

ESSEX PARTNERSHIP UNIVERSITY NHS FOUNDATION TRUST
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Root Cause Analysis Information Pack.
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1.0 Introduction

1.1 The purpose of Incidents and Serious Untoward Incident Reports is to investigate the care and treatment the client/resident has received, and make recommendations for practice arising from the investigation. The focus is on learning lessons from the case, using a system analysis and not person centred within a fair blame culture.

1.2 Different grades of incidents will require different depths of investigation reports, the levels of investigation are based on the severity and this will be the decision of the service director and Integrated Risk Management. The Lead investigator will be informed when the requesting letter is sent.

Level 1 – Concise RCA Investigation	40 days
Level 2 – Comprehensive RCA Investigation	60 days
Level 3 – Independent Investigation	up to 6 months

1.3 The person nominated to complete the investigation and report has responsibility to obtain all case-notes held within the Trust pertaining to the person involved in the incident.

1.4 The person nominated has authority to request interviews with and ask for written reports from any member of staff who has information about care and treatment which is pertinent to the case and supplementary to the written records.

1.5 The person nominated will confirm with nominating Director whether or not and reasons why/why not, the client's/residents family will be consulted regarding the initial terms of reference for the investigation.

1.6 For all incidents investigations need to demonstrate:-

- Competence
- Authority and Credibility
- Cultural Sensitivity
- Objectivity

2.0 Getting Started

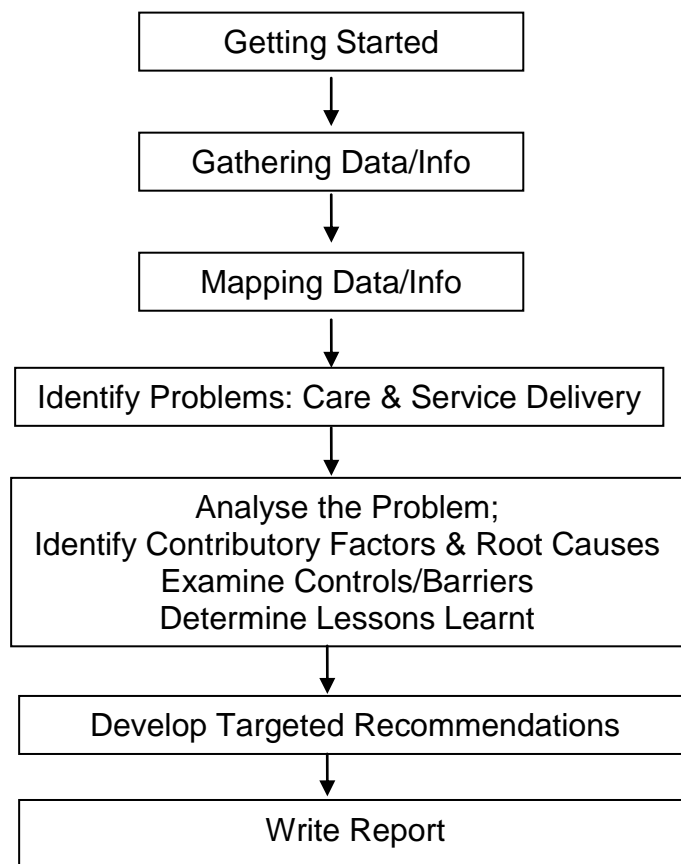
2.1 The investigating team needs to establish:

- Definition and classification of incidents
- Which incidents need RCA (proportionally)
- Membership of investigation team and admin support
- Terms of reference

- Consider involvement of patient/resident and family – through the FLO

2.2 The following items will be required:

- Incident report(s)
- Guidelines, policy and procedures (in operation at the time of the incident)
- Medical records
- Relevant audit data (clinical, risk management, H&S)
- Staff rotas
- Training and supervision records
- Medical equipment maintenance records
- Relevant integrated care pathways, where available
- List of key staff involved and their written reports
- Admin support
- Hard backed folder and dividers to hold the RCA information



