

Healthcare Benchmarks and Quality Improvement

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NPSGs target anticoagulation therapy, patient deterioration

Underlying processes key to satisfying Joint Commission standards

The 2008 National Patient Safety Goals (NPSGs), recently published by The Joint Commission, contain two new goals, both of which have significant implications for hospital quality managers. The first, Goal 3E, states: "Reduce the likelihood of patient harm associated with the use of anticoagulation therapy." The second, Goal 16, states: "Improve recognition and response to changes in a patient's condition." Goal 16A elaborates: "The organization selects a suitable method that enables health care staff members to directly request additional assistance from a specially trained individual(s) when the patient's condition appears to be worsening." (A complete list of the 2008 goals can be found on p. 99.)

Why were these particular goals added? "It gets back to our overall process in the review and prioritization of topics, which we get from the Sentinel Event Advisory Group and a variety of interest and special societies, as well as direct input from field review," explains Peter Angood, MD, vice president and chief patient safety officer for The Joint Commission. "The advisory group has very robust discussions and prioritization processes, as well as a general sense from the field as to how much they can absorb."

The need for greater attention to patient deterioration was

Key Points

- Maintaining therapeutic levels is critical clinical component of anticoagulation therapy goal.
- Joint Commission does not mandate use of Rapid Response Teams in addressing patient deterioration.
- Regular review of performance and progress, proactive approach can keep you ahead of the curve.

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brought to the fore recently with the well-publicized ED waiting room death of a Los Angeles woman. (See the cover story in the August 2007 issue of *ED Management*.)

What are the most common potential sources of patient harm involved with anticoagulation therapy? "The types of medications used place the patient at risk for under-dosing as well as over-dosing," explains Angood. "Under-dosing creates a situation where the disease is not adequately managed, while over-dosing creates increased risk for bleeding and other various complications." Accordingly, says Angood, it is important for these medications to be maintained in a therapeutic range — both for inpatients and outpatients.

"This goal does not replace existing clinical

guidelines developed by other professional societies, but focuses rather on trying to ensure there are adequate processes and systems in place within the health care organization to make sure the patient is identified and followed, the staff is educated appropriately, and any adverse outcomes are evaluated on a regular basis," he explains.

What The Joint Commission wants

Exactly what is The Joint Commission looking for in terms of compliance? For anticoagulation therapy: "The processes should be defined and [the issue] established as a distinct management program, with recognition of different types of therapies," says Angood. "The ways they are administered — oral, IV, and so forth — should be protocol-driven strategies with well-established laboratory parameters for therapeutic range, and policies for testing and management." There also should be education programs for staff and patients, he says.

When it comes to patient deterioration, and "a suitable method" for response when a patient's condition worsens, is The Joint Commission speaking specifically about Rapid Response Teams? "[The data on Rapid Response Teams are] a little ambiguous, so we are taking the approach it's not the method of response, but the underlying process to identify and respond that's most important," says Angood. "For detection, there should be some identified parameters and established frequency for how often patients are evaluated — as well as criteria for when extra help and resources should be contacted, and who they are. Along with that is the whole issue of educating providers and patients and empowering staff to initiate a response. Also, there needs to be a good, ongoing monitoring system that evaluates effectiveness of the program and can measure the outcomes — cardiac arrest rate declines, mortality rate decreases, and so forth."

Anticipate, anticipate, anticipate

Quality managers agree that the best way to ensure compliance with the NPSGs is to be proactive with your quality and safety programs, and anticipate where The Joint Commission may be headed.

"The good news is that we have been anticipating the goal specific to anticoagulant therapy and

(Continued on p. 100)

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Editorial Questions

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2008 National Patient Safety Goals Hospital Program

Note: Changes to the Goals and Requirements are indicated in bold. Gaps in the numbering indicate that the Goal is inapplicable to the program or has been "retired," usually because the requirements were integrated into the standards.

This year's new requirements (3E and 16A) have a one-year phase-in period that includes defined expectations for planning, development and testing ("milestones") at 3, 6 and 9 months in 2008, with the expectation of full implementation by January 2009. See the Implementation Expectations for milestones.

