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Quality's future: What should happen isn't necessarily what will happen

Process, not outcomes, the likely focus of the future

Health care quality professionals agree that a growing emphasis on process improvement likely will occur in the years ahead. Not surprisingly, they also see much greater use of technology.

But that's about as much consensus as you can find among the broad spectrum of experts surveyed by *QI/TQM*. Not only do they have widely divergent visions of the future, but they don't always agree when distinguishing what *should* happen from what *will* happen.

"I'm beginning to think that dwelling on outcomes more than on process may be a misdirection," says **Patricia Drury**, MBA, a health care consultant in Minneapolis. "The focus should be on process; get the process right, and the outcome will take care of itself. A system that achieves good outcomes inadvertently with a flawed process and fails to meet patients' emotional needs is nobody's idea of quality care." **(For more on process improvement and what business can teach health care organizations, see related story, p. 53.)**

The evidence is that if a system does match an individual patient's needs and the patient feels he or she is better able to play a role in the decision-making process, the outcome is better, says Drury. However,

Key Points

- Outcomes may take a back seat to process measures when evaluating quality.
- Doing more with less will become an even greater challenge over the next 10 years.
- Availability, repackaging of information will become part of day-to-day activities.
- Patient involvement in decision-making processes will increase significantly.

she concedes, "I don't think it will happen. It's too hard because there are too many things that are subjective — like adapting to a patient's emotional state and needs. But what pushes us in that direction is that measuring process is easier than measuring outcomes. It's more unambiguous; you don't have to do case mix adjustment and so forth."

We also will see a lot more standardization of care — but not customization, says Drury. "And we will continue to see the development of processes directly related to patient safety. This is clearly under way, and it will get more intense. It will show up in purchasing decisions, accreditation, and employers through the efforts of the Leapfrog Group, [a consortium of Fortune 500 firms designed to address concerns about medical errors.]" **(For more information on the Leapfrog Group, see *QI/TQM*, October 2000, p. 113.)**

Jyme Arthur, RN, PhD, manager of performance improvement at M.D. Anderson Cancer Center in Houston, also sees a mixed bag of challenge and opportunity. "We're all about improvement, which is encouraging," she says. "Doing a lot more with fewer resources — that's the name of the game; it feels like we're fighting the good fight but losing the battle. Health care costs continue to rise in spite of our efforts, but the positive message is that we do continue to improve."

Future trends are daunting, Arthur admits. "The forecast is that we could reach crisis levels again in 2010 and 2020 when the 'baby boomers' start to retire and health care costs increase. Then there's the nursing shortage. I've read that 63% of nurses working today are 40 or older, and they're not being replaced."

Meeting these challenges will require a tremendous influx of creativity and innovation, she says.

"When you back up and look at systems, you have to look at what innovations are out there, what creativity we can apply," notes Arthur. "That brings in technology. E-business is going to really modify our profession in the future. Even today, web-based programs are almost universal." Outsourcing will be another major trend, she predicts.

Mary C. Bostwick, health care specialist with the Malcolm Baldrige National Quality Award, based in Gaithersburg, MD, is a bit more sanguine about the prospects for improvement. In fact, she sees encouraging trends already.

"We continue to see interest in the health care community in applying the Baldrige criteria in their organizations," she notes. "The evidence is the number of requests we get for criteria. We may send multiple hard copies to the same company."

[The Baldrige National Quality Program (BNQP) is part of the National Institute of Standards and Technology in the U.S. Department of Commerce. The BNQP is a private/public partnership. To learn more about the award go to: www.quality.nist.gov.]

The other positive indicator, she says, is the scoring process. "The average score in each criteria is increasing among health care organizations, and there is also a closing of the gap between health care and manufacturing," she notes. "In 1995, there was about a 15- to 20-point gap. In 1999, it had narrowed to about a 12-point gap. In 2000, it was down to 10%."

Bostwick draws her predictions by extrapolating from some patterns seen in business winners of the Baldrige Award. The national winners — and there have been no national winners yet from the health care industry — are characterized by visionary leadership, a focus on the customer, high-performance work systems, and a process-driven orientation, she notes. How will this translate into health care?

