Root Cause Analysis:
A Building Block for Performance Improvement

Kathie Nichols BSN, RN, CRRN
Lake Superior Quality Innovation Network

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Lake Superior Quality Innovation Network (LSQIN)

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Objectives

• Identify how Root Cause Analysis (RCA) is a valuable tool for Quality Assurance Performance Improvement (QAPI)
• Identify the steps in the RCA process
• Access and use the RCA Toolkit for Long-Term Care
What Is RCA?
- A structured and facilitated team method to investigate and analyze problems or events and develop actions to prevent them from happening again
- Tool for quality improvement
- RCA methods used in health care focus on process and systems, not individuals

Value of RCA
- Engages staff in understanding why events occur
- Avoids choosing a “quick fix”
- Promotes culture change through encouraging a non-punitive approach to improvement
- A foundation for QAPI
- Guides teams to measure the impact of changes made as the result of an RCA
- Improves resident safety and quality of care

Two Approaches
<table>
<thead>
<tr>
<th>Focus on individual errors</th>
<th>Focus on conditions/systems that allow errors to happen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual blame</td>
<td>Change systems</td>
</tr>
<tr>
<td>Punishing errors</td>
<td>Learn from errors</td>
</tr>
<tr>
<td>Expectation of perfect performance</td>
<td>Expectation of professional performance in a system that compensates for human limitations</td>
</tr>
<tr>
<td>Solutions tend to be disciplinary or focused on training</td>
<td>Solutions might include training, equipment, cultural change, staffing, process change, etc.</td>
</tr>
</tbody>
</table>
Systems and Processes

Process
• The steps to be followed
• Often guided by policies and procedures

System – the combination of
• Processes
• People/culture
• Environment/equipment

Systems Thinking

• Belief that the parts of a system can be best understood through how they relate to each other, rather than in isolation
• Requires critical thinking skills to analyze, synthesize, and evaluate information

Most Important Tools in RCA?

• Critical thinking skills
• A non-judgmental attitude
• The desire to understand why
• A belief that we can always do better
RCA Concept Of Error

• Error does not imply fault
• Error is the result of something
• Errors are predictable

Non-Punitive Culture

• People make errors all the time
• It’s inappropriate to punish them
• Mistakes are most often the result of a faulty system
• The system or process has to change to prevent mistakes
• The culture has to be open to people sharing their mistakes and near misses

Predicting Human Error

<table>
<thead>
<tr>
<th>Activity</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misreading a label</td>
<td>0.003</td>
</tr>
<tr>
<td>Simple math error with self-checking</td>
<td>0.03</td>
</tr>
<tr>
<td>Monitor or inspector fails to detect error</td>
<td>0.1</td>
</tr>
<tr>
<td>Error in high stress situation requiring rapid action – or multiple actions are occurring rapidly</td>
<td>0.25</td>
</tr>
</tbody>
</table>
Creating a Non-Punitive Culture

To avoid blaming the individual when using RCA, we must focus our attention on systems and processes rather than individual action

- Policies/procedures
- Work environment and equipment
- Communication
- Education/training

Creating a Non-Punitive Culture

- Avoid hind-sight bias
  - Hind sight is 20/20
- Understand why actions made sense at the time
- Understand all potential outcomes cannot be realized

Creating a Non-Punitive Culture

- Avoid reliance on memory and vigilance
  - Use protocols and checklists
- Simplify processes
- Standardize procedures to reduce unintended variation
- Use constraints and forcing functions
  - e.g., car won’t lock until lights turned off
Creating a Non-Punitive Culture

The point of the RCA process is to understand why people did what they did – not to judge them for what they did not do.
Getting inside the tunnel allows us to fully understand why individual actions were felt to be reasonable at the time.

Goal of RCA
Determine why something happened and prevent it from happening again.

RCA Process
- Identify the event
- Select the team
- Describe the event – where did the breakdowns occur?
- Identify all factors
- Identify root causes and contributing factors
- Create change by designing and implementing process and system changes
- Measure to determine results
Root Cause Analysis Toolkit for Long Term Care

- Background
- [http://www.stratishealth.org/providers/rca-toolkit/index.html](http://www.stratishealth.org/providers/rca-toolkit/index.html)

Identify the Event

What triggers an RCA?
- Unexpected events with serious outcomes
- Repeating incidents
- Near miss or good catch
Case Study

Select team

This task analysis is always conducted by a team. This team identifies the root cause(s) of a single event and identifies, implements, and evaluates corrective actions to prevent the event from happening again. This step involves selecting a facilitator and team members.