Goal 1	Improve the accuracy of patient identification.
1A	Use at least two patient identifiers when providing care, treatment or services.
Goal 2	Improve the effectiveness of communication among caregivers.
2A	For verbal or telephone orders or for telephonic reporting of critical test results, verify the complete order or test result by having the person receiving the information record and "read-back" the complete order or test result.
2B	Standardize a list of abbreviations, acronyms, symbols, and dose designations that are not to be used throughout the organization.
2C	Measure and assess, and if appropriate, take action to improve the timeliness of reporting, and the timeliness of receipt by the responsible licensed caregiver, of critical test results and values.
2E	Implement a standardized approach to "hand off" communications, including an opportunity to ask and respond to questions.
Goal 3	Improve the safety of using medications.
3C	Identify and, at a minimum, annually review a list of look-alike/sound-alike drugs used by the organization, and take action to prevent errors involving the interchange of these drugs.
3D	Label all medications, medication containers (for example, syringes, medicine cups, basins), or other solutions on and off the sterile field.
3E	Reduce the likelihood of patient harm associated with the use of anticoagulation therapy.
Goal 7	Reduce the risk of health care-associated infections.
7A	Comply with current World Health Organization (WHO) Hand Hygiene Guidelines or Centers for Disease Control and Prevention (CDC) hand hygiene guidelines.
7B	Manage as sentinel events all identified cases of unanticipated death or major permanent loss of function associated with a health care-associated infection.
Goal 8	Accurately and completely reconcile medications across the continuum of care.
8A	There is a process for comparing the patient's current medications with those ordered for the patient while under the care of the organization.
8B	A complete list of the patient's medications is communicated to the next provider of service when a patient is referred or transferred to another setting, service, practitioner or level of care within or outside the organization. The complete list of medications is also provided to the patient on discharge from the facility.
Goal 9	Reduce the risk of patient harm resulting from falls.
9B	Implement a fall reduction program including an evaluation of the effectiveness of the program.
Goal 13	Encourage patients' active involvement in their own care as a patient safety strategy.
13A	Define and communicate the means for patients and their families to report concerns about safety and encourage them to do so.
Goal 15	The organization identifies safety risks inherent in its patient population.
15A	The organization identifies patients at risk for suicide. [Applicable to psychiatric hospitals and patients being treated for emotional or behavioral disorders in general hospitals-NOT APPLICABLE TO CRITICAL ACCESS HOSPITALS]
Goal 16	Improve recognition and response to changes in a patient's condition.
16A	The organization selects a suitable method that enables health care staff members to directly request additional assistance from a specially trained individual(s) when the patient's condition appears to be worsening. [Critical Access Hospital, Hospital]

Source: The Joint Commission web site: www.jointcommission.org.

Anticoagulation Service For Health Professionals

Guidelines for Initiating Inpatient Warfarin

Loading doses of warfarin (e.g., 10 mgs on days 1 and 2) are no longer recommended.

Several controlled studies have shown that starting patients on 5 mg of warfarin daily achieves a therapeutic anticoagulant effect as rapidly as 10 mg loading regimens while causing fewer supratherapeutic INRs. We suggest the following algorithm by Crowler et al (see *Arch Intern Med* 1999;159:46-48 and *Ann Intern Med* 1997;127:332-333) to guide the dosing of warfarin during the first several days of therapy. It is particularly useful in hospitalized patients in whom INRs are typically checked daily. It may not be practical in patients who are started on warfarin out of hospital, since INRs are not typically checked daily in this setting.

This algorithm should not be used in patients taking Amiodarone, which potentiates warfarin. Such patients typically require lower initial warfarin doses than those shown in the algorithm.

Suggested Nomogram for Starting Patients on Warfarin*

	INR	Dosage
DAY 1	A baseline INR should be obtained prior to starting warfarin	5.0 mg**
DAY 2	<1.5	5.0 mg
	1.5 - 1.9	2.5 mg
	2.0 - 2.5	1.0 - 2.5 mg
	> 2.5	0.0 mg
DAY 3	<1.5	5.0 - 10.0 mg
	1.5 - 1.9	2.5 - 5.0 mg
	2.0 - 3.0	0.0 - 2.5 mg
	> 3.0	0.0
DAY 4	< 1.5	10.0 mg
	1.5 - 1.9	5.0 - 7.5 mg
	2.0 - 3.0	0.0 - 5.0 mg
	> 3.0	0.0
DAY 5	< 1.5	10.0 mg
	1.5 - 1.9	7.5 - 10.0 mg
	2.0 - 3.0	0.0 - 5.0 mg
	> 3.0	0.0
DAY 6	< 1.5	7.5 - 12.5 mg
	1.5 - 1.9	5.0 - 10.0 mg
	2.0 - 3.0	0.0 - 7.5 mg
	> 3.0	0.0

*This algorithm is compatible with heparin (either unfractionated or low-molecular-weight).

