

# Healthcare Benchmarks and Quality Improvement

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## Benchmarking and safety: Natural fit if you know what to do with data

*Misreading results, using wrong benchmarks is formula for failure*

Given the steady drumbeat for improving patient safety from diverse corners of the QI world, it's only logical for quality professionals to use all the tools at their disposal — and that includes benchmarking.

However, experts warn, while benchmarking can prove extremely valuable in your efforts to boost patient safety, those efforts can be for naught if you aren't careful about your decisions concerning what to benchmark, what your goals are, and how you interpret your data.

"People respond better when they have a goal, and physicians are notoriously good at goal seeking," notes **Stephen Lawless, MD, MBA**, chief knowledge officer for Wilmington, DE-based Nemours. "If you do not give them something to go for, what's the impetus to change? The real question is: What do you benchmark against — the overall average or an idealized goal — and what should that goal be?"

"Are safety and benchmarking a fit? Yes, absolutely," says **Ann Nakamoto, JD, MSN**, a quality improvement manager with Children's Regional Medical Center in Seattle. "More so because we now look at health care on a national basis; and given that we're trying to learn from each other and share learning, I think it's critical to lift the level of patient safety."

"From a consultant's standpoint, absolutely," says **Sharon Lau**, a consultant with Medical Management Planning (MMP) in Los Angeles. "If you don't have a comparison group, how do you

## Key Points

- Know what you want to benchmark, what your goals are, and why.
- Interpreting your data properly is one of the biggest challenges.
- Experts complain of the dearth of national benchmark standards.

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know you're doing it right? You can know your own internal trends and if you're getting better, but you've still got to have some kind of mark out there in the world to know if you're in the ballpark."

But not everyone is sure. "I'm strongly in the maybe camp. I think there's potential value, but I have real reservations based on what's currently available," notes **Matthew Scanlon**, MD, assistant professor of pediatric critical care at the Medical College of Wisconsin and patient safety officer at Children's Hospital of Wisconsin, Milwaukee.

The challenge in benchmarking for safety is not so much the benchmarking process itself as it is the comparative tools available, observers say. "You can benchmark anything in patient safety as long as you can measure it," Lau says. "The difficulty comes in finding an appropriate measuring

scale. How you classify some patient safety issues can be challenging."

In the case of errors, for example, "we are very lucky the Institute for Safe Medical Practices has a national rating scale we have been using for years," she notes.

"I know that some areas have benchmarks in place, like in infection control, the NGCPR [National Group on Cardiopulmonary Resuscitation], and several others, including MMP," adds Nakamoto.

"All these groups move toward developing and further enhancing databases working in that direction. The Joint Commission [on Accreditation of Healthcare Organizations], ORYX, and CMS' [the Centers for Medicare & Medicaid] core measures are moving on a national basis to identify benchmarks and to establish a common language on how to boost patient safety," she says.

Nakamoto adds a word of caution, however. "I believe that as we all move our efforts toward achieving this goal, we need to find our common definitions. NGCPR, for the medication groups nationally, for example, has classifications of injuries including close calls. I don't see the other medical events having something similar to that, so we haven't yet quantified these things on an agreed-upon basis."

Scanlon also presents a mixed picture. "When you look at benchmarking, the first question you ask is why are you doing this — for improvement or accountability — and, of course, how will those data be used? I think there's a lot of value for improvement of patient safety, and those of us who are seriously interested in improving our organization would have value from a peer group to compare ourselves to — but right now that's not possible."

Why is that? "Because of legal ramifications, discovery issues," he adds. "Are you opening yourself up to legal issues if you show a certain error rate?"

Even good benchmarks can present problems, Scanlon continues. "AHRQ's [the Agency for Healthcare Research and Quality] quality indicators theoretically could be benchmarked against, but most people don't have the sophistication to be able to compare apples to apples. Also, there are various versions of software available, and some people have been publishing papers using data that are outdated. If those data points are used to benchmark around, it could be problematic."

In addition, a number of databases do not adjust for severity of illness, he explains. "A lot of

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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**.

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### Editorial Questions

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administrative screening databases use ICD-9 codes," he observes. "The problem with attribution of those is this: If you are a center that gets a lot of referrals, and the center that sends a patient to you contributed to the error but didn't document it, you get credit for it even though you inherited it."

### **Data: The devil's in the details**

Even if you have decent benchmarks available, the way you approach the task and interpret the data can have a significant impact on your end results, experts agree.

For example, Lawless notes, how high you aim is a critical consideration. "Say the average compliance rating is 96%, and your goal is to reach 98%," he poses. "People usually benchmark against the average, and they *get* the average."