3.0 Initial Scoping of the RCA

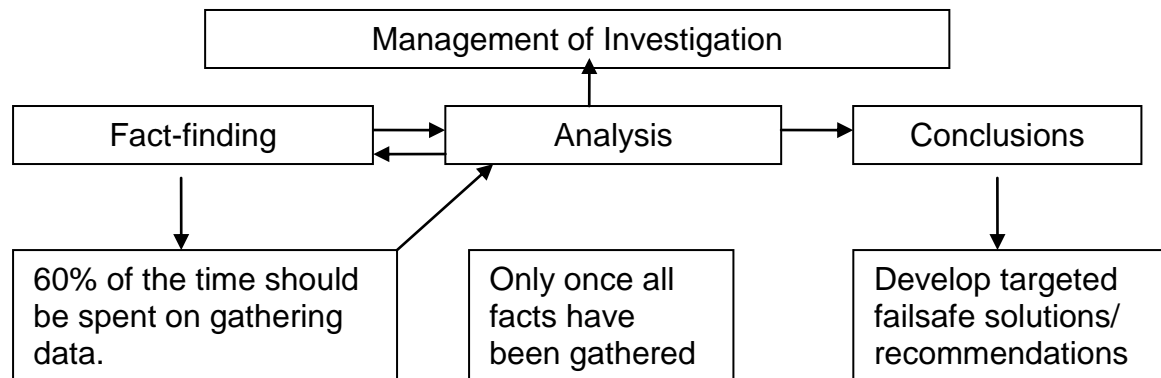
3.1 The RCA team need to consider:

- How far back in the episode of care you need to go?
- Do other organizations need to be involved?
- Have you agreed Terms of Reference?
- Is the timescale realistic?
- Are you clear about the links with patient /resident and family?

4.0 Gathering Information

The RCA team need to consider the type of information to gather

- Equipment – whether there was any involved in the incident, maintenance records
- Site – consider sketching or taking photos of the place where the incident took place
- People – Clinical staff, patient/resident /family other witnesses i.e. ward clerk, porters
- Documentation – policy and guidelines incident report and other relevant information as detailed in 2.2



4.1 A reference or tracking system will assist data gathering and allow for successful report generation.

Reference System for Gathered Data				
Information Requested	Date Requested	Date Received	Who from	Location

5. Mapping Information

Various mapping template tools are available on the NPSA website via the Integrated Risk Intranet site. When mapping your information try to avoid moving into analysis i.e. problems and contributory factors. Once you have mapped your information you need to identify any data gaps and verify unconfirmed information. Please see the following examples to assist in the RCA process.

5.1 Narrative Chronology

Can be used when looking at a particular isolated incident that is not too complex.

Community Dentistry – Failure of the chair

September 2000 – Month 11 week 1

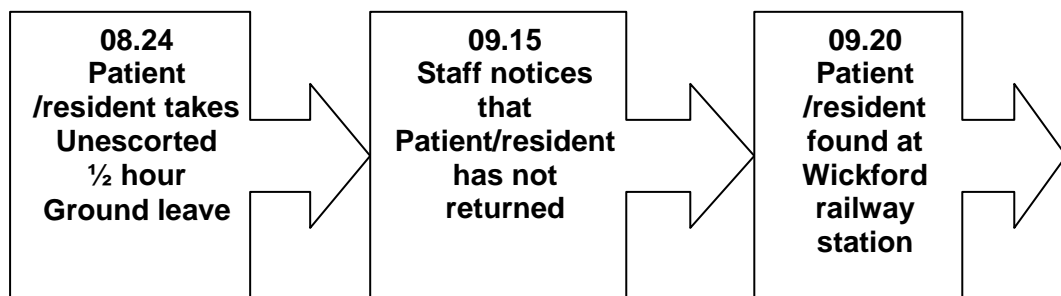
Four weeks later the suction was found to permanently on, on the dental chair and the Supplier was informed. It seemed that the motor was burnt out.

Month 11 week 2

Seven days later the supplier came to repair the motor. The chair seemed to be working better again and disruption was minimal over the following three weeks.

5.2 The Timeline

Best approach for complex incidents. This is a graphical way of displaying the data in order to identify the critical path that lead to the incident and should include good practice as well as identified areas of concern.



5.3 Tabular Timeline

Useful for incidents that involve a long time scale or where multi agencies are involved. This is a development of the timeline which includes additional fields

Date and Time of Event	18 th March 08.20hrs	18 th March 09.15hrs
Event	Pt/resident asks to go out nurse requests he has his medication first as he has been pacing and agitated pt refuses.	Nurse administrating medication notices pt/resident has not been to the clinic. Ward/Nursing Home and ground search is instructed pt/resident reported as missing
Supplementary information	Pt/resident approaches another nurse who opens the door for him knowing that he has authorised ground leave	Busy time on ward being medication and breakfast time. 9 – 5 staff arriving phlebotomist visiting.
Good practice		Member of staff on way in to work sees pt/resident heading towards the station and contacts the ward/nursing home.
Care/Service Delivery problem	Procedure not in place for ensuring that only one nurse is checking pts in/out of ward/nursing home. Information of his agitation/medication refusal is not shared.	Time delay in noticing pt/resident missing. No documentation/signing in/out book to show what time pt/resident left ward/nursing home and what time due back.

