

PATIENT SAFETY ALERT™

A quarterly supplement on best practices in safe patient care

Poor supervision can contribute to a higher rate of errors

When focusing on systems, don't forget human factor

The current focus on systems when exploring the cause of medical errors overlooks one important fact: People still are interacting with those systems.

"There are two things you have to remember," says **Anthony F. Grasha**, PhD, professor of psychology at the University of Cincinnati. "Strong systems build strong people — and vice-versa. You have to work at both ends at the same time. You will be successful in minimizing errors if you can do what's right for the system *and* for the individual."

The other thing you must remember, Grasha says, is the critical role of the supervisor within the system — and the need for supervisors to be well trained in psychosocial skills. "Administrative and technical skills work great for the system, but you need psychosocial skills for employees to perform at their best," he says.

The impact on errors

Grasha has conducted extensive research into the cause of errors, particularly with pharmacists, and he has found a direct link between errors and the way his subjects perceived their supervisors. Those who made fewer errors had a supervisor whom they perceived as helpful in setting task goals and who allowed them appropriate autonomy.

What's the connection? "We've known for a long time that positive nurturing and more democratic approaches work better than micromanaged people, particularly professionals," Grasha says.

"By definition, a professional is someone who's obtained a high standing through independent work. When they then find themselves in a position where someone hovers over them, the net

result is it creates tension and stress," he says.

In Grasha's work, the pharmacists who made the fewest mistakes and were most satisfied with their jobs also rated the quality of their supervision higher.

Generally, these pharmacists had supervisors who allowed them to "do their jobs as they saw fit" and worked with them rather than constantly telling them what to do, he explains. Supervisors who made demands for people to meet high performance standards in a more controlling manner (i.e., directing vs. working with people, using negative incentives vs. encouraging) had staff with higher levels of job dissatisfaction — and who also tended to make more mistakes.

"One of the things I've found is that accuracy, productivity, and job satisfaction [form] a triangle, with supervision in the middle of the triangle," he continues. "It affects all of them through the vehicle of stress and tension and mental distractions that make a job less fun. Stress sets up a process where you work faster than you should and take shortcuts, and are mentally distracted at times you should be focused. This leads to errors of commission as well as omission."

This same dynamic works among nurses, physicians, and pharmacy teams. "People who report more problems with their supervision report fewer errors and intercept fewer errors," he observes. "The basic principals apply, the examples just differ; it just so happens the vehicle I've studied has been the pharmacy."

"I don't think we perceive as much of a link between supervision and errors as we could in health care," adds **Judy Smetzer**, RN, vice president of the Institute for Safe Medication Practices (ISMP), based in Huntingdon Valley,

Pharmacy Supervisor Skills Checklist

The following checklist of pharmacy supervisor skills, created by Anthony F. Grasha, PhD, professor of psychology at the University of Cincinnati, can readily be applied to other areas of health care as well:

- ✓ Set clear goals and directions for the work people do.
- ✓ Help establish a climate for excellence and professionalism.
- ✓ Be clear but not overbearing when discussing expectations.
- ✓ Encourage people to enhance their level of performance.
- ✓ Delegate appropriately the freedom to do a job.
- ✓ Be able to “work with people” rather than “always telling them what to do.”
- ✓ Ensure that the reasons why something is done are stated clearly.
- ✓ Set high standards for performing tasks.
- ✓ Be able to help people set priorities for completing multiple tasks.
- ✓ Promote critical thinking about how to work effectively.
- ✓ Be able to motivate and get people excited about their jobs.
- ✓ Be able to get people to identify and solve problems as a group.
- ✓ Provide sufficient answers to questions.
- ✓ Be able to fix responsibility for getting tasks accomplished.
- ✓ Hold people accountable for doing their jobs properly.
- ✓ Adjust your supervisory style to accommodate differences among people.
- ✓ Make people feel involved and important.

PA. She says that supervisors who instill fear are likely to have employees who hide errors.

Smetzer notes the example of a nurse in a long-term care facility who received an order from a physician to reduce the dose of warfarin for a patient. However, as an LPN, she was not permitted to accept the order. She also forgot to note the order in the patient’s medical record, so the warfarin continued at the same dose.

