

Healthcare Benchmarks and Quality Improvement

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Control charts: Valuable quality tools *if* you know why, when to use

Not every process is an appropriate target

Control charts, quality tools that can help tighten the focus on process variations, increasingly are gaining acceptance among some health care quality professionals. In fact, a number of Joint Commission on Accreditation of Healthcare Organizations requirements specifically mention the use of control charts.

However, as with many quality tools adopted from industry, the learning curve can be fraught with confusion and misconceptions.

A tool of statistical process control (SPC — the data analysis method of quality improvement), a control chart is a graph that “provides a pictorial representation of what you measure over a period of time and allows you to identify when special causes of variation are active in your process,”¹ according to author D. Lynn Kelly.

“What a control chart does for you is tell you whether, over time, the process is varying,” says **Steve David**, MBA, president and CEO of SkyMark, a Pittsburgh-based software manufacturer. “Every process is bound to have some variation, like when you sign your name. This is a common-cause variation; I like to call it an expected variation. But when somebody bumps your elbow when you sign, that’s a special cause, and it will show up in the data.” (For examples of health care common-cause and special-cause variations, see box, p. 3.)

“If you want to improve a process, the first thing you want to do is insulate it from those special causes,” he continues. “In a hospital,

Key Points

- Charts track process variation over time, identifying potential problems.
- A process that is in control is not necessarily a good process.
- Don’t put the cart before the horse; first identify the process that needs improvement.

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if you track patient falls, you want to make sure that people know that *you* know when somebody is likely to be fall-prone; i.e., that you have the kinds of systems in place that insulate your process from special causes. In Phase I, you recognize special causes and try to eliminate them. But in Phase II, once you have variation within expected limits, you try to narrow it further to get a process that minimizes common-cause variation. That way, you get a nice, predictable process."

One of the challenges of working with control charts is understanding what they tell you. For instance, just because a process is in control doesn't necessarily mean you are providing optimal health care.

"Don't assume that just because a process is in control it is a good process," notes **Patrice L. Spath**, RHIT, a health care quality consultant with

Brown-Spath & Associates in Forest Grove, OR. "Say you're looking at wait times in the emergency department. The way you admit patients creates a certain wait time. You can plot that, and it may be stable. That doesn't necessarily mean that's the best way to do it."

"You may be in control with a 100% mortality rate. That will make you predictable but certainly not satisfactory," adds **Marilyn Hart**, PhD, professor of business at the University of Wisconsin, Oshkosh, who lectures and writes about health care and SPC. She and her husband Robert Hart are co-authors of *Statistical Process Control for Health Care* (Pacific Grove, CA: Duxbury; 2002).

This does not mean that control charts are bad or misleading tools; it means that, like many tools, they have limits, and recognizing those limits will help you use them properly. "One of their limits is that you can have a nice, predictable, stable process that is terrible health care," David says. "Let's say your target C-section rate is 12% and you are running merrily along at 28% to 30%; that is *not* good health care. Typically, a control chart doesn't have and shouldn't have a target line on it — it just answers the question, 'Are we in control?'"

Given the limitations and benefits of control charts, how do you know when to use them? "You don't get a control chart and then see where to hang it," Hart warns. "You start with a process that needs improvement, then you go to a decision point, such as, do we need a control chart, or do we need a tally sheet?"

The first step, she advises, is to select a process to study, by posing these questions:

- What do internal and/or external customers perceive to be quality problems or critical processes that need to be improved?
- What do noncustomers perceive to be quality problems (government, the Joint Commission, upper management, etc.)?
- What opportunities do we have to lower costs without compromising quality?

"Only study processes that you can and will take corrective action on when problems or opportunities to improve are discovered," Hart says. "Otherwise, people lose faith in the system."

Once you have selected the process to study, she continues, you should use a control chart in these cases:

- You want to evaluate the capability of a process, i.e., if it is stable over time, and if so, at what level is it operating and with how much common-cause variability. (Time-ordered data.)

