Root Cause Analysis

Munoz, Lowry, and Smith (2012) reported the use of root cause analysis (RCA) as part of a continuous quality improvement project to reduce hypoglycemic episodes in patients following gynecological surgery. Root cause analysis is an important component of quality improvement, and nurses at all levels should understand the process and the outcomes of a RCA. Root cause analysis was used originally in the automobile industry to improve production quality and efficiency (Sherwin, 2011). The process has been adapted to health care and is required by The Joint Commission (2011) when a sentinel event occurs. The process also can be used for errors or problems that are not sentinel events. In this column, I will provide a brief introduction to this key quality improvement activity.

What Is a Root Cause Analysis?

Root cause analysis is a systematic process used to address problems or non-conformance to identify the source of the problem. A root cause is the underlying breakdown or failure of a process which, when resolved, prevents the problem from reoccurring (Sherwin, 2011). However, it is important to understand in health care that a problem often has more than one cause. Any error or problem can have multiple, interrelated root causes. For example, proximal root causes can be identified in the areas of policies and procedures, human resources, environment of care, information management, and communication (Williams, 2008). A root cause analysis can be done for a single error or, as in the case reported by Munoz and colleagues (2012), it can examine multiple events. Usually when used as a formal process, RCAs are reserved for serious errors or problems (Cassin & Barach, 2012).

An important aspect of RCA is the use of a systematic approach to examine errors, removing the focus on individuals in the process of analyzing the situation (Mengis & Nicolini, 2010). This approach does not mean individuals are not accountable for their actions, but acknowledges that people are fallible and errors are to be expected. An effective system has mechanisms in place as safety nets to prevent errors. A systems approach examines how a particular system failed to produce the desired outcome and led to the error. All factors that lead to errors should be examined in order to meet the ultimate goal of identifying ways or system defenses to prevent repetition of the error (Sherwin, 2011; Wachter, 2008).

Process of RCA

The steps in the RCA process include forming a team to conduct the analysis. The team then answers the following questions: What happened? How did it happen? Why did it happen? What should be done to prevent it from happening again? (Mengis & Nicolini, 2010). The answers to these questions can be simple or complex depending on the nature of the situation. Each problem can be seen as an opportunity because it can tell a story about why and how the incident occurred. In addition to errors, RCA also can be used to analyze potential adverse events – errors that were caught before harm was done to the patient (Sherwin, 2011).

Problem Analysis

As soon as possible after the event, a team should be constituted that includes the stakeholders in this error. In considering the individuals to include, a nurse leader is wise to include members from all the professional groups who can help to prevent the problem in the future. An effective interdisciplinary team with the right members can facilitate a thorough analysis of the error and identify lessons that can be learned (Wachter, 2008). The process begins with a detailed problem analysis (Hewitt-Taylor, 2012) to include criteria for evaluation.

In addressing what happened, the team should list in chronological order all the steps related to the error. The team may find it useful to go to the clinical setting to examine the environment where the error occurred and the equipment involved (Harris, 2010). As the steps are listed, the team uses the “5 Whys” technique to examine breakdown in the process: asking five or more whys to drill down to the “root cause.” The team should guard against coming to a premature answer. A cause-and-effect diagram, such as a fishbone diagram or problem tree, may be useful in complex situations to visualize the equipment, people, processes, materials, environment, and management issues related to the event (Hewitt-Taylor, 2012). After identifying the root cause or causes, the team can develop prevention measures and plans for implementation and evaluation.

Team members must be careful to put aside any assumptions and personal opinions about a situation before beginning analysis of the problem. People need to take a fresh approach to the problem, keeping their minds open. The problem analysis should provide direction to the team to find a solution that prevents future problems or errors. Solutions have to be realistic, achievable, and developed in the right order. Depending on the

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complexity of the problem, the solution may have simple, straightforward goals or short and long-term goals (Hewitt-Taylor, 2012). For formal RCAs, an official report will be required.

Nurses can take a leadership role in this process and become change champions for patient safety. In addition to being a useful process for addressing major problem areas, the RCA process can become a way of thinking about any clinical or management problem. Examining the system, rather than focusing on individuals, can be instructive in all quality improvement efforts.  

REFERENCES


