

# Healthcare Benchmarks and Quality Improvement

The  
Newsletter  
of Best  
Practices

THOMSON  
AMERICAN HEALTH  
CONSULTANTS

## IN THIS ISSUE

■ **QI study:** Mortality, complication rates show stark distinctions: What sets “distinguished hospitals” apart from the rest of the pack? Two winners share their secrets for success, and the author of the study tells what the top performers have in common . . . . . Cover

■ **Preparing for next flu season:** Both the CDC and the Joint Commission have unveiled updated guidelines to encourage staff vaccinations . . . . . 40

■ **Patient safety tool:** New tool is designed to target broad range of issues . . . . . 42

■ **Hospital staffing:** Every hospital in MA will post staffing plans on the internet and in prominent locations within facilities. They claim it is a quality issue, as well as a patient satisfaction issue . . . . . 43

■ **Infection control:** Study finds women are more likely to die following bypass surgery; infections seen as culprit . . 45

APRIL 2006

VOL. 13, NO. 4 • (pages 37-48)

## ‘Hospitals of excellence’ outshine others in mortality, complications

*‘Quality chasm’ continues to grow, says latest HealthGrades report*

When it comes to quality improvement, it seems that the best keep getting better, based on the findings of the latest Hospital Quality and Clinical Excellence study from Golden, CO-based HealthGrades, Inc. This is the organization’s fourth annual study, analyzing nearly 39 million hospitalizations over the years 2002, 2003, and 2004 at all 5,122 of the nation’s nonfederal hospitals.

The study shows the hospitals in the top 5% (HealthGrades calls them “Distinguished Hospitals for Clinical Excellence”) achieved 36% more improvement in in-hospital mortality and 40% more improvement in post-operative complications compared with all other hospitals over the years 2002-2004. Here is a closer look at the study’s key findings:

• According to the study, during 2002-2004, patients at Distinguished Hospitals for Clinical Excellence experienced a “27% lower risk of mortality and 36% more improvement in in-hospital mortality” associated with several conditions.

These include cardiac surgery, angioplasty and stent, heart attack, heart failure, atrial fibrillation, chronic obstructive pulmonary disease, community-acquired pneumonia, stroke, abdominal aortic aneurysm repair, bowel obstruction, gastrointestinal

## Key Points

- The latest Hospital Quality and Clinical Excellence study from HealthGrades, Inc. finds that 152,966 lives could have been saved and 21,896 complications avoided.
- Leadership by upper management remains a critical element for quality improvement.
- Leading hospitals regularly use multidiscipline approach and implement new strategies such as rapid response teams.

NOW AVAILABLE ON-LINE! Go to [www.ahcpub.com/online.html](http://www.ahcpub.com/online.html).  
Call (800) 688-2421 for details.

bleed, pancreatitis, diabetic acidosis and coma, pulmonary embolism, and sepsis.

• According to a public release announcing the study, “Medicare patients had, on average, a 14% lower risk of post-operative complications at a Distinguished Hospital for Clinical Excellence for diagnoses and procedures that include orthopedic and neurosurgery, vascular surgery, prostate surgery, and gall bladder surgery.

“For those same procedures and diagnoses, Distinguished Hospitals improved their post-operative complication rates at a 40% faster rate than all other hospitals over the years 2002, 2003, and 2004.”

The study also found that “If all patients with any of the 26 conditions studied were treated at

Distinguished Hospitals during 2002 to 2004, 152,966 lives could have been saved, and 21,896 complications may have avoided a major post-operative complication.”

### **Gap can't be denied**

“In qualitative terms, there is definitely a gap,” says **Samantha Collier**, MD, vice president of medical affairs at HealthGrades and the report's author. “Everyone's improving — that's the good news — but the top hospitals improve at a faster rate, so that accounts for the gap. It's not closing because the best are doing a better job of getting closer to perfection.”

Not surprisingly, Collier says that strong leadership was a common element among top performers. “I'm inside hospitals all the time, and in terms of what predicts quality, one of the things I've personally seen is strong leadership; there are senior members [of management] who are present at all high-level quality committee meetings,” she notes. “For example, if you have a cardiac quality committee made up of physicians, the CEO is present at those meetings. They want to show their staff they are as committed as if it were a financial or strategy meeting.”

The boards at those hospitals actually spend a lot of time talking about quality, she continues. “Here's a simple test: In terms of minutes, how much time is spent on quality at board meetings? It should be *at least* 50%, or your hospital will not be a top performer.”

She says that quality managers often tell her they are having a hard time getting the information “upstairs” and creating a sense of urgency — which is another predictor of excellence. “If you work with consultants, they may make the presentation for you,” she suggests, noting that consultants might actually get the board to listen to them more readily. “The quality manager should go to the consultant and ask them to talk to the CEO or ask them to make a presentation,” she suggests. “Ask them to include the information you feel is most important, and to make the recommendation that quality reports need to be a part of every board meeting.”

### **Multi-discipline approach**

At one of the “Distinguished Hospitals for Clinical Excellence” — Baylor University Medical Center in Dallas, TX — a “top-down”

**Healthcare Benchmarks and Quality Improvement** (ISSN# 1541-1052) is published monthly by Thomson American Health Consultants, 3525 Piedmont Road N.E., Building Six, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodical postage paid in Atlanta, GA 30304. USPS# 0012-967. POSTMASTER: Send address changes to **Healthcare Benchmarks and Quality Improvement**, P.O. Box 740059, Atlanta, GA 30374.

