

Blending Clinical and Technical Skills at the Bedside

JoEllen Koerner

An announcement from administration sends a wave of activity through the organization: “We will be installing a new patient-controlled analgesia pump throughout the hospital. Everyone is expected to attend an in-service session on the device within the next two weeks. Please sign up for a time convenient for you.” A month later, 30% of the staff is oriented, two devices are running simultaneously, and the benefits of the new purchase have not been fully realized by the patients. Has this ever happened to you?

Safety and Competency: Two Sides of One Coin

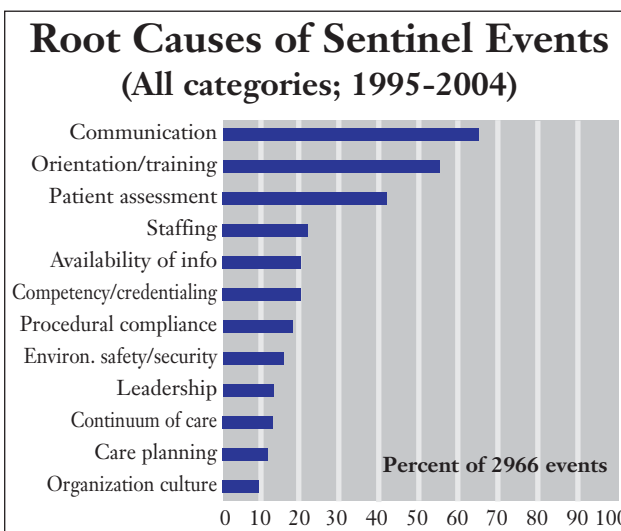
Health care is one of the most multi-faceted industries in the U.S. economy. A “simple” company is one that has a singular product/focus, and every employee can complete each task required to run the business. A “complex” industry, on the other hand, has multiple areas of specialization in information, skills, and technology. Health care and education are at the tip of the complexity iceberg. And it is the interface spaces between our multi-layered structures and processes that contribute to the current crisis in quality and safety.

The Joint Commission (JCAHO) has identified that hospital-related injuries are a significant cause of death in the United States today. There is an epidemic of risk, and the clinical-technological competency juncture is filled with opportunities for error. Never has the need for appropriate training and evaluation been more needed, and yet, that relatively simple process continues to meet with resistance and weak participation by the

JoEllen Koerner, PhD, has worked for several years in virtual education with curriculum modeling and delivery, taking some of these skills to the international health care market. As chief clinical officer of Simulis she facilitated the development of virtual scenario-based simulation training. She returned to education to facilitate the development of an applied BSN curriculum that differentiates practice competency through education and clinical specialization.

very workers who are in clinical positions that directly impact the outcome experienced by the patient.

What is it that keeps systems and the people who work there locked into old ways of doing things?



Source: JCAHO

Contextual Issues

The labor pool today is inundated with changes in information, science, and technology. For some, this is an invigorating event while others find the constantly altering landscape a challenge of great magnitude. There is a fear of job loss with technology replacing human input. This is matched by a lack of computer literacy in an aging workforce that is technophobic while the next generation is clamoring for more.

Absolution is another common theme; the 100% syndrome which holds that perfect is the enemy of good. Raised on standards and measurements, professionals feel an accountability that rejects anything less than the whole. This immobilizes them, keeping them from moving forward in incremental steps unless a well laid out map is clearly presented before them and they can be assured that they will perform accurately.

Regulatory mandates flood the field with increasing frequency. Agencies and lawmakers have many ideas on what should be accomplished, but are woefully inadequate in helping solve for “how” that end can be reached and maintained. For example, a major insurance company has identified back injuries from lifting as a root cause of disability claims. They are looking for a way to provide body mechanics and offering education to all employees as an antidote to this issue, but cannot find a program that meets cost and access issues of such scale. And, sometimes, the rule set for 10% probability compromises the normal “way of doing business” for the other 90%. Time and energy are spent in documenting and preventing, rather than in providing and healing.

Finally, communication and understanding between people and departments often creates barriers to the workflow process. Many practitioners, clinicians, and technicians in a specialized world develop such a deep focus on one narrow aspect of care that they lose sight of the whole. This leads to an incomplete picture of the situation and their place in it. Decisions may be short sighted and solutions partial, unless the value for dialogue and collaboration is deeply embedded in the culture.

Professional Issues

Continuous competency development and enhancement is the foundation of clinical practice. Nurses and physicians graduate with a generalist degree, while technicians (such as respiratory therapists) are very deeply focused on a certain aspect of care. MDs continue through a residency program in an area of specialization. Here they are given ample opportunity in a supervised setting to explore various manifestations of one clinical event.

Nurses, however, graduate with a generalist degree and rely on preceptors to help them learn the subtleties of specialty practice, which they are placed into upon hire. If a preceptor is not present, they rely on other colleagues, a supervisor, or policy manual to “figure things out.” If the patient has no untoward outcome, they make the assumption that they have “done it

right.” Unfortunately, the National Council of State Boards of Nursing has found that many nurses who lose their license and hear an expert witness during a trial explain standard care are shocked and dismayed that they had unknowingly been practicing in error.

High turnover, constant inflow of new employees, and busy days on the unit limit attendance to device-training sessions offered by a company representative. The result is an incomplete training session. Comprehensive training is essential when a new or infrequently used piece of equipment shows up on the unit and there is no one around who is familiar with the device. The nurse going off duty will show

the oncoming nurse which five buttons and features are essential to safe care. The other functional components of the device are lost because that level of detail is not common knowledge within the group.

