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Reliability science: Ensure system success even when components fail

Industrial-engineering approach applicable to health care, experts say

Is your health care facility reliable? If it wasn't, would you know it — and would you know how to turn things around? While most of us would be inclined to reply in the affirmative, recent studies indicate that when judged by the more rigorous quality standards being applied today, few facilities in the United States would pass muster.

If a health care system is reliable, argues the Boston-based Institute for Healthcare Improvement (IHI), all patients can expect to always receive evidence-based, effective care when they need it. In a recent study published by the RAND Corp., however, it was reported that for many clinical conditions with known best practices for quality care, only 50% of patients received care consistent with such recommendations.[1] In fact, in a follow-up paper, the researchers asserted that "performance was not better in areas with outstanding medical institutions."[2]

"Almost any study that talks about evidence-based care concludes that [it is delivered] at best at somewhere near 90%, and usually at 70%," says statistician **Tom Nolan**, PhD, a senior fellow with IHI and a member of Associates in Process Improvement, a small consulting firm with offices in several cities across the country.

Nolan became involved with the subject of health care reliability several years ago and has been particularly impressed with the Robert Wood Johnson Foundation's "Pursuing Perfection" project, for which IHI is a national program office. "The whole idea is to

Key Points

- Half of all patients do not receive evidence-based care.
- The goal: All patients all the time receive the right care at the right time.
- 'Uncontrollable variables' are no excuse, proponents say.

raise the performance bar; 90% is not good enough anymore," he asserts. "So it becomes even more imperative to think about the best science around."

There is actually a science of reliability, Nolan says. "There are two bodies of knowledge relevant to the issue of reliably matching patient needs and delivery of care," he explains. "The first might be reliability engineering, of the type made famous by the space program: Can you design a system so that if a component fails, the whole system doesn't?" Reliability engineering is concerned with redundancy, the practice of having backup systems that can come on-line when primary systems fail.

"Reliability science is also concerned with very complex systems and trying to understand their potential failure modes," says Nolan, citing the second critical body of knowledge.

IHI has been sufficiently impressed with reliability science that it scheduled a seminar on the topic for a June 28 session in Boston. The one-day seminar was to provide an overview of the key concepts of reliability science and share how organizations working with IHI's IMPACT network will be applying these key concepts to improve outcomes in five diagnoses (acute myocardial infarction, coronary artery bypass graft [CABG], heart failure, community-acquired pneumonia, and hip and knee replacement). It was offered to quality officers and directors, chief medical officers, chief nursing officers, physicians, and senior leaders.

"Other industries have used these approaches very successfully; we need to see what they've done and how it can be applied to health care," says **Frances A. Griffin**, RRT, MPA, a director with IHI.

So what, exactly, constitutes reliable health care, and how does IHI plan to work with health care institutions to improve their performance? "I would say it is ensuring that health care processes occur consistently and safely so all patients all the time receive the right care at the right time," says Griffin. "So, for example, if a patient has pneumonia, the appropriate antibiotic is ordered every time and they get the appropriate dosage every time."

Even when we look at what we would call today's high-reliability health care, "We aren't even close to that," says Griffin. "When we look at our processes, we can't guarantee the patient will get the right treatment at the right time every time."

But doesn't this assume that human beings, who are fallible, can achieve perfection? "Look at an aircraft carrier," Griffin replies. "It's a very complex system, with a tremendous amount of variables. It's at sea; the weather conditions are changeable; the deck is wet; there's oil on the deck from planes, which take off every 15 to 20 seconds, some of them loaded with nukes; there are a large number of employees, many of whom are very young. You have all these variables, so if something goes wrong and is not properly managed, the potential for catastrophe is huge — but how often do you hear about a catastrophe on an aircraft carrier?"

What organizations like the military have, she explains, are systems in place so that all the right things happen all the time under changing conditions. "Health care is very similar," she asserts. "It is very complicated, things are always changing, and every patient is different."