How do you set those higher goals? "You search very heavily and set parameters," Lawless says. "As a group, we concentrate a lot on outcomes, but not on processes and structures. The tough search piece is finding those pieces of outcomes that measure *real* change."

For example, at one time length of stay (LOS) was a great benchmark, he explains. "Later on we said, 'So what if you have 4.6 vs. 4.2?' The 4.6s tried to get their LOS down to 4.2, but it did not impact outcomes. So what *is* the ideal LOS with minimum cost and maximum satisfaction? It's very complex; it has to make a difference to someone."

Data also can be deceiving, observers note, and the way that data are presented can actually penalize institutions that are doing a good job.

"Look at the accountability required by people like The Leapfrog Group and the Joint Commission," Scanlon offers.

"The people with the most to lose are those who do the best job trying to deal with errors. The leading organizations in patient safety will be punished because they are open — whether that results in Leapfrog refusing to pay them or the newspaper lambasting them for a high error rate, or attorneys coming after them." **(For more on Leapfrog standards, see article, p. 58.)**

Lau concedes this can be a real problem. "You have to interpret your data appropriately and carefully," she warns.

She recalls recently doing some charts for a hospital on unplanned returns.

"The control charts showed this hospital was out of control for two data points for two months," Lau notes. "But on all the other months, it had a

baseline of zero, and this time it had one. You have to make sure you interpret your control chart, or whatever method you use, very carefully."

In patient safety, she notes, a lot of hospitals can do well and then have one issue, and the data will show a spike. "You may not want to reformat all your processes based on that," she says.

On the other hand, because your error rate is low and your performance looks good, that doesn't automatically mean this *really* is a good thing, Lau warns.

"It may simply indicate your processes for capturing those errors may not be that good," she asserts. "If, for example, you rely on incident reports, written or phone, you may not be gathering accurate results and may look far better than you are."

On the other side of the fence, she says, if you are really high on an indicator or a trend, it might mean you are doing worse than similar organizations, but it also could just mean you are capturing more data. "We are always suspicious of hospitals showing very low numbers on medical errors," Lau points out. "We *know* there are medical errors."

How do you know the difference? "You have to know your process, flow chart it, work with it, understand how errors get reported, and what your method is," she advises. "We also do it through networking and inter-rater reliability questions from benchmarking."

### **Learn not to settle**

For those seeking to successfully employ benchmarking to help improve patient safety, there is one strategy Lawless values over all others. "The trick is not just settling for average," he asserts.

It is for that reason that he has adopted a Six Sigma-type approach in this area.

"We implemented a Six Sigma-like program, accepting only three errors per million," Lawless reports.

"By doing that over the last couple of years, we have gotten our critical error rate [giving medications that could have caused major harm] down to a Six Sigma level — maybe two or three a year. We are getting real close; next year, we should be at the point where no patients received a medication that could have caused major harm. But the only way to get there is to *not* accept the [average] benchmark," he adds. **(For an example of just how effective the Six Sigma approach can be, see article, p. 52.)**

## Need More Information?

For more information, contact:

- **Stephen Lawless**, MD, MBA, Chief Knowledge Officer, Nemours, Wilmington, DE. Phone: (302) 651-6404. E-mail: slawless@nemours.org.
- **Matthew Scanlon**, MD, Assistant Professor, Pediatric Critical Care, Medical College of Wisconsin, Patient Safety Officer, Children's Hospital of Wisconsin, Milwaukee. Phone: (414) 266-2498. Fax: (414) 266-3563.
- **Sharon Lau**, Medical Management Planning Inc., BENCHmarking Effort for Networking Children's Hospitals, 2049 Balmer Drive, Los Angeles, CA 90039. Phone: (323) 644-0056. Fax: (323) 644-0057. E-mail: sharon@mmpcorp.com.
- **Ann Nakamoto**, JD, MSN, Quality Manager, Children's Hospital and Regional Medical Center, Seattle. Phone: (206) 987-1170. E-mail: ann.nakamot@seattlechildrens.org.

Experts say there are a number of different areas where benchmarking for patient safety improvement can be enhanced. For example, Scanlon notes, data sources are inadequate.

"There are very little good data around patient safety," he complains. "What often is reported are voluntary report data; if you look at incident reports or voluntary reports, it's meaningless; you don't know what the true rate is."

Are mandatory reports the answer? "That's naïve," Scanlon asserts. "It's like telling me I have to drive the speed limit; most people don't."

The federal aviation system has an interesting model to try to force reporting, he notes. "They've shifted the carrot and the stick; if you report an error, there's little chance of being punished. The whole issue of reporting is important; that's where the lion's share of the data comes from."

There are, in fact, a number of well-written articles in the literature about what's necessary for good quality and safety measures, Scanlon insists. "They are evidence-based, easy to collect, and severity adjusted when they need to be," he says. "But that kind of discussion is not happening around safety."