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Editorial Questions

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

Examples of Common-, Special-Cause Variations

These examples of common-cause and special-cause variations were provided by Patrice L. Spath, RHIT, a consultant with Brown-Spath & Associates in Forest Grove, OR:

- ❑ **Measure:** Laboratory test turnaround time.
- ❑ **Common-cause variation:** Normal, expected variation in the turnaround times. (We expect things to vary; they always do.)
- ❑ **Special-cause variation:** Turnaround times go up (above upper control limit) when something “extraordinary” happens — e.g., laboratory switches over to a new computer system.

- ❑ **Measure:** Rate of nosocomial pneumonia infections.
- ❑ **Common-cause variation:** Same as above.
- ❑ **Special-cause variation:** Rate goes up when two new staff members — with less than ideal infection control practices — are hired.

- You wish to improve a process, so you monitor the process compared to control limits previously established on this process. (Standard given.)

As new data arise, they immediately are plotted on the chart with the previously established limits to see if the new data reflect the common-cause system or whether they are due to a special cause of variation. If they are due to a special cause and the cause was detrimental to the process, it must be investigated and corrective action taken. If the cause was an improvement, it should be made standard operating procedure.

- You want to make some changes in a process to improve it; in which case, you want to evaluate the process before and after the change to determine whether the change really was an improvement. (Time ordered on both the before and after to evaluate each and then by “rational subgroups” to compare the two time eras, discussed below.)
- You wish to compare different groups. (Time eras — i.e., before I had this change, and after I had this change — shifts, etc.)
- You are forced to by some outside entity.

“You seldom, if ever, start immediately with a control chart,” adds Hart. “You may, for instance, use a tally sheet and then a pareto chart to first identify the part of the process you may wish to put a control chart on. (See a list of alternative

tools and when to use them, p. 4.)

In a hospital setting, there are a number of practical reasons and specific processes that would seem to lend themselves to control charting.

“A lot of the things the Joint Commission requires are specific and well-defined — i.e., the number of patient falls or the number of times you use restraints,” David notes. “Or things like the number of readmissions within a certain time of discharge or the amount of time it takes patients who present with chest pain to be dosed with thrombolytics. Control charts are one good way of charting quality and timeliness indicators.”

Judy Homa-Lowry, RN, MS, president of Homa-Lowry Healthcare Consulting in Metamora, MI, agrees. “In terms of hospitals, one of the most common places to start would be to measure quality control processes; there is a Joint Commission requirement to do that,” she says. “So it makes sense to do what you *have* to do based on regulatory standards that look at patient safety. In terms of looking at things as basic as refrigerator checks, it’s a good tool.

“Many times when we visit organizations, people know they have to monitor refrigerators,” she continues. “Now, in the lab or pharmacy, that may not be an issue, but in a patient unit, where you store food and meds in separate refrigerators, the collection of those data is not always 100%. Second, when you do begin to look at those data, most people just look at whether things are being done or not, but there should also be some review of *ranges*.”

The generally accepted range of variance in control charts is three sigma, or three standard deviations from the mean; that’s approximately three times as large as what is allowable in the Six Sigma process but, nonetheless, would indicate that more than 97% of the variations are within the acceptable range.

“You could simply measure the temperature with a thermometer, and that will give you a number,” adds **Brian Lowry**, Homa-Lowry’s husband, and vice president of Technical Services at Curtis Metal Finishing Co., in Sterling Heights, MI. “If the meds are not being allowed to freeze, you might try to maintain the temperature above 32° and below 46°. If you simply checked the refrigerator on a given day to make sure the temperature was between those two, and it was, that would point you to a chart that only says ‘good’ or ‘bad.’ But if you looked at it and recorded the temperature on every shift, you’d get three readings a day and might see if temperatures are swinging wildly

Quality Tool Options to Control Charts

Control charts are far from the only tool available to study and illustrate processes. Here is a list of other tools and the kind of information they can provide:

- ✓ **Tally sheet** — tally of events, causes of occurrences, etc.
- ✓ **Pareto chart** — prioritization of the events by putting them in decreasing order of frequency; this helps direct efforts.
- ✓ **Run chart** — plot of data over time. This helps look for trends, patterns in the data, etc. It is very helpful to label the data points with pertinent information, such as shift.
- ✓ **Scattergram/crossplot** — Plot of one variable vs. another to see if there appears to be a relationship between the two variables.
- ✓ **Regression analysis** — to compute an equation to describe the relationship between two or more variables.
- ✓ **Flowchart** — plot of the steps of a process to eliminate wasted steps, optimize the steps, standardize the process, etc.
- ✓ **Cause-and-effect diagram** — picture of the inputs of the process and how they relate to one another. Helps to identify possible causes of poor quality.
- ✓ **Design of experiments** — an experiment designed in a defined way. This helps identify the key variables that influence quality.
- ✓ **Histograms and probability plots** — graphs to identify whether the distribution is close to being a normal distribution. The probability plot also will define the extent of the variation whether the data are normal or not.

Caution: These other tools do not help define the amount of common-cause variation in a process (what the process is capable of doing) or identify special-cause variation when it occurs.

Source: Marilyn Hart, PhD, University of Wisconsin, Oshkosh.

from day to day. If you averaged out all the different temperatures, your average reading could be fine, but if they swung wildly from day to day, that could point to a problem.”

Basically, a control chart will give you an aggregate picture of a global issue, Spath says. “Let’s say you are measuring nosocomial pneumonia rates. If all you knew was that the rate went up, you would not know the why; you would then use a control chart to monitor the stability of performance over

time. It might be performance of an outcome, or it might be specific steps in a process.”

Returning to the pneumonia example, Spath notes that “the number of cases could be plotted on a control chart and it would be a measure of outcomes. You then also could plot specific process steps that impact whether someone gets pneumonia, such as the percentage of patients who ambulate within 24 hours post-op, or who sit at the edge of the bed within 12 hours post-op. The analog in manufacturing would be studying each step in making the widget, vs. how much the completed widget conforms to standards.”

Control charts are used most effectively when you are aware of what they can and cannot do, and when they work best. “Control charts give the most information when they are kept on a single-stream process,” Hart cautions. “Therefore, do not mix data from different shifts, different surgeons, etc., on the same control chart until after they [have been] kept on their own control chart, found to be in control [stable over time], and found to be similar by use of a control chart with rational subgroups.”

The best control charts are done in real time, she continues. “If you *really* want to improve processes, once you’ve identified the process, collect some data to start,” Hart advises. “You gather the data to plot your limits; you may or may not be in control. If you are not, you may project them into the future as trial limits, so when I get my points, I will plot them immediately and know if I am inside the limits. As new data arise, they are immediately plotted on the chart with the previously established limits to see if the new data reflect the common-cause system, or whether they are due to a special cause of variation.”

If you know right away that you have a special-cause variation, “you have a much better chance of finding it,” Hart notes. “If, however, I plot a chart and see that three weeks ago I was out of control, that’s a different story.”

Finally, she advises, “Look at your data before, then make the change, then look again to make sure you *did* change.”

Spath reiterates that the goal of process improvement is not met merely by charting the output from your current processes and keeping that output stable.

“That’s a mistake people are making,” she says. “They have wonderful control charts that show everything is stable. But until you benchmark your results with another organization, you may not really know how well you’re doing.”

Control Chart Examples

Example 1

The process in **Example 1** is in apparent statistical control. Notice that all points lie within the upper control limits (UCL) and the lower control limits (LCL). This process only exhibits common-cause variation.

Example 2

The process in **Example 2** is out of statistical control. Notice that a single point can be found outside the control limits (above them). This means that a source of special-cause variation is present. The likelihood of this happening by chance is only about one in 1,000. This small probability means that, when a point is found outside the control limits, it is very likely that a source of special-cause variation is present and should be isolated and dealt with. Having a point outside the control limits is the most easily detectable out-of-control condition.

Example 3

The graph in **Example 3** illustrates the typical cycle in statistical process control. First, the process is highly variable and out of statistical control. Second, as special causes of variation are found, the process comes into statistical control. Finally, through process improvement, variation is reduced. This is seen from the narrowing of the control limits. Eliminating special cause variation keeps the process in control; process improvement reduces the process variation and moves the control limits in toward the centerline of the process.