**In selected patients (e.g., very large individuals or those on medications known to antagonize warfarin), a Day 1 warfarin dose of 7.5 mg may be appropriate.

Other important points regarding initiation of warfarin

1. Please consult us when **beginning** warfarin therapy. This gives the Anticoagulation Service staff the time needed to coordinate patient education and to arrange for monitoring of INR's as an outpatient. If the patient is admitted on a weekend, a message can be left on our answering machine.
2. **Please write initial prescription with 2 mg or 2.5 mg tablets** (e.g., prescribe 5 mg/day dose as "warfarin 2.5 mg tabs, take 2 q HS"). This greatly facilitates the ability of Anticoagulation Service nurses to make minor dose adjustments based on follow-up INR values.

Source: University of Michigan Hospital and Health Centers web site.

(Continued from p. 98)

have been talking about it in patient safety rounds for a year," says **Rita Stockman, RN, MSA**, director, hospital quality, at William Beaumont Hospital in Royal Oak, MI. She adds

that her facility has a Rapid Response Team in place to deal with patients whose conditions worsen.

"We certainly will revisit [our processes], but we think we have a good handle on both areas,"

adds **Phyllis Voreis**, RN, BSN, CIC, director of accreditation and regulatory readiness for the University of Michigan Hospital and Health Centers in Ann Arbor. "If nothing else, we'll be tightening up [processes] and making sure there are no loose ends — and everyone's on the same page."

For Stockman, staying on top of the NPSGs is part of an ongoing process. Each year an interdisciplinary team goes out to every department and lets them know what the next patient safety initiative will be. "We are on the road [with the new goals]," she notes. "As of yesterday, we passed out the list to the hospital performance improvement committee. We will revisit what we are currently doing and then look at inpatient and ambulatory sites on campus."

As she indicated previously, much of the work has already been done. "We have met with the group that does 'anti-coags' on the outpatient side, and looking at the feedback mechanisms they use to be sure patients are therapeutic — and if not, how patients should be educated," she says. "This goal will help us firm that up — it's an extensive clinical process that involves letting the patient know exactly where things stand, how to get what they need, where to get draws and results, and so forth."

Interesting approach to falls prevention

One interesting approach the facility is taking involves fall prevention. "If you prevent falls, you are also promoting safety with anticoagulation therapy," says Stockman, noting that the stomach and the brain are the two most vulnerable areas. "And don't forget, the population is aging, so the spectrum of people who may be on these medications now is widening. Since some people may not be able to get medical information, enough medical care, or may not have the money to get blood drawn; we need to improve our methods for detecting people at risk for self-medicating."

The Rapid Response Team has been implemented "incrementally" across the hospital in all adult patient areas "in order to encourage staff to be more comfortable with it," Stockman says. "Today, any staff nurse can call the team." It has been well received, she says, adding, "I know we have decreased the number of codes." Now, however, she wants to build on that success, and is moving into the pediatrics area, which will involve having parents initiate calls. "We want to

get to the point the where family members are able to initiate calls," she says.

Since the University of Michigan has both ambulatory centers and inpatient facilities, a single group has been created to look at anticoagulation therapy in both settings, Voreis says. "We are going to make sure we are consistent," she says. "From what I can tell, the same pharmacist is involved in every case, but I want to make sure there are no holes."

In terms of patient education, there is general information available on the University of Michigan Hospital and Health Centers' web site. "But when the therapy is actually started, the patients have one-on-one meetings with the nurse and pharmacist to talk about food interactions, and so forth, and they receive information packets as well."