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The Five Characteristics of High-Reliability Organizations

Weick's Characteristics of a High-Reliability Organization	Reliability Under Routine Conditions
Preoccupation with failure	Preoccupation with process *There are no good processes in place, or organization staff and leaders believe there are processes, but they are not reliable.*
Reluctance to simplify interpretation	Simplify the process *Organization has processes in place that over time have become complex, resulting in wide variation and results.*
Sensitivity to operations	Know the failure modes *Leaders of organizations need to begin by learning the common failure modes in their routine processes.*
Commitment to resilience	Commitment to timely feedback and action *Leaders need to provide feedback and data to front-line staff and clinicians about processes and outcomes, with a commitment at all levels to timely action when data show suboptimal performance.*
Deference to expertise	Design for expertise needed in 80% of cases, with triggers for customization for the other 20% *Processes need to be designed by the experts, i.e., those with the most relevant training; their input into process design, not necessarily execution, is essential. Only 20% of cases, if not less, should require exception, and those should have triggers or criteria for identification.*

Source: Weick K, Sutcliffe K. *Managing the Unexpected: Assuring High Performance in an Age of Complexity.* San Francisco: John Wiley & Sons, 2001.

The bottom line, says Griffin, is that the "variability" argument posed by many in health care "is a nice denial excuse. Of course we are different, but health care organizations still have processes. Like those other organizations, we rely on processes, procedures, equipment, and human beings to run that equipment. You can't say there's nothing we can learn from industry."

While the move to reliability is in its early stages, Griffin and Nolan have some well-formed ideas on how to proceed. Nolan has come up with a three-level design for improving reliability. "It involves first preventing errors or defects; then you surface defects when you can't prevent them," he notes. "For example, if a patient comes into the ED [emergency department] with community-acquired pneumonia [CAP], he should be put on a protocol. If he isn't, what mechanisms do you have in place to recognize that the defect is there and correct it?" The third level, he adds, is mitigating the effects.

"You must have a preoccupation with failures," adds Griffin. "Look for any little failure. If a failure happens, study it very intensively. Health care today is not even close to that. We talk about 'routine conditions.' You've got to get your arms around the system, know it inside and out, so you can prevent failures."

Both Griffin and Nolan draw upon the work of Karl E. Weick and his book *Managing the Unexpected*.[3] "Karl Weick has done some of the best thinking on high reliability in organizations in industry, though some translation [into health care] needs to be done," says Nolan.

"He outlines the five characteristics of high-reliability organizations in fields such as nuclear power and aviation, where failures can be catastrophic," Griffin says. **(See an outline of Weick's five characteristics, above.)**

In terms of moving forward with health care organizations, "The first thing we have to look at is standardization," says Griffin. "If you look at any of the five diagnoses, many organizations will say they have a protocol or a standard order set. But if you look at how they are being used, very few organizations have 100% of their patients being placed on the proper protocol or order set, either because the physician chooses not to, or the ED staff misses it, and so on. Or, if the protocol is initiated, one or some of the pieces may not be used. So, you have to *actually* standardize. This is a critical first step."

For example, the Centers for Medicare & Medicaid Services (CMS) has four quality measures for heart failure. "*Everyone* should get them," asserts Griffin. As for the first organizations IHI is

working with, "We tell them they need to get to 80% to 90% before we move on to what we should look at on the next level."

Nolan offers this outline for applying reliability to the five diagnoses: "First, you need to have an overall structure," he advises. "Can we prevent the defects? Can we have a redundant component, so if we do not get on the right protocol, we can find out and correct it?"

One possible approach is to use markers, he says. "If someone is hospitalized for CHF [congestive heart failure], they almost always get Lasix or a strong diuretic," he notes. "The lab can do a check to see if the patient got the right meds, and if they find people not on the protocol, get them on it."

The "default" should be made the evidence, he argues. "The default is, use a protocol unless a doctor orders something else," Nolan explains. "It connects to habits and patterns."

He offers another method for improving reliability. "For certain surgeries, delivering antibiotics within one hour of surgery has been shown to be effective in preventing surgical site infections," he notes. "One common approach is, 'The surgery is scheduled for 10:00, so sometime around 9:00 we will give the meds on the unit.' But if the surgery gets delayed an hour, you miss the window, so this is an unreliable approach."

