


Root Cause Analysis:
A Building Block for Performance Improvement

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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*

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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

Focus on individual errors
Individual blame
Punishing errors
Expectation of perfect performance
Solutions tend to be disciplinary or focused on training

Focus on conditions/systems that allow errors to happen
Change systems
Learn from errors
Expectation of professional performance in a system that compensates for human limitations
Solutions might include training, equipment, cultural change, staffing, process change, etc.

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

Activity	Probability
Misreading a label	0.003
Simple math error with self-checking	0.03
Monitor or inspector fails to detect error	0.1
Error in high stress situation requiring rapid action – or multiple actions are occurring rapidly	0.25

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>

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Learning collaboration and innovation in health care: healthy and safer

Home > Health Care Providers > Root Cause Analysis (Toolkit for LTC)

ROOT CAUSE ANALYSIS TOOLKIT FOR LONG-TERM CARE

Root Cause Analysis (RCA) is a problem solving method to investigate an actual or potential problem, incident or concern. A team looks beyond an immediate solution to understand the underlying cause(s) of the problem. Those causes are then changed to prevent the problem from happening again. For support using the toolkit, contact K203, Deegan, 902-933-8001, or Katie.Nichols, 902-933-8006.

What is Root Cause Analysis and Why is it Valuable?
 Start with this introduction to root cause analysis.
 15-minute video transcript (10-page PDF)

How to Use the Root Cause Analysis Toolkit for Long-Term Care
 A short video in the toolkit.
 3-minute video

Getting started
 Root Cause Analysis is comprised of the seven steps identified below. When you select a step you will be presented with a table of resources related to this step. There are tools that will assist you in doing the step and an example of how to perform that step. There is one scenario that is used throughout all the steps to demonstrate a beginning to end effort.

Click on the steps to advance through the process.

Home Identify the event (Step 1) Select team (Step 2) Describe event (Step 3)

Identify all factors (Step 4) Identify root cause (Step 5) Change & measure (Step 6) Communicate & sustain (Step 7)

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Identify the Event

What triggers an RCA?

- Unexpected events with serious outcomes
- Repeating incidents
- Near miss or good catch

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Case Study



Quality Improvement Organizations
 Making meaningful change in organizations
 through the structure of a unit of care process

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2. Select team

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

#	Tool	Use	Purpose	Audience
1	Select Facilitator and Team Members	Describes considerations for selecting a team facilitator and team members. (2-page PDF)	Instructions	Sponsor and Facilitator
2	Non-Punitive Culture	A non-punitive culture vs. a blame culture. (2-page PDF)	Instructions	Team
3	Introduction to Creating a Just Culture	Key concepts of Just Culture and why it is important to create an environment of free and open reporting. (53-minute webinar)	Reference	Team

Step 2.1 - Select Team

Select Facilitator and Team Members

Introduction
 The primary purpose of root cause analysis (RCA) is to prevent future occurrences of a similar event. RCA 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 team identifies the root cause(s) of a single event and identifies, implements and evaluate corrective actions to prevent the event from happening again. This step involves selecting a facilitator and team members

How to Use
 The team should select a facilitator and team members for the RCA.

Identify a Facilitator
 It is recommended that an internal person be designated as the facilitator. This person, the quality improvement process is internally motivated and led by someone committed to the process. Having an external person facilitate can lead to staff mistrust, lack of trust, and lack of engagement. The facilitator should have an understanding and skills in quality improvement processes, systems thinking, RCA process, and outcomes. The facilitator is usually chosen by the administrator or other administrative staff. The administrator can be the facilitator but that is not required. The facilitator and key administrative staff usually determine who should be on the team.

The Facilitator

- Should not be directly involved in the accident
- Offers an experience in a leadership position.
- Should be someone with credibility with the team.
- Keeps to gather facts
- Is involved with interviewing the participants and other witnesses to the event
- Should be able to stay neutral about the event, drawing on bias or pre-determined opinions about the event
- Should have an open-minded idea of causal factors of the event
- Should know the organizational history of processes
- Should have quality improvement knowledge and skills

Step 2.1 Select Team - Select Facilitator and Team Members - 1



3. Describe event

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

#	Tool	Use	Purpose	Audience
1	Interview Guidelines	Describes information for person conducting an interview for RCA. (2-page PDF)	Instructions	Team
2	Timeline Worksheet	Describes how to use an RCA timeline and provides a worksheet for your use. (2-page PDF)	Instructions	Team
3	Timeline Worksheet Example	Example of RCA Timeline based on case study. (2-page PDF)	Example	Team

DATE	TIME	WHAT OCCURRED OR WAS FOUND?	INFORMATION SOURCE	MARK WITH A CHECK (✓) IF A SYSTEM OR PROCESS BREAKDOWN OCCURRED
5/5	0700	Morning report with nurse and nursing assistants. Not sure if therapy schedule for individual was discussed. Therapy schedule is posted at nursing station and is correct.	Nursing assistant, licensed nurse, therapy schedule	✓
5/5	0730-0815	Nursing assistant is not aware of individual's 0830 physical therapy appointment. Nursing assistant checks on the individual about 3 times between 0730 - 0815. Since the individual is sound asleep, nursing assistant doesn't wake her.	Nursing assistant	✓
5/5	0825	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.	Therapy aide	✓

