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Don't skip crucial benchmarking step: Develop critical success indicators

You must know where you're headed and how to get there

If your hospital's CEO were asked what eight or 10 factors are most critical to the hospital's success, your executive could probably come up with a pretty good answer. But if that same question were put to a cleaning or maintenance person at your hospital, could he or she answer?

If the maintenance staff can't, and if your CEO has to think about it for a minute, then your hospital is missing the boat on a crucial aspect of benchmarking: defining what to do to succeed. It's not enough to define those factors; you also have to make sure that everyone on staff knows what the factors are and how their jobs relate to them.

"If you really don't know what's critical to the success of your organization, you spend a lot of time measuring things that aren't terribly important to you," says **Sharon Lau**, a consultant with Medical Management Planning in Los Angeles. Her firm has been working on this issue with hospitals around the country that are members of the BENCHmarking Effort for Networking Children's Hospitals, a group that identifies, investigates, and adapts best practices in pediatric care.

"What we found was that some of our hospitals didn't have a clue what was important, what was truly critical to their success in their marketplace," Lau says. "And if they did know, that was knowledge that was kept at the executive level rather than being disseminated throughout the entire organization as something everybody should

Key points

- If you don't know where you're headed, you'll never get there. Critical success indicators can help you define what you need to succeed as a business.
- You need eight to 10 critical success indicators that are based on your strategic plan, are easily measurable, and are on the macro level.
- Everyone on your staff, from the CEO to maintenance, needs to know what the critical success indicators are and how individual jobs relate.

be working toward."

If you want benchmarking to succeed, you first need to develop a list of eight to 10 critical success indicators, or strategic monitors, that have their roots in your strategic plan and principles, according to a paper recently released by Medical Management Planning. Of course, you already should have a strategic plan from which to draw ideas. These indicators should meet the following criteria:

- ❒ strategic;
- ❒ macro in nature;
- ❒ measurable;
- ❒ meaningful to the success of your organization;
- ❒ responsive or sensitive;
- ❒ representative of cost, quality, or speed;
- ❒ retrievable.

In other words, you can't just stand up at your next staff meeting and say you want the hospital to cut costs and improve the quality of care. While those are worthy goals, you can't measure them as such and they don't provide a specific basis for action. You could, however, say that under the principle of financial strength, you'd like to look at cost per adjusted discharge as a critical success indicator. If you're interested in service responsiveness, you could choose emergency department waiting time as an indicator.

Start by gathering all your key players for a brainstorming session. Using your strategic plan as a base, discuss what indicators would let you know whether you're accomplishing the goals in the plan. Think about cost, quality, and speed, and look specifically at your market. "Most organizations have a strategic plan, but they aren't measuring if they're accomplishing it," Lau says.

Leaders at Miami Children's Hospital found themselves in just such a position when they began work on critical success indicators through the BENCHmarking group. **Barbara Duffy**, executive vice president and chief operating officer, says the hospital had success factors, but they were difficult to quantify.

"Critical success indicators keep you focused on the goals you're trying to achieve," she says. "Given the complexity of health care and the propensity for our calendars to get booked with meetings that go back to back, the primary objectives can get lost in the day-to-day activities of running a hospital."

The hospital also had not been sharing the results of its benchmarking efforts; now the critical success indicators will be reported quarterly to the board of directors and the financial committee, she says. Information also will appear in the employee newsletter.

Duffy and colleagues are still in the process of developing a way to present the data on one sheet in a user-friendly format that will be easily understood by people with and without extensive health care knowledge. No small task, but she says it will be worth it. "Unless it's in front of your face, you're not going to be looking at it. This makes us accountable to our board and shows them we really are watching our money."

Getting a handle on how to use results

At The Children's Hospital in Denver, many indicators **(for a list of Children's indicators, see box, p. 51)** were already being measured but leaders needed a better way to get a handle on the results, says **Cheryl Niespodziani**, director of quality performance and compliance officer. Now the hospital measures and reports most of the indicators monthly, and department managers are responsible for sharing the information with their staff as appropriate.

"We needed a measure to see how we are doing over time," Niespodziani explains. "Managers now have increased knowledge and skills in interpreting and using the data, which help them help the hospital achieve its goals. The critical success indicators keep us moving toward our strategic goals and are a critical link to our achievements."

Steve Cohn, president of Bainbridge Island, WA-based Medical Management Planning, says critical success indicators are a decision-support tool to help senior management stay on track. "Senior managers need a guidance system to help

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them look at long-term trends to see if anything is out of bounds," Cohn says. "It's easy to micro-manage, but what we really need is leadership that macro-manages. Critical success indicators tend to make certain that senior managers leave the micro-managing to the departments."