To help keep doses within the therapeutic range, the system has recommendations or monitoring protocols and all doses. (See sample, p. 100.)

Direct response for patient deterioration

Voreis also has established what she calls a Direct Response Team to handle patient deterioration. "We've just expanded into some areas where we had not been — to the pediatric area, and a freestanding cardiovascular center we just opened — but we already have policies and procedures to look at the metrics and determine how affective we are," she says. As far as calling the team, "Right now it's primarily set up for staff nurses on the floor, but a lot of house officers are using it, too — which surprised us," Voreis says. "Thus far, however, we do not have a mechanism for the family to call the team."

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Solucient 'Top 100' hospital scores 'three-peat'

Leadership employs 'critical principles'

When the Solucient 100 Top Hospitals were announced this year, Danbury (CT) Hospital was on the list — for the third year in a row. Hospital leaders say that for patients, this means a higher survival rate in certain medical procedures, fewer complications, better safety, and shorter lengths of stay.

What are the keys to achieving such a high level of performance — and more important, how is that level maintained year after year?

Danbury tackles MRSA with aggressive initiative

Danbury (CT) Hospital, named to the Solucient 100 Top Hospitals list for three years running, establishes a set of quality initiatives each year that include aggressive plans for improvement. This year one of those initiatives focuses on Methicillin-resistant *Staphylococcus aureus*, or MRSA.

"Here we have this disease that is remarkably prevalent — a key driver of hospital-acquired infections," notes **Matthew A. Miller**, MD, chief medical officer at Danbury. "The problem nationally is that no one really knows what percentage of patients are colonized with this disease, which have the highest risk, and how to prevent it from spreading from one patient to another."

There is a clear set of universal precautions, Miller notes — "so we make sure we are compliant with gowns, gloves, and so forth." However, he says, "You first have to know the patient has the disease, and then the horse is out of the barn."

The Centers for Disease Control and Prevention (CDC), he says, recommends that any staff person who goes into the room of such a patient wears gloves and gown — if they are going to touch that patient. "That will not work," says Miller. "Maybe the doctor, nurse, or phlebotomist forgets, and touches a handrail; we need to be ahead of that."

At Danbury, he says, a policy of contact isolation has been adopted. "When you think you might touch anything at all, you have to put on gloves and a gown; we have to enforce that," he says.

"There's nothing earth-shattering about what we do to keep our eye on the prize, but there are a few critical principles at work," says **Matthew A. Miller**, MD, chief medical officer at Danbury. "One is that the focus on quality and safety has to be driven by the board and by senior leadership — the CEO, chairman, and top executives; they must believe that they are very important."

This must be more than just lip service, he continues; it involves setting critical goals and having incentives for senior leadership that are at least partially dependent on outcomes. "We set high-level goals every year under various pillars, and the first one is quality," says Miller. "Under that we identify nine or 10 critical quality safety indicators that must be within certain national

How does he plan to enforce compliance? "Partly by promulgating the policy and making it clear to everyone — partly by signage and partly by having the nurse manager on each floor assign someone to be the representative for patient safety," he says. These representatives do random, "blinded" audits; they might sit nearby, observe, and track compliance. These results will then be published — by specialty. "Adopting a similar approach with hand washing last year moved us from 55%-60% compliance to 80%," says Miller.

An even more difficult issue, says Miller, is what to do with patients who are colonized. "Some recent evidence says probably 5%-7% of patients who are admitted are colonized; does that mean we isolate everybody? Probably not," he concedes, adding, "Here's where technology meets careful planning."

The staff will take a couple of days doing nasal swabs to determine the percent of admitted patients who are positive, and where they come from, says Miller. "We believe — and the evidence suggests — that patients in nursing homes and chronic care facilities have the highest rate, maybe as high as 30%-50%," he asserts.

So, beginning this month, the staff will be screening three categories of patient — every nursing home admission, every transfer from other hospitals' ICUs, and every scheduled high-risk procedure (i.e., total hip replacements and cardiac cases). "Transfers will get nasal swabs on admission," he says. "We are currently testing new technology that will turn around results in 24 hours. For the first 24 hours we will isolate every one of those admissions until the test comes back negative."

