

# A Guide to Using Root Cause Analysis

HOW TO IDENTIFY – AND ADDRESS –  
THE UNDERLYING CAUSES OF RISK EVENTS

If you have a sore throat, over-the-counter medication may relieve the symptoms – at least temporarily. But if the pain is caused by tonsillitis, your sore throat will probably keep coming back until you get your tonsils surgically removed.

Likewise, costly incidents will keep happening until you stop treating symptoms and cure the real cause of the problem.

**Root Cause Analysis – RCA – gets to the bottom of an issue so that action can be taken to fix it permanently.**

RCA methodically drills through layers of symptoms until the true cause is identified and remedied. Done correctly, RCA will improve safety, reduce future incidents – and ultimately lower your total cost of risk.

If you aren't looking beyond what's in your incident report, you are likely missing significant opportunities for improvement. This e-book will help you start digging for deeper answers to get better results.

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# WHAT?

**Root cause analysis is a data-driven, collaborative process that uses a set of tools to investigate:**

- What happened
- Why it happened
- What can be done to prevent similar incidents in the future
- Whether the problem was eliminated

By systematically peeling away layers of causes and effects, RCA identifies breakdowns in processes and systems that contributed to the event so that corrective actions can be taken. Unlike other methods of problem solving or troubleshooting that simply bandage what's on the surface, RCA is designed to cure chronic conditions – and provide tangible evidence that the problem was in fact solved.

The only way to develop a lasting solution to a problem is to address the underlying cause. If you don't look further than what is indicated on an incident report, you will be developing an action plan based on a symptom (sore throat), not the root cause (tonsillitis). More than likely you will continue paying out claims dollars, and people will continue to get injured because the real problem was never fixed.



## WHERE?

The incident report is usually the best place to start identifying events to be investigated.

To be effective, however, all incidents must be reported. To that end, consider opening up incident reporting to anyone in the organization – and create a fear-free environment by allowing reports to be made anonymously.

Encouraging incident reporting may increase your numbers – possibly significantly. The fact is you're already paying for unreported incidents. If you are aware of the events and have the information, you can take action to reduce incidents and therefore costs.

# WHEN?

Depending on your industry, RCA can be performed monthly or quarterly to stay on top of any new issues.

Since very few organizations have the time or resources to drill down into every incident or claim, it is important to focus attention where you can have the greatest impact. According to the Pareto Principle, about 80% of your issues will be caused by 20% of your problems. The key is to identify and investigate that 20%.

One approach is to group incidents or claims into three buckets:

1. **High frequency** – These incidents may individually be relatively low in cost, but the high volume drives up the total.
2. **High severity** – These incidents may be few in number, but each one is expensive.
3. **Problem prone** – These incidents are recurring issues that need to be dealt with.

Incidents in the high-severity bucket should be investigated immediately – particularly if safety is at stake. Establishing a protocol for determining severe incidents will make sure nothing significant gets inadvertently overlooked.

## What Root Cause Analysis IS:

- ✓ Data-driven
- ✓ Collaborative
- ✓ Focused on finding underlying causes
- ✓ A permanent fix
- ✓ A process for continuous improvement

## What Root Cause Analysis Is NOT:

- ✓ A check-the-box activity
- ✓ Always found on an incident report
- ✓ Subjective
- ✓ A quick fix



