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Sentinel Events: Gearing Up to Fight the Problem

An Overview of Where We Stand and What We Can Do

By Joen Pritchard Kinnan

In July, a teenaged mother-to-be entered a Madison, Wisconsin, hospital to give birth. Within hours, she was dead, though her baby survived. An investigation by the state department of health revealed that the young woman died after having been given an intravenous dose of an epidural anesthetic instead of the penicillin she was supposed to receive. Shortly after receiving the injection, the teenager had a seizure. She died less than two hours later. In explaining what happened, a nurse told investigators the patient was nervous about how she was to be anesthetized during the birth, so to ease her concerns, the nurse brought out the epidural bag and told her how it worked. Unfortunately, that was one bag too many: the nurse later confused the epidural bag with the penicillin bag, and the consequences were fatal.

The Human Toll

Such sentinel events are all too common. According to a just-released report, *Preventing Medication Errors*, prepared by the Institute of Medicine (IOM) at the behest of the Centers for Medicare and Medicaid Services, medication errors alone harm 1.5 million people yearly in the U.S. and kill thousands. The annual cost: at least \$3.5 billion annually. But medication mistakes are just part of the picture. Sentinel events – unexpected occurrences that result in death or serious physical or psychological injury or the risk of their later occurrence – can happen anywhere along the healthcare continuum and in any setting. However, statistics from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) show that 68% occur in general hospitals, and another 11% in psychiatric hospitals. The JCAHO tracked sentinel events they reviewed from 1995 to March of 2006 and found that the most commonly reported were patient suicide, wrong-site surgery, operative/postoperative complications, medication errors, and delay in treatment in that order. Of the total number of cases reviewed, 73% resulted in the death of the patient and 10% in loss of function.

Hard-and-fast statistics on sentinel events are hard to come by, however. Information from the JCAHO covers only incidents that they have reviewed, and experts agree that almost all types of sentinel events are under-reported. Researchers cite a number of reasons that many incidents go unreported, among them: lack of time, fear of punishment, and confusion about the severity of events that require notification. For example, do near misses count? Others see no benefit to themselves or their institutions from reporting.

Studies have attempted to define the true incidence of sentinel events, but a lack of consistent language and definitions make it difficult to put the whole puzzle together, even when sentinel events do come to the surface.

Focus on Medication Errors

That said, we know the incidence of sentinel events is much higher than it should be. The problem that is most in the spotlight today – among both researchers and the popular press – is medication errors. The IOM's report says that, on average, a hospitalized patient is subject to at least one medication error per day, though error rates vary widely among hospitals. Fortunately,

most errors cause no serious harm, but the costs for those that do are substantial. One study found that each preventable adverse drug event (ADE) costs a hospital approximately \$8,750.

At least a quarter of the medication-related injuries are preventable, according to the report. The irony is that many error-prevention methods are available today, including “do-not-use” abbreviation lists, medication reconciliation (to compare a patient’s medication orders with all other medications the patient is taking to avoid omissions, duplications, dosing errors, or drug interactions), and computerized physician order-entry systems.

With so much emphasis on patient safety and the increasing availability of sophisticated reporting and record-keeping technology, why haven’t incidence rates for ADEs and other sentinel events dropped dramatically? The answer is *not* that hospital personnel are lazy, incompetent, or indifferent to the safety of their patients. Experts agree that today’s doctors, nurses, pharmacists, and other medical staff are highly trained and dedicated professionals who want to practice the best medicine possible. However, the present system that focuses on individual error – the “blame game” – does not foster disclosure of mistakes that could lead to corrective procedures. In fact, legal authorities worry that JCAHO’s Sentinel Events Policy that mandates self-reporting by hospitals accredited by the JCAHO creates new problems. They suggest that self-reporting will have limited success in the absence of immunity from legal liability. One proposed solution calls for submitting self-regulatory reports to a neutral, non-sanctioning third-party entity. This approach has worked well for the airline industry.

