

In This Issue:

- [What Makes a Good Root Cause Analysis](#)
- [Best Practices: Eliminating VAPs](#)
- [Journal Brief: Team Training](#)
- [From the Commission](#)
- [Upcoming Events](#)

Our North Star Goal:

Oregon will have the safest health care system in the country by 2010.

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From the Reporting Program:

What Makes a Good Root Cause Analysis (RCA), Part I

The April RCA training in Medford, sponsored by the Patient Safety Commission and OAHHS, provided an excellent overview of RCA principles, covering the range of topics necessary to conduct an effective RCA. An effective RCA is one that identifies issues and actions that will prevent future occurrences. In order for that to happen, three elements need to be present: 1] a drill-down to understand contributing factors until the most basic (root) cause/causes are found; 2] action plans matched with type of errors/factors identified; and 3] an investigation that fosters full information and consideration of the data collected. Over the next several months, Patient Safety Topics will review each of these elements briefly, taking examples from reports submitted to the Commission.

I. *The Drill-Down* - This refers to going beyond the initially-recognized reasons for an event -- looking more deeply to find the subtle or hidden factors that played a role. The most frequent lack of drill-down in reports received by the Commission is seen in conclusions that note "didn't follow policy," without going deeper to uncover why the policy was not followed.

A recent report of a fall noted that, contrary to policy, a nightlight was not turned on, but did not indicate the reason for that lapse. This, then, was a contributing factor, but not a root cause. Possible explanations for the nightlight being off include deliberate choice (because it made sleep difficult for patient); bulb burned out; something interrupted the nurse; CNA and nurse each thought the other had turned it on; the nightlight element of a fall protection routine was lost in the numerous other things that needed to be done, etc. A drill-down for each of these would be important too, as the remedies decided on will be different.

When an RCA stops at "did not follow policy," the only action plan that follows is reviewing the policy and exhorting individual(s) to follow it. There would be nothing to prevent this same event from occurring in the future to another nurse and patient. However, if for example, the drill-down revealed the night light was deliberately turned off by the patient, then a possible action plan might involve changing the location of the light or using night lights with motion sensors. Both types of plans would be solutions for other nurses and other patients.

Another recent example of not following policy occurred with a retained object. In this instance the RCA drill-down revealed several deeper issues: lack of clarity about what is considered a miscellaneous item to count; communication of the informal practice to count this particular item was not relayed to new nurse; there was inconsistency between informal practices and formal policies. With this deeper drill-down, action plans could be designed to prevent future occurrences.

A technique useful in digging deeper is the “Five Whys” in which “Why?” is asked of each contributing factor until a fundamental cause or causes becomes apparent. In the example below, the answers to each additional level of “Why?” brings the root cause closer to the surface.

EXAMPLE:

Event – Patient fell	Plan
Contributing factor: chair next to bed caused patient to trip	remove obstacles next to bed
WHY? She didn't see the chair	
WHY? There was no night light	Additional Plans: include nightlight for all residents
WHY? Not part of care plan	Add night light to fall care plans
WHY? Patient assessed not at risk for falling	Review fall risk assessment and consider updating if needed

Drilling down on each contributing factor may seem too time-consuming for very busy healthcare professionals, but it is an investment in prevention. Effective RCAs will decrease the probability of future events and decrease the number of times an RCA is required for the same or similar events.

If you had time to do it twice, you had time to do it right the first time.

[Return to Top](#)

Best Practices: Eliminating Ventilator-Associated Pneumonias - The Legacy Mount Hood Medical Center Experience

It has been two-and-a-half years since a patient in Legacy Mount Hood's medical-surgical critical care unit suffered a ventilator-associated pneumonia (VAP). The VAP prevention efforts were part of an entire bundle of best evidence for critical care pulled together by LuAnn Staul, Critical Care Clinical Nurse Specialist and rolled out system wide (*see document attached*). Tammy White, Nurse Manager of the ICU, credits her staff nurses for this achievement, noting that they took ownership of the bundle and made it their responsibility.

The effort began with presenting the evidence to the nurses and empowering them to assure that care was consistent with the identified best practices. Easy to read, brightly colored graphs noting the results of their efforts followed. The VAP rate dropped almost immediately. By the first quarter, staff saw marked improvement that they attribute to conscientious mouth care and elevation of the head of the bed. This improvement energized them to continue with some of the more challenging practices in the bundle, such as sedation vacations and to keep working with the physicians to assure their engagement. Some keys to this success include:

- Daily Goals Sheet

- Single-page Best Practice Indicators with practice expectations and charting (*document attached*)

- Quarterly feedback from Quality

- Routine charge nurse review of patients each morning at 10 a.m.

- Collaboration with physicians

- Management support and attention to the bundle practices

- Recognition by the President of the system for the achievement

- Celebration of two-year success

For more information, please contact LuAnn Staul (lstaul@lhs.org) or Tammy White (twhite@lhs.org). See also an article [here](#) on healthy and productive ICU work environments on the American Association of Critical Care Nurses National Teaching Institute's website. [Return to Top](#)

Journal Brief: Team Training

Problems in communication and teamwork are frequently contributing factors in adverse events. Patient safety experts are encouraging team trainings such as Crew Resource Management (CRM) and TeamSTEPPS as one way to improve the safety of patient care through enhanced communication and teamwork. However, these approaches have limitations. A [recent article](#) in the [American Journal of Surgery](#) ([see abstract below](#)) reported that after team training, "...surgical teams were compliant with only 60% of the CRM and perioperative safety practices emphasized in the training program." It concluded that further development and testing of training methods and performance feedback mechanisms is needed.