The way to accomplish that is to choose critical success indicators for the entire hospital that are macro in nature — expense per adjusted discharge, for example — and let the departments set their own more specific indicators — such as lab cost per adjusted discharge. Limit the number of indicators to less than 10; otherwise, your senior managers will be spending all their time reading reports.

"Each function in a hospital should be run as a business," Lau says. "The manager should be given all the tools, authority, and responsibility to do the job. Leave the micro-managing to the function manager and hold him accountable."

If you want critical success indicators to work, you've got to continuously update them and make them a part of the hospital agenda, Cohn says. Come up with a graphical way to display your progress. Both Cohn and Lau suggest a "dashboard" approach that would tell you how you're doing in the same fashion as your car's dashboard tells you whether the engine's running hot or the gas tank is empty. You should be able to take a quick glance at this dashboard and know where you're headed. Behind the dashboard would be a detailed analysis in a report card fashion.

But don't leave your dashboard in the executive car. Make sure every employee knows how the organization is doing. Post graphs near the cafeteria, feature an indicator of the month in the employee newsletter, or if you're feeling particularly radical, use it in performance evaluations. "Make people accountable," Lau says. "You can make it part of a custodian's evaluation. Does he contribute to this specific critical success indicator? Does he know that turning a room around quickly keeps waiting times down?"

At Group Health Cooperative in Seattle, the critical success indicators developed last year are tied to the employee goal setting, evaluation, and compensation program known as performance management, says **Nancy Long**, senior executive and director of strategy development. Eventually all 8,000 to 9,000 employees will have an employment agreement based on the goals and strategies in Group Health's success indicators culled from its strategic plan.

Critical Success Indicators

The Children's Hospital in Denver includes the following on its list of critical success indicators:

1. **Statistical measures**
   - On-campus inpatient days
   - Outpatient equivalent days
   - Total adjusted patient days (APD)
2. **Operating results indicators**
   - Net operating revenue per APD
   - Total expense per APD
   - Operating margin per APD
3. **Labor utilization indicators**
   - Paid hours per APD
   - Total salary costs
   - Overtime pay per APD
4. **Other expenditure indicators**
   - Physicians and residents per APD
   - Medical and Rx supply costs per APD
   - Office supply costs per APD
5. **Satisfaction indicators**
   - Patient/family satisfaction
   - Physician satisfaction
   - Employee turnover

Employees and their supervisors will work together to write specific goals for each job along with ways to measure progress.

"The business plan was at such a high level, and the individual job description was so specific, that we felt we needed something in between," Long says. "What people value most is being part of a successful organization and knowing how they can personally contribute to that success. Everyone is involved in some way in meeting our overall goals."

Decision making at Group Health, as in much of health care, often boils down to deciding between worthy projects that can't all be financed, Long says. Having the critical success indicators makes those decisions easier. "An idea only has standing if it's on the track laid out by the business plan," she says. "People would often throw out the hot idea of the moment, but there was no follow-up. We had strategies that weren't specifically assigned to anybody. An idea shouldn't be in the plan if there are no resources to carry it out. This business plan is not a work of fiction."

[For more information, contact:

Sharon Lau, Consultant, Medical Management Planning, 2049 Balmer Drive, Los Angeles, CA 90039. Telephone: (213) 644-0056.

Barbara Duffy, Executive Vice President and Chief Operating Officer, Miami Children's Hospital, 3100 SW 62nd Ave., Miami, FL 33155-3009. Telephone: (305) 668-5567.

Cheryl Niespodziani, Director of Quality Performance and Compliance Officer, The Children's Hospital, 1056 East 19th Ave., Box B400, Denver, CO 880218-1088. Telephone: (303) 861-6159.

Nancy Long, Director of Strategy Development, Group Health Cooperative, 521 Wall St., ACC3, Seattle, WA 98121. Telephone: (206) 448-6532.] ■

Will HCFA be able to pay up on Jan. 1, 2000?

Agency says it will be ready; GAO says no way

If you listen to the General Accounting Office (GAO) in Washington, DC, you'll hear that the Health Care Financing Administration (HCFA) hasn't even come close to fixing its year 2000 (Y2K) problem.

If you listen to HCFA, you'll hear that while all the fixing hasn't yet been finished, it will be ready by Dec. 31.

So which agency should you listen to? Will your Medicare payments be delayed? Will there be widespread Medicare fraud? The problem with answering those questions is the same in answering anything about Y2K — nobody really knows. Experts advise health care providers to hope for the best but prepare for the worst. That means taking all the steps you can to make sure your facility or practice and your suppliers are Y2K-compliant. **(See *Healthcare Benchmarks*, April 1999, pp. 37-41.)** It also means keeping tabs on what everybody else, including HCFA, is doing.

