Root Cause Analysis: Laying the Groundwork

Presented by
TIS Insurance Services

Objectives

• Identify the key elements of Root Cause Analysis (RCA)
• Understand the two opposing approaches to managing unusual occurrences
• Explore different responses to risk-oriented staff behavior
• Identify four investigation strategies
• Name five causal rules in RCA
• Explain what factors comprise a “just culture”

Scenario

• Esther, age 87, is a resident at a Missouri nursing home. She has been there for three years.
• She was able to walk with a walker when she arrived, but now needs a great deal of assistance getting in and out of bed, and generally uses a wheelchair when out of her room.
Scenario
• One morning, Esther was being moved from her bed to a chair using a Hoyer-type lift. She called for a CNA to help her.
• As the CNA was moving her, Esther fell and suffered a serious head injury as well as some superficial scratches.
• Esther was briefly hospitalized for evaluation of her head injury; a CT showed no intracranial bleeding, and she was released the next day.

Scenario
• During an investigation following the fall, the CNA admitted that she did not follow the policy that required two staff members assist with all transfers.
• The investigation found that the CNA was not compliant with the facility’s policy for transfers.
• She was given a warning and re-trained on the importance of the policy.

How Do We Respond?
• Look for the individual who was at fault
• Focus on training and compliance with policies

BUT…..
• Is anyone else taking this shortcut?
• What if this happens again?
• What if there are larger issues?
• How many “close calls” are we unaware of?
What is RCA?

• Root Cause Analysis
• Structured way of looking at events from a systems perspective
  – Events are rarely just the fault of one person doing the wrong thing
  – People operate in a system. The system can make it easier for them to do the right thing, or more difficult
  – Have to look at multiple contributing factors
  – If you don’t uncover all potential causes, the event can happen again
  – Not blame-free

What is RCA?

• Facilitated process
• After event: gather documents, assemble basic timeline
• Draw out the story from all perspectives
  – Group or individual process
• Work to identify contributing factors
  – Why, why, why, why, why?
• Develop plans of correction that address contributing factors

What is RCA?

• Process for identifying contributing/causal factors that underlie variations in performance associated with adverse events or near-miss/close calls
• Process that features interdisciplinary involvement of those closest to and/or most knowledgeable about the situation
Adverse and Sentinel Events

- “Unintended injury to patients resulting from a medical intervention, which includes any action by healthcare workers, including clerical and maintenance staff.”
  Institute of Medicine

- “An unexpected occurrence involving death or serious physical or psychological injury or risk thereof.”
  Joint Commission

Near-Miss Events

- When two planes nearly collide, they call it a “near miss.” It’s a NEAR HIT.
- A collision is a “near miss.” BOOM! “Look, they nearly missed!”

Scenario

- One morning, Esther was being moved from her bed to a chair using a Hoyer-type lift. She called for a CNA to help her.
- As the CNA was moving her, Esther fell and suffered a serious head injury as well as some superficial scratches.
- Esther was briefly hospitalized for evaluation of her head injury; a CT showed no intracranial bleeding, and she was released the next day.
Scenario

• An investigation after Esther’s fall discovered the following:
  – The lift had been used many times before, and there were no known problems with it.
  – There were two lifts on the floor, but one was already in use.
  – Both lifts were older models that required two people to use correctly
• The CNA was trained in how to use the lift

Scenario

• The CNA was aware of the policy requiring two people for transfers with Hoyer-type lifts. Before assisting Esther, she tried to find someone to help her. Of the two other CNAs on duty, both were busy helping other residents.
• The CNA was running behind in her work, and she knew that Esther tended to get agitated if she had to wait very long to get help.
• The CNA said she sees staff transferring residents by themselves “all the time.”

Scenario

• The CNA had used this lift by herself before without incident; she believed that she could use it safely again, so she made a decision to do the transfer unassisted.
• When she was transferring Esther, she had to maneuver the lift around some obstacles in Esther’s crowded room; this led to Esther’s feet getting tangled in the lift, making her lose her balance.
Scenario

- Systems that contributed to Esther’s fall:
  - **Environmental** (crowded room, old lift)
  - **Staffing** (other staff busy, no plan for getting assistance)
  - **Policy** (no provision for situations when backup not available)
  - **Culture** (acceptance of shortcuts, individual vs. team approach)

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Scenario

- Action Plan:
  - Explore purchase of lifts that can be used by just one person and are more stable
  - Consider assistance with transfers when developing work plans and priorities for staff
  - Revise shift change and staffing practices
  - Nurture team approach to care/less individualized focus on roles