Nolan has seen some hospitals use much more reliable approaches. "One hospital has a sign just above the door in the holding area. It reads, 'Has the patient been given their antibiotic?' The meds are given when the patient goes through the door. Others have said that when the anesthesiologist puts the patient to sleep, you can concurrently give the medication. Both of these are much more reliable methods."

One of the biggest challenges facing quality professionals is how to make a whole hospital reliable, Nolan says. "That really is on the leading edge of where we are now; I don't think anyone has the answer," he concedes.

He does, however, offer some suggestions. "When we look at these five conditions, some patients have more than one, and so, for example, they may have smoking cessation counseling and also need some kind of vaccination. So, rather than do everything one time for each condition, some hospitals might say that whenever someone comes in over a certain age, you should offer them that vaccination and not wait for that disease to appear, so at one time you become reliable across the whole hospital. If you're looking at the antibiotics needed for just hip and knee surgery, couldn't you ask, 'What are all the surgeries that need this antibiotic one hour before?' Or you might look at the fact that three of the five conditions — AMI [acute myocardial infarction], congestive heart failure, and CAP — almost always go through the ED, so you might institute some mechanism in the ED to get them going. You might start thinking fundamentally about the use of protocols in the ED."

IHI is not alone in its pursuit of greater reliability, Nolan notes. "A project worth mentioning involves CMS partnering with Premier on a project relating to five acute conditions — CAP , CHF, AMI, hip & knee replacement, and coronary artery bypass graft," he reports. "They have designed certain process, time, and outcomes measures. Organizations that have signed up for the project will get paid a premium if they can get into the top 10% on all measures for all conditions."

As for IHI, it is preparing to learn more about additional reliability tools. "We are looking at finding ways to identify the failures," says Griffin, who notes that she is currently working with a small group of hospitals from among Premier's partners for the June seminar, which covers what has been learned.

"Starting in the fall, we will have an innovation community as part of IMPACT, and organizations will be able to join us," Griffin says. "If any of the ideas we test turn out to work, this could be very exciting."

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System loop analysis eliminates phlebotomy lines

Problem solved by thinking outside the box

Looking beyond the most obvious cause of long lines in phlebotomy has enabled staff at the VA Medical Center in Reno, NV, to eliminate those lines entirely. The key? System loop analysis.

In December 2002, the phlebotomy service relied on a first-come, first-serve process, recalls **Stewart Leong**, MD, who had at that time just become chief of pathology and laboratory service. "Without a proportional increase in the number of phlebotomists and space, this process had become overwhelmed," he notes.

The problem was initially attributed — albeit erroneously — to a lack of resources. But, not satisfied with that answer, Leong began interviewing the phlebotomists to gain input from the trenches.

Left out of the loop

What he learned was that, to his surprise, *every patient had an appointment time*. The problem was, the lab didn't know this.

"We have had what we call Process Action Teams in place for a number of years to address certain problems," he notes. "There had been a team set up to address the scheduling problems a number of years back, but informational resource management people had been making up their own software programs to schedule patients. The initial team was supposed to involve laboratory management, but somehow management was dropped off the team, so they were implementing the process without us."

Leong learned of this disconnect from one of the phlebotomists, who also happened to be one of the patients. "He said that everybody had appointments," Leong says. "When they saw their PCP [primary care physician], they were given a scheduled time to come back and get a blood draw, but for some reason these were not used. And the lab management *didn't know they had an appointment*."

Another variable uncovered was a misinterpretation of a Veterans Health Administration mandate relating to disabled vets. "There's a mandate that they should get priority in getting appointments to see the providers, but that does not mean they have the right to get in line ahead of anybody," Leong explains. "Under first-come, first-serve, there was a line; you can't come in late and just flash a badge and go to the front of the line. They have a priority in terms of *getting* an appointment, but not in getting ahead of other people."

Key Points

- New process was in place, but lab had been left out of the loop.
- Interviewing phlebotomists uncovers defects in processes.
- At least 90% of patients now are seen within 20 minutes of appointment time.

Analytical approach

Leong's analytical approach to the problem unfolded in the following steps:

- Develop an operational definition of the problem.
- Identify all important variables and define key variables.
- Conduct a cause-effect analysis and develop a system loop analysis.
- Design an improved system.
- Design the system change management strategy.
- Implement, evaluate, and record.