Key points

- A report from the General Accounting Office (GAO) states the Health Care Financing Administration (HCFA) will likely experience system failures as a result of the year 2000 (Y2K) computer problem. Translation: You might not get paid.
- HCFA Administrator Nancy-Ann DeParle insists that claims will be paid on Jan. 1 and that GAO is overstating the risks.
- One Y2K expert advises cautious optimism coupled with extensive individual preparations.

As recently as March, **Joel Willemssen**, director of civil agencies information systems at the GAO, told lawmakers that HCFA was nowhere near ready for Y2K. "There is a high probability that there will be some system failures," he said. Medicaid was also at risk, Willemssen said, because some state agencies were falling behind in computer systems upgrades. That means billions of dollars in Medicare and Medicaid benefits could be delayed or miscalculated, or go unpaid.

HCFA's 25 most critical internal computer systems have been certified as Y2K-compliant, according to HCFA Administrator **Nancy-Ann DeParle**, but Willemssen said none of the agency's 78 external systems were compliant as of March.

DeParle said 54 of those systems were compliant and GAO is overstating the risks. "We are committed to everything we have to do to fix the problem," she told Congress. "This is our No. 1 priority."

She said doctors and hospital bills will get paid, and HCFA is continuing to retest systems and refine contingency plans. She explained that the qualifications HCFA allowed in self-certifications of its systems were minor and that HCFA's independent validation and verification contractor agreed. The GAO has said that all qualifications must be removed before certifications are accepted.

"It's sort of like with a car — there may be dings in the fender, and the dome light may flicker," DeParle added. "But when you turn the key, the engine roars, you step on the gas and you go, and you can steer just fine. That's where we are today."

More than 150 different computer systems are used in administering the Medicare program, and the agency expects to process more than 1 billion claims and pay $288 billion in benefits annually by 2000. HCFA plans to freeze all of its systems over the summer and then re-test and re-certify in the fall in a "fully production-ready, integrated environment," she said.

Concerned that HCFA's vulnerabilities could spawn a rash of Medicare fraud, Sen. Chuck Grassley (R-IA), chairman of the Senate Special

Committee on Aging, sent a letter to Finance Committee Chairman Sen. Bill Roth (R-DE). "What better timing for a provider intent on gaming the system than when Medicare computers are in disarray? If computers fail, fraudulent claims could go undetected. Proper claims could be misidentified as fraudulent," Grassley wrote.

Donald Palmisano, MD, JD, a New Orleans surgeon and American Medical Association (AMA) trustee who has testified before Congress about the Y2K bug, says the AMA is "cautiously optimistic" that HCFA will be ready. "We don't know if HCFA will be ready, but it says it will," he says. "That's the whole purpose of the hearings, to determine if any of the agencies need more money or more help from Congress. They said they didn't need either."

But that doesn't mean there aren't concerns. Palmisano testified in February about a Medicare test run in Louisiana that left some physicians cash-starved for as long as six weeks.

"Arkansas Blue Cross & Blue Shield, the Medicare claims processor for Louisiana, implemented a new computer system — intended to be Y2K-compliant — to handle physicians' Medicare claims," he told Congress.

"Although physicians were warned in advance that the implementation might result in payment delays of a couple of weeks, implementation problems resulted in significantly longer delays. For many physicians, this became a real crisis. Physicians who were treating significant numbers of Medicare patients immediately felt significant financial pressure and had to scramble to cover payroll and purchase necessary supplies," Palmisano stated.

Palmisano explains in an interview with *HB* that he had a significant problem with payment in his private practice because of the glitch. "We found out the information had all been lost, and we had to start from scratch to resubmit it," he says. "HCFA says they have the remedial software for their intermediaries, but it's not enough to say we have something to fix the problem. It's got to actually work. There's one example where it didn't work. It points out the importance of early preparation because if there's a glitch in one place, you can get it fixed before you try it everywhere."

Early preparation is the provider's best hope, Palmisano says. He advises providers to contact HCFA about participating in the agency's claims processing test to see if it works in their area.

It seems that many providers have not yet taken that advice. A survey of 5,000 providers released in March by the Health and Human Services Inspector General found that less than 20% of respondents had tested data exchanges between their systems and their external vendors. Less than half had developed a contingency plan in preparation for possible Y2K-related system failures.

About half of the providers surveyed said that their billing and medical records systems are already Y2K-compliant. Of those who are not currently ready, more than 90% of hospitals and 70% to 84% of other provider groups said they believed their billing systems would be Y2K-compliant by Dec. 31.

"This survey makes it clear that providers need to take steps in their own self-interest to be sure their computer systems will be able to successfully submit claims for reimbursement," says Inspector General June Gibbs Brown. "Y2K readiness is the responsibility of each individual provider."