#### **Subscriber Information**

**Customer Service:** (800) 688-2421. **Fax:** (800) 284-3291. **E-mail:** [ahc.customerservice@thomson.com](mailto:ahc.customerservice@thomson.com). **Hours of operation:** 8:30-6 Monday-Thursday, 8:30-4:30 Friday, EST.

**Subscription rates:** U.S.A., one year (12 issues), \$549. Outside U.S., add \$30 per year, total prepaid in U.S. funds. Discounts are available for multiple subscriptions. For pricing information, call Steve Vance at (404) 262-5511. Missing issues will be fulfilled by customer service free of charge when contacted within one month of the missing issue date. **Back issues**, when available, are \$92 each. (GST registration number R128870672.)

**Photocopying:** No part of this newsletter may be reproduced in any form or incorporated into any information retrieval system without the written permission of the copyright owner. For reprint permission, please contact Thomson American Health Consultants. Address: P.O. Box 740056, Atlanta, GA 30374. Telephone: (800) 688-2421. World Wide Web: <http://www.ahcpub.com>.

Opinions expressed are not necessarily those of this publication. Mention of products or services does not constitute endorsement. Clinical, legal, tax, and other comments are offered for general guidance only; professional counsel should be sought for specific situations.

Editor: **Steve Lewis**, (770) 442-9805, ([steve@wordmaninc.com](mailto:steve@wordmaninc.com)).  
Vice President/Group Publisher: **Brenda Mooney**, (404) 262-5403, ([brenda.mooney@thomson.com](mailto:brenda.mooney@thomson.com)).  
Editorial Group Head: **Coles McKagen**, (404) 262-5420, ([coles.mckagen@thomson.com](mailto:coles.mckagen@thomson.com)).  
Managing Editor: **Russell Underwood**, (404) 262-5521, ([russ.underwood@thomson.com](mailto:russ.underwood@thomson.com)).  
Senior Production Editor: **Ann Duncan**.

Copyright © 2005 by Thomson American Health Consultants. **Healthcare Benchmarks and Quality Improvement** is a trademark of Thomson American Health Consultants. The trademark **Healthcare Benchmarks and Quality Improvement** is used herein under license. All rights reserved.

**THOMSON**  
AMERICAN HEALTH  
CONSULTANTS

#### **Editorial Questions**

For questions or comments, call **Steve Lewis** at (770) 442-9805.

approach also is seen as a key to success, says **Irving Prengler**, MD, MBA, vice president of medical staff affairs. "Basically, our hospital — as well as our system — places great emphasis on quality and health care improvement," he declares.

But when it comes to actual improvement on the ground, including the key areas of lowering mortality rates and reducing complications, "I attribute our success to looking at many disease processes with a multidisciplinary approach," says Prengler. This includes not only physicians and nurses but therapists or "whoever is involved in the type of care we are targeting," he explains. "We have also developed a culture in which people are listening to each other."

At present, the disease processes his facility is focusing on include pneumonia, myocardial infarction, congestive heart failure, as well as preventing surgical infections. "We are very active in [the Boston-based] IHI [Institute for Healthcare Improvement] initiatives such as the 100,000 lives campaign," Prengler says.

"There is a surgical infection prevention program that people are following nationwide, which asks questions like, are you using the right antibiotics for prophylaxis? Are you giving them within an hour of incision? Are you stopping antibiotics within 24 hours to help reduce resistance?" he says. "Other measures we will be taking on include controlling blood sugars. This is easy to measure, but at the same time we have a protocol for intensive IV insulin therapy, as well as subcutaneous insulin, to try to improve outcomes."

The facility has been involved with the IHI's "rapid response team" program for several months "and it's been a very exciting initiative; it's become part of the hospital culture, and we *know* it's making a difference," Prengler observes. Now, when nurses need a second pair eyes, if there's any doubt at all, they call the rapid response team.

"They can tell you that you either need to act immediately, or perhaps you need to change the treatment plan," he explains. Prengler relates this personal experience: "I'm a hospitalist, and one day I was on the surgery floor and could see there was an emergency. I volunteered my services, but the nurse said, 'Thanks, but the rapid response team is on the way and we've taken care of it.' This showed me it was becoming part of our culture."

The facility also is dedicated to continuous

quality improvement. For example, several years ago, when the core measure for giving antibiotics quickly was eight hours, Baylor's rate was in the mid-90s. "And if you look at our mortality rate for pneumonia, for example, it earned a five-star rating from HealthGrades, and we were well above the state average," notes Prengler.

Now, however, core measures ask for antibiotics to be given within four hours. "This is a little more difficult to do," he says. "Last month, our best recent month, we were at about 84%-85%; but we're still not satisfied."

### ***Excellence in stroke treatment***

Another facility recognized by HealthGrades, Delray (FL) Medical Center, has sought improvement in key quality areas through a number of strategies — including the pursuit of JCAHO certification as a primary stroke center. "Over 50% of our patient admissions have associated stroke risk factors, so we knew the community needed it," recalls **Karen Bibbo**, RN, MBA, chief nursing officer at the 407-bed acute care hospital and level II trauma center, adding that the facility received its certification in December 2005. (The facility also received Solucient's 100 Top Hospitals Award in 2001, 2002, 2003, and 2004.)

One key part of the certification process involved the administration of the clot-busting drug tissue plasminogen activator (tPA). "We had protocols in place for at least a decade, as well as an established ED stroke call panel," notes Bibbo, "but this stroke protocol and the things that go along with it are relatively new."

What needed to be done differently? "Protocols were established to quickly identify and expedite care for these patients," says Bibbo. "There has to be seamless, standardized care, and everyone has to do it 100% of the time."