"We have not yet looked at contributing causes," Nakamoto adds. "We need to employ tools like root-cause analysis to look at orders, for example."

Another key area is sustaining improvement. "Why do we have to experience the same mistakes as others in terms of unsustainable improvements?"

Nakamoto asks. "We all can get better through benchmarking; it will bring us all to a higher level of patient safety."

"Where safety falls down most of the time is in not using standard definitions," adds Lau. "The key is to always know your process. In benchmarking, each person has to feel comfortable with the other guy who is doing the same thing — comfortable, for example, that you are counting things the same way I do."

In addition, she says, frontline professionals such as nurses and pharmacy staff, who understand processes, tend to be uncomfortable with benchmarking patient safety issues because they don't know if their executives will understand what the data show in the same way they do. "That's why everyone needs to be educated," she explains.

Lawless sums up a successful approach: "Have a goal and someone with whom to compare your processes and structures. Ask yourself where you can make changes in those processes and structures that will make your outcomes better. Then, ask yourself where you can get even better." ■

## Six Sigma success: 100% compliance in 3 months

*'Midproject report' shows dramatic improvements*

A Six Sigma project at Sewickley (PA) Valley Hospital has achieved dramatic results — including 100% compliance in one process — in just three short months.

The project is part of an overall initiative in the Heritage Valley Health System (HVHS), which includes Sewickley Valley, Heritage Valley Hospital, 49 physician offices, the Moon Surgery Center, and 14 community satellite facilities. It was rolled out in 2001, in partnership with Air Academy Associates.

After educating its executive leadership team

### Key Points

- Success demonstrates applicability to improving clinical performance.
- The define-measure-analyze-improve-control methodology is critical to impact of the program.
- Savings in single service line now are spreading to entire system.

on Six Sigma, a few pilot projects were implemented, including efforts in evaluating the patient admission process to observation or inpatient status, and a study of operating room utilization. After positive results, the next step was to train all leaders to the Champion level.

In August 2002, 22 employees were sent off campus for Black Belt training. At the same time, two half-day Six Sigma education sessions were provided to the board of directors and physician leaders.

A number of projects with clinical goals (five or six to date) have been undertaken, including the aforementioned initiative, which was one of several projects for which training took place in December 2003. "This was a midproject report," notes **Richard Beaver**, vice president of quality for

HVHS. "They have until July to submit their final reports." (Beaver completed leadership training at the Center for Creative Leadership and obtained Six Sigma Black Belt status at Sony and Nova Chemicals under the curriculum and mentoring of Air Academy Associates.)

The project's overall objective was the prevention of surgical site infections by proper timing of the appropriate prophylactic antibiotic. Critical areas identified were:

- Use of appropriate prophylactic antibiotic.
- Antibiotic received within one hour before surgical incision.
- Prophylactic antibiotics discontinued within 24 hours of surgery end time.

Prolonged antibiotics, the team said, are "expensive, promote resistance, and subject the patient to

## Six Sigma: How it's different

A Six Sigma project is not just another QI initiative, says **Richard Beaver**, vice president of quality for Heritage Valley Health System, which includes Sewickley (PA) Valley Hospital, Heritage Valley Hospital, 49 physician offices, the Moon Surgery Center, and 14 community satellite facilities.

"It's a very interesting dynamic," he observes. "If you do TQM or something like that, you'd say, 'That Six Sigma stuff is the same thing we do.' Here, they had a five-step TQM process. You defined the problem, applied a quick fix, but no one could tell you the next three steps. The old ways weren't the closed-loop processes I believe Six Sigma delivers."

In this antibiotic project (**see article, p. 52**), Beaver says the surgeons felt they already were doing well.

"But when you see the data that 3% of every case gets it right, that means 97% are getting it wrong. The other thing is, the guidelines did not say anything about the application of two antibiotics; just the timing. Information from the CDC [Centers for Disease Control and Prevention] helped us tell the surgeons about proper antibiotic use." In fact, he notes, after most surgeons had successfully adopted the new procedures, there was one surgeon who kept refusing to change. "He felt it was appropriate to do two or three more days of drug administration," Beaver says.

That's when the team leader, **Sandy Silvestri**, RN, BSN, CIC-infection control coordinator, stepped in. "She said, 'I have a friend at the CDC who will call him to discuss proper administration'; now that's closing the loop," says Beaver.

Another strength of the Six Sigma approach is the DMAIC (define-measure-analyze-improve-control) methodology, says Beaver. "There is an imaginary wall between A [analyze] and I [improve]," he

explains. "You can't go to the improve phase with Six Sigma until you have presented your data. This tells you that you don't go into the control phase [sustaining the change] until there's enough improvement."