"Focusing on the customer entails knowing who your customers are and what your market segments are," she explains. "While the customer is primarily the patient, there are other stakeholders — physicians, payers, the community. Our winners look at all of them and balance their needs in an effective way. They also build up customer relations, where they listen and learn and respond to changing needs. That's what results in high customer satisfaction."

High-performance work systems speak to how the job is organized and how the work is organized in a way that taps into the potential of workers, and empowers them to bring their

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efforts into alignment with the organization's efforts. "Staff efforts — both paid employees and independent licensed practitioners — are tied back to processes that are driven by those customers' requirements. That linkage enhances quality," says Bostwick.

Process-driven organizations, Bostwick concludes, design processes that are responsive to customers' requirements; they manage them effectively; and they are constantly evaluating and improving them and sharing what they have learned with the rest of the organization.

"They also must balance all stakeholders' needs: For example, you can't satisfy doctors at the expense of patient satisfaction," Bostwick says.

Identifying the megatrends

For **Louis H. Diamond**, MB, ChB, FACP, vice president and medical director of MEDSTAT Group Inc., based in Ann Arbor, MI, the future will be clearly marked by emerging megatrends. "There will be an increasing use of the Internet to facilitate not only communication between patients and members of the health care team, but also to collect information and to share recommendations, to help patients understand more so they can better manage their own care," he predicts.

"It will also enhance the ability of health care professionals to communicate with each other. In hospitals with private practice physicians, there's no reason not to communicate with them in their offices via the Internet, so they don't always have to come back to the hospital. When referring patients to specialists, there's no reason this shouldn't be communicated and the information transferred through the Internet. And why not communicate with the patient by some use of information technology?" Diamond asks.

The availability and repackaging of information to facilitate decision making will become more a part of day-to-day activities, says Diamond. "The massive explosion of scientific information is not accessible; within the next five to 10 years, it will become more accessible. We will have evidence-based medicine to inform treatment options."

There are groups trying to capture the literature and scientific information and put it into usable form, he says. "Through refined search tools and literature management databases, we will find ways to summarize the information so it will be more usable to the patient," he observes.

As a result of these first two mega trends, the level of participation by the patient will increase. "This will also come about because of a desire from a health care system model point of view to include them in self-care and decision making. A lot of that is already occurring today," says Diamond.

Diamond sees these additional trends emerging as well:

- The measurement of performance of systems and individuals is going to be much more of an integral part of the delivery system than it currently is. Use of measures will continue to increase.
- The way we educate medical students, residents, and postgraduates will continue to fundamentally change in the direction of much more active, ongoing learning and problem-solving using the Internet and other technologies as compared to intermittent, theatre-style lectures. "Part of this education will hopefully include patients," Diamond says.
- The "silo effect" mentality will effectively break down to a concept of teams and a multidisciplined approach, with the patient seen as part of the team.
- As part of the fundamental QI movement, there is going to have to be a standardization and simplification of activities in a way that balances the need for improvement and safety while not squashing out innovation, patients' wishes, and clinical judgment.

Unfulfilled potential

A successful future for health care quality will depend on more complete fulfillment of the potential that exists, says **Katharine Luther**, RN, MPM, CPHQ, director, quality improvement at M.D. Anderson.

"I believe we have plenty of resources, but we're not using them well," she says. "We put up barriers everywhere. We set things up in health care to pit people against each other — doctors and nurses, health care organizations, and insurance companies. We hire people to watch each other, and the patient is lost in the process."

"We may have four or five people for every patient; those patients should be getting good care," she continues. "Patients and their families could be valuable resources, but we're not using them."

Luther recommends a number of strategies for the future. "Have all the stakeholders at the table," she advises. "Before we start treating

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cancer patients, we ought to know what they want the outcome to be, what level of care they want, and how they want to get it. Will they travel for care? Do they want their families as part of that care?"