To help ensure standardization, the facility developed a "Tool Kit" that includes:

- **Clinical pathway for stroke.** This included in the patient's chart.
- **Daily rounds by a stroke coordinator.** This includes review and analysis of stroke PI indicators and a concurrent review of each in-house stroke facilitating patient care.
- **Micromedex.** An on-line resource system for nursing that includes information about stroke, stroke care notes, and educational materials.

• **Stroke discharge instructions.** These are standardized but patient-specific.

Before the facility sought certification, Bibbo notes, every physician practiced the way he or she wanted to practice; nothing was set in stone. “Going for stroke certification required us to put a protocol in place for every aspect of that patient’s care; we established and standardized our clinical pathways, documentation tools, testing, and treatment,” she shares.

The hospital also designated a neurological intensive care unit. “Nurses got specialized training, and we round specifically when there is a stroke patient to be sure all elements of the protocol are in place and to ensure we are not deviating from standardized care,” says Bibbo.

When patients present in the ED with signs and symptoms, the ED doc puts a call out to the tPA panel, says Bibbo. “We actually have a rehab hospital – Pinecrest — connected to us, and they can deliver care all the way through to rehab,” Bibbo adds. “So we can provide a seamless transition.” Pinecrest recently achieved its CARF — certified associated rehab facility — designation, she adds. “After we got ours, they went on and applied for theirs,” Bibbo explains.

Delray Medical also uses the rapid response team model. This includes a hospital-based nurse practitioner, the critical care shift manager, and a respiratory therapist. “They quickly and competently respond to unfavorable changes to our inpatients,” says Bibbo. The facility also is a participant in the 100,000 Lives campaign.

“We never stand still; we always want to make ourselves better,” Bibbo asserts. “We monitor our data, compare it to previous months and years, to other Tenet (South Florida) hospitals, and facilities in the community. We use so many benchmarks — and most important of all, we look at our own numbers and benchmark against ourselves. This is a consistent approach we have that has helped us achieve these kind of awards and designations.”

### **Questions to ask yourself**

Quality managers who wish to monitor their progress toward excellence can start by asking themselves a few key questions, says Collier. “As a litmus test of where you are with regards to QI, ask yourself if all your teams are multidisciplinary,” she recommends. “Are cardiovascular problems, for example, viewed as a physician issue or a system issue? If you ‘silos’

with people who all think alike, you will not get the best solutions.”

Facilities regularly track and measure things, “but how do you hold yourselves accountable?” Collier poses. “Does the issue really matter? Can you change it? I see a lot of hospitals tracking numbers they shouldn’t be tracking.”

It’s a good idea to review your facility’s mission, as well as all your metrics in the quality arena, she says. “Really spend time on a ‘strategic dashboard’ that will be used at the board level; and ultimately, you should put it out publicly and make it transparent,” Collier advises.

Finally she says, resources *are* connected to improvement. “No doubt about it; if you do not have the resources you can’t make improvements,” says Collier. “At some point the ‘low-hanging fruit’ is gone, and to really get close to perfection and see improvement in mortality rates and so forth, you’ve got to have resources. But, you’re not going to get them unless a sense of urgency is created.”

*[The HealthGrades ratings and Distinguished Hospitals for Clinical Excellence designations are available free of charge at [www.healthgrades.com](http://www.healthgrades.com).]*

*For more information, contact:*

*Irving Prengler, MD, MBA, Vice President of Medical Staff Affairs, Baylor University Medical Center, 2001 Bryan Street, Dallas, TX 75201. Phone: (214) 820-0111.*

*Samantha Collier, MD, Vice President of Medical Affairs, HealthGrades, Inc., Golden, CO. Phone: (303) 716-6548.*

*Karen Bibbo, RN, MBA, Chief Nursing Officer, Delray Medical Center, 5352 Linton Boulevard, Delray Beach, FL. Phone: (561) 498-4440. ■*

## **Experts: Time to prepare for next flu season**

*CDC, JCAHO issue vaccination guidelines*

**A**t this writing, the 2005/2006 flu season is not quite over — and yet, say the experts, it’s not too early to start planning for next year’s season. In fact, the National Influenza Vaccine Summit has advised health care providers they may want to order flu vaccine for the next flu season from several distributors, noting that most of sanofi

pasteur's projected supply of 50 million doses already has been pre-booked by health care providers.

At the same time, leading organizations have come out with new statements on the vaccination of health care staff: The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) has proposed a standard for staff immunization, and the Centers for Disease Control and Prevention (CDC) has released a new guidance aimed at increasing flu vaccination among health care workers.

The timing is not entirely coincidental, says **Michelle Pearson**, MD, chief of the prevention and evaluation branch of the CDC's Division of Healthcare Quality Promotion, and lead author of the new guidance. "It's absolutely not too early to start thinking about next season," she says. "Actually, what we recommend is for organizations to start planning their flu programs in February or March, so people can have time to implement what we are recommending."

### ***Seeing the need***

"This not a planned concurrence, but health care organizations have to order their flu vaccine *now*," adds **Nancy Kupka**, DNSc, MPH, RN, Project Director, Division of Standards and Survey Methods at JCAHO.

Both organizations felt a strong need for new statements on staff immunization. "Influenza is responsible for a lot of deaths every year, and this has been an ongoing problem," says Kupka. "People spend a lot of time worrying about pandemic flu, but we already have a significant amount of morbidity and mortality, and one of the best ways we can help to control transmission of influenza is to vaccinate health care workers."