In January, DeParle wrote directly to the 1.25 million Medicare providers — the largest such mailing in Medicare history — urging them to assess their Y2K status and to begin preparing if they had not done so already. HCFA also sponsored half-day conferences around the country in late March on preparing for Y2K.

(To read DeParle's letter, go to HCFA's Web site: www.hcfa.gov.) ■

Provider-patient e-mail could transform medicine

Docs say it improves relationships, cuts time

One of Paul Ford's patients was on a sailboat in the South Pacific when a traveling companion became ill. The patient e-mailed Ford, who sent a reply with instructions. Another patient was in England when she experienced a severe earache that made her wary of getting on a plane to come home. Ford helped her by e-mail.

Paul M. Ford, MD, an assistant professor of medicine at Stanford University in Palo Alto, CA, who practices internal medicine, has been using e-mail with his patients for about five years. An athlete with exercise-induced asthma e-mails him

Key points

- Experts say 5% to 10% of physicians are communicating with their patients by e-mail.
- E-mail can help physicians use their time more effectively, give them the ability to follow-up with patients more easily, improve relationships with existing patients, and help attract new ones.
- E-mail is an easy way to handle administrative tasks such as setting appointments and refilling prescriptions. It also provides written documentation of conversations that can be placed in the patient's paper chart.

weekly to report on his condition; Ford responds by e-mail with instructions for fine-tuning his regimen. Patients with diabetes and hypertension e-mail him weekly with their readings, and he adjusts their medications by e-mail.

Ford is on the cutting edge of using a technological tool that could transform the day-to-day practice of medicine. Only about 5% to 10% of physicians currently correspond with their patients by e-mail, up from 1% to 2% one year ago, but Ford and other experts say the benefits are enormous for both patients and physicians. And they say a growing number of patients who use e-mail routinely to contact business associates, friends, and family are demanding the service.

Tom Ferguson, MD, an Austin, TX-based consultant — considered by many to be the guru of on-line health — says physicians are catching on that using e-mail can help them use their time more effectively. E-mail gives them the ability to follow up with patients more easily, improve relationships with existing patients, and help attract new ones.

"The small group of clinicians who routinely use provider-patient e-mail say that it has revolutionized their practice in very positive ways," says Ferguson, who has written a dozen books on consumer health and is editor and publisher of *The Ferguson Report: The Newsletter of Consumer Health Informatics and Online Health.* "In many cases, they can avoid the need for a clinic visit by an on-line exchange. And there is always a full record of the on-line conversation, so it can automatically become a part of the patient's medical record."

Ferguson says 25% to 30% of doctor-patient e-mail deals with follow-up questions after an office visit, a perfect example of the benefits of e-mail. "It's wonderful as a doctor to say, 'Send me an e-mail in 10 days and let me know how you're doing.' You usually don't know what happens to the patient. Think how good that could be for your clinical expertise."

E-mail can be a timesaver, Ferguson says. Nurses and doctors can use it to help patients decide whether their problem warrants an office visit, and they can stockpile answers to frequently asked questions. With one simple click, staff could insert information on how to take a baby's temperature or how to change a dressing. "You don't have to start all over again every time," he says. "If you're talking on the phone, you have to say it every time."

Ford says he believes e-mail has the potential to save time and money. "E-mail unloads a lot of the administrative stuff you have to do in medicine," he says. "I really believe if we had more patients using e-mail, it would decrease our overall practice costs. We wouldn't need so many people to answer the telephone, so many people in the file room moving charts around. Also, patients would feel more connected to the practice, which could help financially in the long run."

Ford's practice of 10 physicians has a central e-mail address and a software filtering program that helps automatically route messages to the appropriate people. An automatic reply is sent to tell patients their message was received and who will take care of their request. Sometimes, the practice adds standardized reminders to the automatic message such as information about flu shots. Many of the messages involve prescription refills, appointments, and specialist referrals that can be handled by someone other than a doctor. Physicians only give out their private e-mail addresses when they feel it's appropriate.

"E-mail allows the doctor and the patient to have some type of ongoing conversation," Ford says. "Without e-mail, when a patient leaves my office and they try to call and talk to me, it's very difficult. There are all these blocks set up. E-mail

removes the barriers between doctors and patients."

Daniel Hoch, MD, assistant in neurology and director of neurology operations improvement at Massachusetts General Hospital in Boston, is running a pilot e-mail program with about 10 patients and is applying for a grant to fund a study with 50 more. He says the impetus for the program was the need to improve control of communication with patients.

"The telephone is no longer adequate," he says. "There are too many calls, and people are dissatisfied with a quick answer. The Web-based approach is more convenient, and more information can be given."

The neurology department has had a service for about a year that allows patients to post a message to Hoch on a bulletin board. He answers directly to the bulletin board, and the postings are saved to provide a record of the interaction that is easy to review. The site is password-protected and more secure than standard e-mail, he says.