Luther also says the "command/control" model of organization has got to go. "I visit leading health care institutions on a regular basis; you could drop me in any one of them and I could find my way around," she says. "They're not intuitive to the patient."

The challenge, she says, is to make the pursuit of quality real to allow the patient to drive care and to help the frontline staff be able to do that. "We need to begin to take the tools we know and in dynamic change environments begin to help people make changes."

A "dynamic change environment," Luther explains, allows anyone to intervene on behalf of the patient — a housekeeper, a nurse, or a clerk. "In the current environment, most people wouldn't even try that; they'd get yelled at," notes Luther. "Or if they succeeded, they'd be seen as operating outside the model. We are really not comfortable outside of the box."

The key, she says, is to let middle managers be the facilitators of change. "The front line should be saying, 'We need to make this change,' and the top should be saying 'good idea,'" Luther concludes.

What emerges, then, is an industry in tension; knowing that changes are necessary, and in many cases, what those changes should be. Yet the jury is still out on how many of those changes will actually be made in the decade ahead. Will things dramatically improve?

"Only if that improvement is measured, and customers know about it," says Drury. ■

Shared vision distinguishes hospital of the future

What will the hospital of tomorrow look like? If it is successful, it will be distinguished by a number of quality attributes, says **Duke Rohe**, FHIMSS, performance improvement specialist at the M.D. Anderson Cancer Center in Houston.

"A successful hospital is going to be one where the leadership itself is ingrained to a common vision — not just something on a poster, but something that's driven from the heart. I haven't seen it work any other way," he says. "What they say with their mouths actually matches the direction their feet are going."

That includes a clear vision of what quality is and should be, says Rohe.

"You must take a diagonal look at processes in each department, and then run them crossline with the patient's experience. You can't just worry about the front end — for example, where the patient meets the receptionist; you have to include all the infrastructure behind the front end that allows the patient's experience to be as quick and as pleasant as possible." This view, he adds, must pertain within the department as well as within the crossview of the patients as they "ping-pong" through the hospital.

"What will distinguish you from somebody else will be how you design processes to be friendly — how well you treat your customers," Rohe predicts. "I remind all my employees that one out of every two patients will not beat his or her disease. That's why it's so important to do everything in your power to provide a positive spin. If you serve someone who serves someone who serves the patient, what you do will ultimately have an impact that gets to the patient."

On the operational side, the key will be processes and handoffs, says Rohe. "Like in Japan, the end of one process should be the beginning of the next — in 'just-in-time' fashion," he says. "You should get just what you need at the point you need things. Included is the mindset that this

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grows out into other aspects of what you do; it's a whole new frame of reference."

From the clinical standpoint, quality in the hospital of the future will apply to doing what's appropriate. "If you're in the ICU and you truly need to be in a step-down unit, or on the floor itself, there need be good guidelines," says Rohe. "For example, if a patient fits three specific criteria, then he can go home. For that to happen, the physician has to be more empowered in the planning process."

There will be less distinct lines drawn between hospital departments. "For example, you may find that some decisions are better made closer to the patient," Rohe explains. "Instead of respiratory therapy deciding, perhaps you should give the skill to the nurse. It would basically save her the time she was spending bugging respiratory therapy."

Common cause vs. special cause

The hospital of tomorrow will be *statistically* data-driven vs. *just* data-driven, Rohe predicts. "This requires understanding the difference between common cause [a normal variation within your system] and special cause [things that happen only once in awhile] problems. You don't rearrange everything around a special cause. With a common cause, you should understand what that variation is and try to shrink it over time. You might rearrange your system for a common cause but not for a special cause."

Above all, says Rohe, in the successful hospital of the future, things will be more people-friendly for everybody. "Such a hospital will value personnels' contributions," he says. "If someone has an idea, that organization will be hungry to adopt it and then generalize it within the institution. The person who generated the idea is grateful because he is valued." The final measure of success will be how well the institution takes that great idea and generalizes it, says Rohe. ■

Health care 'can no longer avoid' business-born tools

The quality tools developed by corporate America offer process improvement opportunities that health care professionals can no longer afford to avoid, says one quality expert.

