Root Cause Analysis and Action Planning

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Root cause analysis (RCA) is process used to learn how and why an error occurred. It is a retrospective, structured, resource-intensive, and systems-focused analysis of an event. This comprehensive event review modality is usually dedicated to driving improvements resulting in significant harm, recurring harm and near misses (events where significant harm was narrowly avoided). The Joint Commission has mandated use of RCA to analyze sentinel events since 1997.[1] Some key components include:

- Taking immediate action(s) to decrease the likelihood of a similar event affecting others
- Sequestering involved equipment and materials and evaluating for malfunction
- Conducting interviews of those involved, reviewing the medical record, reviewing videos or recordings, etc, to fully understand what happened
- Composing a timeline of the event that compares what happened with what was expected to happen
- Convening a multidisciplinary team of subject matter experts to:
    - Identify safety hazards in the systems of care delivery
    - Identify actions to eliminate these hazards
- Implementing process changes
- Measuring the success of the process changes

Recognizing the inconsistent results from RCAs nationwide, the National Patient Safety Foundation (NPSF) convened a panel of experts to identify RCA best practices and published their findings in 2015.[2] Much of the inconsistency resulted from variably effective efforts to implement change. Successful efforts require that enduring actions be implemented. To emphasize the importance of this, the NPSF renamed the process, "Root Cause Analysis and Action" or "RCA^2," also known as "RCA squared." The NPSF website[1] provides resources intended to enable the efficient and effective use of the RCA^2 process to bring about enduring changes that prevent future harm. These resources include, "RCA2 Improving Root Cause Analyses and Actions to Prevent Harm," which contains pearls for each component of the process. The website also offers multiple tools, including "Interviewing Tips for RCA^2 Reviews" and an "Action Hierarchy Tool."

Improvement efforts commonly focus on education and policy updates, which are relatively easy steps. Their success, however, is often short-lived due to personnel turnover or people simply forgetting and/or slipping back into previous habits. The Action Hierarchy Tool encourages the implementation of stronger actions: those that rely less on the healthcare worker's ability to remember the preferred process. The strongest actions make recurrence of the event's root cause impossible, often by making changes to the physical environment.

The following is an example of an RCA of an event occurring in the postoperative unit:

An elderly postoperative patient who underwent gynecologic surgery fell while exiting the shower and fractured her femur. Comprehensive review identified the root cause as a small lip on the edge of the shower tray. Contributing factors included pain medication side effects; a relatively slippery shower floor; and inadequate communication between the primary team and physical therapist. Also, the care technician wanted to honor the patient's request for privacy, after the patient assured her that she could safely shower independently. The strongest action was implemented: 6 months after the event, all the shower trays on the unit were replaced by trays with a textured surface that merged with the floor.

Reference Materials

1. Patient Safety Network. Root Cause Analysis. Available at: https://psnet.ahrq.gov/primer/root-cause-analysis. Accessed April 2022. (Note: full access to this site requires creation of a free account)

2. Institute for Healthcare Improvement. RCA2: Improving Root Cause Analyses and Actions to Prevent Harm. Available at: http://www.ihi.org/resources/Pages/Tools/RCA2-Improving-Root-Cause-Analyses-and-Actions-to-Prevent-Harm.aspx. Accessed April 2022. (Note: full access requires creation of a free account)