The independent variables were identified as: A) service capacity, as defined by speed of service, and B) number of patients. The dependent variables to A were technical factors and system factors; the dependent variables to B were patient population growth, patients' individual needs, and providers' needs and expectations. When the loop analysis was conducted, "It became evident that the two independent variables had generated a positive reinforcing feedback loop and overwhelmed the service capacity," says Leong.

Since the current service capacity was a known quantity, the number of patients on the demand side needed to be controlled to correlate with the supply side.

The new system was outlined as follows:

- The scheduling process successfully set up by Information Resource Management and Primary Care Services was to be incorporated.
- Patients will scan their identification card at the hospital entrance.

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• Patients will report to the phlebotomy waiting area.

• Patients will be called to the phlebotomy area when their turn is up on the monitor, by order of appointment time and scanning time.

• At the phlebotomy area, the patient's identification card will be scanned again to generate lab test orders and to eliminate their names from the monitor screen.

• A working "waiting time" of 20 minutes, defined by the time period from scanning in at the hospital front desk to presentation at the phlebotomy area, was set up for monitoring.

"We set up an indicator that we would like to provide service for at least 90% of the people within 20 minutes of their appointment time," says Leong. And how has the new system worked? "For the first seven months, we were way above our goal," he reports. ■

Health plans offer rewards for quality improvement

Indicators: Patient satisfaction, preventive care

Health plans are increasingly offering modest incentive payments to reward physicians and hospitals for quality improvement, according to a study released by the Center for Studying Health System Change (HSC) in Washington, DC. The study, HSC Issue Brief No. 82, dated May 2004, reports that the quality indicators used most commonly include patient satisfaction and preventive care, while use of more sophisticated outcome and process measures is less common. Incentive payments take a variety of forms but typically involve a modest bonus.

The study was drawn from visits in 2002-2003 to 12 nationally representative U.S. communities: Boston; Cleveland, OH; Greenville, SC; Indianapolis; Lansing, MI; Little Rock, AR; Miami; northern New Jersey; Orange County, CA; Phoenix; Seattle; and Syracuse, NY. HSC researchers interviewed representatives of health plans, providers, employers, policy-makers, and other stakeholders.

What is motivating health plans to move in this direction? "At this stage, they are trying to find a way to show purchasers they are getting what they're paying for," notes **Bradley C. Strunk**, one of the study's authors. "Certainly, there are people out there who are talking about these programs as a means of cost control; if you improve quality, it will lead to lower costs. In general, however, plans are somewhat skeptical of this approach. Instead, they see [incentives] as a way to go to the purchaser client and say, "We are asking for an X percent premium increase; we are doing this to show you that you're getting what you're paying for."

A 'nascent' trend

The authors refer to this move toward incentives as "nascent," while noting that health plan-based incentive programs exist in seven of the 12 HSC-studied communities. Does that mean there will be significant growth in the future?

"I think that right now there seems to be a willingness on the part of most players to get the ball rolling. There's a great opportunity for them to grow in the future," says Strunk. "The challenges, however, are very real."

Among the key challenges cited are skepticism among providers regarding how quality is measured, and establishing an appropriate relationship between quality incentives and the underlying financial incentives of the base payment system.

"There certainly needs to be continuing development of the kinds of tools we need to measure quality, i.e., clinical guidelines," Strunk says. "Policy-makers have a big role to play. For example, AHRQ [the Agency for Healthcare Research and Quality] is spending a lot of time

Key Points

- Patient satisfaction, preventive care most commonly used indicators.
- Goal is to demonstrate value to health insurance purchasers.
- Trend is 'nascent'; future growth of trend is far from certain.

on evidence-based medicine and best practices, as are JCAHO [the Joint Commission on Accreditation of Healthcare Organizations] and the National Quality Forum [NQF]. These kinds of organizations are providers of trust; if they can develop standards and then have them incorporated into various programs the plans create, it will improve chances for success."