"The recommendation to vaccinate health care workers is not new, but what has happened in previous recommendations is that the real estate it was given has been quite small — maybe a paragraph," Pearson concedes. "We felt we needed to focus more on the issue, and this format [a formal guidance] provided a more expanded way to do that."

### ***Specific recommendations***

What's more she says, despite the long-standing recommendation, only 40% of health care workers actually receive a flu vaccine (this

## **Key Points**

- While 98% of hospitals indicate they offer staff vaccinations, only 40% of health care workers receive them.
- Planning for each flu season should begin in February or March of the previous year.
- Cost and inconvenient scheduling are among the major barriers to staff vaccination.

despite the fact that 98% of surveyed hospitals say they provide staff vaccinations). "That's better than it has been in the past, but it's been really flat for five or six years," she notes.

The CDC guidance includes a number of recommendations: That facilities offer flu vaccine annually in the workplace to all eligible personnel at no cost; that they use reminders, education, and other proven strategies to improve vaccination coverage; and that they obtain a signed form from staff who decline vaccination for non-medical reasons to help in monitoring and addressing barriers to vaccination. The guidance also recommends using flu vaccination coverage rates as one measure of a patient safety quality program.

An important component of the guidance, Pearson notes, is a series of evidence-based practices that are recommended.

"Health care workers have told us why they don't get vaccinated," she observes. "The barriers include cost, availability [i.e., scheduling which conflicts with night and weekend shifts], and some proportion of providers actually have needle phobia."

### ***Education is critical***

In light of those objections, she says, "Things like the availability of nasal flu vaccine would be an option. We want organizations to make it available at no cost, and at times that are off-peak hours. Also, we recommend the use of strategies like mobile carts, so you can bring the vaccine to the provider, and having a person on the unit or ward serve as a vaccinator; all of these decrease barriers."

Education is critical, she continues, as it can overcome misperceptions about the effectiveness of the vaccine and, in some cases, a lack of knowledge about its role as a safety benefit for providers and patients.

"Another really key notion is tracking and

monitoring what's happening with coverage in the institution," says Pearson. "We need to know who didn't get vaccinated and the characteristics of those who didn't. This will help us target hard-to-reach people."

The proposed JCAHO standard has many similarities: It includes a mandatory staff vaccination program; providing vaccinations at convenient locations and times; educating staff about the flu vaccine, transmission, diagnosis, and so forth; and maintaining records of those who have been vaccinated — that is, monitoring influenza vaccination rates, learning why people are not participating, and implementing program enhancements aimed at increasing vaccination rates.

## **Declination**

There is one controversial component of the JCAHO proposal, says Kupka. "This involves tracking declination of vaccines," she says. "In other words, I have to ask you if you want to be vaccinated, and you must accept or decline. If you decline, you must sign something saying you chose not to have the vaccination."

JCAHO is not recommending that vaccination be made mandatory by the institution but that those declining sign something saying they chose to decline. "People who are against it are saying it's because it's an administrative burden; it's not a HIPAA issue," she says. "People who are in favor say, if you are really going to make a concerted effort to find these people, then getting a declination is not that different. In getting one, you gain the ability to get data about what people are declining."

The standard is scheduled to be finalized this month, Kupka notes.

*[To see the new CDC guidance, go to [www.cdc.gov](http://www.cdc.gov), then "Publications and Products and click on MMWR. Go to "recommendations and reports."]*

*For more information, contact:*

*Michelle Pearson, MD, Chief, Prevention and Evaluation Branch, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, Atlanta, GA. Phone: (404) 639-4251.*

*Nancy Kupka, DNSc, MPH, RN, Project Director, Division of Standards and Survey Methods, Joint Commission on the Accreditation of Healthcare Organizations. Phone: (630) 792-5935. ■*

# **New tool unveiled as patient safety option**

*Tool investigates defects in patient care*

A team of quality and safety researchers at Johns Hopkins Medical Institutions in Baltimore, MD, has developed a tool to investigate defects in patient care called the Learning From Defects (LFD) tool. The tool, described in detail in an article in the Joint Commission's *Journal on Quality and Patient Safety*, "was designed, in the authors' words, as "a method to collect defect information and improve safety."<sup>1</sup>

In reviewing and responding to the Institute of Medicine's (IOM) 1999 report, *To Err Is Human: Building a Safer Health System*, "What we found was that while the IOM highlighted an urgent need to make health care safer, much of the emphasis has been on reporting mistakes — but not necessarily on learning from or reducing hazards," notes **Peter J. Pronovost**, MD, PhD, Johns Hopkins Quality & Safety Research Group Medical Director, Center for Innovations in Quality Patient Care, at The Johns Hopkins University School of Medicine, and the article's lead author. "So we decided to provide a practical way to help ensure we learn from our mistakes."

## **'Root-cause lite'**

Pronovost is quick to note that such instruments already existed; however, he adds, they have their limitations. "There are more rigorous tools, like root-cause analysis or FMEAs [failure mode and effect analysis]," he observes, "but they are not practical for everyday use for the many things that go wrong."

He says quality managers should think of this tool as "root cause lite." "This helps the caregiver understand what happened, why, what we did

## **Key Points**

- Learning from and/or reducing hazards is a central goal of new tool.
- New team intended for use by local teams in the ICU, the OR, or the ED.
- Measuring whether risk was mitigated is seen as one of toughest challenges.

about it, and most important of all, how we know the risk was mitigated,” he explains. “A local team in the ICU, the OR, or the ED could use it to try to solve system problems that would complement the more robust, rigorous interventions of root cause analyses or FMEA’s. There are so many things that are broken; a facility would go bankrupt if they used root cause analysis for all of them. You should still use it for organization-wide problems, but in local areas, those teams still need to have tools, and this provides one.”

