across the organization/practice

- Provide clear information, apologies, and support to patients and families when things go wrong

- Engage patients as equal partners in safety improvement and care design activities

SAFETY IS PERSONAL
Partnering with Patients and Families for the Safest Care

The National Patient Safety Foundation's
Lucian Leape Institute

Report of the Roundtable on Consumer Engagement
in Patient Safety

Patient & Family Members and RCA[2]

- When properly handled, involving patients in post-event analysis may enable further improvement of an organization's systems analysis process while empowering patients to be part of the solution

- An organization should determine whether the patient and/or family are able and willing to provide information about the event from their experience and point of view

- Strong consideration should be made to include a patient representative on the RCA Team

Zimmerman and Amori . "Including patients in root cause and system failure analysis: Legal and psychological implications" J Healthcare Risk Management. 2007;27(2):27–33

Figure 1. RCA^2 Team Membership* and Involvement

NOTE: An individual may serve in multiple capacities	Team Member?	Interview?
Subject matter expert(s) on the event or close call process being evaluated	Yes	Yes, if not on the team
Individual(s) not familiar with (naïve to) the event or close call process	Yes	No
Leader who is well versed in the RCA^2 process	Yes	No
Staff directly involved in the event	No	Yes
Front line staff working in the area/process	Yes	Yes
Patient involved in the event	No	Yes**
Family of patient involved in the event	No	Yes**
Patient representative	Yes	Yes

Least likely to implement…

- Engaging patient and families in RCA^2 process (18%)

- Providing feedback to patients and families after completion of RCA^2 process (27%)

NPSF RCA2 Survey, April 2016 (n=370)

Interviewing

Interviewing (Appendix 3)

- Goal: Discover information: what happened and why, that will lead to ID of system issues; ultimately to effective and sustainable actions

- Not "where did people go wrong", but "why did their action make sense to them at the time"

- Best practices (1-2 members of RCA^2 team; supervisors not present; 1 at a time; be prepared with questions; patient may have family members present)

- "Just the Facts"

- Be a good listener/interviewer (location, attire, tone of questions, thank interviewee)

Causation

Causes and Contributing Factors

- Cause and effect diagrams: investigative tools and means to improve communication to stakeholders

- Why, Why, Why, Why, Why?

5 Rules of Causation

- Document system vulnerabilities as causal statements:
    - Cause, Effect, and Event

- *"Something (Cause) leads to something (Effect), which increases the likelihood that the adverse Event will occur"*

- *"The nurse gave the wrong dose of calcium"*

- *"A high volume of activity and noise in the ICU led to (cause) the nurse being distracted when reviewing medication orders (effect) which increased the likelihood that the wrong dose would be given (event)"*

5 Rules of Causation

Rule	Incorrect	Correct
Clearly show the "cause and effect relationship"	RN was fatigued	RN worked 3 16 hour shifts, which led to fatigue and increased risk of misreading…
Use specific and accurate descriptors for what occurred, rather than negative and vague	Manual was poorly written	Manual had 8 point font/no illustrations; RNs didn't use it; increased likelihood of incorrect programming of pumps
Human errors must have a preceding cause	RN selected wrong dose; patient overdosed	Drugs in CPOE are presented without sufficient space between doses, increasing chance of wrong dose and overdose
Violations of procedure are not root causes, but must have a preceding cause	RN didn't follow procedure for CT scan	Noise and confusion in prep area, with production pressures, increased chance that CT scan protocol would be missed…
Failure to act is only causal when there is a pre-existing duty to act	RN did not check for STAT orders every half hour	No assignment for designated RN to check orders at specific times increased likelihood that STAT orders are missed

Flow Diagramming

Flow Diagramming

- Graphic portrayal of what is known/not known

- Ensures the team has a common understanding of the adverse event

- Permits the team to conduct a gap analysis

- Provides a platform to build upon

- Can act as a road map for the analysis

Action Hierarchy

Why Do Most RCAs Fail?