5.4 Time Person grid

Useful when a number of people were involved the incident (or part of an incident) and you need to track the movements of people. This is best for short timeframes as the focuses is on individuals and people can not always remember where they were at specific times, particularly if the case did not seem significant to them at the time

Staff	08.20	08.45	09.15
Snr Nurse A	With Pt 1	Medication round	Staff Office
HCA 1	With Pt 2	?	On Break
Social Worker	With Pt 2	With Dr	Staff Office
Dr 1	?	With SW	With Pt 2

Detection of incident

Note at which point in the patients/residents treatment the error was identified e.g.

- Risk assessment of new or changed service
- At pre-treatment patient/residents assessment
- Error recognition pre-care/treatment
- Error recognition past-care/treatment
- By Machine/System/Environment change/Alarm
- By a Count/Audit/Query/Review
- By change in Patient's/resident Status

Once you have mapped all your information consider a review meeting with the staff involved to:

- Give them the opportunity to contribute to the investigation.
- To allow the people with inside knowledge to see and discuss your "map" and fill gaps
- To seek their help in identifying problems
- To allow them to take responsibility
- To contribute to workable solutions
- Can work well as a therapeutic process
- Consider facilitation
- As a means of sharing information, being open and learning lessons

6.0 Identifying Problems

Your next step is to identify care and service delivery problems; some will be obvious others will emerge gradually.

6.1 Care delivery Problem – a problem that arises in the process of care being delivered which is usually actions or admissions of by staff:-

- Care deviated beyond safe limits of practice and
- The deviation had a direct or indirect effect on the eventual adverse outcome for the patient/resident
- Failure to monitor, observe or act
- Incorrect decision or action
- Not seeking help when necessary

6.2 Service Delivery Problem –

- Significant latent failures identified during the analysis of the patient safety incident, but are not associated with direct provision of care.
- Generally associated with decisions, procedures and systems that are part of the whole process of service delivery.
- Failure to undertake environmental risk assessment

- Failure to implement safe systems e.g. ensuring all new phones have emergency number on them

Various problem solving template tools are available on the NPSA website via the Integrated Risk Intranet site RCA Tools. Please see the following examples to assist in the process for identifying problems:-

6.3 Nominal Group Technique

What is it?

- A method of voting to prioritise a list of ideas

When to do it?

- To generate ideas from the whole group
- To gain consensus about which ideas to pursue first
- Whole list of ideas – use voting to start the list

NGT Ranking Template

Problem:		
Ideas	Points	Total
A		
B		
C		
D		

How to conduct a NGT?

- Each person generates ideas and writes them on cards
- Each idea is given a letter and added to a flipchart
- Participants clarify or eliminate similar ideas
- Participants individually rank ideas on ranking cards (e.g. rank 1-7 or more, 7 = most important)

6.4 Change Analysis

For use when:

- A task, process or equipment has varying reliability
- A change is suspected to have contributed to the incident
- Two jobs are similar but the problem rate differs

Change Analysis process:

- Describe the normal procedure
- Compare to the “map” of your incident
- List the changes
- Did the changes contribute to the incident?
- Agree the main problems (CDP/SDPs)

Change Template Example

Normal procedure	Incident	Did change cause the problem?

Once you have identified your problems you need to prioritise them.

7.0 Analysing the Problems

At this stage you will be identifying contributory factors and root causes.

7.1 What are contributory factors?

- Influencing or causal factors that contributed to the incident
 - May vary in the significance of impact on the CDP/SDP
 - May have a negative or a positive impact

7.2 What is a Root Cause?

- A fundamental contributory factor
 - One which, if resolved, will eradicate or have the most significant effect on reducing the likelihood of recurrence

7.3 To help you to identify the contributory factors and root causes there are various template tools available on the NPSA website via the Integrated Risk Intranet site RCA Tools. Please see the following examples to assist you in this process:-

7.3.1 Contributory Factors Taxonomy (checklist or framework)

- A detailed list of contributory factors collected from incident investigation in healthcare settings.
- Patient/resident factors
- Individual factors
- Task factors

- Communication factors
- Team and social factors
- Education and training factors
- Equipment and resource factors
- Working conditions factors
- Organisational & strategic factors

Log onto NPSA link in Integrated Risk Management website to download further information relating to this.

7.3.2 Fishbone

Template - please log onto NPSA link in Integrated Risk Management website to download and to gather further information relating to this.

7.3.3 Spider diagram

Template - please log onto NPSA link in Integrated Risk Management website to download and to gather further information relating to this.