He uses e-mail for such purposes as answering patient questions, leaving instructions for medication changes, and directing patients to Internet sites that might supply more information. Hoch says his gut feeling is that e-mail will cut phone time by 25% to 50%; his study will provide more precise information. "We've generally found it more efficient than phone calls. There is the ability to take care of business from remote sites, to do so at odd hours without worrying about waking someone up, and it is often faster than phone tag," he says.

Another huge benefit is that since e-mail messages can be printed out, unlike phone conversations, there is a written record for both the patient and the physician.

"Computers are no more going to go away than the telephone or television," Hoch says. "They will revolutionize the practice of medicine and how clinicians interact with patients. Physicians should jump in now and take an active role in the way these processes develop."

[For more information, contact:

Paul M. Ford, MD, Assistant Professor of Medicine, Stanford Medical Group, 900 Blake Wilbur Drive, Room W2080, Palo Alto, CA 94304-2205. Telephone: (650) 723-6028. Web address: www-med.stanford.edu/shs/smg.

Tom Ferguson, MD, Editor and Publisher of The Ferguson Report, *3805 Stevenson Ave., Austin, TX 78703. Telephone: (512) 474-1141. Web address: www.healthy.net/selfcare. E-mail: doctom@doctom.com.*

Daniel Hoch, MD, Assistant in Neurology, Massachusetts General Hospital, Department of Neurology, Fruit St., Boston, MA 02114. Web address: neuro-www.mgh.harvard.edu.

Also, check out the Oct. 21, 1998, edition of the Journal of the American Medical Association. *An editorial by Tom Ferguson accompanied several articles on patient-physician e-mail.*

The American Medical Informatics Association Internet Working Group, of which Ferguson is a member, has developed "Guidelines for the Clinical Use of E-mail with Patients." The guidelines are available at www.amia.org/positio2.htm.] ■

SC starts on-line physician comparison data system

This is managed care a physician could love

South Carolina physicians will soon have a new tool in their black bags: a comparative data system they can access through the Internet that will tell them how they're doing on a wide range of measures compared with their peers across the state.

The South Carolina Budget and Control Board Office of Research and Statistics and the South Carolina Medical Association, both based in Columbia, have teamed up to start a comprehensive, secure data system they say is like no other.

When the system is up and running in the next few months, physicians will be able to log on through the Internet and see their personal top 10 severity-adjusted reasons for hospitalization and

Key points

- South Carolina will soon give physicians the ability to access physician-specific comparison data on hospitalizations, length of stay, complications, and outcomes through the Internet.
- The project director says this will allow physicians to manage care and dramatically improve outcomes.
- The state's two medical schools plan to use the data to drive their decisions on which continuing medical education programs to offer.

compare those with all other physicians across the state. They'll be able to see where they fit in the 25th, 50th, and 75th percentiles, but no one else will. The information will not be identifiable by name, and the system will require a physician number and personal password for access.

But that's not all. In addition, physicians will be able to see data on these factors:

✔ **length of stay**, with details on pre- and post-surgery, intensive care unit stays, and observation days — in short, any way you can compare LOS;
✔ **complications** based on the UB-92 form;
✔ **estimated costs** based on Medicare cost reports;
✔ **outcomes**, such as in-hospital mortality, mortality within 30 to 60 days, readmission rates within 30 days, and visits to the emergency department within seven days.

"This is managed care, managed where it should be — at the physician level," says **Pete Bailey**, chief of the South Carolina office of health and demographics and leader of the project. "We can sidestep in a lot of ways that kind of managed care where people come in from out of state, skim the cream off the top, take the money, and leave. Other people have taken this type of data and used it all the time, but physicians have never had their own data system. They've never known this information about themselves. This is letting physicians manage care, which is the only way to do it."

Tracking data across the continuum

Bailey says the project will begin with inpatient data but will soon expand so physicians will be able to track their data across the continuum of care. Plans are in the works to plug in health data from the 350,000 state employees to make available information on office visits, lab services, radiology, and pharmacy comparisons.

Medicaid data may eventually be incorporated as well so that a physician could look at an outpatient surgery, for example, and the outpatient visits that led up to it. Bailey also plans to group episodic situations vs. disease states, in which one- to two-year treatment patterns would be helpful.

"This is what physicians do every day, but they've never had the data to back it up," Bailey says. "That's how practice is anyway — they think back to past cases, think about what they've heard or read, and make a decision. Now we can give them tremendous capability to make decisions based on objective data. Physicians are scientists, so this is right down their line."

Bill Mahon, CEO of the South Carolina Medical Association, says his organization agrees that physicians need access to this type of data. The association is paying $75,000 to fund the project this year.