# HOW?

## SIX STEPS TO A SUCCESSFUL ROOT CAUSE ANALYSIS PROCESS

### STEP 1: Identify the problem.

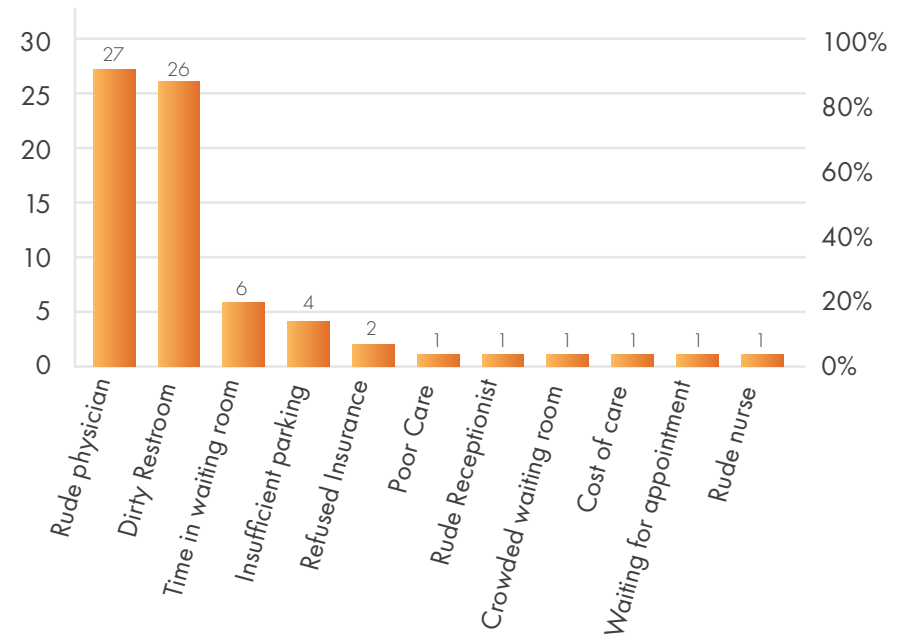
Your analysis will only be as good as the data you collect, so compiling comprehensive, accurate, and consistent information about your incidents is essential. To identify high-frequency or problem-prone incidents, organize incident information into meaningful categories using a simple tally sheet.

For example, this incident report from a hospital emergency room includes 71 complaints that can be assigned to 11 categories:

Complaint	Frequency
Rude physician	27
Dirty restroom	26
Time in waiting room	6
Insufficient parking	4
Refused insurance	2
Poor care	1
Rude receptionist	1
Crowded waiting room	1
Cost of care	1
Waiting for appointment	1
Rude nurse	1

Next, convert data from the tally sheet into a Pareto chart to visualize which issues are causing the most trouble.

In this illustration, the first two bars represent about 75% of the complaints. Those are the problem areas to investigate.



### TOOLBOX

#### Pareto Chart

A Pareto chart, named after Italian economist Vilfredo Pareto, includes a bar chart that shows the impact each category has on the performance problem, arranged from highest to lowest, overlaid with a line graph that indicates the cumulative total.

## STEP 2: Get the right team in the room.

The team should include all those personally involved in the event, those familiar with the processes and systems, and a trained RCA facilitator to lead the discussion.

It's important to note that you can't just talk to the supervisor or look at an incident form. You need the frontline staff who were present when the event took place. Otherwise you're just guessing at what happened – and you won't get to the root cause.

Providing a safe environment for open and honest discussion among the team is also essential for uncovering the truth.



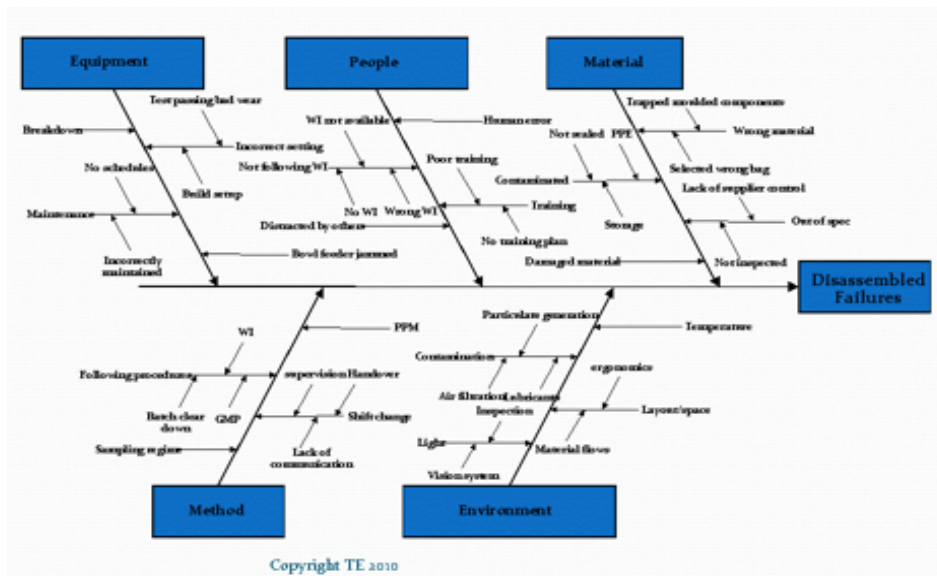
### STEP 3: Ask questions.

You have to understand what happened before you can understand why it happened. Start with the problem and work backward to sequence all of the contributing events.

Once you know exactly what happened, you can brainstorm likely causes. Using the “Five Whys” technique, ask why the incident happened. Take that answer and ask why again, drilling down until you reach a cause that can’t be broken down any further.