5/7	0700	Morning report with nurse and nursing assistants. Not sure if therapy schedule for individual was discussed. Therapy schedule is posted at nursing station and is correct. Night nurse shares that individual woke up with complaint of pain at 0500 and was given a pain med at that time.	Nursing assistant, licensed nurse, therapy schedule	✓
5/7	0710	Report is cut short – licensed nurse has to complete paperwork for another individual that is being transferred to the hospital.	Nursing assistant and licensed nurse	✓
5/7	0730-0815	Nursing assistant is not aware of individual's 0830 physical therapy appointment. Nursing assistant checks on individual about 3 times between 0730 - 0815. Individual is sound asleep, so nursing assistant doesn't wake her.	Nursing assistant	✓
5/7	0825	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.	Therapy aide	✓



Root Cause and Contributing Factors
Problem Statement: Person missed two of six therapy appointments over three days

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


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

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5. Change & measure
 Creating change is the implementation step to make changes to processes and systems within the organization. The team develops a goal, measures, and implementation steps. The implementation steps are trained using the Plan, Do, Study, Act (PDSA) cycle. These same steps are used for any quality improvement effort.

#	Tool	Use	Purpose	Audience
1	Goal Setting Worksheet	Describes how to set goals and provides a worksheet for your use. (2-page PDF)	Instructions	Team
2	Goal Setting Worksheet Example	Example of how to complete the Goal Setting Worksheet. (2-page PDF)	Example	Team
3	Measure Development Worksheet	Describes how to develop measures and provides a worksheet for your use. (3-page PDF)	Instructions	Team
4	Measure Development Worksheet Example	Example of how to complete the Measure Development Worksheet. (3-page PDF)	Example	Team
5	Corrective Action Plan Worksheet	Describes how to complete the Corrective Action Plan and provides a worksheet for your use. (3-page PDF)	Instructions	Team
6	Corrective Action Plan Worksheet Example	Example of how to complete the Corrective Action Plan Worksheet. (3-page PDF)	Example	Team
7	PDSA Website	Describes the fundamentals of the Model for Improvement and key concepts about testing changes on a small scale using Plan-Do-Study-Act (PDSA) cycles. (5-1-minute webinar)	Reference	Team
8	PDSA Cycle Worksheet	Describes how to conduct a PDSA cycle and provides a worksheet for your use. (4-page PDF)	Instructions	Team
9	PDSA Cycle Worksheet Example	Example of how to complete the PDSA Cycle Worksheet. (4-page PDF)	Example	Team
10	Measurement Goals for Lata Item Lists	Defines measures that will support and demonstrate outcomes. (20-page PDF)	Instructions	Team

Change and measure

Use the SMART formula to develop a goal:

Specific

Describe the goal in terms of 3 'W' questions:

- **What Do We Want to Accomplish?**
Reduce the percentage of missed therapy appointments on the transitional care neighborhood by date xx/xx/xxxx. Baseline for missed appointments is currently 32%. Target by xx/xx/xxxx is 10%.
- **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

Do

- Carry out the test on a small scale
- Document observations, including any problems and unexpected findings
- Collect data you identified as needed during the "plan" stage.

Data indicated that of the 8 therapy appointments this resident had scheduled from month/date/year to month/date/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 assignment sheets each day.

The process for retrieving 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.

Communicate and Sustain

7. Communicate & sustain
 In order for the learn-do-verify steps to ensure the changes that have implemented are communicated and shared with residents, families, and staff. Measures for ongoing monitoring can be developed through use of a dashboard. Other tools used with communication and sustainability.

#	Tool	Use	Purpose	Audience
1	Instructions to Develop a Dashboard	Use this tool to guide the process of developing a dashboard. The step also includes to help the team members understand the value of a dashboard and the process for creating a dashboard. (Change PCPI)	Instructions	Team
2	Improvement Success Story Template	Use this template to tell the story of a change your nursing home made that led to a demonstrable improvement. (Change PCPI)	Instructions	Team
3	Communication Plan Worksheet	Use this worksheet to plan communications about performance improvement projects. (Change PCPI)	Instructions	Team
4	Sustainability Decision Guide	This is a resource to help leaders or teams determine if the interventions and changes they are making are sustainable. (Change PCPI)	Instructions	Team

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Communicate and Sustain

In-Person Channels:

- Face-to-face small meetings
- Health fairs or trade association events
- Lunch and learn events
- Off-site meetings, retreats, or seminars
- On-site meetings, retreats, or seminars
- Presentations or speeches
- Special events
- Town meetings
- Other: _____

Print Channels:

- Annual report
- Banners
- Direct mailings
- Employee pay stub enclosures
- Fact sheets
- Flyers
- Newsletters
- Posters
- Other: _____

Media Channels:

- Letters to the editor
- Paid advertising
- Press releases
- Other: _____

Electronic Channels:

- Blog
- Computer/video kiosk
- E-mail
- E-newsletters
- Intranet

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RCA Toolkit for Long Term Care

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



Questions?

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