The tool’s investigation process begins with a brief a summary of the event (*what happened?*). In the next section, the *why* section, contributing factors are listed in several different categories: patient, task, caregiver, team, training and education, information technology/CPOE, and local environment. For each, process components are listed as having either “negatively contributed” or “positively contributed.” The case summary learning tool begins with safety tips, and then the case summary is restated. System failures and opportunities for improvement are noted, followed by actions taken to prevent harm.

### **Tool well received**

To date, the free tool has been used in several care areas at the Johns Hopkins Hospital and by several clinical departments during morbidity and mortality conferences, in addition to 123 ICUs in Michigan and 25 in New Jersey.

“It’s been extremely well received — the response has been incredibly positive,” Pronovost reports. “We’ve been successful at surfacing mistakes in instant reporting systems but ineffective in closing the loop — that is, measuring whether risk was mitigated. The science there is still pretty immature.”

The biggest benefit, he says, is that the tool “has provided new lenses to see broken systems.” Most doctors and nurses, he points out, don’t get trained in how to think in terms of systems. “Typically, what we see are the patient and the provider; this tool expands their lenses so they can see a richer array of factors that may have contributed to a problem,” he explains. “If they didn’t have those lenses, they’d never consider them.”

The tool also raises “a great Joint Commission issue,” he says. “When a policy or procedure involves communication, the only valid way to measure it is by directly observing,” he asserts. “I’ve worked with numbers of hospitals who’ve

told me they conducted debriefings to reduce wrong site surgeries. They included the required time out, and then the hospital was reported to have another wrong-site surgery — even though on the medical record the nurse says ‘We did a time out when we did the briefing.’ This shows you that just checking off a note that you did it is not the right way to measure if you did it well.”

In sum, says Pronovost, this tool can provide quality managers with “a scientifically sound and feasible approach to learn from mistakes that could supplement the more formal root cause analysis or FMEA. For the large number of issues you face, you need something more practical and feasible.”

### **References**

1. Pronovost PJ, Holzmueller CG, Martinez E, Cafeo CL, Hunt D, Dickson C, Awad M and Makary MA. A Practical Tool to Learn From Defects in Patient Care. *Joint Commission Journal on Quality and Patient Safety*, Feb. 2006; Vol. 32, No. 2: 102-108.

*For more information, contact:*

*Peter J. Pronovost, MD, PhD, Professor, Departments of Anesthesiology and Critical Care, Surgery, and Health Policy and Management Director, Adult Critical Care Medicine Director, Johns Hopkins Quality & Safety Research Group Medical Director, Center for Innovations in Quality Patient Care, The Johns Hopkins University School of Medicine, 1909 Thames Street- 2nd Floor Baltimore, MD 21231. Phone: (410) 955-9080. Email: ppronovo@jhmi.edu. ■*

## **All MA hospitals agree to make staff plans public**

*Move is part of effort to put ‘Patients First’*

**I**n a move billed as a nationwide first, all hospitals in Massachusetts now will be voluntarily posting their staffing plans through a new web site — [www.patientsfirstma.org](http://www.patientsfirstma.org) — as well as through notices in hospitals. This will give consumers the number and type of caregivers assigned 24/7 throughout every hospital in the state. A consumer brochure also will be distributed at the hospitals. Entitled “It Takes a

Team,” the brochure will explain the many professionals involved in patient care.

The effort is part of “Patients First,” a broad quality and safety initiative launched by the Massachusetts Hospital Association (MHA) and Massachusetts Association of Nurse Executives one year ago. They expect to issue quality reports for each hospital later this year and begin reporting “nursing-sensitive” care measures to the public in 2007.

A bill pending before the Massachusetts legislature and supported by MHA would codify elements of the Patients First initiative and provide resources needed to increase the number of nurses in the state, which faces a growing shortage of nurses and other health care personnel.

Why has this not been done before? “I often joke about it, saying these things are being done not because they are easy but because they are hard,” says **Karen Nelson**, RN, executive vice president of the MHA. “It *is* hard; it’s a brave thing for a hospital to do. It takes courage to state your promise in advance — this is how we will staff, and we will tell you at the end of the year if this plan has been met.”

If there is a variance from the plan, she continues, “We will tell you why we made the changes. This is very transparent, and it is taking somewhat of a risk. The most critical issues are somewhat hard to foresee, yet every single hospital in Massachusetts has agreed to do it — and *is* doing it.”

### **Working behind the scenes**

Getting the process going took quite a bit of work behind the scenes, says Nelson. “The Massachusetts Association of Nurse Executives got together with a data analysis company and worked in a pilot group across the state to make sure we had a tool that would work for everyone,” she explains. “Hospitals all staff differently and have different types of staff.”

Was it difficult it to get all Massachusetts hos-

pitals to sign up? “Hospitals in our state have a long-standing commitment to quality, and this is part of that commitment,” says Nelson. “There was continued snowballing as the word got out, and it became the right thing to do.”

The significance of this effort is two-fold, she continues. “First, in terms of patients, you are saying, ‘Rest assured, when you come to the hospital we have a plan to take care of you; we will tell you in advance who will be caring for you, and we want you to know that it takes a team to take care of you.’”

It also assures the patient that their plan will be individualized — that it may even be different from what their neighbor receives. “It lets them know how care is delivered, who the providers are, what kind of care they deliver, and that the care team needs to be customized to the patient,” Nelson explains.