"We firmly believe the electronic age is here, and it's going to be a significant factor in health data of the future. With the Internet, the access is there," he says. "We felt that if we made it available to physicians, they could use objective data for self-assessment and performance evaluation. Other people are making this type of information available, and doctors should have access to it so they can evaluate it and make sure there are no glaring errors."

The association also is directing the content of the data system so that it will be most useful to doctors. South Carolina has collected detailed physician-level data for years, and physicians could request a paper printout in the past. "But when physicians request data on paper, they probably have something in mind that they think they need to look at," Mahon says. "Now they can surf and look at all kinds of things at a speed beyond belief. You can leaf through the top 20 procedures you might do and have a profile flash up. It takes the guesswork out."

Bailey says previous research has shown that this type of benchmarking can dramatically improve care.

"Several years ago, we did some work on prostatectomy where we saw differences in length of stay," he says. "We pulled samples and did research to see why. The research showed a couple of differences between the low-length-of-stay physicians and the high-length-of-stay physicians based on when they did surgery and when they took the catheter out. This was presented to the urological specialty society, and we gave every physician his or her comparison data. After just that one presentation, the length of stay changed dramatically."

It's not enough just to report the data if change is to be made, Bailey says, and that's why the other players in the project are South Carolina's two medical schools, the Medical University of South Carolina (MUSC) in Charleston and the University of South Carolina in Columbia. The medical schools plan to use the comparative data to plan their continuing medical education programs.

"You're going to be able to see where there are issues with length of stay, issues with complications, issues with re-admissions," Bailey says. "Those will dictate the kinds of continuing medical education programs. In the past, CME programs haven't had a solid way of deciding what to offer."

Jan Temple, director of professional development in the office of continuing medical education at MUSC, says this effort should have a long-term impact on health care in South Carolina.

"We'll be able to design our CME programs for physicians in a more formalized way to target those areas where improvement is needed," she says. "By comparing state data to national standards, we can focus program content on quality indicators related to the process of care that have been linked to improved outcomes. Then we'll be able to re-run the state data to see if there has been any change in outcomes."

Temple says they will also be able to look at health priorities in the state, such as diabetes, heart disease, and cancer, to see what specific issues need addressing. "The beauty of this initiative is that it's unique and focused," she says.

Bailey says when physicians notice areas they need to address, they'll easily find links to the appropriate continuing medical education information. And when the project directors notice a widespread problem, they'll encourage research at the medical schools to find out what's going on. In the future, the state plans to provide the same type of data for hospitals.

"It's a wonderful coming together of people who are honestly trying to figure out how to educate physicians and figure out ways to solve problems that come up," Bailey says. "I think it's going to make a substantial difference."

[For more information, contact:

Pete Bailey, Chief, Office of Health and Demographics, South Carolina State Budget and Control Board Office of Research and Statistics, Rembert C. Dennis Building, Room 425, 1000 Assembly St., Columbia, SC 29201-3117. Telephone: (803) 734-4022. Internet address: www.orss.state.sc.us

Bill Mahon, CEO, South Carolina Medical Association, P.O. Box 11188, Columbia, SC 29211. Telephone: (803) 798-6207, ext. 224.

Jan Temple, Director of Professional Development, Office of Continuing Medical Education, MUSC, 261 Calhoun St., Suite 301, P.O. Box 250189, Charleston, SC 29425. Telephone: (843) 876-1925.] ■

Hospital cuts time on ventilators, ICU LOS

Protocol lets staff aggressively wean patients

Most hospitals have the same problem that Nash General Hospital in Rocky Mount, NC, was facing a couple of years ago: too many wasted patient days in the ICU, accompanied by long weaning times for patients on ventilators and nosocomial infections.

Staff at most hospitals would be surprised at how quickly Nash fixed the problem.

In a matter of nine months, a grass-roots staff effort headed by a nurse led the hospital to cut the overall length of stay (LOS) in the ICU by 25%. The LOS for patients on ventilators dropped 34%. The ICU reported no cases of ventilator-associated pneumonia in that period, down from an average of 12.9 infections per 1,000 ventilator days.

The average duration of mechanical ventilation dropped 38% (4.7 days vs. 2.9 days), and the mean hospital LOS dropped by 23% (20.2 days vs. 15.6 days). Ventilator patients averaged savings of $35,000 in hospital charges compared to the baseline group.

How did the hospital do it? **Lorna Prang**, RN, BSN, CCRN, former manager of the intensive care and cardiac care units at Nash (which were recently merged into one critical care unit) and leader of the effort, says the key was a genuine desire by the bedside staff to improve outcomes for patients in the ICU.