7.3.4 Five whys

Technique used for most incidents, easy to apply and not too time consuming. Involves a process of asking why enough times in a row to detect the causes for each problem (CDP/SDP). The exact number of times to ask why depends on the complexity of the issues

- Tool that enable investigator(s) to identify the causes for each problem (CDP/SDP)
- Best suited to simple and non-complex problems
- Quick and easy to teach
- 3 – 5 – 7 whys?

7.3.5 Run Charts

This technique allows the investigators to identify trends over time e.g. repeated episodes of violence or repeated self-harm attempts. Can be useful in linking patterns to underlying causes. For example there may be a view within the organisation that restraint of difficult or violent patients has increased. This chart allows you to plot the relevant times people are restrained at certain points in time. Evaluate the chart to identify meaningful trends, and investigate the findings. This will allow you to suggest reasons for why there are peaks in restraint.

7.4 Root Causes

These are the most fundamental underlying factors contributing to the incident that can be addressed. Root causes should be meaningful, (not sound bites such as communication failure) and there should be a clear link, by analysis, between root CAUSE and EFFECT on the patient/resident.

In essence the report should show a clear thread connecting:

- The root cause(s) (in organisational processes)

- How these directly resulted in the specific care and service delivery problems
- How these lead to the documented actual or potential effect on the patient.

7.5 Lessons Learnt

There may be occasions when nothing could have prevented the incident and no root causes(s) are identified.

There are always lessons to learn and key safety practice issues may be identified which did not materially contribute to the incident (if they did they would be contributing factors).

Lessons learned should be included if relevant and could be addressed by the recommendations.

8.0 Generating Solutions

8.1 Barrier Analysis

This is examining the barriers, controls and defences that are in place to stop incidents happening which is designed to prevent harm to people buildings the organisation and communities. Evaluate proposed corrective actions by assessing the strength of each corrective action and choosing the strongest one(s).

When can Barrier Analysis be used?

- Respectively:
 - Routinely to identify possible “Hazards” and their “Targets”
 - As part of RCA to assess the strength of potential solutions
- Reactively
 - As part of RCA to identify the “Barriers” that should have been in place to have prevented to mitigated against an incident

Types of Barrier

- Human action (considered a weak barrier)
 - Second person checks person checking
- Administrative (considered a medium barrier)
 - Training, supervision and procedures
- Physical (considered a strong barrier)
 - Protective equipment
 - Bar coding
 - Pin connectors

- Natural (considered strong)
 - Place, time or distance e.g. surgery in theatre

Reactive Barrier Analysis

- Having identified the care / service delivery problems and analysed them to give the contributory factors, the investigator can ask “what barriers failed at this point?”
- Evaluate proposed corrective action by assess the strength of each corrective action and choosing the strongest one(s).

Performing a REACTIVE Barrier Analysis

Event:

Prevention barriers in place	Did the barrier fail?	Why?	How Barrier affected the outcome of event

Performing a proactive barrier analysis

- Choose an activity to be analysed (*e.g. preparing a patient/resident for treatment*)
- Use brainstorming techniques to list barriers
- Evaluate the efficacy of barriers 0 strong/medium/weak (*barriers involving human action are generally weaker*)
- Identify how barriers could be improved/reinforced
- Assess cost implications
- Identify lead – responsibly for remedial action

Hazard(s)	Barriers in place?	Failsafe? S/M/W	Improve by?	Additional barriers required?	Cost implications	Responsible. Lead?

8.2 Generating Solutions

The solutions process

- Identify root causes
- Write report
- Generate solutions
- Action planning
- Implementing solutions
- Evaluating effectiveness
- Keep it simple
- List all recommendations for change and prioritise for effect implementation
- Involve patients/residents and staff

Generating solutions

- Design out the problem
- Make the right thing the easiest thing to do
- Design tasks and processes to minimise dependency on short-term memory and attention span
- Avoid fatigue: review working hours and workloads
- Retraining is not always the right solution
- Simplify tasks, processes, protocols, equipment
- Use protocols and checklists wisely
- Align with evidence based practice

9.0 Writing the Report

Please refer the appendices 14, 14a, 14b and 14c for further information

- Use the report for learning, not blame.
- Action plan with named leads and timescales for recommendations and identified solutions

Appendices

- Lists of documentary evidence
- Copies of relevant documentation
- Methodology used and relevant diagrams; fishbone, cause and effect chart
- Chronology / timelines, etc.