The second impact area, and part of the larger agenda of “Patients First,” is the workforce itself. “There’s a clear concern about the shortage of nurses,” notes Nelson. “They are mainly in their mid-40s, and there will soon be rapid retirement. Yet, as the population ages, it will have more and more health care needs, so at the current rate the supply [of nurses] will not keep up with the demand.” The public posting of the staffing plans, she continues, “Speaks to workforce issues because it lets nurses know there isn’t a mystery behind staffing. It also communicates the message that the hospital is not routinely using overtime as a staffing strategy. The hospitals are saying in advance that they are pledging *not* to have mandatory overtime.”

### **Quality tie-ins seen**

Nelson says that this specific initiative, as well as the overall “Patients First” program, have several ties to quality improvement. “First, the public posting of staffing speaks to quality to a limited degree, in terms of transparency,” she asserts.

Beyond that, however, all of the hospitals in Massachusetts have agreed to a much larger quality and safety agenda. “This includes the fact that all hospitals will be in [the IHI’s] ‘100,000 Lives’ campaign,” Nelson shares. “And, they have agreed to public reporting of quality measures.”

The posting of the staffing plans, Nelson shares, “is just the beginning step in the quality picture.” For example, she says, ongoing efforts

## **Key Points**

- Larger program will include strategies to combat the nursing shortage.
- Action will ensure all patients that their care plan will be individualized.
- Hospitals also agreed to participate in the 100,000 Lives campaign.

will include collecting nursing-sensitive quality measures using National Quality Forum (NQF) standards.

“We are doing a pilot program on six of these: Patient falls, falls with injury, ventilator associated pneumonia, bloodstream infections from central lines, a nursing workforce index (a series of questions nurses will be asked about their work environment), and pressure ulcer prevalence,” Nelson shares. “These are already tested, validated measures, through NQF.”

The pilot program is just getting underway, she reports. “Initially, we will figure out how to best collect the data. Then, we will start two or three pilots statewide and continue to publicize results,” she says.

*For more information, contact:*

*Karen Nelson, RN, Executive Vice President, Massachusetts Hospital Association, 5 New England Executive Park, Burlington, MA 01803. Phone: (781) 272-8000, x. 136. E-mail: knelson@mhalink.org. ■*

## QI can help tackle post-bypass infections

*Women have greater likelihood of death*

A study published in the “Archives of Internal Medicine”<sup>1</sup> reveals a new opportunity for quality managers to have an impact in an area where disease/complications may be preventable and/or treatable: bypass surgery.

The study, conducted by the University of Michigan (U-M) Health System, was undertaken to gain better understanding of a long-puzzling fact: That women who have heart bypass surgery are far more likely than their male counterparts to die within days or weeks of their operation. This gender gap means many “extra” female deaths among the 270,000 Americans who have bypass surgery each year.

The study suggests that the answer to the mystery may lie with infections, regardless of their location in the body. In fact, it found that 96% of the gender difference in death risk within 100 days of coronary artery bypass surgery may be explained by differences in infection. The researchers used hospital and post-hospital data from 9,218 Michigan residents who had bypass surgery in a 15-month period. All were Medicare

beneficiaries age 65 years or older. In all, about 12% of patients in the study who had infections during their hospital stay died before leaving the hospital, compared with 4% of those without infections. And when the researchers looked at who had died in the first 30 and 100 days after their operation, those who had had an infection in the hospital were still far more likely to die.

As for the gender differential, “We found that 16% of women patients had an infection, compared with 10% of men,” notes **Mary A.M. Rogers**, PhD, MS, Research Director of U-M’s Patient Safety Enhancement Program, a faculty member in the General Medicine division of the U-M Department of Internal Medicine, and the study’s lead author. Rogers had been working with Sanjay Saint, MD, MPH, director of the Patient Safety Enhancement Program and associate professor of general medicine at the U-M and the VA, on projects related to urinary tract infections among hospitalized patients with catheters. At the same time, she was working with heart-care quality researchers Brahmajee Nallamothu, MD, MPH, and Catherine Kim, MD, MPH, to examine differences among women and men in heart disease and care.

“Many studies have shown women have increased risk [of post-bypass infection],” notes Rogers. “Overall, what we found is pretty well consistent with those studies; a recent article suggested an even greater [likelihood of infection] when you look at younger women.”

The big difference in this paper, she continues, is that her team looked at *all* infections. “In other studies, they tended to look at the surgical site, or the sternum, or the leg [where veins had been removed],” she observes. “We were looking at infection more as comorbidity.”

### **Why the gap?**

In the study, women were more likely than men to have infections of the urinary, respiratory,

### **Key Points**

- Women more likely to have infections of the urinary, respiratory, and digestive tracts.
- Appropriate use of antibiotics cited as a key preventive strategy.
- 12% of patients who had infections during their hospital stay died before leaving the hospital.

and digestive tracts. Women were also more likely than men to have skin and post-operative infections.

Is there a physiological reason for the difference between the genders?

“For one thing, women are more likely to have diabetes than men, and we know it is recommended that the patient maintain normal blood glucose control, which helps eliminate sepsis,” Rogers offers. “And, we know that in general women are more likely to have immune-related disorders than men, so women on immunosuppressive medicines are also more likely to have infections.”

Nevertheless, the apparent “gender gap” is only half the story. “When we looked closer, we found that there were two underlying relationships here: a greater prevalence of infection in women, and a higher mortality once infected for men,” notes Rogers.

In other words, there are strong reasons for quality managers to focus their attention on minimizing post-bypass infections — regardless of the gender of the patient.

