Root Cause Analysis

Why things happen
Secret -

• There is really no such thing as a root cause

• There are contributing factors – and there is no end to them
Purpose of a Root Cause Analysis

The purpose is to prevent harm to patients, staff and visitors

NOT to lay blame – we are moving from “who did it” to “why did it happen”.
Do Not Use RCA if...

This appears to be deliberate, criminal, or related to substance abuse
When to Use RCA

- Adverse events
- Sentinel events
- Close calls

AND

Anytime you are concerned about:
- A process due to repeated errors
- The possibility of serious errors
- Errors that are of a high cost to anyone
Use the RCA –
To Answer the Critical Questions

• What happened (or is still happening)?
• How did it happen?
• Why did it happen?
• How can we prevent it from happening again?
• What can we learn from this?
Protect Members, Staff, Others

What immediate actions may need to be taken?

Examples:

- Equipment removed from service
- Unit closed
- Medication recall
First Steps

- Identify the RCA as a Quality Assurance activity
- Discuss with Leadership:
  - The reason for the RCA
  - The appropriate team members
  - Any history on this subject
- Write a charter
Assemble the Team

- Choose team members who are familiar with the process
- Choose team members who are unfamiliar with the process
- Select a leader
- May also select a facilitator
- Choose internal/external resources
Prepare the Team

- Emphasize confidentiality.
- Clarify the “no blame” philosophy
- Discuss the role of the team – to learn what happened and to prevent a similar event
- Is there literature on this?
Identify What is Already Known

- Write a statement of what occurred
- Discuss the boundary of the event – where do you begin and end
- Prepare a flow chart of what you know regarding activities and decisions from the beginning to the end of the event. (This allows everyone to see the event in the same way)
Flowchart... fictitious example

1. ID card Sent to new HO member
2. Member received 2 cards – 1 HO and 1 BHP
3. Member went To ER and presented BHP card
4. Member Charged a $100.00 copay
Flowchart... fictitious example

Patient taken to OR late

Patient Identified by chart on cart

Surgery performed – partial thyroidectomy

Discovered in PARU – Patient sched for knee surgery
What Else do you Need to Know?

- What are the gaps in the information?
- Why did each step in the process occur?
- What do you need to know to fill in the gaps?
- Where can you get the information?
Flowchart... fictitious example

Member enrolled in HO

Is there a possibility of double enrollment?

Plan sent ID card to member

How can 2 IDs be sent?

Member received 2 ID cards, one for HO and one for BHP

Does the member know which plan is hers?

Member presented BH card in ER charged $100

How was the error discovered?
Flowchart... fictitious example

Patient taken to OR late

Why was patient late?

Patient identified by chart on cart

Why did RN not check ID band?

Surgery performed – partial thyroidectomy

Why did MD perform wrong surgery?

Discovery In PARU
That patient sched for knee surgery

How did the discovery happen?
Avoid Hindsight Bias

• It is human nature to think we know why something happened without investigating.

• It is also common to associate the cause of the failure with the action just preceding the event.

• Is this a cascading error?
Interview

• Those involved in the event
• Those who are familiar with the work process
• Anyone who may be able to provide information about the events in question or the process in general
Interview cont.

• The interview can be done by the team, by part of the team, by one team member or someone outside of the team.

• The team should develop the interview tool regardless of who the interviewer is.
Key Questions – Communication

Communication

• Were problems with the system identified and communicated?

• How are patients assessed for language and literacy?

• Was this a surgical patient on a medical floor?
Training

Were employees trained for the procedure by a trainer or by a fellow-employee?
Environment/Equipment

Environment/Equipment
- Is the work area suitable?
- Is the equipment reliable?
Rules, Policies and Procedures

• If the policies and procedures were not used, what got in the way of their usefulness to the staff?

• What rules are used to make decisions?
WHY??????

Keep asking why until the answer is no longer within the boundary of the analysis or no longer makes sense in relationship to the event.
Field Trip

The Three “Actuals”

• Go where the work is actually done
• Talk to the people who actually do the work
• See what actually happens
Final Flow Chart

Create the flow chart with the information you have acquired – putting the information related to the events in the flow under each event.
Flowchart... fictitious example

Member enrolled in HO

Plan sent ID card to member

Member Received 2 ID cards, one for HO and one for BHP

Member presented BH card in ER charged $100

Member had been previously enrolled in BH

There are two different sources of information in system

Member only knows she has state insurance

Member borrowed money to pay copay – neighbor told her she had HO
Flowchart...

- **Patient taken to OR late**
  - Surgery did not give floor notice. In a hurry to pick up patient

- **Patient identified by chart on cart**
  - ID band was blurry. ID machine does not work well – New machine denied in budget

- **Surgery performed – partial thyroidectomy**
  - MD was rushed – room overbooked. MD had only met patient once – two months ago

- **Patient scheduled for knee surgery**
  - Discovery made by patient
Identifying Contributing Factors (root causes)

- Find relationship among errors
- Failure to follow procedures is not a root cause
- Were there any corrective actions taken in the past for an event similar to this?
Cause and Effect Diagram... fictitious example

Diagram:

- **Training**: Staff member trained by temp.
- **Procedures**: 2 procedures in use.
- **Communication**: Member unaware of plan.
- **Barriers**: No edit to prevent second card.
- **Equipment**: Computer slow.
- **Fatigue**: Staff member not well.
- **Wrong ID card to Member**

Source: Community Health Plan of Washington™
Chemo error

Barriers
- float nurse not trained in chemo
- bar code not used

Procedures
- med procedure not on unit
- bar code not working

Communication
- order not written clearly
- information on drug not available

Fatigue
- Nurse on double shift
Cause and Effect... fictitious example

Member charged Copay in ER

- Both plans in system
- Programming variation
- State sent both enrollments

- ID cards sent in Two mailings
- Information comes From two sources
- No doublecheck process

- Member unaware of Plan
- Member unable To read
- No info on member literacy

- ER did not check Coverage
- ER does not have System to check
- Hospital budget reduction
Select the Primary Causes

• If these factors had not been present the event would not have happened

• What is common to all problems with this process?
Select Actions

• Redesign of the process?
• Minor change?
• Development of a new process?

Are the chosen interventions:
• Cheap
• Easy to do
• Likely to succeed
Actions cont.

- Can they be tested prior to implementation?
- Do the people who own the process concur?
- Do those who reported the error concur?
- What could be the unintended consequences?
- Who needs the information on the process change?
Strength of Actions

- **Strong:** plant or facility change; new device or equipment changes, simplified process, standardization of process
- **Intermediate:** Read back, checklist, improve documentation, increase staff
- **Weak:** warning labels, training, new policy
Lessons Learned

• What was learned from the event?
• What was learned from the RCA process?
Evaluation

• Measure the effectiveness not just the implementation of the action.

• What are the unintended consequences?
Resources

• [http://www.va.gov/ncps/pubs.html](http://www.va.gov/ncps/pubs.html) - for root cause analysis tools and triage cards (no fee) _VA’s National Center for Patient Safety_

• [http://www.asq.org/learn-about-quality/cause-analysis-tools/overview/fishbone.html](http://www.asq.org/learn-about-quality/cause-analysis-tools/overview/fishbone.html) - information on cause and effect (Ishikawa or fishbone diagram) – American Society for Quality
Resources cont.

- Deming, W.E. Out of the Crisis, MIT, 1989
- Memory Jogger II – Brassard and Ritter - Goal QPC
- [http://www.va.gov/ncps/HF_C.html](http://www.va.gov/ncps/HF_C.html) - human factors triage questions