



System Safety in Healthcare

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Curing the Risk Management Process in Hospitals

The risk management process in most hospitals is sick. The symptoms are clear:

- There are more fatalities from medical mistakes than there would be if a jumbo jet crashed every week
- There are 40 incorrect surgeries performed a week
- Up to 30 percent of nurses have musculoskeletal injuries from handling overweight patients
- Most hospitals are at a three-sigma level of quality
- There has been practically no reduction in the number of adverse events in hospitals during the last 10 years

The system can be cured, but we need the right caregivers, including surgeons and physicians, who can cut out the non-value processes and replace them with high-value transplants.

Why is the Risk Management Process Broken?

Bad stuff happens; anticipated events don't unfold as planned and unanticipated events occur. Remarkable numbers of "near misses" still occur routinely. Most caregivers have neither the time nor the willingness to report on their own mistakes. Moreover, these near misses are typically invisible to patients and administrators. That is why hospital mistakes are 10 times the level that is reported [Ref 1]. The main function of risk management is to deal with this negative aspect of uncertainty.

Managers with no formal training in risk management seem to be largely responsible for many of the ad-hoc approaches to risk management. A particular favorite of these folks is ad-hoc scoring methods that involve the ordering of risks based on subjective criteria. The scores assigned to risks are thus subject to cognitive bias. Even worse, some of the tools used in scoring can end up ordering risks incorrectly. Bottom line: Many of the risk analysis techniques used have no justification.

The Process Can Be Fixed

Whether health care risk management "best practices" are outdated or not, we can fix the process. It is about

looking outside the box to other industries. Even though hospitals have imported crew resource management from the aviation industry and the FMEA from the Department of Defense, there is a lot more to learn from the aerospace, nuclear, automotive and chemical industries. Best practices must be built and doubted at the same time. We use them not because they are perfect, but because we feel secure in the company of peers. If you simply ask, "Can anything go wrong with the best practice?" in an M&M conference, there will be more unresolved issues than the number of people attending. Brainstorming with a diverse group and looking for what can possibly go wrong is one of the best ways to identify risks. We need to re-think risk management. The sound principles of risk management, coupled with innovative solutions, can assure high return on investment. These principles are:

- Identify risks
- Assess risks
- Mitigate risks
- Orchestrate risk management
- Aim at high return on investment (ROI) without compromising safety

One topic in this list, "orchestrate risk management," is the least-discussed topic in risk management. Another topic, "aim at high ROI," is highly misunderstood. It is worth the time to explore them.

Orchestrating Risks

The statistics from The Joint Commission, The National Committee for Quality Assurance, National Quality Measures Clearinghouse and National Quality Forum show that patient safety and quality movement has been a great failure, according to Lucian Leape, the originator of the patient safety movement. They show that the current effectiveness of risk management functions has been, at best, marginal. Hospital managers often prevent mishaps after the damage is done. It is

not their fault, since most of them are never exposed to the best techniques used in aerospace. They rarely use formal and structured safety analyses, nor are most managers familiar with the tried-and-tested mitigation techniques used in aerospace. But what is missing in risk management is risk orchestration, which is making sure the right things are happening at the right time when a patient is in the path of the harm. In other words, the role of a risk manager should be like that of a symphony orchestra conductor who makes sure every musician plays his or her piece at the right time and in synergy with fellow musicians.

Take the situation of the 18-month-old baby Josie King, in which all the caregivers were too engrossed doing their own things while she was dying from dehydration [Ref. 2]. The staff administered wrong medication, even when the mother protested. She told them that Josie needs fluids, not methadone, a narcotic pain medication. The nurses and doctors both ignored her requests. One thing led to another and Josie wound up with cardiac arrest and two infections. This happened in the nation's No. 1 hospital. The question is, who was making sure that the doctors and nurses did the right things at the right time to manage the risk? The risk manager was only involved later, when the parents decided to take legal action. In our vision, the risk manager does not have to personally monitor all risks, but the risk manager should delegate this responsibility to a staff member trained in risk management for every patient in critical care. This is one way the nurses, physicians and support staff can orchestrate their work to play to the same music.

The orchestration process requires a sustainable structure for sound risk management. This structure should include the integration of support staff. Once the structure is there, rehearsals must also be there as evidence that the orchestra is prepared for the performance.

Creating a Sound Structure

"A structure represents the basic characteristics of physicians, hospitals, other professionals and other facilities," said Dr. Carolyn Clancy, head of the Agency for Healthcare Research and Quality (AHRQ), in her testimony before the U.S. Senate Committee on Finance, Subcommittee on Health Care [Ref. 3]. "It describes whether there are well-educated health professionals, appropriate hospitals, nursing homes, and clinics, as well as well-maintained medical records and good mechanisms for communication between clinicians. For example: Is the mammography equipment up to date and maintained properly? Are the cardiologists well trained and board certified? If the structure is solid, we can concern ourselves with the process of medical care.

Concern for process suggests that quality is determined not just by having the right people and facilities available, but also by having the right things get done in the right way."