### ***Prevention a joint responsibility***

While there is much quality managers can do to target the prevention of these post-bypass infections, some of the responsibility must be borne by the patients, say Rogers and her co-authors. For example, elderly Americans should keep up-to-date with their yearly influenza vaccination and, every five years, be vaccinated against bacterial pneumonia; both vaccinations could be life-saving.

“Respiratory infections are prevalent in this population,” notes Rogers, “And they tend to be deadly. At present, only two-thirds of the elderly get their influenza vaccine, and only half are on schedule for their pneumonia vaccinations.”

Speaking of vaccinations, Rogers notes the recent CDC guidance which indicated that only 40% of health care workers receive their annual flu vaccinations.

“In my opinion, [flu vaccinations] should be part of patient care,” she asserts. “You do not want to transmit the flu to someone who is in the hospital already.”

Appropriate use of antibiotics also is important in patients undergoing bypass surgery. In fact, current national guidelines (American College of Cardiology and American Heart Association) for bypass surgery call for patients

to receive antibiotics an hour before their operation begins and to stay on them for at least a day afterward; yet, Rogers points out, this occurs only 55% of the time.<sup>2</sup>

“That certainly could be improved,” she states. “In general, because infection control procedures at every hospital are very specific by type of patient, infection, and how organisms are transmitted, we don’t know at this time whether one particular recommendation would have an impact, but in general it’s more a case of getting the guidelines implemented on a daily basis.”

While in the hospital, the authors recommend, bypass patients should heed their doctors’ advice to get up and start walking the hospital floor after their operation, because staying in bed for long periods of time may encourage respiratory infections. Compliance, says Rogers, can be enhanced by vigilant monitoring by nurses.

Frequent hand-washing by patients and their hospital caregivers also is clearly a recommended procedure, and patients might also consider asking friends and family members who have colds to send their wishes by phone or computer instead of visiting.

While it would fall to the patient to make these calls, “The provider can raise the issue with the patient and tell them, for example, ‘If you have family members coming to visit you, remind them that if they are sick or have a respiratory infection they should just wait until they are better to come visit,’” Rogers advises.

### ***References***

1. Rogers MAM, Langa KM, Kim C, Nallamothu BK, McMahon LF, Jr., Malani PN, Fries BE, Kaufman SR, and Saint S. Contribution of Infection to Increased Mortality in Women After Cardiac Surgery. *Arch Intern Med.* 2006; 166: 437-443.

2. Bratzler DW, Houck PM, Richards C, Steele L, Dellinger EP, Fry DE, Wright C, Ma A, Carr K, and Red L. Use of Antimicrobial Prophylaxis for Major Surgery: Baseline Results From the National Surgical Infection Prevention Project. *Arch Surg.* 2005; 140:174-182).

*For more information, contact: Mary A.M. Rogers, PhD, MS, Research Director, Patient Safety Enhancement Program, Division of General Medicine, Department of Internal Medicine, University of Michigan, 300 North Ingalls, Suite 7E07, Ann Arbor, MI 48109-0429. Phone: (734) 647-8851. FAX: (734) 936-8944. Email: maryroge@umich.edu. ■*

# Collaborative cuts ICU infection rate in half

*Rapid cycle changes, checklists were used*

A 50% decrease in central-line infections and an increase in compliance with evidence-based practices from 30% to 95%. These are the dramatic results achieved by 10 hospitals participating in the two-year Greater Cincinnati Patient Safety ICU [Intensive Care Unit] Collaborative. The group earned the Joint Commission's Ernest Amory Codman Award, given for excellence in performance measurement.

Strategies included standardizing the insertion of central lines by using sterile barriers such as gloves, gowns, and full-size bed drapes, using a chlorhexidine antiseptic, and training staff in high-risk units on organizational change methodology.

The 10 hospitals participating in the initiative are Bethesda North Hospital, The Christ Hospital, Cincinnati Children's Hospital Medical Center, Cincinnati Department of Veterans Affairs Medical Center, The Fort Hamilton Hospital, Good Samaritan Hospital, The Jewish Hospital, Mercy Hospital Mt. Airy, St. Elizabeth Medical Center, and The University Hospital.

"We used a modified Institute for Healthcare Improvement [IHI] model," says **Marta Render**, MD, the coordinating physician, who developed the Agency for Healthcare Research and Quality project, forming a regional collaborative through the Greater Cincinnati Health Council.

The IHI's model was modified to include "campaign strategies." The "political" campaign created alliances with leadership across the organization, while the "marketing strategy" focused on selling the change to clinical staff, and a military campaign mapped out timelines, "beachheads," and resources needed to win the campaign.

"The project differs from a usual research project, since if successful, the clinical staff would incorporate these evidence based-practices into their daily approaches forever," says Render.

The IHI model has a role for leadership in initiating the change, but then relies heavily on repeated measurement followed by small tests of change by the front-end staff, Render explains.

Four of the health care systems implemented chlorhexidine and maximal sterile barriers in the first year, while the other five hospitals implemented correct timing of antibiotics acting as a control for the ICU intervention, says Render. In the second year, all hospitals added a second project — either timing of antibiotics in the operating room or implementation of consistent use of sterile gown, gloves, large drape, cap, and mask during insertion of central lines.

The preferred site of insertion of the central line was in the chest or neck, femoral lines when inserted were to be removed in 48 hours, and all central lines were prepped with chlorhexidine rather than betadine.

"Personnel in the ICU were encouraged to use a daily checklist to identify the earliest possible moment when the central line could be removed," says Render.

Here are obstacles and how they were addressed:

- **Presently configured kits included supply items that are not recommended for best practices.** Items such as small drape and betadine were removed, and quality leaders worked with manufacturers to develop customized kits, says Render.