Abandoning the Blame Game

Abandoning the blame game is at the heart of the improvements in patient safety proposed in the IOM report. Rather than pinpointing individual error, the new paradigm focuses on developing new systems of care that foster patient safety and help prevent sentinel events. In the absence of a finger-pointing environment, hospital personnel can freely examine what happened, discover the causes, and structure new procedures to prevent future occurrences without fear of any retribution.

That’s the way they handle it at California Pacific Medical Center in San Francisco. In one case, when a nurse removed a dialysis catheter, the patient developed an air embolism and subsequently suffered a severe, permanently disabling stroke. “When we investigated, we found that there was a written procedure in place to document a dialysis nurse’s credential,” said hospitalist Thomas E. Baudendistel, MD, FCAP, who is associate medical director of the hospital’s Internal Medicine Residency Program. “A, we weren’t aware of the credentialing procedure, and B, when we looked at it we weren’t sure it represented best practice. So we researched the literature and rewrote the policy. Now we schedule regular nursing education on pulling a dialysis catheter.” In addition, the hospital set in place a follow-up plan to reevaluate the procedure periodically. They also offer “refresher” training in catheter removal.

“We’ve used a similar approach in other situations,” said Dr. Baudendistel. “For example, our procedure with falls has changed. Now we use an event-based algorithm to determine whether a head CT scan is necessary.”

Hospitalists Can Lead

Hospital-based physicians are in an advantageous position to promote – as well as participate in – new initiatives for patient safety. Because they are involved in the day-to-day care of patients, hospitalists are first-hand observers when many errors occur, and they have the experience and

clinical judgment to give meaningful input to new incident-reporting protocols and to promote new policies through interdisciplinary teams that investigate and analyze adverse events.

Inevitably, electronic systems will replace more and more paper-and-pen reporting and record keeping. Here hospitalists can take the lead too. Unlike other physicians who admit patients to several hospitals with different information systems, hospitalists practice in a single institution with only one system to learn. Their higher patient load may also help them to master new technology more quickly. Surveys show that, while many hospitals have electronic ordering systems in place, relatively few physicians actually use them. In many cases, nurses or pharmacists place the electronic orders. Hospitalists who place their own orders can contribute to a reduction in medication errors by eliminating the pass-through of information that often causes misunderstandings.

Patient-Centric Healthcare: the New Paradigm

The traditional hospital system – and the healthcare system as a whole – are provider-oriented and provider-directed. Most patients, especially older ones, have a “doctor-knows-all” mindset, and they typically ask few questions, even when they don’t understand their treatment plans or exactly how they’re to take their medications when they go home. A case in point: A patient who was discharged from the hospital died at home shortly thereafter. The cause: his wife misunderstood the instructions for his pain medication and mistakenly applied six transdermal patches to his skin at one time instead of the single patch she should have applied. The multiple patches delivered a fatal overdose of the narcotic fentanyl.

Many experts believe that better-informed – and empowered – patients are key to reducing the number of sentinel events, including ADEs. The IOM report advocates a shift from a provider-centered to a patient-centered healthcare model. In this new paradigm, hospitalists would be much more expansive in their communications with patients. With regard to medications in particular, the report recommends that physicians:

- Review the patient’s medication list routinely and during care transitions.
- Review different treatment options.
- Review the name and purpose of all medications.
- Discuss when and how to take the medication.
- Discuss important and likely side effects and what to do about them.
- Discuss drug-drug, drug-food, and drug-disease interactions.
- Review the patient’s (or surrogate’s) role in appropriate medication use.
- Review the role of medications in the overall context of the patient’s health.

There are barriers to surmount before patients can become full partners in their healthcare. One of the most obvious is that patients need to be much better informed, and – when they are incapable of making appropriate decisions – they need surrogates to stand in for them. Patients need access to trustworthy and understandable information both online and in printed materials. The IOM report recommends a government-sponsored national drug-information hotline; medication leaflets that provide standardized language in a manner that is appropriate for various age, literacy, and visual acuity levels; and development of personal health records.