"We're talking about things like process benchmarking, performance measurement, and root cause analysis," says **Gretchen Gemeinhardt**, PhD, senior consultant with the American Productivity & Quality Center (APQC), a nonprofit quality improvement organization based in Houston.

Gemeinhardt conducts needs assessments for health care organizations and sometimes is retained by these organizations as a process improvement consultant. She is encouraged by what she sees during those contacts. "We are definitely seeing movement in the right direction, an awareness of the need for and a willingness to pursue these process-related improvement opportunities," she says. "But there is not necessarily the know-how on where to begin. So much emphasis has been placed on patient-based outcomes and not the things that drive outcomes."

There still are significant barriers to change, and old attitudes die hard. "The quality tools came out of business; they have been used most effectively in business, but many health care organizations insist they are not businesses," says Gemeinhardt. "In most cases, health care professionals are not dying to be the first movers. They don't want to be the guy who spends the bucks and goes down that road first. There is also a reluctance to transfer from other industries."

But, she insists, these quality tools are what will allow health care organizations to "really figure out how to survive in the marketplace. [Health care organizations are] still really tenuous in the way things are being performed; there's a need to focus on organizational excellence measures."

One of the ongoing problems is that health care organizations get recognized for their quality measures in clinical practice, but not in organizational excellence, says Gemeinhardt. "It's outcomes that get you in the 'Top 100' hospitals — not a high level of employee satisfaction and organization efficiencies. In business, there have been a number of ways to recognize that type of excellence," she notes. "There is a definite opportunity for the awarding organizations to support hospital work in that direction by adopting a

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more balanced approach, because it helps the long-term viability of those organizations."

In line with the movement to a greater use of quality tools, Gemeinhardt sees more emphasis on process benchmarking. "Health care organizations have been looking at their numbers compared to other institutions for a long time, but not at how XYZ hospital achieved those numbers and how I can get there," she notes. "They're out there trying to invent the wheel when the wheel's already been invented."

Historically, there has been a reluctance to share in health care, and that must change, Gemeinhardt says. "I think if anybody's smart, he or she will change," she predicts. "There's an opportunity there, and people will capitalize on it." ■

Aerospace engineering model identifies risk points

JCAHO official says tool helps quality soar

Issuing a new set of safety standards with which health care institutions must comply is all well and good, but offering those institutions creative tools to aid that compliance is perhaps even more significant.

The Oakbrook Terrace, IL-based Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has approved new standards that focus directly on patient safety and medical/health error reductions in hospitals, setting July 1, 2001, as the date they will take effect. Then, in the Feb. 27, 2001 issue of its *Sentinel Event Alert*, JCAHO published a proactive risk assessment model that uses the Failure Mode, Effects, and Criticality (FMECA) approach. **(See chart, p. 55.)**

Although this particular illustration outlines a process to evaluate the preparation and administration of medications, the FMECA model can be used in almost any area of health care, asserts **Rick Croteau**, MD, JCAHO's executive director for strategic initiatives.

"It's a well-tested and proven analytical model for identifying risk points and for aiding in redesigning processes so they will be safer," says Croteau, whose background includes not only general surgery but aerospace engineering. "It's been proven in a number of high-risk fields — not including health care. It has probably been used to greatest effect in the aerospace, nuclear power, and chemical industries, but the principles are translatable to virtually any process, including the health care process."

The model is created by first listing the processes being evaluated at the top of the chart. In the rows below, each of the headings is cross-referenced with:

- potential failure modes;
- potential effect on the patient;
- likelihood of reaching the patient;
- criticality of failure mode;
- root causes;
- strategies.

Borrowing from business

Like root-cause analysis, FMECA has come to the health care arena out of fields that are more heavily based in engineering, manufacturing, and production environments, says Croteau. "And that's the premise we are working on."

The principles upon which FMECA is based are formal systems analysis, which is exemplified by failure mode and effects; human factors analysis, which has been found to be extremely useful in the aforementioned areas and is now finding its way into health care; and principles of team training, such as have been used by airlines in their crew resource management programs.