The success at Sewickley also shows that, contrary to popular belief, the Six Sigma approach can be applied to clinical process improvement.

"Yes, there is some variation; the patient does provide much more variation than you would find in an industrial system," Beaver concedes. "But our argument is, once you know what the patient has, there are national standards of treatment — like ACE inhibitors upon discharge if not contraindicated. There are data."

Six Sigma also has brought discipline to his entire organization, Beaver says. "People who have seen our projects will write any presentation in DMAIC format," he notes. "And when someone comes in to present to senior management and the executive doesn't see those slides, they ask why they are not being provided."

The changes at Heritage Valley have been so dramatic that Beaver has spun off a business venture, teaching Six Sigma techniques to other facilities. "The reason we've done this is that there is a piece of Six Sigma we don't think anybody does," he explains. "They don't teach you how to set up the organization and the students so they are fully energized and have understanding of what Six Sigma means to them."

Beaver's partner teaches the Black Belt course, injecting real-world examples. "But before he even touches a student, I work with them for two months so that the senior managers and the team are ready," he says. "Most people don't really talk about the extreme importance of all leaders really being aligned with the flow of what's coming." ■

increased antibiotic-associated morbidity.”

The first target group was joint replacement procedures, which at Sewickley were high-volume, high-cost procedures. Compliance in “antibiotic administered within one hour of surgical incision” was 19% when the project began, and 100% when the interim report was prepared. “Antibiotic discontinued within 24 hours of surgery” showed 3% pre-measurement compliance and 79% post-measurement.

As with all the Six Sigma projects at HVHS, in this Sewickley initiative, the DMAIC (define-measure-analyze-improve-control) methodology was followed. The first two weeks of the HVHS program are designed to cover all five phases of DMAIC. The first week provides the basic tools needed to identify issues, gather data through the measure phase, and analyze them for potential root causes of process performance problems. The second week — which occurs after a five-week period during which students apply DMAIC methods to their projects — includes the improvement phase as well as understanding project management and how to sustain the gains received from their efforts.

- **Define.**

This phase involved identifying the project, its general goals and objectives, what the team thinks it already knows, business benefits of the project, and a time line. In this case, the goals/objectives included benchmarking against previous administration of pre/postoperative prophylactic antibiotics and benchmarking internally against previous nosocomial infection rates.

- **Measure.**

The measure phase starts with a process flow diagram and cause and effect and input/output diagrams for individual contributions around the process that cause problems and might be subjects of experimentation. “Then, we use (P)FMEA,” Beaver continues. The “P,” he explains, represents “the *potential* failures in the process flow we just reviewed.”

- **Analyze.**

Analysis, in this particular project, would involve asking what percentage of physicians actually “did it correctly” one hour before and 24 hours after surgery, with proper use of antibiotics (the orthopedic surgeons designated Ancef as the drug of choice and eliminated Vancomycin). “We used a data table kept in the OR and plugged it into the software we have called SPC-XL from Air Academy,” notes Beaver.

Analysis also involves learning what the

## Need More Information?

For more information, contact:

- **Richard Beaver**, Vice President of Quality, Heritage Valley Health System, Sewickley, PA. Phone: (412) 302-9900. E-mail: rbeaver@hvhs.org.

diagrams in the measure phase told you. “FMEA tells you the potential failure modes; you pull them out, rank them, and analyze them to see if you identified the top three, four, or 10 causes with regard to the problem,” Beaver explains. “As part of the analysis, you ask how difficult these will be. For example, can we *truly* change the behavior of surgeons? Now that we *know* they are not compliant, how do we take things to the improve phase to generate that improvement?”

For one thing, Beaver says, no clinical improvement project can be successful without a physician leader or mentor. “This project had our lead mentor on it; it was his interaction that drove it,” he asserts.

Integrating physicians into performance improvement is an ongoing struggle in health care, Beaver continues. At HVHS, “we team them up with four hours of very difficult-to-get CME credit in Six Sigma,” he observes. So far, 100 physicians have been trained, and 11 of them have said they want to be a leader or a mentor. “This is an important piece for clinical quality in Six Sigma,” says Beaver. “If you don’t have the physician, you will not have an outcome.”

- **Improve.**

In the improve phase, the message is driven home peer-to-peer, using evidence-based data. “Once adopted, it was presented at the surgery committee, which was a very good methodical process to get it shared,” Beaver says. “It was also done as part of grand rounds.”

The results speak for themselves. Total potential savings for one year for preoperative antibiotics were \$1,323, and for postoperative, \$6,501; potential antibiotic savings were \$7,824 per year.