As for surgical cases, says Miller, "if we have time we will treat them; if not, we will isolate them." ■

benchmarks." Each year, he says, the hospital establishes several organization-wide initiatives "We want to get right this year."

If you don't set targets, he explains, "That's almost a circuit breaker."

Board behind safety, quality

In the last couple of years, says Miller, the board has "ratcheted up" its involvement in quality and safety. "I am expected to be at every meeting, and we spend 20-25 minutes each time talking about quality and safety," he says. The board does more than just ask about quality and safety indicators, he continues. "They say, 'Tell me what's going wrong,'" he shares. "When something bad happens [they want to know about it], and what we're going to do about it so it will never happen again."

The board, he says, has "zero tolerance" for error. "For example, the National Quality Forum has its 27 never events," Miller notes. "The board will say, 'Has this ever happened here? What are you doing to make sure that it never does?' Some of these are very hard to do, but your tolerance has to be zero."

The board also keeps close tabs on Centers for Medicare & Medicaid Services (CMS) core measures, says Miller. "Take MI; the board might ask how many patients that had an MI have had to be reported to CMS, or how many times we got it all right," he offers. "If we do it right only 95% of the time, then not all patients are being delivered the highest form of care."

There are other principles Miller keeps front and center, such as transparency. "Unless you are comfortable telling people how you are doing, you can't really hold yourself accountable — within the organization, to the board, or to the public," Miller insists. "We were one of the first hospitals to actually do a public report card. We also have a commitment this year to revamp our web site; we will put on a lot of quality indicators, [to show we are] externally

Key Points

- Quality, safety focus must be driven by board and senior staff leadership.
- Set new targets and goals each year to ensure continuous improvement.
- Non-punitive culture of safety is necessary to encourage staff to report adverse events.

validated."

Finally, he says, with all that focus on quality and transparency, there must be careful attention paid to reporting. "You have to have a way of capturing data when things go wrong," he notes.

In order to do that, he says, you have to have a non-punitive culture of safety. "The entire organization has to feel comfortable [reporting]," he notes. "We collect over 100 adverse events each month, though they are not necessarily errors; we track and trend." The serious ones are investigated in real-time, and root cause analyses are conducted.

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Physician backing critical to QI turnaround

Dramatic improvement in cardiovascular surgery

In 2004, the mortality rates for several cardiac care areas (including bypass procedures, valve replacements, and treatment of heart attacks) at St. Dominic's-Jackson Memorial Hospital in Jackson, MS, were disappointing enough that the facility's leadership engaged the consulting arm of Golden, CO HealthGrades Inc. (recently renamed the HealthGrades Clinical Excellence Research & Consulting Group), to help it turn things around.

"There could possibly have been as many as six to eight surgery mortalities in a given year before," notes **Jo Ann Alford**, St. Dominic's director of quality review. "But we have had only two surgery mortalities in the last 11 months."

Both Alford and **Samantha Collier**, MD, chief medical officer for HealthGrades, agree that physician leadership and buy-in were among the keys to this successful turnaround.

"Physician leadership has really been instrumental in the whole process," says Alford. "We have some physician champions who have said, 'This is what we are going to do — we are going to improve our surgery care,' and they were quick to get others on board."

Initially, Alford recalls, there were challenges in getting the staff to adopt the Euroscore risk

stratification tool, which has been a key in eliminating unnecessarily risky surgeries (A copy of the tool can be downloaded at the following site: www.euroscore.org.) “It helps you by providing a risk analysis of the patient as the final determination for what the mortality risk would be if you went to surgery,” she explains.

Patient selection for surgery

“Ultimately, patient selection for surgery ended up being the area where we had the most opportunity to improve — and where we made the most improvement.”

Through physician involvement in the cardiovascular surgery task force group (surgeons, anesthesiologists, cardiologists, and other caregivers), which has been meeting monthly for 18 months, the staff have adopted the tool.

Use PDA to calculate risk

Using the tool, it was easy for doctors to calculate risk using their PDAs. If the patient’s score showed that his or her risk of death was above a certain threshold, it triggered an automatic consultation by the multidisciplinary team, which included another cardiologist, a cardiac surgeon, a pulmonary/critical care specialist, and any other specialists — for example, a nephrologist — indicated by the specific risks of each patient, Alford says. Each consultation resulted in a decision to proceed with surgery; to delay surgery until further investigation, intervention or appropriate cool-off; or to pursue other alternatives, such as medical management.