"Some of these approaches to redesigning systems to optimize performance through fail-safe design, redundancy simplification, and a looser coupling of processes are all opportunities to notice why things go wrong," Croteau explains. "This is an opportunity to marry two disciplines, to use a lot of what we've learned in aerospace and apply it as appropriate to the health care process."

Can the FMECA process outlined for drug administration be readily adapted to other health care processes? "Absolutely," Croteau insists. "Certainly, we recognize that medical safety is one of the main areas that need to be addressed,

Sample Failure Mode, Effects, and Criticality Analysis for Hypothetical Medication Use Process in O.R.

Process	Pharmacy	Dispense	O.R.	Transfer	Sterile field	Administer	Patient
Potential failure modes	Look-alike drugs Multiple concentrations	Wrong drug Wrong concentration		Switched drugs Contamination		Wrong drug Wrong dose	
Potential effect on patient	Potentially serious, if dispensed	Potentially serious, if administered		Potentially serious, if administered		Potentially serious, depending on drug	
Likelihood of reaching patient	Low	Medium		High		High	
Criticality of failure mode	Low	Medium		High		High	
Root causes	Open formulary Ambiguous labels	Alphabetical storage Ambiguous labels		Unnecessarily complex process Approved procedure not consistently followed		No means of verifying drug/dose after transfer to sterile field	
Strategies	P&T Committee review/redesign of formulary content & process	Redesign storage system. Introduce bar coding.		Simplify procedure. Eliminate open-vessels for IV drugs. Monitor compliance.		No action needed. Risk eliminated earlier in process.	

Source: Joint Commission on Accreditation of Healthcare Organizations, Oakbrook Terrace, IL.

but we are looking at things much more broadly. In surgical areas, in particular, with respect to complications and wrong-site surgery, a lot of work needs be done, and it is very amenable to the kinds of approaches we are talking about."

To create a FMECA chart, you start out by deciding what process you wish to analyze, Croteau explains. "From a surgical standpoint, for example, if you're concerned about wrong-site surgery, the process you wish to study is really pre-op preparation — from admission up to the point where the surgery begins," he notes. "This will be fairly elaborate, but like any process it can be flowcharted. You then work along between each step and each linkage, asking yourself what can go wrong." ■

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System spots risk factors while ED patients wait

Computer program elicits a high level of response

A computerized Health Risk Appraisal (HRA) administered in the emergency department (ED) at the University of Chicago not only drew enthusiastic reviews from patients but seemed to render those patients more willing to share sensitive information about lifestyle, health risk factors, and ongoing health problems.

The program, recently detailed in an article in *Annals of Emergency Medicine*,[1] was implemented with the goal of measuring four factors:

1. patient willingness to take a computerized health risk assessment;

2. disclosure of behavioral risk factors;

3. requests for health information;

4. remembered health advice.

Participation required no computer knowledge. The screen was already set on the appropriate web site; a research assistant enrolled the inner-city patients and sat them down in front of

Key Points

- Patients are more willing to disclose sensitive information when using a computer.
- Requests for health care information extend to family members as well as patients.
- Nearly two-thirds of participants remember the health advice they received.
- Patient satisfaction is raised by filling empty waiting times.

the computer. Questions, written at a fifth-grade level, were answered by touching the computer screen.

The results of the study were impressive. Of 542 eligible patients (from nonurgent triage categories), 470, or 89%, participated. They were then randomly divided into a control group and a prevention group, which received the intervention. Of those receiving the intervention:

• 85% disclosed one or more major behavioral risk factors, including major depression (35%), unsafe sexual behavior (33%), current smoking (32%), problem drinking (19%), untreated hypertension (13%), use of street drugs (13%), and several other injury-prone behaviors.

• 95% of patients in the prevention group requested health information.

• On follow-up at one week, 62% of the prevention group (compared with 27% of the control subjects) remembered receiving advice on what they could do to improve their health.