“And that’s just one service line in orthopedic surgery on one campus,” Beaver notes. “It’s now being spread and adopted by our larger sister facility; we believe the impact will be over \$50,000 in medication savings. Also, we expect reduced Vancomycin-resistant infections in patients.”

In addition, he notes, instead of giving eight doses per surgery of two meds, three doses of one med are now being given. “This reduces the

number of times a doctor has to write orders, for the nurse to take them and for the pharmacist to fill them — all opportunities for errors.”

- **Control.**

In the control phase, the improvement is sustained. ■

## Hospitalists save \$2.5 million and decrease LOS

*Improvements achieved in first two years*

Baptist Hospital in Pensacola, FL, winner of this year’s Malcolm Baldrige award for quality, has saved \$2.56 million in two years as a result of its inpatient management program. The program, developed and operated by Cogent Healthcare Inc., an Irvine, CA-based inpatient management company, also was successful in improving the quality of patient care and in meeting the hospital’s standards of patient satisfaction.

In addition to these savings, length of stay (LOS) decreased an average of two days, and cost per case dropped by 44% for patients managed by the hospitalists. Thirty-day readmission rates for patients treated by hospitalists were 40% less than for patients treated by nonhospitalists. Satisfaction ratings by both patients and primary care physicians were more than 99%.

The decision to institute a hospitalist program was made in April 2000, recalls **Craig Miller**, MD, senior vice president of medical affairs. “It was driven by a number of factors, including increasing medical staff dissatisfaction with unassigned ED call and a growing number of physicians who wanted to have ambulatory practices and did not appreciate doing consultations on patients brought here by subspecialists whose PCPs [primary care physicians] were not on our medical staff and thus did not follow up. Then, of course, the hospital was concerned about having a focus on inpatient care, including length of stay

### Key Points

- Hospitalist program helps readmission rates also decline; satisfaction rates rise.
- Unassigned patients had caused problems in decision making and follow-up.
- Other hospitalist programs were benchmarked before partner was chosen.

and cost per case. These unassigned patients that were admitted by the PCPs were not the staff’s primary priority; thus there were delayed decisions, orders and changes in care.”

Based on a review of the literature, the leadership at Baptist decided they had a sufficient volume of patients to justify and benefit from a hospitalist program, Miller says.

### **Benchmarking aids choice**

After the decision was made, Baptist began benchmarking various hospitalist programs across the country. “No program we knew of was directly linked to a hospital,” Miller notes. “Many were contracted by insurance companies or worked for IPAs [independent practice associations]; we had slim pickings in terms of who could craft a contractual relationship to manage an inpatient hospitalist program that would align their incentives with ours.”

It came down to two or three choices, he says. There was an interview process, “and we quickly came to the conclusion that Cogent was willing to work with us to craft a new relationship.” It took about six months for the partners to figure out how the relationship would work operationally and clinically, and the program was rolled out in January 2001.

“Basically, Cogent provides the infrastructure and management of the hospitalist program; they employ the physicians,” Miller explains. “We started with two, and we have four now. We will go to five in the next few months, and eventually, by the end of the year, we will have six.”

### **Goals are established**

At the outset, four goals were established for the program:

1. Have a voluntary program the medical staff could adopt.
2. Take all unassigned emergency department patients that required admission.
3. The hospitalists would participate in clinical performance improvement for Baptist’s core measures.
4. Have a quality incentive focused on patient and primary care physician satisfaction, timeliness of completion of medical records, and reducing the readmission rate below current hospital performance.

A fixed case rate was paid to the physicians through their management company, and in turn,

there was a financial offset. “Cogent remits to us a portion of the case rate based on what they collect from the insurance company,” Miller explains.

Baptist’s payer mix was about 12% unfunded and 5% to 6% underfunded at the program’s inception. “Today, because of the program and attention to those patients, we have had a decline in that unfunded payer mix to 7.1%, and our under-funded remained about the same,” he

notes. The partners held joint quarterly contracting meetings, at which time Cogent provided validated data on the patients their physicians saw, which included different clinical categories, LOS, and their indication of possible avoidable days — where the hospital’s systems did not respond as quickly as they could to help expedite care.

“During ongoing audits, we looked at meeting CMS [the Centers for Medicare & Medicaid] core

## Keys to hospitalist success: Right docs, incentives, tools

*How Cogent developed its model*

**H**ow do you ensure a successful hospitalist program? You find the right physicians, incentivize them the right way, and give them the tools they need to meet their goals, says **Ron Greeno, MD, FCCP**, chief medical officer for Cogent Healthcare in Los Angeles. “It’s our formula for success.”

This model has been developed over a period of more than 10 years, notes Greeno, co-founder of the organization, which was started by four hospitalist groups in the early 1990s.