"The drapes and new kits added some cost to the procedure, which had to be justified to leadership," she says.

The lack of a clinical performance objective for supplies is an obstacle to justifying the use of safer products, Render says. "In the constrained economic hospital environment, a paramount performance objective for supply managers is controlling cost," she says. "The addition of a clinical performance objective for such operations might create a sense of partnership."

- **The IHI model was new to staff.** "The usual epidemiologic model for change in health care is inefficient and the newer model — rapid action cycles — was unfamiliar. Teaching that method was critical to success," says Render.

Moving from the idea that this was a "study"

## COMING IN FUTURE MONTHS

■ What are the main quality concerns associated with bariatric surgeries?

■ New quality measures for physicians are being tested.

■ Evidence mixed regarding impact of hospital consolidation on quality.

■ AHA establishing its own quality center as resource for hospitals.

and short-term intervention for analysis to a “practice” was another challenge, says Render.

Unexpectedly, sharing of data and strategies across health care system boundaries did not prove to be a problem, perhaps because the groups reporting monthly were kept small, usually less than eight people. “Also, the infection control practitioners who were the project leaders had previous experience working together,” says Render.

• **Time to enter the data, analyze the data and plan the next action was always in short supply.** “The teams were magnificent in their ability to put in an extra hour of work when it was needed,” says Render. “Inventive and smart nurse managers identified nursing staff that were interested in moving up the nursing ladder, or master’s nursing students who needed an intervention for a focus in order to draw nurses into creating a robust process.”

At the Christ Hospital in Cincinnati, there were two goals: reducing central line infections and reducing surgical site infections. For Phase 1 of the project, a “Central Line Insertion Checklist” was completed by each nurse every time a line was inserted. The nurse checks off whether hands were washed and disinfected, a mask worn, a chloraprep swab used, a sterile gown, gloves worn, full body drape used, and — if the patient had an ultrasound — whether a probe cover was used.

“The project was started in our Medical Intensive Care Unit (MICU) and rolled out house-wide after we had worked with the line tray manufacturers and drape manufacturers so we could standardize the protocol throughout the hospital,” says **Mary Nicholson, RN, BSN, CIC**, the project leader and infection control practitioner who led the data collection and analysis efforts.

The checklists are sent to the infection control (IC) department to monitor compliance with the eight indicators and also to identify patients who developed a central line infection.

Each patient record was reviewed by the infection control nurses, and Nicholson then reported compliance and infection rates to the ICU clinical collaborative committee. “The data was also posted in the unit monthly, and celebrations were held to applaud the work being done,” she says. “After 12 months, our MICU unit saw a 60% reduction in central line bloodstream infections.”

To ensure these gains are sustained, checklists continue to be completed, charts are reviewed by IC nurses, and data are posted quarterly.

In December 2004, Phase 2 of the project began, focused on the timing of antibiotics, beginning

## EDITORIAL ADVISORY BOARD

**Kay Beauregard, RN, MSA**  
Director of Hospital Accreditation  
and Nursing Quality  
William Beaumont Hospital  
Royal Oak, MI

**Kathleen Blandford**  
Vice President of  
Quality Improvement  
VHA-East Coast  
Cranbury, NJ

**Mary C. Bostwick**  
Social Scientist/  
Health Care Specialist  
Malcolm Baldrige  
National Quality Award  
Gaithersburg, MD

**James Espinosa**  
MD, FACEP, FFAFP  
Director of Quality Improvement  
Emergency Physician Associates  
Woodbury, NJ

**Ellen Gaucher, MPH, MSN**  
Vice President for Quality  
and Customer Satisfaction  
Wellmark Inc.  
Blue Cross/Blue Shield of Iowa  
and South Dakota  
Des Moines, IA

**Robert G. Gift**  
Vice President  
Strategic Planning  
and Business Development  
Memorial Health Care System  
Chattanooga, TN

**Judy Homa-Lowry, RN, MS, CPHQ**  
President  
Homa-Lowry Healthcare Consulting  
Metamora, MI

**Sharon Lau**  
Consultant  
Medical Management Planning  
Los Angeles

**Philip A. Newbold, MBA**  
Chief Executive Officer  
Memorial Hospital  
and Health System  
South Bend, IN

**Irwin Press, PhD**  
President  
Press, Ganey Associates Inc.  
South Bend, IN

**Duke Rohe, FHIMSS**  
Performance Improvement Specialist  
M.D. Anderson Cancer Center  
Houston

**Patrice Spath, RHIT**  
Consultant in Health Care Quality and  
Resource Management  
Brown-Spath & Associates  
Forest Grove, OR

with a core group of patient rooms in the OR, using the Plan-Do-Study-Act (PDSA) cycle. A form was created for the same-day surgery nurses to complete, with results tabulated by the IC nurses.

“Through the PDSA cycle, we were able to work through all the kinks in the system before we moved onto other services in the OR,” says Nicholson. “The goal was to have the project in all 33 OR rooms by the end of the year. However, we were able to do this much earlier, by September 2005.” Again, data were reported back monthly to the departments and posted for everyone to see. “We are now in the process of automating the reports, so the forms will no longer be used at that point,” says Nicholson.

At the participating hospitals, quality professionals were included in the chain of command for reporting the project results. “The role of leader and teacher perfectly suits quality professionals, who could become change agents within their hospitals,” says Render. “The systematic implementation of practices to reduce harm to patients and to improve their chances for good outcomes is a very hot area. The need for expertise is expanding exponentially.” ■