

The Principles of Root Cause Analysis (RCA) Investigation

Root Cause analysis is the process of examining what happened in order to establish how and why an adverse event occurred. It should result in preventative measures to minimise future risk of reoccurrence. Further tools and techniques can be accessed within the Risk Management section of ICID.

All major/catastrophic severity rated incidents and some moderate events should be subject to root cause analysis. A RCA exercise should be undertaken by more than one person.

The following sections provide guidance on the steps to follow when carrying out a RCA exercise.

STEP ONE: COLLECTING INFORMATION

All material facts relating to the incident must be gathered as soon as possible after the event. In determining what information to collect the investigator must consider the facts leading up to, as well as the incident itself. For complex events it is only by starting at the point the incident occurred and working backwards that the "start point" for the incident can be identified. For some incidents the start point will be identified as the patient's admission to hospital (or even before).

Investigators will find it helpful to consider information from a range of sources including:

- The people involved in or witnessing the event
- The place or environment in which the event took place
- The equipment or objects involved in the event
- The paper work related to the event

All staff involved in the incident event must be identified and informed an incident investigation is taking place. They must be informed that their assistance in investigating the incident would be appreciated and that the purpose of the investigation is to identify areas where systems failed rather than to focus on human error.

All staff involved in tragic or catastrophic incidents must be advised of the availability of confidential support and counseling during what will be a stressful period, and told they can have a friend or union rep with them during interviews.

All staff involved and any witnesses to the event should be requested to provide a statement and, if necessary, interviewed as soon as possible after the event.

During discussions with staff it is also important to try to determine custom and practice in the workplace in which the incident occurred. The information obtained can help identify the context in which risk factors exist.

Where applicable, the investigator should visit the environment where the incident took place preferably before any changes are made, noting the layout and the conditions e.g. space, flooring, lighting, noise, staffing levels etc.

Any piece of equipment involved in the incident should be immediately removed and preserved as evidence.

Other information sources include evidence of:

- Guidelines, policies and procedures
- Clinical records
- Incident reports
- Risk assessments
- Maintenance records
- Clinical audits
- Training records

STEP TWO: COLLATING INFORMATION INTO A NARRATIVE CHRONOLOGY

The simplest way of collating data about an incident is to construct a Timeline (template available on ICID).

STEP THREE :IDENTIFYING PROBLEMS

Mapping the chronology of events will start to identify Care Delivery Problems and Service Delivery Problems.

Care Delivery Problems are problems that arise in the process of care – usually actions or omissions by staff e.g. care deviated beyond safe limits of practice, failure to monitor, observe, act.

Service Delivery Problems are acts or omissions identified during analysis but not associated with a direct care provision. I.e. associated with procedures and systems that are part of the process of service delivery e.g. failure to implement safe systems of work or environmental standards etc.

For each Care Delivery Problem or Service Delivery Problem there will be a number of contributory / influencing factors and root causes.

STEP FOUR: EXPLORING PROBLEMS and IDENTIFYING CONTRIBUTORY FACTORS

The simplest way of identifying the principle contributory factors in any investigation is use of the “Five Why’s” technique. It involves delving deeper into a problem asking “why?” for each primary cause identified, then asking “why” again in response to each answer until there are no more causes forthcoming. It is best suited for exploring simple non-complex problems. As a brief rule of thumb, it usually takes about five rounds of asking “why?” to identify the root cause of a problem. It may be necessary, however, to ask “why?” more or less than five times.

Other tools which can be used to explore more complex problems further are the fish bone diagram, and reactive barrier analysis (all tools are available on the Risk Management section of ICID)

STEP FIVE: GENERATING SOLUTIONS

For all root cause analysis investigations a final report should be completed and an action plan identified to reduce any highlighted risk(s). Recommendations must be SMART.

Any unresolved risks should be discussed at the relevant directorate forum and outstanding issues placed on the Directorate Risk Register as appropriate