Source: Sid Sytsma, Professor, College of Business, Ferris State University, Big Rapids, MI.

Another challenge is that there are many different types of control charts, and it is important to know when to use which chart. "Some people learn how to use one control chart, and they use it for *everything*," Spath notes. "Or they have

software that let you plug numbers in, and whatever they give them, they use. Other software has decision trees that help them along."

The bottom line is, control charts can help you identify a problem or problems in your processes;

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you still have the hard work of improving that process ahead of you. Or, as Spath says, "A control chart lets you know when to get excited — when a process has become unstable, and when you need to dig into the cause of it."

(Editor's note: Knowing when to use a control chart is just the beginning; knowing which control chart to use is another story entirely. Next month, we will examine how the type of data and sample sizes you are analyzing determine which control chart to use.)

Reference

1. Kelly L. *How to Use Control Charts for Health Care*. Milwaukee: ASQ Quality Press; 1999. ■

System launches 3-level plan to cut ED crowding

Simultaneously, diversions removed 'cold turkey'

In response to emergency department (ED) overcrowding, Baptist Memorial Health Care in Memphis, TN, is launching an educational campaign focused on area EDs. A Tennessee Hospital Association study released last December found that ED visits in the state had increased 31% over three years, or twice the national rate.

The health system's three-pronged campaign

includes a series of local public service announcements cosponsored by the Tennessee Hospital Association, Mississippi Hospital Association, and county health department to educate the public about the problem and encourage patients to seek more appropriate care settings for non-emergent conditions. It also includes efforts to improve communication with patients in the ED and to recruit volunteers to serve as ED patient liaisons and advocates.

"Our efforts to improve patient care and patient satisfaction form the context of the entire campaign," says **Beverly Jordan**, RN, vice president and chief nursing officer at Baptist Memorial. "Overcrowding can have an impact on satisfaction because it affects flow, resource allocation, and wait time."

She says the system's regular focus groups and opinion surveys showed the public was adamant that waiting times are a key indicator of satisfaction. "They are sure they will have competent care and adequate diagnostics — what they want to know is when they will be seen, when they will go to their room, and when they will get home."

Laying the foundation

The Memphis health care community, and EDs in particular, had been discussing ED diversion for a number of years, Jordan notes. "In 2002, the hospitals got together and agreed to stop ED diversions cold turkey. This was in the winter, the time of the highest volume crunch. We stopped at midnight, Dec. 10, and said we'd revisit the issue in 90 days. We haven't had a diversion since; we were convinced this was the right thing to do."

Of course, ending diversions meant the hospitals would get whatever patients came to their EDs. "So, we made a commitment to the state that we would educate the public," she explains.

First, a special, targeted survey was conducted with random public community members that specifically addressed the ED.

"This was part of the research that led up to

Key Points

- Improved communications and enlisting volunteers are key strategies.
- Targeted survey establishes a baseline of community attitudes.
- Emergency department magazine, videos help support patient education efforts.

the campaign; it established a baseline and let us know the expectations of the public," she says. Then a team comprising people in the corporate communications department and directors of EDs in the metro Memphis area got to work, networking in turn with physicians in the facilities. "It was very much an integrated approach."

Three key components

The campaign has three major components: public education, patient communication, and the creation of a new ED volunteer corps. The public education effort involves print, radio, and television public service announcements and other tactics that address proper use of EDs, urgent vs. emergent care issues, health care options, and information about flu and the national ED situation in general.

Baptist's partners in the ED public service campaign include the Tennessee Hospital Association, the Mississippi Hospital Association, and the Memphis and Shelby County Health Department. Baptist also will coordinate free public events, such as a flu shot day.

The second component of the campaign will focus on enhancing patient and family communication in Baptist's metro-Memphis EDs, located inside Baptist Memphis, Baptist Memorial Hospital-Collierville, and Baptist Memorial Hospital-DeSoto. The hospitals will use posters, a newly developed ED magazine, a video, and employee-focused tactics to achieve these goals.