<table>
<thead>
<tr>
<th>#</th>
<th>Tool</th>
<th>Use</th>
<th>Purpose</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Select Facilitator and Team Members</td>
<td>Describes considerations for selecting a team facilitator and team members. (PDF)</td>
<td>Instructor</td>
<td>Sponsor and Facilitator</td>
</tr>
<tr>
<td>2</td>
<td>Non-Defensive Culture</td>
<td>A non-defensive culture vs. blame culture. (PDF)</td>
<td>Instructor</td>
<td>Team</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Creating a Just Culture</td>
<td>Key concepts of Just Culture and why it is important to create an environment of free and open reporting (10-minute webinar)</td>
<td>Reference</td>
<td>Team</td>
</tr>
</tbody>
</table>
### Describe event

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

<table>
<thead>
<tr>
<th>#</th>
<th>Text</th>
<th>Size</th>
<th>Parameters</th>
<th>Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interviewing</td>
<td>Describing information for person conducting an interview for KCA (page 22)</td>
<td>Instructions</td>
<td>Team</td>
</tr>
<tr>
<td>2</td>
<td>Timeline Worksheet</td>
<td>Description of how to create an RCA timeline and provides a worksheet for your use</td>
<td>Instructions</td>
<td>Team</td>
</tr>
<tr>
<td>3</td>
<td>Interview Worksheet</td>
<td>Example of KCA timeline based on case study (20-page PDF)</td>
<td>Example</td>
<td>Team</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>WHAT OCCURRED OR WAS FOUND</th>
<th>INFORMATION SOURCE</th>
<th>MADE WITH A CHECKLIST IF A SYSTEM OR PROCESS OCCURRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/6</td>
<td>0700</td>
<td>Morning report with nurse and nursing assistant. Not sure if therapy schedule for individual was discussed. Therapy schedule is posted at nursing station and is correct. Night nurse states that individual woke up with complaint of pain at 0600 and was given a pain med all that time.</td>
<td>Nursing assistant, licensed nurse, therapy schedule</td>
<td>✓</td>
</tr>
<tr>
<td>5/5</td>
<td>0730-0815</td>
<td>Nursing assistant is not aware of individual’s 0730 physical therapy appointment. Nursing assistant checks on the individual about 1 times between 0730-0815. Since the individual is sound asleep, nursing assistant doesn’t wake her.</td>
<td>Nursing assistant</td>
<td>✓</td>
</tr>
<tr>
<td>5/5</td>
<td>0825</td>
<td>Therapy aide arrives to pick up individual for physical therapy appointment. Individual is still in bed, not dressed and has not had breakfast. Therapy aide informs nursing assistant that the therapy appointment cannot be rescheduled for later that day.</td>
<td>Therapy aide</td>
<td>✓</td>
</tr>
<tr>
<td>6/7</td>
<td>0700</td>
<td>Morning report with nurse and nursing assistant. Not sure if therapy schedule for individual was discussed. Therapy schedule is posted at nursing station and is correct. Night nurse states that individual woke up with complaint of pain at 0600 and was given a pain med all that time.</td>
<td>Nursing assistant, licensed nurse, therapy schedule</td>
<td>✓</td>
</tr>
<tr>
<td>5/7</td>
<td>0715</td>
<td>Report is out short – licensed nurse has to complete paperwork for another individual that is being transferred to the hospital.</td>
<td>Nursing assistant and licensed nurse</td>
<td>✓</td>
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**Fishbone Worksheet**

```
| Equipment Hazards | Environmental | Process
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
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**“Five Whys” Example**

**Problem statement:** Person missed a physical therapy appointment

**Why?** Person was in bed sleeping at the scheduled time for her appointment at 8:30 AM

**Why wasn’t the resident in bed?** Nursing resident was not aware of the therapy appointment, so did not wake up the person in time to prepare for the therapy session.

**Why wasn’t the morning resident aware of the physical therapy appointment?** This information was not shared to morning report and the morning resident forgot to check the physical therapy schedule.

**Why wasn’t this information shared to report?** Report was not sent due to another individual being transferred to the hospital during morning report.

**Why didn’t the morning resident check the therapy schedule?** Sometimes staff forgets to check the schedule and the schedule is not always correct. It is not consistently updated with changes.

**Root Cause:** Lack of consistent communications regarding acute therapy times.

**Identify root cause**

1. **Task:** Describe key influencing factors and contributing factors (C-page P21)
   **Use:** Instructions
   **Target Audience:** Team

2. **Task:** Examples of how to complete Root Cause and Contributing factors (F-page P21)
   **Use:** Example
   **Target Audience:** Team
Root Cause and Contributing Factors

Problem Statement: Person missed two of six therapy appointments over three days

<table>
<thead>
<tr>
<th>Root Cause</th>