Even more challenging, perhaps, is arriving at an appropriate financial arrangement. The programs currently in place, normally sponsored by larger plans, take one of two forms. The first is a bonus payment paid at regular intervals, e.g., quarterly. Some other plans base a specified portion of a provider's payment rate increase over a multiyear contract on the provider's performance on a quality scorecard. The size of the incentives ranges from about 1% to 5% of total payments — which, plans acknowledge, may not be large enough to achieve desired changes.

The challenge here, says Strunk, is an innate conflict between an incentive structure and the base payment system. "There is a base payment methodology for the provider, i.e., fee for service," he explains. "If you have a hospital system that is paid per diem, or based on patient days, and an incentive program comes along that says, 'we'll pay you a bonus if you *reduce* patient days,' the hospital will do what makes sense financially. And the base pay system may give you much more [money] than any incentive."

In other words, says Strunk, "Plans will be challenged to demonstrate there's new money on the table here."

Jury still out on future of incentives

For these and other reasons, Strunk notes, it is not yet clear that this trend toward incentives will continue. "The fact that major plans are doing this is evidence that they think they are getting something out of it," he says. "But these programs are in the early stages, and there's still a lot of work being done to measure impact."

One of the better-established programs was launched in 2000 by Blue Cross and Blue Shield (BCBS) of Michigan. As delineated in the Issue Brief, BCBS pays incentives based on how well a hospital scores on a quality scorecard. Clinical quality accounts for 50% of the total score, patient safety accounts for 40%, and implementation of a community health project accounts for 10%. Indicators from JCAHO and NQF are incorporated in the program. Participating hospitals are eligible for incentive payments of up to 4% of inpatient payments in 2004.

"I find this plan to be really interesting and very cutting-edge," says Strunk, noting that the entire plan can be viewed on the BCBS web site (www.bcbsm.com).

Meanwhile, says Strunk, many providers remain reluctant to buy in to these programs. "It's a result of the challenges these programs represent, like standardization, buying into measures, and the nature of funding," he summarizes. However, he adds, "This seems the time for [such programs] to happen." ■

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The HSC Issue Brief can be found at www.hschange.org/CONTENT/675/.

Compliance with protocols may improve outcomes

First large-scale safety study of CABG procedures

What has been called the first large-scale study to examine patient safety issues for isolated coronary artery bypass graft (CABG) showed that hospitals with the highest compliance with three recommended protocols had notably lower risk-adjusted mortality rates than those hospitals whose compliance ranked in the bottom 20%. Representatives of Premier Healthcare Informatics in San Diego and Aurora Health Care in Milwaukee presented the results of the study, titled "Metrics and Measurement in Patient Safety," at the Sixth Annual National Patient Safety Foundation (NPSF) Congress in Boston on May 5.

The year-long study, which included 134 hospitals and more than 40,000 patients, examined the effectiveness of care using widely accepted protocols (i.e., use of aspirin, beta blockers, and an internal mammary grafting procedure) and the impact on patient safety and costs. The findings showed

Key Points

- Top 20% of hospitals had a 14% lower mortality rate.
- Protocols include use of aspirin, beta blockers, and internal mammary grafting procedure.
- Variance between top- and bottom-quintile hospitals as high as 22%.

that the variance between the top- and bottom-quintile (i.e., 20% increments) hospitals in terms of compliance with these protocols was as high as 22%. For example, the top quintile used beta blockers 97.9% of the time, compared to 75.1% for the bottom quintile.

Saving 1,300 lives per year

The top quintile also had a risk-adjusted mortality rate of 2.4%, compared to 2.8% for the bottom quintile, a 14% difference. Given that some 350,000 CABG procedures are performed annually in the United States with a mortality rate of 2.66%, according to a *Journal of the American Medical Association* study published in January 2004, a 14% improvement in mortality outcomes would translate into 1,300 saved lives a year.

In addition, approximately 4% of all CABG patients were flagged with one or more patient safety indicators (PSIs), which indicate that the patient is at risk for a preventable adverse event. The excess variable cost per case for PSI patients was $15,620. No correlation was found between hospital volume of CABG procedures and observed PSIs, although hospitals that did fewer than 200 procedures had much wider variances in performance.

The NPSF study was developed using data from Premier's Perspective, a web-based clinical performance measurement system that provides patient-level detail to identify opportunities in clinical quality and efficiency.