"The magazine will continue the public education efforts," Jordan adds. "It will talk about the roles of the triage nurse, physician, PA, what to expect from diagnostics, how the pediatric ED is different from the general ED, and so on. Today, we are shooting a video in Nashville that will run in all the waiting rooms. The public told us the No. 1 feeling they have is anxiety, and one way to reduce anxiety is education. Also, we want to re-educate the staff about their job in reducing anxiety, like making them aware of wait times."

The final component of the campaign is the development of a strong ED volunteer corps. While all of Baptist's hospitals already have well-established volunteer programs in place, this new team of volunteers will work exclusively in the EDs, where they will serve as patient liaisons and advocates.

Duties will include making patients and their loved ones more comfortable in the ED, communicating with families, and answering patient

questions during their visits. To create the corps, Baptist will launch aggressive recruitment efforts across the mid-South to attract a number of non-traditional volunteers — many of whom most likely will be area college students or graduates interested in pursuing health care careers.

"We benchmarked this issue across the country," Jordan says. "One of the things we found was that some systems were targeting Gen-X and Gen-Y individuals looking for opportunities in health care. We know they have altruistic beliefs and are trying to find areas in which to put those beliefs to work."

Potential volunteers are being targeted through fliers. The opportunity to work nights and weekends may make the volunteer positions even more attractive, Jordan suggests.

"Volunteering may also help them decide if they want a career in health care," she adds. "This is a win-win for both parties."

An ongoing effort

While the campaign will run for a full year, many of the campaign's programs and tactics will become permanent parts of hospital operations.

For example, the patient-focused aspects, such as the volunteer corps, ED magazine, and video, will continue to be offered at Baptist's metro facilities. Once the educational campaign has proven successful in the metro area, Baptist will roll it out to its 11 regional hospitals, which are located in the tri-state (Tennessee, Arkansas, and Mississippi) area.

"We will measure the success of the campaign, first of all, on how it impacts patient satisfaction, then by the number of folks we are able to recruit into our volunteer corps," Jordan points out.

"Also, we will continue to routinely conduct community opinion surveys," she says.

Is Jordan also looking for a drop in ED visits? "That's really not a goal we've set, because we want to provide care to anyone who decides they want to visit us, but we think the campaign has a huge potential to impact the hospitals and the community as well," she concludes. ■

Need More Information?

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- **Baptist Memorial Health Care**, Communications Department, Memphis, TN. Phone: (901) 227-3509.

Flexible job options help maintain quality

Positions for older staff keep expertise levels high

Unique and creative hiring practices at Bon Secours Richmond (VA) Health System not only have boosted morale and helped offset job shortages, but they also have ensured a larger pool of qualified health care professionals for quality assurance and quality improvement positions.

Bon Secours Richmond Health System includes three hospitals, numerous outpatient and diagnostic facilities, physician groups, and a school of nursing. A fourth hospital, the 130-bed St. Francis Medical Center, is under construction in Chesterfield County and scheduled to open in June 2005.

In the Bon Secours system, nurses older than 55 are able to fill part-time or 9-to-5 positions without the loss of certain benefits, the most notable being pensions. This policy is particularly appreciated by **Francine Barr**, RN, MS, vice president and chief nursing officer of Bon Secours St. Mary's Hospital. "Definitely, for [quality] positions, you need a very experienced nurse; we cannot hire a new graduate or someone with one or two years' experience," she notes.

In the Bon Secours system, this is not necessary. "Most RNs retire from direct patient care at 55; they do that because of the physical demands of the job," observes **Jim Godwin**, SPHR, administrative director of human resources at Bon Secours. "It's not so much that people that age are not strong, but they start to have back problems, foot problems, and other issues that come with the job over time. But we have a need for nurses who do not do bedside care — things like management, quality assurance efforts, patient financial services, and so on."

The size of the potential employee pool is significantly expanded because, while all sorts of schedules are available, part-timers do not necessarily suffer when it comes to benefits. "We offer all sorts of people part-time work — whatever schedule you can imagine," Godwin adds. "Any person at this stage of life who wants to cut back can."