“We knew there was tremendous potential,” he recalls. “Hospitals had been trying to standardize care at the best practice level; that’s a very lofty goal but hard to do with a medical staff of 400 to 500 physicians.”

On the other hand, he says, if you put a large group of patients in the hands of a small group of physicians all working together, “there’s a tremendous opportunity for that group to say, ‘Here’s the way we do it,’ using evidence-based medicine to determine best practices. It can drive how an institution operates in taking care of patients.”

To develop their model, the Cogent co-founders brought in people who understood operations, communications, and IT systems, as well as financial people to figure out how to pay for the model.

“The first thing the operations people did was time-motion studies,” Greeno recalls. “They calculated that the percentage of our time we spent doing things that *had* to be done by a doctor was only 35%.”

### **Ensuring efficiency**

The money, it was determined, would be created by the efficiency of the program. The model includes the right tools: support personnel such as nurse coordinators. “We also put systems in place so a lot of things we work on intensively are much easier for a doctor to do — such as communicating to the PCP

[primary care physician] when the patient goes home,” says Greeno.

On the day of discharge, Cogent has a service center the physicians can call using an 800 number. “The information is dictated in a database format, giving the PCP all the information they need to know — diagnosis, procedures, meds, consultants,” he says. “It takes our docs about 2½ minutes, and they’re done.”

The physicians are paid for the quality of the work they do. “We pay them a salary, but then we incent them to work hard and grow the program,” explains Greeno.

This profit-sharing methodology calls for bonuses based on quality metrics agreed to with the hospital in the contract. They might include patient satisfaction, PCP satisfaction, or readmission rates below certain levels. “Some are even tied to making sure the patients get correct meds,” he adds. “In several contracts, we can measure compliance with discharge med protocols.”

In addition, Cogent gathers data on how the hospital could do a better job. “Whether it’s different services, more operating rooms, or more cath labs, whatever it is that helps us do a better job taking care of patients,” says Greeno. “The hospital can use the information to decide what they can do for the docs to help them take better care of the patients.”

Cogent uses its information as a data-capture tool; Cogent staff can look at matching diagnosis with meds, for example. On their discharge notes, they can look at ordering patterns, consultant use, or complications. “This is a huge opportunity to gather data for quality,” Greeno notes.

Under the Cogent model, “docs spend their time doing what they want to do and what you need them to do,” says Greeno. “Say you go from 35% efficiency to 78%, allowing your docs to spend twice as much time with their patients; how can that *not* benefit everybody?”

In the end, he summarizes, “it’s all about intelligent design of the workflow of the hospitalist team and putting in place what you need to maximize patient care.” ■

## Need More Information?

For more information, contact:

- **Craig Miller**, MD, Senior Vice president of Medical Affairs, Baptist Hospital, Pensacola, FL. Phone: (850) 469-2317. E-mail: cmiller@bhcpns.org.
- **Ron Greeno**, MD, FCCP, 1245 Wilshire Blvd., Suite 407, Los Angeles, CA 90017. Phone: (213) 977-4979. E-mail: greeno.ron@cogenthealthcare.com.

measures such as pneumonia and GI bleeding,” notes Miller. “These audits were provided by Cogent and, in turn, validated by us.”

Baptist has a McKesson cost-accounting system, which is capable of looking at each individual DRG the hospitalists take care of. “For us to validate the cost savings under this program, we require a minimum of five admissions by a hospitalist in any DRG in order for us to compare it with a nonhospitalist performance in the same DRG.” Miller says. Then they take nonhospitalist experience for the same DRG, LOS, and cost per case.

Miller says the arrangement costs Baptist about \$700,000 a year, and based on their own statistics, “we got an average return over the first two years of \$1.3 million per year.”

### ***Processes, flexibility are key***

During this experience, Miller adds, “we have learned that having the best processes — which Cogent brings to us — is the most important element in a successful program. At the same time, our hospitalists must be committed to the hospital’s philosophy of customer service and customer satisfaction, and be incentivized to meet the hospital’s goals.”

He also notes that Cogent’s “agility and flexibility in working with us was a major asset.”

Initially, he notes, Cogent had a physician-provider agreement with local providers. “We began to recognize that the physicians really had their own desire to have more autonomy within the program,” he observes. “Some of their incentives were not aligned with ours. We went to Cogent and said, “We like the relationship, but the people who work with you have to be aligned with what the hospital’s needs are.”

In response, Cogent changed the model to a physician employment agreement. In addition, it

made some adjustments in the agreement with respect to bonus. “We wanted a bonus figure that incentivized them to want help us improve our clinical quality,” says Miller. “We re-did it to make it contemporary with the new mandates of CMS with respect to acute MI [myocardial infarction], pneumonia, and congestive heart failure.”