"PSIs have been studied before — someone did not just grab these out of the clouds — but the validity and true applicability to measure and monitor patient safety outcomes indicators has not been definitively validated, and that's what we were trying to do," says **Kathryn Leonhardt**, MD, MPH, associate medical director, care management, for Aurora Health Care.

"Our biggest challenge in patient safety is building a repository of solid evidence that validates how patient safety indicators and interventions directly impact clinical outcomes," Leonhardt adds. "This study is important because it examines patient safety across a broad range of hospitals. While its results are not conclusive, they do support the protocols recommended by the Agency for Healthcare Research and Quality [AHRQ], JCAHO, and others. In addition, the study suggests that effective care is not only safer but also more cost-effective, which is consistent with the limited literature available on this topic."

Aurora and Premier have been working together since 1995, says Leonhardt, with Premier providing informatics services to process its data for process and quality improvement.

"As the movement to focus on patient safety grew, my role became that of orchestrating and facilitating those efforts all within the system," she says. Aurora Health Care is a not-for-profit provider with 14 hospitals and 120 clinics to serve 80 communities throughout eastern Wisconsin.

Using data to drive patient safety efforts

Premier, she notes, recently developed a program through which they utilize AHRQ's 20 patient safety indicators. "As this conference approached, I started talking with Premier about their sizable database, and if, from our perspective as a local care provider, we could use it to drive patient safety efforts. CABG is a high-volume, high-risk, high-visibility quality issue, involving many regularity requirements on outcomes and processes of care," Leonhardt explains.

So, Leonhardt asked Premier to draw the required information from data it had already collected for its database, and determine how useful it would be. "These PSIs are fairly new and have not necessarily been utilized across the board as measurements of safety," she notes.

Leonhardt says the results of the study indicate that the PSIs do have validity and applicability. "It's not definitive, however," she says.

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"For that you need multiple studies. It was impressive on the large scale, but much harder on the small scale — the individual hospital level." She explains that when you drill down in the data from, say, 40,000 cases to 1,000 cases, "you lose some of the forest for the trees." What she recommends is using the larger numbers as benchmarks, norms, and target goals. "In other words, if for all 40,000 total the norm is X percent, and the top performers were X minus ten percent, how do we compare?" She adds that the data are all APC/DRG-adjusted, "So we should be dealing with apples and apples."

In summary, she says the study showed that these reports give a snapshot of some of the safety indicators that are measured. She cautions, however, that it "should not be a definitive statement of hospital safety outcomes, but rather give you overall clinical conditions around those safety indicators." ■

New clinical guidelines for palliative care published

Initiative recognizes growth, maturity of field

The National Consensus Project for Quality Palliative Care, a consortium of five palliative care organizations, has released a set of clinical practice guidelines to promote quality palliative care in the United States. The "Clinical Practice Guidelines for Quality Palliative Care" seek to support quality and reduce variation in new and existing programs, develop and encourage continuity of care across settings, and facilitate collaborative partnerships among palliative care programs, community hospices, and a wide range of other health care delivery settings.

The consortium members are: The American Academy of Hospice and Palliative Medicine, Glenview, IL; Center to Advance Palliative Care, Mount Sinai School of Medicine, New York City; Hospice and Palliative Nurses Association, Pittsburgh; Last Acts Partnership, Washington, DC; and the National Hospice and Palliative Care Organization, Alexandria, VA.

"The field of palliative care has grown rapidly," observes **Diane E. Meier**, MD, FACP, of the Center to Advance Palliative Care and a member of the project steering committee. "But depending on where you were, there was a great variability in the definition of 'palliative care.' It could mean one nursing home program that basically consisted of liberalized visiting hours, or an interdisciplinary team with a certain skill set."

Key Points

- Great variability found in statements, definitions of palliative care.
- Authors determine need for benchmarks, gold standard of care.
- Core care elements, several distinct domains outlined in report.

Need for a 'gold standard' has become obvious

As the field grew, she continues, the need for benchmarks — a "gold standard" to work toward — eventually became obvious. "It's so early in the life of the field that we don't want mandated standards, but we should be planning for a general interdisciplinary team, 24-7 coverage, training, and so on," Meier explains. "These guidelines have been created to try to assure a high level of quality for a growing number of palliative care programs across the country, some level of consistency among and between them, and a set of benchmarks against which programs can compare themselves."

