The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

Australian and New Zealand College of Anaesthetists

Support Scheme for Rural Specialists (SSRS)
Root Cause Analysis

Root Cause Analysis (RCA) - what is it?
Root Cause Analysis is a way of conducting an investigation into an identified problem that allows the investigator(s), and other people, to understand the root, or fundamental cause of the problem so that it can be corrected.

In the AROMA project, we have also used peer review as a way of looking at problems; RCA focuses on using a structured systems approach instead of only looking at clinician behaviour and attitudes. By using the RCA approach we can ensure that participants gain a clear picture of the problem or critical event. People involved in the critical incident need to be part of the RCA process where the steps need to be are carried out in the right order. Once all of the investigation is done, actions can be put into place and evaluated.

Who should do RCA?
Root cause analysis is a group exercise, where the input of the team helps in creating a balanced and full picture of what happened. A person who understands RCA should facilitate RCA critical incident reviews. This will ensure that all causal and influencing factors are identified and effective solutions considered.

How do I carry out a RCA?
RCA principles can be applied to all problem-solving activities. A full RCA would normally be applied to high risk or high impact events, the process can be resource intensive, so that a decision on proceeding with this type of analysis needs to be considered carefully. The RCA process involves several steps:

- Describing the event and what took place
- Organising the RCA team
- Gaining a clear picture of the process leading to the adverse event
- Understanding the causes of variation
- Selecting risk reduction strategies
- Going through he PDCA cycle (Plan, Do, Check, Act)

An effective RCA is the application of good investigative techniques, and good 'drilling' techniques.

The PDCA cycle (Plan, Do, Check, Act)
By linking what you have found to PDCA, you can structure how you move forwards in taking action. By working through the four elements you will be able to establish what to do next:
P- Plan the changes in detail
D - Do or institute the changes ensuring colleagues understand why changes are being made
C - Check whether your actions have had an impact through audit, making more changes if necessary

A - Act to maintain what you have achieved through continued education, changes in protocols and procedures, evaluating as you go and repeating the PDCA cycle if necessary

What are Root Cause Analysis Tools?
There are several tools that fall under the umbrella of RCA, these can include:
Cause and Effect Diagrams: representing relationships between the effect and possible causes influencing it

Flow Charts: create a pictorial summary of the flow of steps in the process, this helps in identifying what the process or system does

Why-Why Diagrams: helps create a disciplined approach to drilling down to the root causes. This is often used after a cause and effect chart

How-How Diagrams: helps create a disciplined approach to action planning by ensuring that all actions are identified at the outset and will be acted upon

What will happen during the RCA workshop?
During the event, you will receive a presentation on RCA from Dr Lee Gruner. This will outline how RCA is done. You will then get the opportunity to practice using some tools with a case study to get an idea of how to use them. This is a real life case study, as with the peer review event, we ask that you do not share or distribute it outside the project.

After the event, we recommend that you practice using these techniques, so that you remember how to use them once you have left the workshop.

Limitations of RCA
While RCA can be an effective tool for investigation, it may be difficult to identify whether the root cause established through analysis is the actual cause of the incident.

Hindsight bias may influence the analysis, as will organisational concerns. This is a time consuming and labour intensive exercise, especially as you will need to call upon many players involved in the incidence. The results will be qualitative rather than quantitative. It is therefore prudent to carefully select which incidents you decide to carry out a RCA on.

Things to remember

- It is important to select the right team for carrying out a RCA; members should have knowledge of the process and able to help explore the *why, what* and *how*
- Don't jump in with solutions, the problem and solution may not be obvious
- Make sure you are aware of the causal relationships
- Suggest improvements that you can implement and that are owned and signed up to by your team
- Having a facilitator with experience in the process will make things easier; this includes someone who knows about process, tools and facilitation
- Practicing the techniques of RCA will ensure that your maintain the skills
- Only take responsibility for actions over which you have control; you should not agree an action plan for something you can't implement

For more information on this or other SSRS issues, please contact
Gabby Fennessy, Project Manager on Tel 03 9412 2913 or by email
gfennessy@ranzcog.edu.au

Root Cause Analysis Personal Record

Do not record any patient or colleague identifying information on this form

Date:

Professional groups involved?

Adverse event / critical incident

As a result of what has been discussed, the group found the following issues were a cause for concern:

Root Cause Analysis tools used

Which tools did you use to investigate the problem?

- ☐ Flow chart / fishbone
- ☐ Cause and Effect
- ☐ Why-Why
- ☐ How-How
- ☐ Other? Please give details...

Identify: areas from your 'How-How' analysis to improve your own practice

Set Goals: give examples of what you would like to achieve in the above areas you have identified for improvement

Implement: what ideas and methods could be implemented to reach these goals? Include timeframes that would be needed for implementation

Follow up: how do you intend to monitor your progress or assess changes you have made?