Technology Issues

The rapid infusion of new technology into a health care setting occurs because of new physicians, new procedures and programs, or new advances in technology that is heavily utilized within the system. Simultaneously, high turnover and low staffing levels make continuous competency a challenge. Staffing levels have been the major factor in 24% of the 1,609 sentinel events reported to JCAHO over the past five years.¹ Training and maintaining are two challenges faced by the organization as these technology transfers occur.

Biomedical engineering departments are constantly called by clinicians seeking information or stating that a device does not work. Similar to the Men are From Mars and Women From Venus hypothesis, nurses and biomedical engineers may have completely different ways of working and communicating (see Table 1). This often leads to frustration on both sides.

Added to fundamental differences in communication and decision making, the culture of a unit and/or the organization strongly influences how the device is utilized. Therefore it is imperative that the biomedical engineering department program the device to properly reflect these differences.

“The quickest way to lose an audience that is overstretched and short on time is to begin with the basics. The training must be relevant, timely, and accessible or it will not be attended.”

Clinicians	Biomed
<ul style="list-style-type: none"> • Intuitive • Random access/entry • Problem oriented • Clinical Reasoning & probability • Creativity 	<ul style="list-style-type: none"> • Fact-based • Start and finish • Data driven • Cut and dried • Linearity

Table 1. *Differing World Views*

During staff training, the starting over syndrome is to be avoided at all costs. It is essential for staff educators or device representatives to understand the basic frame of reference around a device within an organization. Only the new information and specific changes should be presented. The quickest way to lose an audience that is overstretched and short on time is to begin with the basics. The training must be relevant, timely, and accessible or it will not be attended. Proper training and real-time procedural review are strategies that can reduce these areas of conflict greatly.

Organizational Issues

Staff educators are frequently registered nurses (RN) with a great capacity for training and are comfortable with technology. Reporting structures for this position are varied. A traditional model finds the staff educator to be unit-based (a champion on the floor) who works through the nursing education department. While it supports a unit-based expert, the entire education staff is outside the biomedical engineering department and political issues between them frequently exist.

A second model has centralized staff educators working out of the education department. It has similar relational and communication issues, but can lack the specificity of clinical skill found in a unit-based educator.

A small number of education departments report directly to the human resources department. A major challenge in this model is the lack of clinical expertise. This necessitates the use of numerous committees and advisory groups, adding much additional time and delay to decisions that may need a more rapid response.

The exciting new model for education emerging in the field is the presence of an RN staff educator within the biomedical engineering department (see article

titled “A Nurse’s Role in the Biomedical Engineering Department”). They divide their time between biomed and nursing, with the greater share of time working within biomedical engineering. This places them into a different group dynamic. Being a member of the biomedical engineering team, they can clarify and amplify understanding between the two groups. Further, they act as an ambassador between the clinical and technical sides of the organization and help solve problems to the mutual benefit of both.

Management Issues

Effective continued professional development of clinical and technical competency can occur only when the manager makes it a priority. Some managers give lip service to the support of education but will constantly pull nurses out of orientation for shift work or make the nurses cover for themselves if they leave the unit for class.

Successful training occurs when the manager truly believes that competency is the foundation for quality care.

Such a manager will bring on extra staff to cover for those attending class. They will acknowledge and reward nurses who meet the mandatory training requirements, and limit scheduled hours to those who have not completed the training. An inspirational manager makes learning a foundation for the unit culture and quality the primary outcome of patient care.

Training Issues

For training to be embraced, several issues must be addressed. What is being taught must match the students’ need to know. New web-based assessment and training technology allows the learner and educator to identify and fill in the knowledge gap. This assures the continued interest and participation of the student since learning is relevant to their needs for professional growth.

Where and when the training occurs is also an important issue. Staff find it difficult to go to a classroom far from their unit, as they often have a colleague cover while they run to class. A survey of 200 RNs done by Learning Strategies International in a major health system found that they find concentration difficult if they are attending class during the day.² Their focus remains with the patients under their care. By utilizing

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Career Chronicles

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the power of web-based learning, nurses spend 65% of their learning time at home, between 10 p.m. and midnight and 5 a.m. to 7 a.m. At work they seek “just-in-time” decision-making support, while at home they are more interested in content and skill development.

Traditionally, the instructor was a sales representative who ran a series of classes for a limited period of time. The organization hoped to train a cadre of folks who could serve as trainers for the remaining staff. New inventive models are emerging where the biomedical engineering department hires champions in their own organization to do the training after a careful inservice by the device manufacturer. This allows for ongoing training at various times and locations as need dictates. The expertise remains within the organization, and the experts infuse a new level of proficiency throughout the staff.

Some device manufacturers are developing web-based online training with simulation of the device embedded within a clinical scenario. These learning assets are available to the staff 24/7, allowing them to

practice before going to work. They also have small modules targeted at one specific function, serving as a decision-making support tool when a clinician is confronted with an unfamiliar piece of equipment and there is no other knowledgeable support person around.

Summary

The brave new world will find a richer blending of clinical and technical skill development as scenario-based simulation training emerges on the web. The benefits of competency assessment, standards-based education, and just-in-time decision-making support will help organizations serve the patient with greater skill. This is the bridge to crossing the quality chasm that exists today. And, it is the promise for a safer tomorrow. ■

Reference

1. **Joint Commission on Accreditation of Healthcare Organizations (JCAHO)**. Sentinel Event Statistics: May 7, 2003.
2. **MacIntyre D, Koerner J**. Organizational and Learner Readiness Assessment Report to Kaiser Permanente. San Francisco, CA: Learning Strategies International; 2002.

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