That included such issues as timeliness of getting antibiotics to the patient; patient satisfaction with services; making sure aspirin is part of the admitting and discharge process for acute MI; and so on.

“This helps us have a more accurate report card,” Miller says. “And our morbidity and complication rates indicate that in all those areas, we are below the expected levels at a confidence band of 90%.”

With a program that now has proven successful and continues to yield positive results, Baptist “has not looked back,” Miller says. “We have had tremendous improvement in clinical quality, and in both fixed and variable costs.” (For more about the keys to a successful hospitalist program, see article, p. 56.) ■

## AHRQ tool designed to improve CAP clinical care

*Decision-support tool is evidence-based*

The Agency for Healthcare Research and Quality (AHRQ) in Rockville, MD, has unveiled a clinical decision-support tool for personal digital assistants (PDAs) that is designed to help clinicians deliver evidence-based medicine at the point of care. AHRQ’s new Pneumonia Severity Index Calculator (available from the AHRQ web site at <http://pda.ahrq.gov/>) is an interactive application for Palm Pilots and other PDAs to help physicians decide whether to hospitalize patients with community-acquired pneumonia (CAP). This is the first of what AHRQ

### Key Points

- Tool helps docs decide whether to hospitalize community-acquired pneumonia patients.
- Pneumonia Severity Index clinical algorithm developed by AHRQ team.
- Agency hopes to develop several more similar tools.

## Need More Information?

For more information, contact:

- **Agency for Healthcare Research and Quality**, 540 Gaither Road, Rockville, MD 20850. Phone: (301) 427-1364.

anticipates will be several such clinical decision support tools for PDAs.

Developed by MDpda Design Inc. of Miami, the Pneumonia Severity Index Calculator is based on a clinical algorithm produced in 1997 by the AHRQ-funded multidisciplinary research team called the Pneumonia Patient Outcomes Research Team, or Pneumonia PORT.

The Pneumonia PORT developed and tested the Pneumonia Severity Index clinical algorithm to aid clinicians in treatment decisions for patients with CAP. It has been validated in a broad, randomized control trial<sup>1</sup>, AHRQ notes.

CAP contracted outside of a hospital or nursing home environment affects approximately 4 million Americans and costs approximately \$10 billion to treat each year, and nearly all of those costs — 92% — are spent on treating patients who are hospitalized for care, AHRQ says.

Thus, the targeting of CAP “makes sense,” says **Daniel Stryer, MD**, director for the Center for Quality Improvement and Patient Safety (CQuIPS) at AHRQ. “It’s a high-priority condition in that it impacts a lot of people each year, costs lots of money, and the research is certainly there,” he explains.

“The evidence is there that something like this can make a difference, so it’s just a matter of getting it done and getting the tool out,” Stryer adds.

The tool represents the direction in which the agency is headed, he continues. “We want to put people in a position to improve quality and solve problems, and part of that is through tools; they help make the right thing to do the easiest thing to do.”

There are a number of quality advantages of using a tool such as this, he emphasizes. “What you want to do is be able to use the evidence that’s out there,” he asserts.

“It’s incredibly cumbersome and unwieldy to have to go to a journal article and try to figure out what to do. If you had, say, a 62-year-old female with certain clinical factors, it would be totally impossible to make a treatment decision directly from the literature,” Stryer notes.

“The other option is do it from your brain, and

while as a whole, we do a surprisingly good job of creating these mental algorithms for measuring risk, we’re nowhere near as good as something like this. It just helps us do our jobs a little bit better — and there sure is evidence out there that tells me I’d rather not be subject to some of the tricks that minds can play,” he points out.

Stryer offers this hypothetical example: “Let’s say I saw a patient in the ER who came in with pneumonia but otherwise looked pretty good, and I said, ‘Hey, this is a healthy person. They may be breathing a little hard, but they look pretty good.’ So, I sent them home, and the next day they were sick as a dog and had to be intubated. I know the next 20 patients I see I’ll handle differently than I would have if I didn’t see that patient. This tool helps to keep your assessments objective.”

For example, he notes, based on the input from the physician, the tool will produce a classification from 1-5, and in addition to the score, it will have a mortality risk.

“This way, you can discuss the results with the patient, giving them the information they need to make a decision, and together you can make a decision about whether they should be hospitalized,” Stryer concludes.

The AHRQ Pneumonia Severity Index Calculator is available in Palm OS, Pocket PC, and HTML formats. Additional AHRQ PDA applications are being considered, according to AHRQ, but the agency is waiting to evaluate the response to this initial tool. Meanwhile, it is reviewing research and trying to determine what might make sense to develop next.