The project's initial leadership meeting took place in December 2001. Involved in discussions were the five leading palliative care organizations and several hundred leaders in a range of disciplines and health care settings who served as advisors. "This really does reflect the consensus of a broad group of leaders," Meier asserts. First, existing guidelines from Canada, Australia, and Great Britain were reviewed. "A number of other nations had previously developed guidelines," Meier explains. Similarities and differences of funding and structure were examined.

An evidence-based literature review also was conducted. "For some issues, there are clearly evidence-based random control trials, like the assessment of pain; for others, like the benefit of bereavement support, there were not," Meier observes.

The steering committee (four representatives from each of the five consortium members) developed a writing subcommittee, which in turn developed a detailed outline that was reviewed and edited. "Then, it wrote the actual document,

which went through a number of iterations and review by the steering committee and external reviewers," says Meier.

The final product identified these core elements of palliative care:

- patient population;
- patient- and family-centered care;
- timing of palliative care;
- comprehensive care;
- interdisciplinary team;
- attention to relief of suffering;
- communication skills;
- skill in care for the dying and bereaved;
- continuity of care across settings;
- equitable access;
- quality improvement.

In outlining the guidelines, quality palliative care was addressed in eight distinct domains:

- structure and process of care;
- physical aspects of care;
- psychological and psychiatric aspects of care;
- social aspects of care;
- spiritual, religious, and existential aspects of care;
- cultural aspects of care;
- care of the imminently dying patient;
- ethical and legal aspects of care.

What's new and different?

A number of elements of the guidelines strike Meier as either new or especially significant in terms of general palliative care. "I'd say the first thing is the requirement for an interdisciplinary team," she notes. "That's not to say that every hospital should have a full-time nurse, doctor, and social worker, but rather that there should be expertise from those fields available. This is a requirement. I know there are a lot of programs that are only a single physician or nurse practitioner; those programs will now need to look at how to create interdisciplinary resources."

Another unique element is the provision of bereavement support. "This is not routinely offered in U.S. hospitals, yet we know that over 50% of us die in hospitals, not hospice, so some form of screening and support has to be built in," says Meier.

Other elements of the guidelines are not unique to palliative care, but may not be sufficiently widely recognized or utilized in the field. "They include error reduction and use of routine QI methods, and what goes with that is the requirement to measure — that, too, will be novel," says Meier. "You can't be confident you are delivering high-quality care unless you measure."

Meier adds that it's too early in the life of this specialty to push for required compliance. "People feel they don't need any more regulatory strangleholds right now," she comments. "We've established these guidelines not as a requirement, but as a gold standard. My hope is that, over the next decade, these will become not the exception but the rule."

At present, she notes, American Hospital Association membership surveys show that 25% of respondents have palliative care programs. "When we get to the point where it's two-thirds or three-quarters, that will be the point where it's likely the Joint Commission and other accrediting bodies will include guidelines for palliative care as a condition of accreditation," she predicts.

Nevertheless, she adds, "This is a huge step forward for the field. When you have consensus guidelines, it's a statement of maturity." ■

Need More Information?

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The new palliative care guidelines can be found at www.nhpco.org under "What's New."

New report: Living wills doomed to failure

They run afoul of human psychology

While many palliative care quality professionals encourage the use of advance directives, a new report published in the bioethics journal *Hastings Center Report* by a University of Michigan internal medicine researcher and a professor of law and internal medicine claims that living wills don't — and can't — work.[1]

According to the authors, these documents, designed to help people choose the treatments they would like when dying, fail to meet five

key criteria for success. Worse, the evidence suggests they don't work. The study authors based their conclusions on a comprehensive review of hundreds of studies of living wills and end-of-life decisions, and of the psychology of making choices.

The researchers conclude that living wills offer a false promise of control over end-of-life treatment. The best patients can do, they argue, is to use a durable power of attorney to appoint someone to make decisions for them when they can no longer make their own decisions.

