

Root Cause Analysis (RCA) Guidelines

There are a number of tools that can be used to investigate incidents. Please refer to the OSQH Incident Investigation Standard for further detail¹.

Root Cause Analysis (RCA) has been applied to the healthcare industry and has been found to be a highly effective tool to improve patient care and reduce healthcare costs from adverse events.

RCA is a systematic and comprehensive methodology to identify the gaps in hospital's systems and processes of care that may not be immediately apparent and which may have contributed to the occurrence of the incident or near miss. The goal of RCA is to find out 'What happened? Why did it happen? What can be done to prevent it from happening again?'

RCA's have the following characteristics:

- The review is interdisciplinary in nature with involvement of those closest to the process.
- The review should be undertaken by a small team (3- 5) who are familiar with the area in which the incident occurred but not involved in the incident.
- The analysis focuses primarily on systems and processes rather than individual performance.

The analysis digs deeper by asking *what* and *why* until all aspects of the process are reviewed and all contributing factors are identified (progressing from looking at special causes to common causes). An example of how system error is identified versus an individual error is illustrated in the following:

Incident: The wrong patient was delivered to theatre for a procedure.

A traditional approach to incident investigation may result in a contributing factor 'The Patient Care Assistant (PCA) collected the wrong patient'. This apportions blame to the person closest to the incident.

A systems approach to incident investigation digs deeper into the event and asks why a number of times. The resulting contributing factor could be. 'The lack of a formal handover process for patients being collected in the ward, resulted in the PCA transferring the wrong patient, which contributed to the wrong patient being delivered to theatre.'

- The analysis identifies changes that could be made in systems and processes through either redesign or development of new processes or systems that would improve performance and reduce the risk of event or close call recurrence.

¹ Copies of the Clinical Incident Investigation Standard are available from the Office of Safety and Quality in Healthcare website <http://www.safetyandquality.health.wa.gov.au>

To be thorough, an RCA must include:

- A determination of the human and other factors most directly associated with the event or close call and the processes and systems related to its occurrence (there is rarely only one underlying cause).
- Analysis of the underlying systems through a series of *why* questions to determine where redesigns might reduce risk.
- Identification of risks and their potential contributions to the event or close call.
- Determination of potential improvement in processes or systems that would tend to decrease the likelihood of such events in the future, or a determination, after analysis, that no such improvement opportunities exist.

To be credible, an RCA must:

- Include participation by the leadership of the organisation (this can range from chartering the RCA team, to direct participation on the RCA team, to participation in the determination of the corrective action plan) and by individuals most closely involved in the processes and systems under review.
- Be internally consistent (i.e., not contradict itself or leave obvious questions unanswered).
- Include consideration of relevant literature.

An RCA Investigation Agreement must be signed by the Chief Executive/ Regional Director or delegate. This document officially commissions the investigation. A template for this is available at: <http://www.safetyandquality.health.wa.gov.au>

Following this, a multidisciplinary RCA team should be convened, led by a facilitator experienced in the RCA methodology.

Basic steps to a three meeting RCA include:

Step One:

- Construct a simple flowchart of the event.
- Work out what you know and what you don't know - ask 'what, how and why?' Any unanswered questions will form the basis of the questions that need to be asked and the information that team members need to collect. Gather as much information as possible about the event from a variety of sources (eg. interview those involved and witnesses, review documentation) to *determine the facts*.
- Who/what was involved?
- Where/when did the incident happen?
- What was the incident?
- How did it happen?

Step Two

- Construct a detailed flowchart of events and identify where processes broke down (i.e. if an intervention was made at that point the sentinel event may not have occurred).
- Construct a cause and effect diagram to identify the root causes. Analyse the factual information to *determine the contributing factors and causes*. There will always be a number of issues contributing to any event. Investigators should consider the following factors:
 - patient factors

- communication factors
- knowledge, skills and competence
- work environment and scheduling
- equipment factors
- policies, procedures and guidelines
- safety mechanisms

Step Three

Make recommendations based on the contributing factors aimed at minimising the occurrence of similar incidents in the future. Recommendations must be feasible and within management's control to fix. Investigators should ensure that each recommendation identifies the individual(s) who will be accountable for the implementation and ongoing monitoring of recommendations. The Area Chief Executive has ultimate responsibility for ensuring the recommendations are actioned.

- Develop a report containing the contributing factors and the recommendations

Individuals in each region have been trained in the RCA methodology and will be able to assist with the investigation. This list of individuals is available from the Office of Safety and Quality in Healthcare. Consultants from the Office of Safety and Quality in Healthcare, Department of Health (WA) are also available to guide hospitals and health services with the RCA process.