Explore all potential causes initially, and narrow down the list to the most likely culprits. You’ll end up with a cause-and-effect diagram that will lead you to the source of the problem.

### Cause and Effect



### TOOLBOX

#### Five Whys

The “Five Whys” is a technique to systematically drill down to the real root cause by repeatedly asking the question: “Why?” You may have more than one answer for each question, and each one of those may lead to another why question. Five is, of course, just a rule of thumb. You may only need three why questions – or you may need many more. Just make sure you don’t leave any loose ends.

#### STEP 4: Identify the root cause(s).

When you believe you've reached the root cause and not another contributing factor, check your work by asking:

- Would the event have occurred if this cause were not present?
- Will the problem happen again if this cause is corrected or eliminated?

If the answer is no to both questions, there is a good chance you have uncovered the underlying cause. If not, keep digging. Note that there may be multiple root causes, each of which must be addressed to prevent similar incidents in the future.



## TOOLBOX

### Cause-and-Effect Diagram

A cause-and-effect diagram – also known as a fishbone – visually displays possible causes of a problem and sorts the team's ideas into useful categories.

## STEP 5: Develop an action plan.

The team now can determine how to change or eliminate each identified root cause to avoid triggering another harmful incident. The key is to choose actions under your control that provide the strongest safeguards to future problems.

Your action plan should clearly state what corrective measures need to be taken for each root cause, when they need to be done, and who is responsible.



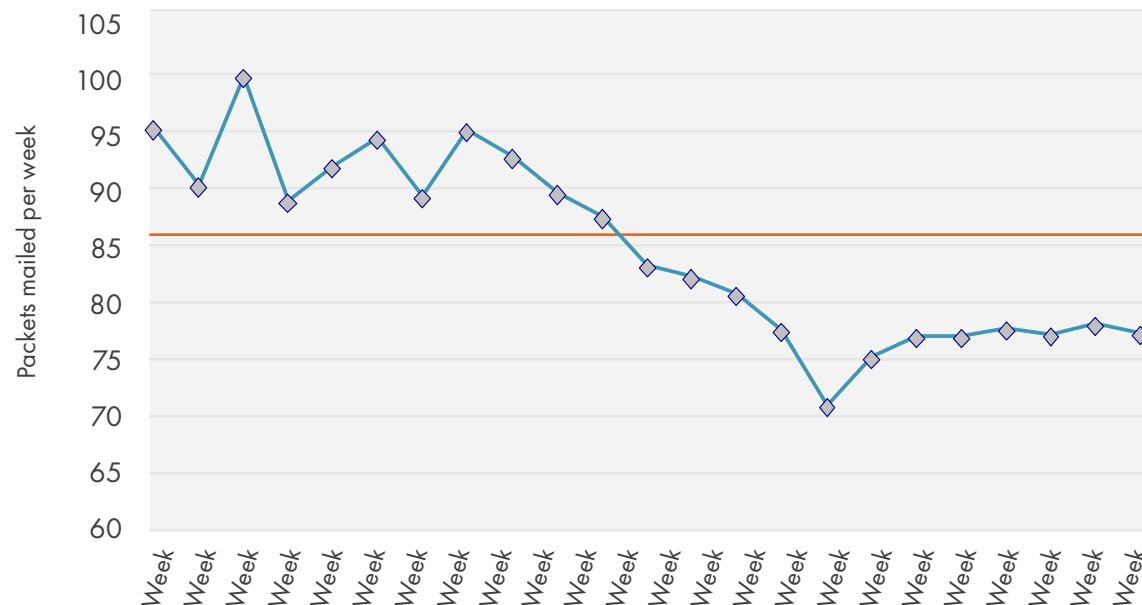
## Common Pitfalls of Root Cause Analysis

- Designing an action plan based only on the contents of an incident report
- Allowing a supervisor to speak on behalf of the employee directly involved
- Offering optional incident reporting
- Not using data to verify that the root cause was actually fixed

## STEP 6: Assess your success.

The only way to know you truly found and fixed the root cause of the problem is to compare incident data over time. If the problem was fixed, you should see a significant downward trend in similar incidents. But don't just take someone's word for it. You have to have the data.

Trend, in fact, is a statistical term for a pattern of change over time. To see the effect of your corrective actions, plot each observance of the problem in time order on a run chart. If seven or more data points fall below the median, you officially have a trend.



## TOOLBOX

### Run Chart

A run chart is a line graph that shows data plotted over time to identify trends and patterns.