However, the training method may not be the only issue critical to effective implementation. A 2006 article in *Human Factors* ([see abstract below](#)) reviewed 28 published articles on the effectiveness of a specific type of training, CRM, in non-healthcare industry. This review noted three critical needs (a mandate, access to data, and resources), all of which require the attention and support of senior leadership.

Senior leadership needs to mandate teamwork by linking it to strategic objectives, provide access to the data critical to accurate feedback, and assign the resources for success. Too often these essential elements are omitted or too far removed from the everyday experience of the clinicians involved in change, with a resultant drift back to old practice habits. Without ongoing and consistent reinforcement, early excitement with the team training soon leads to a return to previous communication styles. Senior leadership reinforcement can help sustain the change until it becomes 'the way we do things here.' IHI's [Executing for System Level Results](#) can be helpful to senior leadership. It details the actions needed at all levels of the organization to ensure success and outlines the steps necessary for coherence and success in quality/safety efforts.

Training for teamwork and good communications is an important activity. Long-term change and success, however, depend on senior leadership engagement.

☛ *Next month's Best Practices* will describe the successes at one hospital in implementing and sustaining team behaviors after the training. [Return to Top](#)

ABSTRACT 1:

France, D.J., Leming-Lee, S., Jackson, T., Feistritz N.R., Higgins, M.S. (2008). An observational analysis of surgical team compliance with perioperative safety practices after crew resource management training. American Journal of Surgery 195(4):546-53.

BACKGROUND: Acknowledging the need to improve team communication and coordination among health care providers, health care administrators, and improvement officers have been quick to endorse and invest in aviation crew resource management (CRM). Despite the increased interest in CRM, there exists limited data on the effectiveness of CRM to change team behavior and performance in clinical settings.

METHODS: Direct observational analyses were performed on 30 surgical teams (15 neurosurgery cases and 15 cardiac cases) to evaluate surgical team compliance with integrated safety and CRM practices after extensive CRM training.

RESULTS: Observed surgical teams were compliant with only 60% of the CRM and perioperative safety practices emphasized in the training program.

CONCLUSIONS: The results highlight many of the challenges the health care industry faces in its efforts to adapt CRM from aviation to medicine. Additional research is needed to develop and test new team training methods and performance feedback mechanisms for clinical teams. [Return to Top](#)

ABSTRACT 2:

Salas, E., Wilson, K.A., Burke C.S., Wightman, D.C., 2006. Does crew resource management training work? An update, an extension, and some critical needs. Human Factors. 48(2):392-412.

OBJECTIVE: This review provides the state of crew resource management (CRM) training

evaluations since the E. Salas, C. S. Burke, C. A. Bowers, and K. A. Wilson (2001) review and extends it to areas beyond aviation cockpits. Some critical evaluation needs in CRM training are also covered.

BACKGROUND: Because of the purported success of CRM training in aviation, other high-consequence domains have begun to implement CRM training for their workforces. However, the true impact of CRM training in aviation and these other domains has yet to be determined.

METHOD: Using D. L. Kirkpatrick's (1976) framework for evaluating training (i.e., reactions, learning, behavior, and organizational impact), we reviewed 28 published accounts of CRM training to determine its effectiveness within aviation, medicine, offshore oil production and maintenance, shipping/maritime, and nuclear power domains.

RESULTS: Findings indicate that CRM training generally produced positive reactions from trainees; however, the impact of training on learning and behavioral changes suggest mixed results across and within domains. Furthermore, and as was found by Salas, Burke, et al. in 2001, we cannot ascertain whether CRM has had an impact on the organization's bottom line (i.e., safety).

CONCLUSION: Based on the results, there are several critical needs that the CRM training community must address before CRM training can have the desired impact on safety: a mandate, access to data, and resources.

APPLICATION: As CRM training expands to organizations beyond aviation, it is critical that its impact be understood such that it can be improved and achieve the intended results.

[Return to Top](#)

From the Commission

Improving Reporting – Commission staff are planning for trainings on the upcoming start-up of our new web-based reporting system. The trainings will review types of events to report, what information about these events that reports should include, and the mechanics of the new reporting method.

Reports Received – In April 2008 the Commission received seven reports of adverse events. All but two (five reports) were reports of retained objects. A contributing factor identified in four of the five reports related to the lack of a formal, clear, and consistent count policy for items other than sponges. The events occurred after publication of the Commission's Report on Preventing Unintentionally Retained Objects. We will continue to work with hospitals in moving the Commission's recommendations forward to decrease risks associated with surgery.

Pressure Ulcer Project Update – The joint Pressure Ulcer Transition of Care project involving the Commission, the Oregon 5M Lives Network, and long-term care's Alliance for Excellence is moving into initial pilot work. Led by Linda Dreyer from Aumentra, the project has recruited nursing homes, home health, and hospitals within several communities. As the project continues, we will share updates. For further information, please contact Linda Dreyer at Aumentra or Amy Gryziec at the Patient Safety Commission. [Return to Top](#)

Upcoming Events

Oregon RCA Training – Oregon Association of Hospitals and Health Systems, Oregon Patient Safety Commission:

June 3, 2008 Willamette Falls Hospital, Oregon City. Registration flyer can be found [here](#).

2008 Northwest Patient Safety Conference - June 12, 2008 Seattle WA. Conference information and registration at www.wapatientssafety.org [Return to Top](#)

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