Actions: The Most Important Step in RCA[2]

- Aim: prevent recurrence, reduce risk of recurrence and severity

- Ensure each action coupled to cause

- Use action hierarchy; focus on strength of action
  - Use weak action only as temporary measures until stronger action can be implemented
  - Weak actions, when used alone, are unlikely to provide sustained patient safety improvements

- No censorship! Team's job is to ID and recommend most effective actions

Action Hierarchy (No Censorship!)

Less Reliance on Humans

Reliance on Humans

Stronger	Intermediate	Weaker
• New devices with usability testing • Engineering control (forcing function) • Simplify the process • Standardization • Tangible involvement by leadership	• Eliminate/reduce distractions • Education using simulation-based training with periodic refresher sessions and observations • Standardized communication tools	• Double checks • Warnings • New policy • Training

Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Hierarchy of Controls www.cdc.gov/niosh/topics/hierarchy/

Measuring Effectiveness

We Manage What We Measure…Actions Without Measures Don't Count!

- A measure for every action; must address the causation statement

- Process and outcomes measures

- Accountability is key; owned by a specific person

- Know what will be measured, how it will be measured, by whom it will be measured, and date it will be measured.

Measuring Effectiveness: Examples

- Process Measure
  - 85% of staff will be compliant with the established patient rounding process within 4 weeks of training and implementation

- Outcome Measure
  - There will be 25% fewer falls in the 3rd quarter, when compared to the 1st quarter of the calendar year.

Measuring Effectiveness

- Has there been compliance with the action items?

- Were action items effective?

- Is further corrective action needed?

- Should there be a different approach?

Feedback

Provide Feedback on Results…

- To leadership

- To staff

- To patients and families

- To community

Warning Signs of an Ineffective RCA2

- Causation
  - Human error identified as causing the event
  - Contributing factors absent or lack supporting data or information
  - Causal statements do not comply with Five Rules of Causation

- Actions
  - No stronger or intermediate strength actions identified
  - No corrective actions identified; corrective actions do not address identified system vulnerabilities
  - Follow-up is assigned to a group and not an individual
  - Don't have completion dates or meaningful measures

- Event review took longer than 45 days to complete

- Little confidence that corrective action will significantly reduce future risk

Summary

- Two "As" are vital

- RCA2 process is designed for accurate and comprehensive understanding of what happened, and strong actions to prevent risk of future recurrence

- Opportunity to adopt RCA2 process for improved patient and workforce safety

"The measure of success is not whether you have a tough problem to deal with, but
whether it is the same problem you had last year."
— John Foster Dulles, Former Secretary of State

Thank You
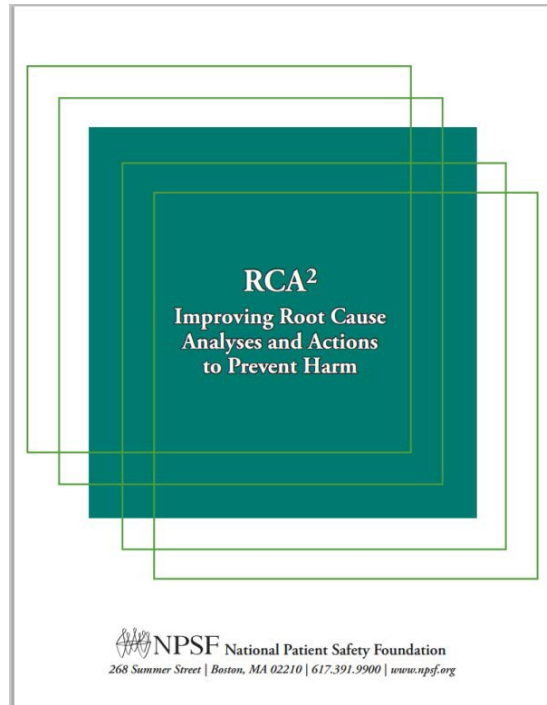
Download the report:

www.npsf.org/RCA2

Thank you to The Doctors Company Foundation for their
generous support of this report

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