“It has basically given physicians and patients more information,” says Alford.

“We had the cardiologists leverage their positions to get the surgeons on board,” explains Collier. “By acknowledging that they [the cardiologists], too, owned the opportunity to improve outcomes for the patients they were referring to surgery, they made it easier for the

surgeons to hop on board and together, along with other colleagues, the administration and the board, they were able to remove the final roadblocks.”

Getting to ‘yes’

It was a complex process to get to that point, however. First came the decision to bring HealthGrades in. “Actually, we had been working with them already — we had a quality assessment and improvement contract with them,” Alford explains. “We knew that our ratings were going to go public; the data would be out there for people to see. Plus, if we were truly having poor performance, we wanted to know why we had low a rating and what could be done to improve. After all, the bottom line is patient care.”

In the early HealthGrades ratings, the hospital received one star out of a possible five, confirming room for improvement. “As with all clients, step one was to look at Medicare data across 32 measures — a 5,000-foot view,” notes Collier. “Then, for example, if in surgery we saw higher than expected mortality, we looked further into the charts, as well as other data such as those from the American College of Cardiology, or internal hospital data. Then, if the data appear real, we drill down to the root cause.”

This was done side by side with the hospital staff. “Basically, they were our resource for analyzing the data, which is very time-consuming and labor-intensive,” says Alford. “We basically provided support — we made sure we had all the data we needed, and served as a coordinator for the initiative.”

“We produced persuasive data, presented them in a meaningful and actionable way, and then identified, cultivated, and inspired physician champions to take the lead,” Collier summarizes.

Enlisting ‘thought leaders’

The key to success in such an initiative is to have “thought leaders” on the medical staff work with their peers who may be reluctant to change, says Collier. “Someone, whether it’s the CEO or the chief medical officer or a cardiologist, should pick up the phone and take the time to ask them for help with the hospital’s initiatives,” she says. “It’s hard for physicians to turn away when you’re asking for their help.”

Collier and her team spent months identifying

Key Points

- Risk stratification tool helps staff avoid unnecessarily risky surgeries.
- Cardiologists take the lead, and help get surgeons on board with new approach.
- Hospital quality staff work side by side with consultants to implement initiative.

which physicians were likely to aid the effort and which ones would resist, and putting together data to make the case for the new process to the latter group. Cardiologists were the obvious starting point, because they referred patients for surgery to begin with. Convincing a few key cardiologists got the ball rolling.

“No doctor will go from ‘zero to 60’ right away,” Collier notes. “The biggest challenge is acknowledging that there is something wrong and that it can be improved; that goes against the nature and the grain of physicians and nurses. Saying we can do better implies we have not been doing our best.”

Getting them to admit that requires that several factors be simultaneously in play, Collier explains. “First and foremost, you often need a third-party, independent organization saying things that validate what others may have said on the inside; this can be a good start,” she observes. “Then, there has to be data people believe, and opportunities to improve that matter to them — that they can possibly change outcomes, or make the patient’s experience or quality better. Then, you have to have the doctors help you identify the opportunities.”

The key to success, ultimately, was that some of the doctors got on board and started to implement the process improvements, says Collier. “We started seeing successes; this started to convince them they could do better, and they then moved forward with others,” she notes. “It was a slow-moving train when we started, but once it gained momentum it was unstoppable.”

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Simple test can prevent pneumonia after a stroke

Aspiration is main pneumonia risk in stroke victims

Millions of dollars and several hundred thousand lives could be saved if more hospitals followed a simple best practice — the swallow

Key Points

- Annual cost of pneumonia could be nearly \$459 million.
- Doing swallow test could reduce likelihood of pneumonia by 50%.
- Despite benefits, best practice use is at discouragingly low levels.

test — for stroke victims, assert researchers in a new study in the journal *Neurology*.¹ Aspiration, note medical experts, in the main pneumonia risk is stroke patients.