Registered nurses participating in a quality improvement team headed by Prang felt that the large population of ventilator patients was

Key points

- A grass-roots effort led by nurses allowed a North Carolina hospital to cut the length of stay for patients on ventilators by 34% and the overall ICU length of stay by 25% in nine months.
- A ventilator protocol approved by physicians lets nurses and respiratory therapists begin weaning patients without calling the physician at every turn.
- Ventilator patients averaged savings of $35,000 in hospital charges during the nine-month study period.

staying in the ICU longer than necessary.

It's a problem across the country, according to the Boston-based Institute for Healthcare Improvement (IHI). The institute says that two out of every five ICU days are wasted in American hospitals.

"Part of it has to do with physician practice," Prang says. "They genuinely respect the care we give in the ICU. The floors get overloaded — and it's not that patients get bad care there — but if a patient is quite sick, the physician might feel more comfortable having him in the ICU. There's not a good intermediate place between critical care and the floors."

To jump-start their improvement effort, Prang and two colleagues attended IHI's conference on improving critical care, and the hospital became part of a yearlong IHI collaborative on the topic. Nash set goals to decrease the average number of ventilator days by 25%, decrease the costs associated with providing mechanical ventilation by 25%, and decrease the incidence of ventilator-associated pneumonia in the ICU.

They passed with flying colors, mainly due to a ventilator-weaning protocol introduced in 1996 that lets nurses and respiratory therapists begin the weaning process under standard physician orders. **Mary Wells**, RN, chairwoman of the vent collaborative team that meets monthly to monitor progress, says that before the protocol was developed, physicians had to be called at every turn. That often resulted in delays that weren't medically necessary.

Six actions form basis of ventilator program

Key elements of the ventilator protocol are:

• Cut down on the number of times blood is drawn from a patient to check breathing status after ventilator changes are made. When possible, nurses use pulse oximetry instead, which costs less and is less invasive for patients.

• Start tube feeding immediately after the patient is placed on the ventilator, provided the physician agrees. Before, patients may have gone a day or two before they were fed. "If you don't have that nutritional reserve, you won't get anywhere because the patient has nothing to pull from," Wells says.

• Give drugs for sedation if the patient becomes restless.

• Get a chest X-ray right after a patient is placed on a ventilator to make sure the tubing is in place.

• Take sputum cultures to determine a baseline for organism growth and the need for antibiotics.

• Wean the patient at certain oxygen levels.

"The protocol gives our respiratory therapists the ability to aggressively wean people without having to go through the physician for every change," Wells says. "In the past, they would draw a blood gas, then call the physician to OK the change. After that change, they would draw another blood gas and call the physician again. Now, they can wean patients almost to the point of being extubated. At that point, they call the physician."

Another helpful change was the implementation of a daily rating system for ICU patients that helps determine when patients need to be moved out of ICU, Wells says. An "A" rating means the patient is on a ventilator or drips and needs to stay in the ICU. A "C" rating means the patient is off the ventilator and drips, is stable, and is ready to move to a regular floor. A "B" rating means the patient is at a point in between and should stay in the ICU until becoming stable.

"The bottom line is the comfort level of the patients," Wells says. "If we can decrease their chances of pneumonia, we can increase their comfort and they'll be back home sooner."

A standard set of ventilator orders is included in every patient's chart, and the ventilator protocol is posted in the unit. **Pam Johnson**, BSN, RN, CCRN, clinical educator for critical care services, says the standardization improves patient care and makes staff education much easier. "Before, the nurses and therapists had to work with 30 different physicians with 30 different ways to wean," she says. "Now there's less stress for the staff, and it's easier for them to learn."

Johnson goes over the protocol during new staff orientation, touches on the topic in monthly inservices for existing staff, and discusses treatment options during daily rounds. She also participates in interdisciplinary rounds twice a week. Physicians receive a manual with the protocols, and the nurses constantly remind them to think about weaning patients.

"We're not minimizing the role of the physician," she says. "We're letting good care be driven by the caregivers who are at the bedside 24 hours a day, seven days a week."

The key to success, Prang says, is that the project has had support on all levels. The medical director of the ICU started using the protocol first, and data from his patients were shared with other physicians at medical staff meetings. Prang put graphs up every two or three weeks showing

the results of patients who were on the protocol vs. those who weren't. As they started to see progress, physicians started using the protocol with their patients as well.

"We didn't have 40 dozen committees approve it," Prang says. "We started with one doctor's patients and showed solid data to the other doctors. It gathered steam, and then the hospital took the position that the protocol was the way to go.

"It was a team project, not a top-down initiative. As nurses, we often don't feel like we can impact care, but we can. We felt so empowered."