Later, when the physician called to discontinue the warfarin, the nurse falsified the records to show that the patient had received the lower dose as ordered previously, Smetzer adds. The patient later died, and court records show the death

could have been prevented if the nurse had revealed her mistake immediately.

Many work environments are punitive, she says. “Even counseling can be very punitive, depending on how it is carried out,” Smetzer explains. “At the lowest end of the scale, perhaps the supervisor goes through all the things that were allowed to happen. And to this day, there are people who are fired for an error if the patient is harmed.”

Too much control

Perhaps the supervisors who have the greatest impact on errors are the ones who exercise too much control. Grasha talks in terms of control modes (“I get good performance by controlling you”), as opposed to working with modes (“People do better work if they are committed”).

“One of the biggest predictors for making more mistakes on prescription double-checks was micromanagement,” he notes.

This can take many forms. The supervisor may give instructions on how to do something you already know how to do. Or he or she can tell you to do something a certain way and then not follow up. “It’s their way of saying, ‘Here’s how I want to control you,’” Grasha explains.

In an interdisciplinary team setting, the team may make a decision about the most appropriate medication to give a patient, then the supervisor comes by and says, “Why did you bother doing that when you could have actually done nothing and waited to see what happens?”

“If you control frontline workers like a parent would a child, there’s no room for creativity, autonomy, or teamwork — those skills that can really help curtail errors,” Smetzer says. **(What supervisory skills work best? See checklist, at left.)**

Training can help

Proper training of supervisors can help improve staff attitudes, and at the same time, help reduce errors, Smetzer says. “If you look at any health care training program — medicine, nursing, pharmacy — you usually have a course in management. They teach hierarchy and theory but not [psychosocial] skills. There’s not a lot of that going on in health care. Some of the best teaching needs to be about how and why we make mistakes.”

Smetzer points out the “high-reliability” approach being taken by large organizations outside of the health care industry to produce

good safety records. "Why do the nuclear industry and the chemical industry have lower error rates than we do? They have better training programs," she asserts.

"If you look at what's happening in pharmacy generally, there's no training, no [continuing education] CE offerings," adds Grasha. "People graduate one day, and they're in charge of a pharmacy the next. In the hospital environment, human resource development staff and funding are being cut."

This approach is penny-wise and pound-foolish, he argues. "People need a chance to role-play, to do case studies, to get their hands dirty. It's not the kind of stuff we can learn by just reading," Grasha says. "We need to be coached."

Smetzer says that mentoring also can be effective. "I would think mentorship is the best way to go," she says. "You have people who already have good supervisory skills; usually the staff can tell you who the best supervisors are."

The bottom line is that these important skills can be taught, Grasha says. "A good book on supervision can be helpful, as is taking a management-training course or CE seminar, or beginning company-sponsored work in this area."

One good resource, he adds, is CRM Learning (www.crmlearning.com), which offers a range of educational/training materials.

He also recommends a book by Bill Catlette and Richard Heddon, *Contented Cows Give Better Milk*, which describes companies that attract and keep good people, as well as an article by Amy Edmundson, "Learning about mistakes is easier said than done," in the *Journal of Applied Behavioral Science* (1996; 32:5-28).

The price we pay for failing to train supervisors properly is high indeed, Grasha reminds us. "Organizations put people into positions without much training. They become anxious, and they drop into control mode."

In conclusion, Smetzer offers this caveat about a systems-only approach to errors: "We in health care are very focused on a system-based approach, which we definitely need to be, but with a total emphasis on systems, we can forget about the people, and we need to remember them — not to punish them, but to realize they are the ones who interact with the system. And there are clearly things we can do with people to improve performance."

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• **Anthony F. Grasha, PhD, Professor of Psychology, University of Cincinnati. Telephone: (513) 556-5543.**

Recommended readings

- Grasha AF. Pharmacy workload: The causes and confusions behind dispensing errors. *Can Pharm J* 2001; 134(3) 26-35.

- Grasha AF, Schell K. Psychosocial factors, workload and human error in a simulated pharmacy dispensing task. *Percept Mot Skills* 2000; 92:53-71.

- Grasha AF. Into the abyss: Seven principals for identifying the causes of and preventing human error in complex systems. *Am J Health-Syst Pharm* 2000; 57:554-64. ■

Injury prevention model broadens safety scope

Create situations where human error can't happen

Traditional approaches to patient safety that focus exclusively on errors may be missing significant opportunities for improvement, argues a group of researchers from the Injury Research Center at the Medical College of Wisconsin, Milwaukee.