## Reference

1. Fine MJ, et al. The hospital discharge decision for patients with community acquired pneumonia. *Arch Intern Med* 1997; 157:47-56. ■

## Leapfrog standards are hard for hospitals to meet

*Some hospitals trying less costly alternatives*

**W**hile The Leapfrog Group’s ambitious campaign to improve patient safety in hospitals has sparked national awareness, few hospitals are close to meeting the group’s standards for computerized prescriptions, specially trained intensive

care unit (ICU) physicians, and volume thresholds for certain high-risk procedures, according to a study released by the Center for Studying Health System Change (HSC). HSC, based in Washington, DC, is a nonpartisan policy research organization funded exclusively by The Robert Wood Johnson Foundation.

“Leapfrog has clearly helped put patient safety on hospital radar screens, and many hospitals are trying to meet the spirit if not the letter of the Leapfrog standards by substituting less expensive alternatives,” said **Paul B. Ginsburg**, PhD, president of HSC, upon announcing the survey results. “Many factors, including a lack of financial incentives, are hindering hospitals’ adoption of the Leapfrog patient-safety practices.”

Formed in 2000 by the Business Roundtable, an association of Fortune 500 CEOs, to stimulate breakthrough improvements, or leaps, in patient safety, Leapfrog has championed three hospital patient-safety practices:

- **Computerized Physician Order Entry (CPOE)** — whether hospitals have an electronic prescribing system to prevent medication errors.
- **ICU Physician Staffing** — whether hospitals use physicians board-certified in the subspecialty of critical care medicine to provide care in adult medical and surgical ICUs.
- **Evidence-Based Hospital Referral** — whether hospitals meet volume thresholds for six high-risk procedures, with hospitals not meeting the thresholds referring patients to other hospitals.

The study’s findings are detailed in the HSC issue brief, *Leapfrog Patient-Safety Standards Are a Stretch for Most Hospitals*.

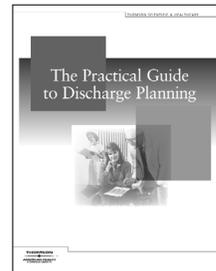
Based on site visits to 12 nationally representative communities in 2002-03, the study examines hospital patient-safety activities in Boston; Cleveland; Greenville, SC; Indianapolis; Lansing, MI.; Little Rock, AR; Miami; northern New Jersey; Orange County, CA; Phoenix; Seattle; and Syracuse, NY. Additionally, the study used data from an HSC patient-safety survey fielded during the site visits and Leapfrog’s public survey data from November 2000 to April 2003.

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Other key study findings include:

The majority of hospital executives interviewed by HSC researchers stated that Leapfrog has raised national awareness of patient safety generally and the three safety practices in particular. Despite the positive impact of Leapfrog efforts at the national level, many hospitals reported that employers and health plans in their markets were not providing strong incentives,

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especially financial incentives, to meet the standards or participate in the Leapfrog survey.

Hospitals' efforts to meet the three Leapfrog standards often are seen by physicians as restricting their autonomy and reducing their productivity and income. As a result, hospitals must work to secure and maintain physician support. One hospital respondent captured the general sentiment well, noting that one of the "fastest ways to the CEO graveyard is to push physicians too hard and fast on patient safety and quality improvement."

Leapfrog's focus on selected communities — known as regional rollouts — has not yet prompted significantly greater implementation of the three hospital patient-safety practices in targeted communities. On average, hospitals in the five HSC site visit markets — Boston, Lansing, northern New Jersey, Orange County, and Seattle — included in Leapfrog's initial regional campaigns had not made significantly more progress toward meeting the standards than hospitals in the seven HSC site visit markets not included in the Leapfrog target areas.

The study found that while many hospitals have not fully implemented the Leapfrog standards, many are implementing less costly alternatives or testing CPOE systems and ICU specialists on a smaller scale.

"We appreciate The Leapfrog Group's goal of improving quality and patient safety, but hospitals have found that its standards are not the only ways to reach that goal," notes **Nancy Foster**, American Hospital Association senior associate director of health policy. "Marking surgical sites, improving the use of alcohol-based hand gels, and other innovations have been broadly adopted, while the use of patient volume as a marker of quality has been shown by a recent RAND study to be a poor indicator. Hospitals already have extensive quality improvement efforts under way and, through the Quality Initiative, are working with federal agencies, researchers, consumer groups, and many others to develop and share their performance on a robust set of valid, evidence-based patient safety measures."

The study concluded that efforts to improve patient safety are likely to be more successful if private and public purchasers collaborate to create strong incentives — particularly financial incentives — for hospitals to improve patient safety. The public sector also could complement Leapfrog efforts through collaboration on research, information technology, reporting, and purchasing approaches. ■

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