A research team from MetroHealth and Case Western Reserve University in Cleveland and led by **Irene Katzan**, MD, MS, assistant professor of neurology at the Cleveland Clinic and MetroHealth Medical Center, reviewed local hospital records of 11,286 stroke patients admitted between 1991 and 1997. They found that 5.6% of those patients developed pneumonia, which tripled a patient’s chance of dying within 30 days, and was linked with a greater need of extended care after discharge and a greater chance of re-admittance for complications.

In addition, the study reports that the typical case of pneumonia costs about \$15,000 per patient. With an estimated 500,000 such patients nationwide per year, the annual cost would be near \$459 million, the authors asserted.

While the study did not specifically determine if the swallow test was given, “other studies done largely pre- and post-implementation of the [swallow test] protocol have shown that implementation of such a systematic protocol can reduce pneumonia by 50%; one even showed a 100% reduction,” asserts Katzan.

This particular study, she notes, is part of a larger data initiative to look at the care provided under Cleveland Health Quality Choice on six diagnoses, including stroke. “My background is stroke, and pneumonia is one of the most frequent serious complications after stroke,” she explains. “We are doing a fairly large study evaluating the predictors [of stroke] and the best ways to prevent it. This was a supplemental study evaluating pneumonia occurring after stroke.”

The study on cost was designed to uncover the incremental costs that hospitals absorb when stroke patients develop pneumonia and require a lengthier hospital stay, she continues. “DRGs like stroke get a certain reimbursement no matter what testing is issued, so when any patient that

goes above [the per diem rate] it is absorbed by the hospital," Katzan notes.

Improving poor performance

While the swallow test is a recognized best practice and easy to perform, "it is documented to occur in discouragingly low levels" in hospitals, notes Katzan.

Why?

"The hospitals have a lot to deal with [with stroke patients] and this is one of the systematic things that is hard to do in all places at all times," Katzan observes, "but it is clearly a best practice."

Still, when a stroke victim comes in at 2 a.m., or sits in the ED for eight hours, "the test may not get done," she concedes. Nevertheless, she says, "there is an increased awareness of the importance of doing this test, and over time I suspect the screening will be done more frequently."

Standardized orders

What processes can be put in place to improve the regularity with which this test is done? "You should first of all have standardized orders that include the swallow test, so things are less able to fall through the cracks," says Katzan. "The other thing is, as new nurses come on, as part of their training, it should become one of the standards of care." For a nurse with 10 years' experience, she notes, doing the test regularly might represent a change in practice. "But if you learn this when you join the staff, it will just be seen as 'the way it is.'" As for veteran staffers, "in-services are absolutely necessary, because nurses have so much to watch and deal with," Katzan asserts.

Several initiatives are currently in place to help quality professionals and hospital staffs optimize this practice, notes Katzan. One is the American Heart Association's "Get with the Guidelines," and the other is the Physician Quality Reporting Initiative (PQRI) of the Centers for Medicare & Medicaid Services (CMS). "Screening for dysphasia is one of eight stroke quality indicators that is part of a set of PQRI measures being used this year, and that puts dollars behind [compliance]," notes Katzan.

In terms of determining whether your staff are following the standardized order set, she recommends "auditing [the charts for] a subgroup of patients to see whether it was done and docu-

mented prior to oral intake, which includes oral medication." For example, she notes, "A nurse might give a stroke patient aspirin without checking their ability to swallow — which is now one of the quality measures. The bar is becoming much stricter with CMS, and it is moving higher."

The direct "take-home" of this study for quality managers, says Katzan:

"Is that the cost of pneumonia care is significant; not only does pneumonia increase the risk of mortality and have negative effects on morbidity, but it is costly." Ancillary data from other studies, she emphasizes, suggest that such pneumonias are preventable, "and screening for dysphasia is one of the simple, basic ways to reduce pneumonia."

[For additional information, contact:

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Link seen between working conditions, infections

Higher staffing numbers yield improved outcomes

According to a study in the June 2007 issue of *Medical Care*,¹ hospitals that have better working conditions for nurses are safer for elderly ICU patients. The study, led by Columbia University School of Nursing researchers, measured rates of hospital-associated infections.

The researchers reviewed outcomes data for more than 15,000 patients in 51 ICUs in 31 hospitals, and found that:

- Those units with high nurse staffing levels (the average was 17 registered nurse hours per patient day) had a lower incidence of infections;
- Higher levels of overtime hours were associated with increased rates of infection and skin ulcers (on average, nurses worked overtime 5.6% of the time).