<th>Contributing Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of consistent communication regarding therapy appointment times for residents</td>
<td>Therapy appointments are not always scheduled in the best interest of the individual.</td>
</tr>
<tr>
<td>Current and accurate therapy schedules are not consistently communicated from the therapy department to the nursing staff.</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation goals and plans are not determined with the individual and family on admission.</td>
<td></td>
</tr>
<tr>
<td>Not enough therapy staff or equipment to meet all residents’ therapy needs.</td>
<td></td>
</tr>
<tr>
<td>Nursing assistants feel rushed at the start of the shift, not always 'enough time' to check the therapy schedule.</td>
<td></td>
</tr>
</tbody>
</table>

Identify the root cause

• Would the event have occurred, if this cause had not been present?
• Will the problem recur if this cause is corrected or eliminated?

If “no” is the answer to both questions, the team has found the root cause.
If “yes” is the answer to either question, the team needs to do further analysis.
Change and measure

Use the SMART formula to develop a goal:

Specific
Describe the goal in terms of the 3 "W" questions:

- What Do We Want to Accomplish?
  Reduce the percentage of missed therapy appointments on the transitional care neighborhood by 50% from the current baseline of 3.2%.
  Target: by date xx/xx/xxxx, baseline for missed appointment is 3.2%.
- Who Will Be Involved/Affected?
  Residents, therapy staff, nursing staff, social services staff, health unit coordinators
- Where Will It Take Place?
  Transitional Care Unit (TCU)

Corrective Action Plan

Historically the weakest link to the process
Often teams conclude solutions based on:

- Recognition of warning signs
- Training/education
- Asking clinicians to "be more careful"

Corrective Actions

Do the Actions meet the following?:

- Address the root cause
- Specific
- Easily understood
- Developed by process owners
- Feasible – pilot testing helpful (PDSA)
- Measurable
Corrective Action Plan

Corrective Actions

- Not meant to be short term fixes
- Tightly link to the identified root causes (and contributing factors, if appropriate)
  - Training only used if lack of knowledge or skill is clearly identified
  - Corrective action is aimed at the identified gap in the process, not somewhere else in the process
- Avoid unintended consequences

Corrective action plan

<table>
<thead>
<tr>
<th>Goal: What are we trying to accomplish?</th>
<th>What specific actions can we take to reach our goal?</th>
<th>Who is responsible?</th>
<th>When will the work be completed?</th>
<th>Measure: What will we measure to show the results of our improvement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the percentage of missed therapy appointments in the transitional care neighborhood. Target is 0% lost per week.</td>
<td>Process for ensuring the therapy schedule is current at the start of each shift. Scheduler will be updated via the therapy scheduling software for 10% of needs daily.</td>
<td>Therapist</td>
<td>Month/quarter</td>
<td>Percentage of missed therapy appointments per month in the transitional care neighborhood.</td>
</tr>
</tbody>
</table>
Communicate and Sustain

- In-person channels:
  - Facetoface small meetings
  - Health fairs/trade association awards
  - Luncheons and learn events
  - Off site meetings, retreats, or seminars
  - Presentations or speeches
  - Special events
  - Forum meetings
  - Other: __________

- Online channels:
  - Letters to the editor
  - Paid advertising
  - Online Webinars
  - Other: __________

- Print channels:
  - Annual report
  - Seminars
  - Direct mail
d  - Employee pay stub envelopes
  - Part sheets
  - Postcards
  - Newsletters
  - Posters
  - Other: __________

- Electronic channels:
  - Blogs
  - Computer/video/look
  - E-mail
  - E-newsletters
  - Social media

Data indicated that of the 8 therapy appointments the resident had scheduled from month/day/year to month/day/year, the resident missed two of these appointments. The two missed appointments were due to the resident not wanting to attend therapy due to complaints of pain. The missed appointments were not due to a communication error; the nursing assistants were aware of the therapy appointments. The nursing assistants did report that the therapy schedule was attached to their assigned shifts each day.

The process for retaining the therapy schedule from the electronic health record went well. There was a question about how this will work on the weekends since the health unit coordinator isn’t available to print off the assignment worksheets prior to the AM and PM shifts.

Do
- Carry out the task on a small scale
- Document observations, including any problems and unexpected findings
- Collect data as identified as needed during the ‘plan’ stage.
RCA Toolkit for Long Term Care

http://www.stratishealth.org/providers/rca-toolkit/index.html

Questions?

Kathie Nichols

knichols@stratitishealth.org

952-853-8590

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