She defines health care quality as getting the right care to the right patient at the right time — every time. The implementation of this vision is a sound structure. In addition, there must be safeguards if an activity is not performed correctly. These are the core activities.

A structure should also include a "thank you" system to employees who are fully engaged and willing to walk an extra mile. The Gallup organization measures what percent of employees are engaged, what percent of employees are not engaged, and what percent of disengaged employees can harm the patient from carelessness. Most of the hospitals have less than 35 percent employees who are engaged. Teams should be rewarded for failure-free performance over time. Reward nurses who go out of their way to help families in grief. Seek peer opinions on decisions made with good understanding. Use this data to also improve the system.

Integrating Support Staff

Make sure that the support functions are well integrated. If the support staff is not integrated with mainstream activities, the music will not happen correctly. Imagine if a musician shows up, but because of a glitch in transportation, her piano does not. The same thing can happen when a device fails during surgery and nobody can locate the back-up device, or the back-up device is also not functioning. Someone needs to be in charge of making sure the support services are there when needed.

Support functions include the right medical technicians with an adequate supply of gowns, needles, sanitized wheelchairs and surgical instruments, as well as all emergency care providers. Make sure the housekeepers who disinfect patient rooms have a basic knowledge of infection control and know which chemical to use for which objects in the room. In a surprise visit by the Joint Commission, all of a hospital's housekeepers were questioned about their knowledge of infection and chemicals. No housekeeper had satisfactory knowledge.

Conducting Risk Management Rehearsals

There is no way to trust the outcome of a symphony without a rehearsal. The same strategy applies to health care. In aerospace and aviation, the rehearsals are called emergency drills. They can be used to verify that patient emergencies, such as cardiac arrests and strokes, can be handled flawlessly. In health care, we need to go the extra step of rehearsing for selected non-emergency situations also, such as listening to the patient's family, administer-

ing the right medication in a timely manner and making sure physicians are available in reasonable time, in spite of distractions and poor communications. These are precursors to a real emergency.

Some ideas for emergency drills are:

- Have a person pretend to have a heart attack and suffer from MRSA infection at the same time, and observe the events with a video that can be used as a training tool later
- Send in about 100 patients to the emergency department (ED) as if they were being transported from a train accident in the city and videotape the care
- Create an emergency where the surgeon is very busy and highly distracted
- Conduct drills on day-to-day tasks, such as taking a patient for an MRI from the emergency room
- Simulate a dummy fire in the ED and observe how the patients are protected from risks

Ideas for non-emergency, but relevant situations include:

- Send a wrong label on a medication to designated staff and observe how the defect is caught prior to administering
- Send a wrong dose, such as heparin 5000 instead of heparin 1000 to a pediatric ICU
- Send a defective ventilator that gives more respiration than indicated. Observe if this is noticed by the staff
- Follow a patient complaint with the patient. Same for a complaint from a patient's family member
- Put an epidermal solution instead of an injection solution in a surgery set-up to verify if the staff can reject the solution
- Follow the actions of the staff when a patient needs the doctor immediately, but the doctor is not available

A risk manager can choose to assign the risk management rehearsals to the quality assurance department or to the patient safety officer. The important thing is to make constant system improvements from

this data. Occasionally, an independent outside team should audit how good the risk management strategy is, and how well it is implemented. This process is a formal process in aerospace. Another positive action is to take a look at adverse and never events. Find out the deficiencies in knowledge and execution. Then, make system changes.

Aiming at High Return on Investment Without Compromising Safety

Safety and high return on investment are not opposite goals, if you compare the total cost of doing the right thing versus not doing the right things over a period of at least five years. Sometimes, it is hard to put numbers on intangible benefits, such as getting more customers, avoiding negligence claims and avoiding patient harm. But a good manager can see them intuitively. Usually, employees already have a cheap and simple solution. Toyota Car Company calls such solutions "elegant solutions." Dr. Peter Pronovost's simple five-point checklist for preventing the central line-associated bloodstream infections at Johns Hopkins helped hundreds of hospitals. It saved thousands of lives and millions of dollars with hardly any investment.

Conclusion

It is a good practice for senior managers to ask the following questions:

1. Are the current best practices really the best?
2. If they are not the best practices, do the employees know that these methods are ineffective?
3. Do employees know the consequences if these practices don't work?
4. Are current practices good enough when a disaster, such as a tornado or an earthquake, strikes?
5. Do employees understand that humans will make mistakes and patients must be protected from the consequences of mistakes?

Answering these questions is a good place to reinvent your own risk management process. Let us also not forget the words of Thomas Edison, who said, "There is always a better way. If we all did the things we are capable of, we would astound ourselves!" ☺

References

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2. Pronovost, P., and E. Vohr. *Safe Patients, Smart Hospitals*, Hudson Street Press, 2010.
3. Clancy, Carolyn. "What is Health Care Quality and Who Decides?" Testimony before the U.S. Senate Committee on Finance, Subcommittee on Health Care, March 18, 2009, <http://archive.ahrq.gov/news/speech/test031809.html>.