More specifically, ICUs with higher staffing had lower incidence of central line-associated bloodstream infections. Other measures such as ventilator-associated pneumonia and skin ulcers, which are common among hospitalized patients who cannot move regularly, also were reduced in units with high staffing levels. Patients also were less likely to die within 30 days in these higher-staffed units. Increased overtime hours were associated with increased rates of catheter-associated urinary tract infection, as well as increased rates of skin ulcers on patients.

Organizational climate measured

Another variable examined by the researchers, with intriguing results, was organizational climate. "Our careful analysis found that decisions related to staffing, overtime, and overall work environment directly affected patient safety outcomes," says **Andrew W. Dick**, PhD, a senior health economist at the Rand Corp. and a co-author of the study.

"Organizational climate is the shared perception of the organization by its employees," explains **Patricia W. Stone**, PhD, MPH, RN, associate professor of nursing, Columbia University School of Nursing and the article's lead author, noting that the findings were derived from surveys of ICU nurses.

"We used some overall global measure, but the significant aspects within that are support from managers, governance issues, nurse/physician collaboration, and the competence of other nurses," says Stone. "In addition, we asked if there are good systems in place to ensure competence and continuing education." The link between organizational climate and safety, she asserts, "was found to be quite strong."

For example, she notes, organizational climate was found to be very important in preventing catheter-associated urinary tract infections. "All working conditions are affected, but this [condition] is so related to nursing care — nurses insert and care for the catheters," Stone explains.

Key Points

- ICUs with higher staffing had lower incidence of central line-associated bloodstream infections.
- Overall work environment also directly affected patient safety outcomes.
- Cross-trained float nurses can be used to overcome staffing shortages.

"Nobody else can pick up problems. Doctors might fill in for nurses in other areas, but not there."

In conclusion, she says, the study found that in terms of morale, organizational climate was "more important than wages alone."

Seeking solutions

Given the widespread shortage of nurses, how can short-staffed ICUs provide adequate coverage, or avoid excessive overtime? A solution must be found, argues Stone. "My recommendation is that any overtime is a problem," she says. "We need to find ways to have a flexible, qualified work force."

One possible solution, she suggests, is the development of several float nurses via cross-training. But wouldn't that mean extra hours for these nurses? "The float nurses should not work over-time either, but rather be trained to work in any area and be able to go and work in these areas," says Stone, who notes that ICU skills are probably the hardest to come by.

So, where would these floaters come from? "They would be from other units or departments," Stone explains. "At any one time, there is a variation in the hospital on the acuity and the number of patients in a given unit." In other words, during traditional "down times," say, in the ED, a nurse could float to the ICU.

Here, again, is where organizational climate comes in, says Stone. "You need a good organizational climate [for this approach to work]," she says. "There must be respect of governance, and

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good communications networks.”

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NEWS BRIEF

AHRQ launches on-line compendium

As part of the Department of Health and Human Services' Value-Driven Health Care initiative, the Agency for Healthcare Research and Quality (AHRQ) has launched a compendium of health care report cards. It is designed to provide health care report card

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developers and researchers a range of models on which to base future work.

More than 200 report cards developed over the last 10 years by various sponsors are in the searchable directory. Included are reports on: dialysis centers, health plans, home health providers, hospitals, physicians, behavioral health, medical groups, and nursing homes in diverse parts of the country. Both print and web-based report cards are available.

The compendium is meant to serve as a collection of models, not a data resource, so the data in each report card are not considered up to date (links are provided for on-line report cards if current data are desired).

Any organization that produces report cards is able to submit its model to AHRQ for inclusion in the compendium. Health care report cards can be submitted at: www.talkingquality.gov/compendium/index.asp?mode=submit.

All the report cards must be designed for consumer use, but do not to be available to all consumers or for free. Additionally, the report cards must provide consumer-oriented comparative data on quality for more than one health care organization and give information on at least one of the providers mentioned above.

The compendium is available as part of AHRQ's TalkingQuality web site, which provides resources on how to talk to consumers about health care quality: www.talkingquality.gov. ■