Recommendations, action points and / or solutions should:

- Be clearly linked to identified root cause(s) or key learning points(s) (addressing the problems rather than the symptoms);
- Address all of the root causes and key learning points:

- Be designed to significantly reduce the likelihood of recurrence and/or severity of outcome;
- Be clear and concise and kept to a minimum where possible;
- Be specific, measurable, achievable, realistic and timely (SMART) so changes and improvements can be evaluated
- Assess for resource needs, risks and impact
- Prioritise wherever possible (for example follow risk/cost benefit analysis)
- Be categorised as:
 - Those **specific** to the area where the incident happened
 - Those that are **common** only to organisation involved
 - Those that are **universal** to all and, as such, have national significance

10.0 Three levels of RCA investigation – guidance

Patient safety Root Cause Analysis (RCA) investigations should be conducted at a level appropriate and proportionate to the incident under review.

The following provides guidelines for what might be considered appropriate and proportionate.

10.1 Level 1 – Concise investigation

- Most commonly used for incidents that resulted in no, low or moderate harm¹ to the patient/resident.
- Also useful as an executive summary to communicate findings from full, comprehensive or independent investigation reports, following actual or potential 'severe harm or death' outcomes.
- Commonly involves completion of a summary or one page structured template.
- Includes the essentials of a thorough and credible investigation, conducted in the briefest terms.
- Involves a select number of RCA tools (e.g. timeline, why's, contributory factors framework).
- Conducted by one or more people (with a multidisciplinary approach if more than one investigator).
- Often conducted by staff local to the incident (ward / department / directorate/ GP surgery).
- Should include person(s) with knowledge of RCA, human error and effective solutions development.

- If a patient/resident is directly affected, they/relative/carer should be involved.
- Includes plans for shared learning – locally and/ or nationally as appropriate.

10.2 Level 2 – Comprehensive investigation

- Commonly conducted for actual or potential ‘severe harm or death’ outcomes from incidents, claims, complaints or concerns.
- Conducted to a high level of detail, including all elements of a thorough and credible investigation.
- Includes use of appropriate analytical tools (e.g. tabular timeline, contributory factors framework, change analysis, barrier analysis).
- Normally conducted by a multidisciplinary team, or involves experts/expert opinion/independent advice or specialist investigator(s).
- Conducted by staff not involved in the incident, locality or directorate in which it occurred.
- Overseen by a director level chair or facilitator.
- Led by person(s) experienced and/or trained in RCA, human error and effective solutions development.
- Includes patient/resident /relative/carer involvement and should include an offer to patient/resident /relative/carer of links to independent representation or advocacy services.
- May require management of the media via the organisation’s communications department.
- Includes robust recommendations for shared learning, locally and/or nationally as appropriate.
- Includes a full report with an executive summary and appendices.

10.3 Level 3 – Independent Investigation

As per Level 2, but in addition:

- Must be *commissioned and conducted* by those independent to the provider service and organisation involved.
- Commonly considered for incidents, claims, complaints or concerns of high public interest or attracting media attention.

- Conducted for mental health homicides which meet Department of Health guidance.³
- Should be conducted where Article 2 of the European Convention on Human Rights is, or is likely to be, engaged.

Investigation Report Section		Level 1 (Concise) Investigation	Levels 2 & 3 (Comprehensive & Independent Investigations)
Cover page			✓
Contents Page			✓
Executive summary	Executive summary including a summary of:		✓
	• Incident description and date		✓
	• Incident type		✓
	• Healthcare speciality		✓
	• Actual effect on patient/resident		✓
	• Actual severity of incident		✓
	• Level of investigation (level 1, 2 or 3)		✓
	• Involvement and support of patient /resident and/or relatives		✓
	• Detection of incident		✓
	• Care and service delivery problems		✓
	• Contributory factors		✓
	• Root causes		✓
	• Lessons learned		✓
• Recommendations		✓	
• Arrangements for sharing and learning		✓	
Incident description and consequences including:			
• Concise incident description	✓	✓	
• Incident date	✓	✓	
• Incident type	✓	✓	
• Healthcare speciality	✓	✓	
• Actual effect on patient/resident and/or service	✓	✓	
• Actual severity of incident	✓	✓	
Pre-investigation risk assessment			✓
Background and context to the incident			✓
Terms of reference			✓
Investigation team details			✓
Scope and level of investigation		✓	✓
Investigation type, process and methods used			✓
Involvement and support of patient/resident and relatives		✓	✓
Involvement and support provided for staff involved		✓	✓
Information and evidence gathered			✓
Detection of incident		✓	✓
Chronology of events		✓	✓
Notable practice			✓
Care and service delivery problems		✓	✓
Contributory factors		✓	✓
Root causes		✓	✓
Lessons learned		✓	✓
Recommendations		✓	✓
Arrangements for shared learning		✓	✓
Distribution list			✓
Appendices			✓
Author and date		✓	✓