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Two Approaches

- **Focus on individual errors**
- **Individual blame**
- **Punishing errors**
- **Expectation of perfect performance**
- **Solutions tend to be disciplinary or focused on training**
- **Focus on conditions and systems that allow errors to happen**
- **Changing systems**
- **Learning from errors**
- **Expectation of professional performance within a system that compensates for human limitations**
- **Solutions might involve training, equipment, cultural change, staffing**
Key Concepts in Root Cause Analysis

Systems in Health Care
- **People**: education, training, orientation, staffing
- **Materials**: medications, dressings, other supplies
- **Tools**: medical equipment, documentation forms, communication tools
- **Methods**: policies, procedures, communication practices, coordination within and across departments, management practices

Incident Investigation and RCA
- Central to ongoing system design process
- Difficult to do well
- Depends on and reinforces event reporting
- An outgrowth of and partially defines organizational safety culture
- A key process of safety management
Why Event Investigation is Difficult

• Natural reactions to failure
  – Hindsight bias
  – Focus on the “sharp end”
  – Lay out what people could have done
  – Determine what people should have done, the fundamental attribution error

• Tendency to stop too soon
  – Lack training in event investigation
  – We don’t ask enough questions

Why Event Investigation is Difficult

• Lack resources and commitment to do thorough investigations
• Overconfidence in our re-constructed reality
  – People perceive events differently
  – Common sense is an illusion
• “The root cause” myth
  – RCA is not about finding one root cause
  – Accidents have multiple causes

Why Root Cause Analysis?

• The goal of the RCA process is to find out:
  – what happened
  – why it happened
  – to determine what can be done to prevent it from happening again
Different Theories that Relate to Investigation of Serious Events

• The Blame Game
• Human Factors
• Tunnel Vision
• Swiss Cheese

The Blame Game

• Blame/Shame: *Whose fault is this?*
• Guilt: *I screwed up - waiting for hammer to fall*
• Moving from *who did it to why did this happen:* Why things happen

“People make errors, which lead to accidents. Accidents lead to deaths. The standard solution is to blame the people involved. If we find out who made the errors and punish them, we solve the problem, right? Wrong. The problem is seldom the fault of an individual; it is the fault of the system. Change the people without changing the system and the problems will continue.”

Don Norman, Apple Fellow
Different Theories that Relate to Investigation of Serious Events

- The Blame Game
- **Human Factors**
- Tunnel Vision
- Swiss Cheese

Human Factors

- Human factors are those elements that influence the performance of people operating equipment or systems; they include behavioral, medical, operational, task-load, machine interface and work environment factors
- These elements include both physical and cognitive abilities

To Err is Human

Managing for Safety Using Just Culture, outcome engineering, Dallas, TX, www.outcome-eng.com, copyright 2005
Human Factors Engineering

• Human Factors Engineering: study of designs that are "human-centered"
• Such designs support or enhance a person’s performance
• Contrast this to designs that force the user to stretch or to make an extra effort to interact successfully with an interface or device
• Dangerous devices may trick or mislead users into an unintentional error

Human Factors Principles and Systems Design

• Avoid reliance on memory and vigilance
  – Use protocols and checklists
• Simplify processes
• Standardize procedures to reduce unintended variation
• Use constraints and forcing functions
• What is the role of EHR?

Different Theories that Relate to Investigation of Serious Events

• The Blame Game
• Human Factors
• Tunnel Vision
• Swiss Cheese
**Tunnel Vision**

- In reconstructing an event, we may view the event with hind-sight bias.
- We look at the event seeing all the options the staff person could have or should have done.
- We perceive it to be so clear.

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**Getting Inside the Tunnel**

- Quality of decisions not determined by outcome.
- Realize evidence does not arrive as revelations.
- Refrain from judging people for errors.

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**Outside the Tunnel**

- Outcome determines culpability.
- “Look at this! It should have been so clear!”
- We judge people for what they did.

**Inside the Tunnel**

- Quality of decisions not determined by outcome.
- Realize evidence does not arrive as revelations.
- Refrain from judging people for errors.
Lessons From the Tunnel

- We haven’t fully understood an event if we don’t see the actors’ actions as reasonable
- The point of a human error investigation is to understand why people did what they did - not to judge them for what they did not do

“The point of a human error investigation is to understand why actions and assessments that are now controversial, made sense to people at the time. You have to push on people’s mistakes until they make sense—relentlessly.”