## The Final Step

The biggest question is, of course, has the problem been permanently fixed? The final step in the RCA cycle is to construct another Pareto chart after completing the action plan. Going back to the first example, the rude physician and dirty restroom categories should now be far to the right on the Pareto chart if the problem was significantly reduced or permanently fixed. If they aren't, you didn't impact the root cause.

If root cause analysis is effective, your people will be safer, you'll have fewer incidents, and fewer dollars will be spent on those issues, which will lower your total cost of risk.

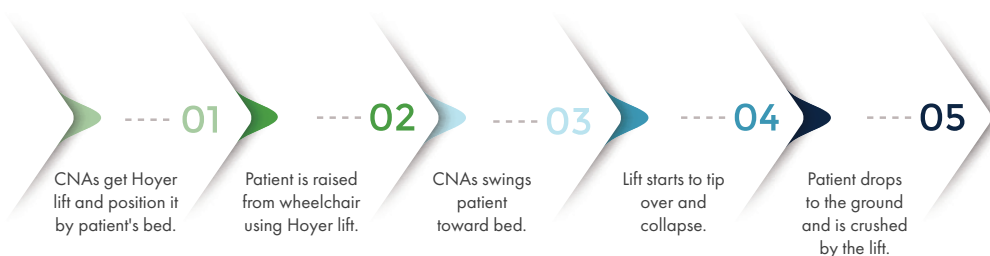


## CASE IN POINT: Getting to the Root Cause of a Severe Event

A hospital patient suffered a serious head injury when he was being transferred from a wheelchair to the bed. The six-foot tall, 300-pound man was placed in a Hoyer lift and raised above his wheelchair. As the Certified Nursing Assistants (CNAs) turned the lift toward the bed, the lift arm began to sink. Attempting to complete the transfer before the patient was lower than the bed, the CNAs quickly swung the lift toward the bed. The lift tilted dangerously to the side, and the legs moved together, narrowing the base of support. The patient dropped to the ground, and the lift fell on top of him.

The severity of this incident makes it an automatic candidate for RCA. Here are the steps the hospital might take to conduct the analysis:

1. Identify the problem. The patient suffered a serious head injury after being dropped and crushed by a Hoyer lift.
2. Get the right team in the room. The CNAs operating the lift must be part of the team, along with anyone else with personal knowledge of the event, equipment, and procedures. Remember, a fear-free, blame-free environment is critical to open dialogue.
3. Ask questions. Start by building a timeline of the event using facts only:



4. Identify the root cause. Digging deeper into what happened will lead to why it happened. The team then needs to dig deeper by continuing to ask “why” questions about the contributing factors. For example:
  - The CNAs didn’t have the equipment needed to care for patient.
  - Needed equipment is sometimes hard to find.
  - Not enough equipment is available to care for patients with specialized needs.
  - The number of patients with specialized needs is not known.
  - The strategic planning and budgeting process does not include projections for equipment needs of patients with specialized needs.
5. Prioritize top root causes. Using a multi-voting technique, prioritize the top root causes you identified as a team and determine the ultimate root cause.
6. Develop an action plan. Purchasing an additional Hoyer lift rated for use with patients over 250 pounds would be a short-term solution to a contributing factor. However, that will not fix the root cause. The team needs to recommend that a formal evaluation of future specialized equipment needs be regularly incorporated into the hospital’s strategic planning and budgeting process.
7. Assess the success. Once the corrective actions have been taken and recommended changes are being complied with, the hospital needs to review the data over time to make sure no recurrent events have happened, and the change is permanent.



# Technology for Root Cause Analysis

Software can help you simplify and streamline the RCA process by seamlessly integrating claim, incident, and cause data into one platform. RCA tools follow a structured approach to capture and analyze data, identify and implement corrective actions, and track the progress of new initiatives. You can assign and perform RCA on incidents and get accurate, real-time results to quickly identify the root cause and implement corrective actions to improve safety.

Here's how technology can help manage the RCA process:

## MITIGATE RISK

Report across all cause data by coverage, location, and cause to identify trends.

Get real-time insights by seeing analyses as soon as they are completed so action can be taken to prevent future losses.

## INCREASE VISIBILITY

Quickly search your open, in progress, in review, and completed analyses, and filter them by coverage, cause, and location.

Set up a review process to ensure analyses are done correctly and on time.

Communicate with other departments and stakeholders with built-in collaboration tools.

## IMPROVE PROCESS

Perform RCA quickly with intuitive form design and simple entry screens.

Create, assign, and set a due date for analysis to be performed once a claim or incident happens or create analysis on an ad-hoc basis.

## ABOUT RISKCONNECT

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