[For more information, contact Mary Wells, RN, Critical Care Unit, Nash General Hospital, 2460 Curtis Ellis Drive, Rocky Mount, NC 27804. Telephone: (252) 443-8723.] ■

NEWS BRIEFS

AmeriNet offers outcomes data

A new benchmarking source is available from St. Louis-based AmeriNet Inc., a group-purchasing organization representing more than 8,200 member facilities in all 50 states. AmeriNet is now providing clinical data for its member hospitals and health care organizations by conducting outcome studies on patients' health status after medical intervention with certain pharmaceuticals.

The first study compared the outcomes of 3,035 cases of community-acquired pneumonia at 72 hospitals. Data included length of stay, mortality, and compliance with American Thoracic Society treatment guidelines. Another study focused on 838 cases of deep vein thrombosis at 76 hospitals, and a third is planned on the treatment of acute coronary syndromes.

"Data gathered from patient outcome studies allow our members to adequately assess how well they are caring for patients," says **Alan Hopefl**, a clinical manager at AmeriNet. "Now that this information is available, community hospitals can benchmark their performance against similar facilities instead of university hospitals, where studies are typically conducted."

For more information, contact AmeriNet at 2060 Craigshire Road, P.O. Box 46930, St. Louis, MO 63146. Telephone: (314) 878-2525. Web site: www.amerinet-gpo.com. ▼

ECRI report offers help for Y2K contingency plans

Need help developing Y2K-contingency plans? Check out the latest special report from ECRI, a nonprofit health services research agency based in Plymouth Meeting, PA. The report, *Five Minutes to Midnight: Practical Y2K Contingency Plans for Healthcare Facilities*, provides detailed, practical Y2K planning advice for mission-critical systems.

The report, based on ECRI's expertise in Y2K issues and health care risk management, covers a wide range of topics, including clinical support of

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Editor: **Ellen Dockham,** (336) 992-8766.
Group Publisher: **Brenda Mooney**, (404) 262-5403, (brenda.mooney@medec.com).
Executive Editor: **Susan Hasty**, (404) 262-5456, (susan.hasty@medec.com).
Managing Editor: **Paula Stephens**, (404) 262-5521, (paula.stephens@medec.com).
Production Editor: **Ann Duncan**.

Editorial Questions

For questions or comments, call **Ellen Dockham** at (336) 992-8766.

Everyday Innovations

An ophthalmoscope that doesn't walk away

Here's an idea to add to your "Why didn't I think of that?" file: ophthalmoscope and otoscope sets that are portable but don't walk away.

At Mount San Rafael Hospital in Trinidad, CO, the portable, battery-powered sets physicians need to examine patients often disappeared or turned up with worn-out batteries. So **Mike Kircher**, RN, CCRN, MSW, MHSA, the hospital's process improvement coach, and **Ted Shinkle**, director of engineering, came up with this simple solution:

"We took wall-mounted otoscope and ophthalmoscope sets and put them on a dolly similar to an IV pole," Kircher says. "This system makes the sets highly visible, portable, resistant to leaving the hospital, and invulnerable to worn-out batteries since the systems plug in the wall. We have yet to lose one of the units since we started using them several years ago."

Stop the endless searches

Nurses no longer waste time looking for the units, physicians find them readily available, and the hospital doesn't have to continually replace them.

To read more about this idea and other everyday innovations, visit the Best Practice Network's Web site at www.best4health.org.

The Best Practice Network, a new organization devoted to promoting information-sharing in health care by nurses, physicians, and other health care professionals, offers creative solutions to problems large and small.

For more information on The Best Practice Network, send an e-mail message to join-us@best4health.org or call (800) 899-2226.

Contact Mike Kircher at Mount San Rafael Hospital, 410 Benedicta Ave., Trinidad, CO 81082. Telephone: (719) 846-9213, ext. 195. ■

patients, medical device compliance, documentation, liability exposures, media relations, dealing with staff fears and anxieties, and Y2K best practices. For more information, contact ECRI at 5200 Butler Pike, Plymouth Meeting, PA 19462-1298. Telephone: (610) 825-6000, ext. 5372. ▼

Health care Y2K reference resource available

With the year 2000 deadline fast approaching, hospitals are scrambling to complete a process that in many cases was started too late.

In response to a serious problem, American Health Consultants, publisher of *Healthcare Benchmarks*, has published the *Hospital Manager's Y2K Crisis Manual*, a compilation of resources for nontechnical hospital managers.

This 150-page reference manual includes information, in nontechnical language, on the problems your facility will face, including:

- Will your computers and software work in 2000?
- What does Y2K mean for patient care?
- What will happen to your medical devices?
- How can you make sure your vendors are Y2K-compliant?
- Are you at legal risk due to Y2K?
- Are you prepared if Y2K delays Health Care Financing Administration's payments?

The Hospital Manager's Y2K Crisis Manual is available now for $149. To order, contact American Health Consultants' customer service at (800) 688-2421. ■