Sidney Dekker

Different Theories that Relate to Investigation of Serious Events

- The Blame Game
- Human Factors
- Tunnel Vision
- Swiss Cheese
Swiss Cheese Model

- Likens human systems to multiple slices of Swiss cheese, stacked together, side by side
- An organization’s defenses against failure are modeled as a series of barriers, represented as slices of Swiss cheese
- Holes in the cheese slices represent individual weaknesses in individual parts of the system; holes are continually varying in size and position in all slices
- System produces a failure when all holes in each of the slices momentarily align
Creating the Holes

- Active Failures
  - Errors and violations (unsafe acts) committed at the sharp end of the system
  - Have direct and immediate impact on safety, with potentially harmful effects
- Latent conditions
  - Present in all systems for long periods
  - Increase likelihood of active failures

Root Causes

- A root cause is typically a finding related to a process or system that has potential for redesign to reduce risk
- Active failures are rarely root causes
- Latent conditions over which we have control are often root causes

5 CAUSAL RULES OF RCA

Courtesy of Statis Health
Konrad C. Nau, MD
Professor and Chair
WVU Dept Family Medicine-Eastern Division
Rule 1 – Causal Statements

Causal Statements must clearly show the "cause and effect" relationship

- When describing why an event has occurred, you should show the link between your root cause and the bad outcome
- Each link should be clear to the RCA Team and others

Rule 2 – Negative Descriptors

Negative descriptors (e.g., poorly, inadequate) are not used in causal statement

- To force clear cause and effect descriptions (and avoid inflammatory statements), we recommend against the use of any negative descriptor that is merely the placeholder for a more accurate, clear description
  - “The Resident Manual was poorly written” vs.
  - “On Call start and stop times are not documented in policy”

Rule 3 – Human Error and Preceding Cause

Each human error must have a preceding cause

- It is the cause of the error, not the error itself, which leads us to productive prevention strategies.
  - “Joe ordered heparin and the patient bled out” vs.
  - “Joe ordered heparin because he was unaware of a history of active Peptic Ulcer Disease in the pt.”
Rule 4 – Procedural Deviation and Preceding Cause
Each procedural deviation must have a preceding cause
• Procedural violations are like errors in that they are not directly manageable. Instead, it is the cause of the procedural violation that we can manage.

Rule 5 – Failure to Act
Failure to act is only causal when there was a pre-existing duty to act
• A nurse’s failure to administer a medication can only be causal if he was required to administer the medication in the first place
• The duty to perform may arise from standards and guidelines for practice; or other duties to provide patient care

Remember the Goal of RCA
• Find out what happened and why it happened to determine what can be done to prevent it from happening again
• You want to protect your residents
• But, you also want to protect your staff from having to experience a serious incident
RCA and Accountability

- Does looking at serious events from a systems perspective mean there is no staff accountability?

Just Culture

- A just culture recognizes that individuals should not be held accountable for system failings over which they have no control
- However, a just culture does not tolerate intentional reckless behavior that places a resident in unjustifiable risk

The Behaviors We Can Expect

- **Human error**: inadvertent action; inadvertently doing other than what should have been done; a slip, lapse, mistake
- **At-risk behavior**: behavior that increases risk where risk is not recognized, or is mistakenly believed to be justified
- **Reckless behavior**: behavioral choice to consciously disregard a substantial and unjustifiable risk
How should we respond?

<table>
<thead>
<tr>
<th>Human Error</th>
<th>At-Risk Behavior</th>
<th>Reckless Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product of our current system design</td>
<td>Unintentional Risk-Taking</td>
<td>Intentional Risk-Taking</td>
</tr>
<tr>
<td>Manage through changes in:</td>
<td>Manage through:</td>
<td>Manage through:</td>
</tr>
<tr>
<td>• Processes</td>
<td>• Removing incentives</td>
<td>• Remedial action</td>
</tr>
<tr>
<td>• Procedures</td>
<td>• for at-risk behaviors</td>
<td>• Disciplinary action</td>
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<tr>
<td>• Training</td>
<td>• Creating incentives</td>
<td></td>
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<tr>
<td>• Design</td>
<td>• for healthy behaviors</td>
<td></td>
</tr>
<tr>
<td>• Environment</td>
<td>• Increasing situational awareness</td>
<td></td>
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</tbody>
</table>

Console
Coach
Punish

Summary

• Placing blame on an individual when human error or poor system design is at the root will not prevent reoccurrence of a similar event
• Human errors are an inadvertent action—not an intentional reckless action
• To truly understand why things happened as they did, we need to keep pushing until we understand why the actions made sense at the time
Summary

- Serious events are rarely the result of active failures
  - Latent conditions that exist over time can lead to the alignment of holes in the barriers
  - Barriers can no longer effectively protect the resident
- Everything we do is tied to a process—when serious events stem from a process deviation, we need to work to understand what led to process deviation before we can determine how to protect against a reoccurrence

"No matter how well equipment is designed, no matter how sensible regulations are, no matter how much humans can excel in their performance, they can never be better than the system that bounds them."

Captain Daniel Maurino, Human Factors Coordinator
International Civil Aviation Organization

Questions?