Writing in the April 17, 2002, edition of the *Journal of the American Medical Association (JAMA)*, they assert that "The error-oriented approach includes mistakes that do not harm patients such as near-misses."¹ Conversely, they write, "The injury-oriented approach includes patient harm arising from a diagnostic or therapeutic intervention, including those that are not associated with any identifiable error."¹

What they are proposing is an injury-prevention model, rather than an error-prevention approach. This broadens the approach of identifying medical injuries and developing strategies to prevent them, rather than limiting discussions to the errors that may have been made.

"The main issue related to this approach is not that we are ignoring error, but that we are not making it the sole centerpiece," explains **Stephen W. Hargarten, MD, MPH**, director of the Injury Research Center and one of the paper's authors. "It's similar to what happens when you drive a

car; people make errors in driving. Some don't result in any harm. But if an error does result in a crash, you want to reduce the frequency and the harm of these events. If you do crash, you have a seat belt on and an airbag. This protects you, regardless of how well or how poorly you and others drive. In our case, we are trying to reduce errors, but we recognize that if they are occurring, we should try to reduce the event or reduce our reliance of addressing medical injuries solely by addressing human error."

In summary, the authors assert that by focusing solely on errors, we actually are looking at a relatively small percentage of all medical injuries and missing the majority of them.

A paradigm shift

The paradigm shift of the injury prevention model, Hargarten explains, is that a prevention strategy may circumvent human error by creating a situation where it *can't* happen.

Human error is a challenge in and of itself, he notes, but it can be overcome by technology. "Take needlesticks, for example," he says. "We teach people not to commit the error, but the most complete strategy is to make needles where you really can't stick yourself. This is a very important aspect of our approach."

The injury prevention approach is represented graphically in a table called Haddon's phase-factor matrix, derived from the public health profession's agent-host-environment vector model of injury causation. It was first used in the study of automobile injury, but has proved useful in preventing injuries in a variety of settings.

In its simplest form, it is a two-dimensional chart. Down the left-hand side are three categories:

- Pre-event: Underlying risk factors predisposing to injury.
- Event: What causes an injury to occur? Will an injury result from this event?
- Post-event (outcomes): The final severity is determined here. How severity is minimized or maximized depends on these factors.

Along the top of the matrix are agent, host, vector/vehicle, and environment (with three subsets: physical, social, biological).

In a real-world example, the pre-event may be the reversal of X-ray film, which leads the physician to interpret it incorrectly. The event then could be putting a chest tube in on the wrong side, and the post-event would be the outcome. "A post-event may be that nothing

happened," Hargarten explains. "For example, the event may be the prescribing of an incorrect antibiotic."

At present, researchers from the Injury Research Center are conducting studies that implement the injury prevention approach in different settings.

"In applying injury control science to the broad class of issues of medical injuries, we can look at a variety of ways we can have impact using these tools in specific areas like the [emergency department (ED)], ICUs, and so forth," Hargarten says.

How might this unfold in a practical setting in a hospital? "The first and most fundamental part of this is, we are looking at what happens to patients when they enter into, [for example], the ED, and the outcomes of those interactions that are from interventions from a variety of sources — from devices to medications," Hargarten observes. "With these interventions, some outcomes are adverse reactions to medications, or devices put in the wrong place. These are medical injuries, but we do not start trying to identify names and blame."

Rather, he says, they also will look at effects from accepted therapies — for example, reactions to penicillin. "A certain percentage of patients get a reaction," he says, noting they may be asked about an allergy, but respond in the negative. "How do we move forward to reduce this likelihood? Do we want to explore and see if there are other therapies for the same conditions? This is a more productive approach."

Previous studies note that even agreeing that an error took place in a specific case is sometimes difficult to determine. "We are already starting out with the potential for disagreement, but the bottom line for the patient is that there was an adverse reaction, an untoward outcome that no one desires. That's why we should not limit our explorations to those adverse events that occurred as the result of error," Hargarten concludes.

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Reference

1. Layde PM, Maas LA, Teret SP, et al. Patient safety efforts should focus on medical injuries. *JAMA* 2002; 287:1,993-1,997. ■