"This is a doctor / patient communication tool that lowers the barrier that doctors and patients experience in bringing up difficult topics," notes **Karin V. Rhodes**, MD, of the University of Chicago Robert Wood Johnson Clinical Scholars Program, lead author and co-developer of the Prevent HealthQuiz.

Rhodes says there are a number of reasons behind the high response numbers. "A lot of research shows computer screening lowers barriers. Patients are more likely to disclose sensitive information on a computer," she says. **(See list of related articles, p. 57.)** Rhodes cites these two responses from a follow-up patient survey: "I liked that it was between me and the computer." "It's easier to answer a computer than a person."

"Our patients were also very interested in getting information about their health," she adds. "In the course of taking the questionnaire, they could elect to get health information in addition to the recommendations they received, and 95% elected to do so." The No. 1 request, she says, was to learn CPR. "They also were interested in health information for others, like information on smoking," she notes. "This indicates the instrument has the capacity to extend the health promotion aspect to significant others."

Why were the patients more likely to remember health advice they got through the computer? "Maybe they were not getting that much information from the people who actually saw them," Rhodes posits. "Emergency medicine is problem-focused; doctors put all their effort into information gathering."

That is not intended as a criticism of ED physicians, Rhodes is quick to note. "Doctors want to do the right thing," she says. "We have to make it easy for them. It's unreasonable to think that doctors should sit there and screen for seat belt use, how much people drink, and so on; the patients are perfectly capable of screening themselves. Then, you can focus on the positives — on targeting those risk factors that have been identified."

This method should prove to be more cost-effective, Rhodes asserts, because it does not require as much staff time. "Then, hopefully, it will result in meaningful communication between the doctor and patient about what can be done to improve their health," she says.

Finally, Rhodes notes, having patients complete this survey improves patient orientation and helps avoid disappointment and frustration over waiting longer than expected to see a physician. "Properly orienting patients as to what they can expect is critical to satisfaction," she says.

Responses to the satisfaction survey seem to bear this out. "We had 124 patients who volunteered their comments," Rhodes reports. "About 77% were extremely positive and 14% mildly positive. The more risk factors the patient had, the more they liked the HRA."

Rhodes has received a grant to further study and refine the Health Risk Appraisal instrument. "We're now studying the effects of the tool and

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Related Literature

- Tourangeau R, Smith TW. Asking sensitive questions: The impact of data collection mode, question format, and question context. *Public Opinion Quarterly* 1996; 60:274-304.
- Hasley S. A Comparison of computer-based and personal interviews for the gynecological history update. *Obstet Gynecol* 1995; 85:494-498.
- Locke SE, Kowaloff HB, Hoff RG, et al. Computer-based interview for screening blood donors for risk of HIV transmission. *JAMA* 1992; 268:1,301-1,305.
- Robinson R, West R. A Comparison of computer and questionnaire methods of history-taking in a genitourinary clinic. *Psychology and Health* 1992; 6:77-84.
- Des Jarlais DC, Paone D, Milliken J, Turner CF, et al. Audio-computer interviewing to measure risk behavior for HIV among injecting drug users: A quasi-randomized trial. *Lancet* 1999; 353:1,657-1,661.
- Paperny DM, Aono JY, Lehman RM, et al. Computer-assisted detection and intervention in adolescent high-risk health behaviors. *J Pediatr* 1990; 116:456-462.

re-working it so it can be completed off the Web, and edited so it can be tailored to specific facilities," she reports.

Reference

1. Rhodes KV, Lauderdale DS, Stocking CB, Roizen MF, Levinson WL. Better health while you wait: A controlled trial of a computer-based intervention for screening and health promotion in the emergency department. *Ann Emerg Med* 2001; 37:3:284-291. ■

Intensivists may be key to reducing ICU errors

Review of literature shows improved outcomes

The key to reducing intensive care unit (ICU) errors and improving outcomes may be the adoption of the intensivist model, suggests a Vermont-based physician. **Michael Young**, MD, MS, director of the medical ICU at the University of Vermont in Burlington, made his case before a group of hospital chief executives during the 13th Annual National Managed Health Care Congress, NMHCC/2001, held March 19-21 in Atlanta.