"Living wills don't fail for lack of effort, education, intelligence, or good will," says study co-author **Carl Schneider**, JD, a UM Law School and Medical School professor. "They fail because of basic traits of human psychology."

For instance, he says, studies show that people have great trouble predicting their own preferences about even simple, everyday things, like what snacks they will want or what groceries they will buy next week. "If they have trouble predicting what is familiar," asks Schneider, "why should we expect them to succeed when they are predicting what they will want in circumstances they have never experienced and can't foretell?"

Reference

1. Fagerlin A, Schneider CE. Enough: The failure of the living will. *Hastings Center Report* 34; 2:30-42. ■

CDC announces new goals, organizational redesign

The Centers for Disease Control and Prevention (CDC) in Atlanta has announced organizational changes for fiscal year 2005 intended to help the agency "respond more nimbly to public health threats and emerging issues."

CDC director **Julie Gerberding**, MD, says the agency will align its priorities and investments under two overarching health protection goals:

- **Preparedness:** All people in all communities will be protected from infectious, environmental, and terrorist threats.
- **Health Promotion and Prevention of Disease, Injury and Disability:** All people will achieve their optimal life span with the best possible quality of health in every stage of life.

In addition, the agency is developing more targeted goals to ensure an improved impact on health at every stage of life, including infants and toddlers, children, adolescents, adults, and older adults.

The CDC will be organized into the following coordinating centers:

- **Coordinating Center for Infectious Diseases:** This includes the National Center for Infectious Diseases, the National Immunization Program, and the National Center for STD, TB, and HIV Prevention.
- **Coordinating Center for Health Promotion:** This includes the National Center for Chronic Disease Prevention and Health Promotion and the National Center for Birth Defects and Developmental Disabilities.
- **Coordinating Center for Environmental Health, Injury Prevention, and Occupational Health:** This includes the National Center for Environmental Health, the Agency for Toxic Substances and Disease Registry, the National Center for Injury Prevention and Control, and the National Institute for Occupational Safety and Health.
- **Coordinating Center for Health Information and Services:** This includes the National Center for Health Statistics, a new National Center for Health Marketing, and a new Center for Public Health Informatics.
- **Office of Global Health.**
- **Office of Terrorism Preparedness and Emergency Response.**

For more information, visit the CDC web site at www.cdc.gov. ■

COMING IN FUTURE MONTHS

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NEWS BRIEFS

Specialized APN care improves outcomes

Older heart failure patients whose care is coordinated by specially trained advanced practice nurses (APNs) during and after hospitalization experience a better quality of life and fewer hospital readmissions, according to a study in the May issue of the *Journal of the American Geriatrics Society*.

The study found that, though the cost of care by such nurses — who have a master's degree — was double that of traditional levels of care, improved outcomes more than offset that cost increase, ultimately saving Medicare $4,845 per patient or 38% over one year.

Participating in the study were 239 patients at six Philadelphia hospitals; all were age 65 or older and diagnosed with heart failure. They received highly individualized care from APNs specially trained in heart failure management. The APNs coordinated care provided by physicians, nurses, and other caregivers; made daily hospital visits and at least eight home visits in the three months following discharge; and were available by telephone seven days a week.

For more on the study, which was funded by the National Institutes of Health's National Institute of Nursing Research, visit www.nih.gov/news/pr/may2004/ninr-12.htm. ▼

Hospital participation in Quality Initiative nears 90%

Nearly 90% of eligible U.S. hospitals are now taking part in the Quality Initiative, which opened to enrollment just one year ago, according to the American Hospital Association (AHA). Roughly 3,500 hospitals have agreed to participate by publicly sharing data on their care for heart attack, heart failure, and pneumonia — a more than 25% jump since February.

"From the start, participation in this initiative has grown steadily, demonstrating hospitals' leadership and commitment to openness and accountability, and the desire to see a unified, standardized approach to data collection," said AHA president **Dick Davidson**.

Nearly 2,000 participating hospitals already are sharing their data publicly through a Centers for Medicare & Medicaid Services web site (www.cms.gov/quality/hospital). For more information, including a complete list of partners, click on "The Quality Initiative" logo at www.aha.org. ■