If they choose to do so, however, their pensions will not be affected adversely. "Most pension plans are based on your salary for the last five to 10 years of employment," Godwin explains. "We have a set-up based on the highest earning years

Key Points

- Pensions, other benefits adjusted to accommodate part-time work.
- Expertise of long-time nurses are especially valuable in QA functions.
- Expanded pool of talent helps offset effects of nursing shortage.

— whenever they occur. So, instead of someone deciding they have to quit working altogether in order to retain their pension, they can continue to work part-time. They benefit, and we benefit as well."

The positions Bon Secours offers older RNs are not simply favors being done out of recognition for years of service; they require specific skills that these individuals have.

These older workers fill a variety of positions, Godwin explains. On the quality assurance front, for example, nurses who no longer handle bedside care are hired to conduct patient chart audits.

"We keep all types of quality statistical analysis that only a medical person can understand — patient outcomes, utilization of resources, and so on," he says. "You can't just take a clerk and train her. It's very important to provide quality improvement feedback to physicians, and it's better received when it's coming from a nurse."

Billing is another area where accuracy and compliance are key. "Hospital billing is very complex, and the bills have to be accurate for the insurance companies," Godwin notes. "And with Medicare, you really have to know what's going on. So, we have nurses who are no longer able to handle bedside care — either because they are older, or due to a workers' comp claim. They become our auditors; before bills are processed, they ensure that the charges make sense. They notice things that would not be apparent to you or me, and that's a very useful thing to have on staff."

"Most hospitals have a QI or QA department, and the scope of job responsibilities can range from nurses facilitating the entire [departmental] activities to more limited ones, where they are actually the liaison to medical staff performance improvement, staff the committees, or they do some of the preliminary work and take it to the physician so they can conduct peer review," Barr adds.

"In fact, many hospitals that had cut nursing-specific performance improvement coordinator positions due to budget pressures now are

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reinstating them due to the renewed focus on patient safety," she adds.

The people she's looking to hire for these positions are very different from the staff she was looking for just a couple of years ago, Barr continues. "We are really looking for those analytical, interpersonal skills; that's what will drive the performance improvement — not just numbers, but guidance."

Accordingly, she needs the expertise, knowledge, and clinical experience that these nurses have brought to QI activity, Barr explains. "A lot of that activity is the analysis of current processes going on, bringing other disciplines to the table, and determining what needs to be done to improve processes and outcomes."

"For that, you need a mature individual who can lead a meeting and bring people together. Also, you need to have the physicians at the table, which can be difficult at times. The more experienced individual can pull everyone together and get people thinking in a different way," she notes.

At present, more than a quarter of Bon Secours' work force is age 50 or older, and in 2002, more than 10% of new hires were older than 50. It is important, says Barr, that this trend continue. "Quite frankly, it is really hard to find the people you need, so having this resource is a real benefit," she says. "And as the [nursing] shortage gets worse, which it is going to do, it will affect every area of nursing."

Bon Secours is seeking to continue attracting these workers with a variety of benefits. In addition to its creative approach to pension calculation, Bon Secours:

- maintains a list of retirees available for work and offers temporary work assignments, consulting or contract work, telecommuting, and part-time work;
- gives employees and volunteers a free VIVA (Bon Secours' health information and wellness program for people older than 50) membership;
- collaborates with the American Association of Retired Persons to offer mall walking, distribute health assessments, and conduct a

faith-based initiative aimed at improving the quality of life for African-American women.

It will be years before younger nurses are ready to fill some of these important positions, Barr emphasizes. "It will take years for the new grads to be at the level we need them to be," she says. "We can try to give them all the orientation, help, and mentoring we can ASAP, but we don't want to lose those experienced nurses. We will gladly find them positions within the hospital to keep that expertise; it will really help to drive the positive outcomes we are looking for." ■

Translation web site aids broad patient population

Site includes forms, educational material

Responding to the growing cultural diversity of Missouri's hospital patients, the Missouri Hospital Association (MHA), based in Jefferson City, has launched a new web site, www.healthtranslations.com.