"Mounting data indicate that there is wide variation between medical outcomes and costs between ICUs that is not explained away after adjusting for patient differences," said Young, who based his talk on a recent review of literature dealing with intensivist-model ICUs published in *Effective Clinical Practice*.[1]

Intensivists are physicians who are either board-certified or board-eligible in critical care medicine. For hospitals to meet the Leapfrog Group's hospital safety standards, Young noted, ICUs must be managed by these physicians, who must be present during daytime hours to provide clinical care exclusively in the ICU. At other times they should be able to return pages within five minutes and rely on in-hospital "effectors" (physicians or physician extenders) who can reach ICU patients within five minutes.

Where the dollars are

Young pointed out that the potential savings in the ICU are significant. His studies showed that mortality rates ranged from 5% to 50%, with an average in two large surveys of 12.4% to 16.6%. Health care costs are estimated to use 15% of the nation's gross national product, and Young's estimates indicate the total proportion of the health care dollar spent on inpatient care may be about 40%. He went on to note that several surveys of ICUs estimate that 25% to 40% of each hospital's costs is spent caring for ICU patients.

"Many hospitals may underestimate the total burden of costs of their ICU because of the 'silo effect' in costing systems," Young noted. "By silo effect, I mean the impact of costing systems that separate out departments or divisions such as laboratory, nursing, occupational therapy, physical

Key Points

- Estimate indicates at least 50,000 lives could be saved every year with intensivist model.
- Researchers conservatively predict savings of $200,000 per year.
- Model may promote more collaborative care among intensive care unit personnel.
- Reductions in mortality in hospitals with intensivist structure range from 15% to 60%.

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therapy, radiology, physicians, and administrative costs leading to a systematic underestimation of actual resources applied to a given ICU patient."

Young's review of the literature encompassed nine studies evaluating intensivist models; six were pre-post studies (mortality rates were compared pre- and post-implementation of the intensivist model) at single sites, and the other three were cross-sectional studies, where a control hospital ICU continued with nonintensivist care and was compared to intensivist models of ICU staffing.

"In the nine studies described . . . the reductions in mortality associated with the intensivist model ranged from 15% to 60%," Young told his audience.

He went on to say that he and his fellow researchers estimated that 50,000 lives could be saved if hospitals in urban areas implemented intensivist staffing models. "This figure is our conservative estimation, based on the literature," he noted, pointing out that using a mid-range efficacy of intensivist model staffing, his team determined that more than 100,000 lives annually would be saved.

Significant savings projected

While data on cost changes is limited, in a majority of studies, use of the intensivist model reduced length of stay by 10% to 23%, Young reported. Taking a theoretical 250-bed hospital, assuming a cost of $3,000 per day for three days in the ICU and $1,000 a day for 10 days of ward care for ICU patients, Young's team projected cost savings of $200,000 per year if length of stay was reduced by only 5% using the intensivist model.

Young said that the improved outcomes that the intensivist model seems to generate can be attributed to several causes:

• The use of the model could result in an increased on-site availability of physicians.

• There could be an increased physician expertise both from additional formal training and from physicians, like everyone else, "doing better what they do commonly."

• Intensivist model staffing may be more likely to take advantage of protocols that help reduce unwanted variation in care.

• Intensivist model staffing may promote collaborative care with other MDs, nurses, pharmacists, occupational therapy, social services, and other important ICU personnel.

"After 35 years [since the introduction of ICUs], we need to restructure ICU care to make it as careful as it is intense," Young concluded.

Reference

1. Young MP, Birkmeyer JD. Potential reduction in mortality rates using an intensivist model to manage intensive care units. *Effective Clinical Practice* 2000; 3:284-289. ■

DIGMAs: Satisfaction Rx for doctors and patients

Improved access, better 'quality of career' sought

A pilot program recently launched in the Denver area seeks not only to improve patient satisfaction but also to improve the quality of careers for the health care professionals who administer it.