The site offers admission agreements, privacy notices, and consent forms, among other documents. Users also can search for consumer health information in more than 30 languages, including Armenian, Cambodian, Haitian, Creole, Korean, Romanian, Somali, and Thai. Future plans for the site include translated educational materials based on commonly diagnosed conditions, and an on-line picture gallery showing medical items and their proper translation.

"This became an issue about three years ago," recalls **Leslie Porth**, RN, MPH, MHA's vice president of health improvement. "At that time in St. Louis, there were more than 90 different languages and dialects spoken, including Bosnian and other Eastern European languages. The hospitals asked us to work with them to help them figure out what to do to provide better care."

St. Louis, at that time, had one or two translation

Key Points

- Consumer health information is available in more than 30 languages.
- Using family members as interpreters raises issues of quality and ethics.
- Administrative forms the first phase; education will follow.

services, but they were so backlogged they had become overwhelmed. "What came out of that was the development of the web site," she says.

Several issues raised

The lack of translation services can raise several different quality-related issues, Porth points out.

"First and foremost, at least in the Midwest, there are a limited number of people who are competent to provide medical interpretation and translation," she notes. "While it is not an ideal situation, what occasionally happens is that family members or hospital support staff are used. That brings up a host of ethical issues, quality issues, and even potential legal issues, but at that time, the hospitals had no other choice."

Potential legal and ethical issues often present themselves together, Porth explains. "As a hypothetical example, let's say you ask a child to step in as translator, because quite often the children are the ones who learned English. What happens is the child is providing interpretation for a parent who may be receiving or needing medical attention, even though they are not competent in medical interpretation, and you are asking them to address sensitive issues, so from a legal perspective you have a minor providing services, which is a potential conflict of interest." Another hypothetical could involve a patient presenting in the emergency department needing a diagnostic work-up, or perhaps immediate surgery. "They are not proficient in English, so you can't get a basic consent from them or explain appropriately the type of service or diagnostic you want to perform," she notes.

In such instances, does patient satisfaction become an issue as well quality of care?

"Absolutely," Porth says.

While the awareness of the problem originated in St. Louis, "it made sense to expand beyond the area," she says. A statewide advisory committee was established, and the site was developed with a grant from Tenet Healthcare Foundation and Tenet St. Louis.

Why a web site? "We wanted ready access to all hospitals within Missouri and the ability to provide those hospitals with the most current documents available, so a web site seemed the logical choice," Porth explains.

In terms of the types of documents to be made available, two general needs were identified. "One was the hospital administrative form: consent for

treatment, admission, advance directives, and so on," she says. "The second type involved patient education. Because the lack of hospital administrative documents made care so difficult, we made the decision to provide those first; now we're expanding into patient education."

In terms of the languages to make available, the advisory committee chose those of greatest volume and requests, using the census and other demographic resources. "We have currently translated in six languages: Bosnian, Arabic, Vietnamese, Mandarin Chinese, Spanish, and Russian," says Porth, noting that this always can be expanded. "For example, there now seems to be an influx of North Koreans," she observes.

A St. Louis-based translation service is used. "Sometimes, it is easy to make misinterpretations when translating medical documents, so we back-translate — first to the native language, and then a different person translates it back," says Porth, noting that this redundancy helps ensure the quality of the translation. Instructions for downloading Bosnian, Chinese, and Vietnamese fonts, which are necessary to view and print certain documents, are posted on the site. The site also enables users to search for information about specific health topics, including heart disease, infectious diseases, and maternal/child care.

Currently, the site is designed with only providers in mind. "We hope that once we expand into education, anyone who wants to get on the site can use it," says Porth.

At present, there is a small user fee for any hospital or health care provider organization. "The start-up cost is from \$250 to \$1,000, and the annual fee per organization ranges from \$100 to \$750," she explains.

While the site was formally launched on Oct. 28, 2003, it was piloted for several months prior to that. "The pilot group said they liked the site — that it was user-friendly, easy to locate and access," Porth notes.

Could other hospital associations or organizations do the same thing? "They could, or they could access ours," she says. "The model we

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developed demonstrates the efficiency and effectiveness of doing this as a collective body, rather than as an individual hospital or system."

Future site enhancements include patient education materials based on hospitals' most frequently diagnosed conditions, and translated discharge and medication instructions, Porth says. An on-line picture gallery will show images of various medical items, such as a wheelchair, crutches, or medicine, and the translated word for the object. Another benefit of the site to health providers is the regular dissemination of changes on forms when state and federal regulations are revised. ■

New in-room TVs part of service excellence

Wall-mounted sets made bedside care easier, safer

As part of a three-year cultural initiative called "Service Excellence," Norwalk (CT) Hospital is enacting a variety of programs to make patients more comfortable.

One program involves renovating all 238 rooms to create a more contemporary environment and better utilize space for greater efficiency in caring for patients, including the installation of Sharp Electronics' AQUOS flat-panel liquid crystal display (LCD) televisions in every room.

In response to patient surveys indicating that televisions were among the least satisfactory amenities at Norwalk, hospital administrators worked with Mahwah, NJ-based Sharp Electronics Corp.'s Vertical Markets Group (VMG), which helps professionals in health care and other industries enhance room aesthetics and improve patient/customer care by utilizing AQUOS and other home entertainment products and appliances.

"In this case, we really learned a lot from Norwalk about what they needed," notes **Jake Benner**, product marketing specialist with Sharp.

There is a significant difference, not only in

Key Points

- Norwalk (CT) hospital is totally renovating 238 patient rooms to boost satisfaction levels.
- Older TVs and attachments often interfered with bedside patient care.
- New LCD sets do not have to be replaced for 20 years.

patient satisfaction, but in practical patient care and safety considerations, between the TVs Norwalk used in patient rooms before and the Sharp products. Patients at Norwalk used to watch TV on 5-inch monitors attached to the bed by a moveable steel arm. TV wires often were in the way of IV lines and the nurse call button.

Mounting AQUOS televisions on the walls made the patient's area less cluttered and safer. The televisions are wall-mounted; the bracket offers three lockable pivot points, wire management, and swivels 270°, making the television viewable from nearly anywhere in the room. Additionally, the flat, white, 20-inch televisions maximize the rooms' space and create an open, airy feel, blending with the new wall moldings and artwork to create a more pleasant atmosphere.

The hospital also identified benefits for nurses and physicians. "Norwalk tells us that the huge arms on the old TVs got in the way; nurses and patients banged their heads," Benner observes. "It's also a safety issue; sometimes the patients would grab onto the huge arms to get out of bed, and they can actually almost rip the arm out of the wall."

This sounds all well and good, but don't the TV's represent an enormous extra expense that is difficult for budget-conscious hospitals to justify? Not necessarily, Benner says. "It's hard to calculate a return on investment, but the cost of operation goes down every year, and when you look at the entire renovation budget, this is a relatively small line item."

Plus, he says, these LCD sets last a lot longer than more traditional TVs. "They can last 60,000 hours; at eight hours a day, that's 20 years." In addition, there are huge maintenance savings; they used to send the CRTs [cathode ray tube

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TVs] out almost weekly, while LCDs need little or any maintenance. They also have lower power consumption than CRTs; when all 300-plus TVs are installed, you will see that reflected on the bottom line."

Another motivation Norwalk expressed was a desire to improve its Press Ganey Associates ratings on patient satisfaction. "This also sets them apart from the competition," Benner asserts.

So far, the response at Norwalk has been quite positive. "We started installing them a couple of months ago. We went in to interview a couple of people, and you expect to hear negatives along with positives, but we got no negatives. "The screen and picture are more comforting to the patient's eye, and the remote is very user-friendly. There has not been one maintenance call," he says.

Staff have reported back that patients who are being transferred have begun to specifically request the renovated rooms. "It's better for the

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patients and their visitors," Benner says. "It's just more comfortable for everyone. And as patients who have stayed there go and talk to friends and family, it could also lead to increased business." ■

Need More Information?

For more information, contact:

- **Sharp Electronics Corp.**, Sharp Plaza, Mahwah, NJ 07430. Phone: (800) BE SHARP or (800) 237-4277. Web: www.sharppusa.com.