The program is built around drop-in group medical appointments (DIGMAs). DIGMAs involve a group setting medical visit, which gives patients an extended medical appointment with their physician. The group sessions, co-led by a physician and a behavioral health specialist, typically involve between 10 and 16 patients and last 90 minutes.

"We decided to try DIGMAs mainly to improve access," notes **Scott K. Cunningham**,

Key Points

- 90-minute sessions typically involve 10 to 15 patients, internist, and behavioral health specialist.
- With care already ranking high, quality of service is overriding goal.
- Patients begin to mentor each other as "instant community" is established.
- Program ranks extremely high on patient satisfaction survey.

MD, an internist with an internal medicine and family practice at the Colorado Permanente Medical Group in Denver. "It had really been a problem in our region; routine access has typically been out to eight weeks at times, and we wanted to reign that in in a cost-effective way."

DIGMAs were originated at the Kaiser Permanente San Jose (CA) Medical Center in 1996 by Edward Noffsinger, PhD. However, quality improvement was not measured. "So, from a quality perspective, we actually don't know the exact role of DIGMA programs," Cunningham admits.

"To Noffsinger, DIGMAs were the possible answer to an access problem, and he did find that access improved dramatically.

"My intuition would tell me that quality would probably be either neutral or slightly improved," he continues. "In our region, quality is already one of Kaiser's highest nationally, so we don't expect quality of care to go up dramatically. What we're aiming for is to improve quality of service."

Cunningham notes that he's also seeking to boost career quality. "As a physician, when I hear patients complain day after day that they have to wait too long for their next appointment, it has a negative impact on my quality of career," he asserts. "We needed to have a place to put these people."

Four practices involved in pilot program

The pilot program, which began in January, involves four Kaiser Permanente primary care practices — Cunningham's; one at the Skyline medical office; and two at the Highline medical office. "I was the first to go up, in mid-January,"

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he recalls. "The last two started in mid-March."

Cunningham's practice handcrafted a flier that he would hand out to patients at the end of their visit, saying he'd like to see them for a follow-up and explaining the new program.

The groups meet each Tuesday morning from 10 to 11:30. "We have had an average of 10 patients, generally with chronic illnesses: diabetes, a lot of blood pressure rechecks, high cholesterol, some skin problems. We have even had an alcoholic," Cunningham notes.

The sessions begin with the behavior health specialist giving a brief summary of the DIGMA concept and setting ground rules for the meeting. Then, in brief, round-robin fashion, each patient tells what he or she needs that day. The behavioral health specialist generates a handwritten list of names and problems, which she reviews with Cunningham, who is sitting at a computer. "We prioritize how to go about performing the agenda," says Cunningham. "All records are computerized. I may take 'Mrs. Smith' first, and go over her blood pressure medicine, perhaps changing the dosage and telling her to come back again in two months. Then, I head to the computer to do my charting, and meanwhile, the behaviorist is directing a discussion about some of the things we can do to help lower our blood pressure. In essence, it's a light mental health intervention."

Other patients don't mind waiting their turn, says Cunningham, because they actually rally together to help each other. "Sometimes that even happens before the group starts; they mentor each other. It's a little instant community," he observes.

Encouraging response

Patient response to date has been positive, Cunningham reports. "We are measuring patient satisfaction with an instrument that gives us a good idea of how things are going," he notes. "So far, we seem to be scoring all 4s and 5s, which is 'agree' and 'strongly agree.'"

And how have the DIGMAs impacted his quality of career? "I love it," Cunningham says. "I knew I'd love it, because I've done other types of group appointments. I've wanted do this ever since I found out about it."

Cunningham is convinced the DIGMA model can be applied in a wide variety of settings. "It definitely can be done in a panel practice sort of environment," he asserts. "If you had a large, unified organization that was on a fee-for-service or cash-for-service basis, it could still be done; you'd just need to pay close attention to price. But you pretty much know how much time you should allot for each patient."

Above all, Cunningham remains convinced that the dual focus on patient satisfaction and career satisfaction is the right way to go. "These are two of the three or four issues our organization had identified from the top levels as chief predictors of our success in the next decade," he concludes. ■

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