

# Healthcare Benchmarks and Quality Improvement

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## Computer simulation assesses PI design prior to implementation

*More robust evaluation required by CMS' Seventh Scope of Work*

The latest requirements from the Centers for Medicare & Medicaid Services (CMS) call for more detailed evaluation of processes than ever before, causing one health care system to look to industry for the tools needed to respond appropriately.

Overlook Hospital in Summit, NJ, part of Atlantic Health System, is using computer simulation as an integral part of its process improvement in community-acquired pneumonia (CAP) and cardiac care.

"Within the past few months, CAP antibiotic cycle time has developed a narrower window for the CMS Seventh Scope of work than for the sixth — from eight hours down to four," notes **James Espinosa, MD, FACEP, FAAFP**, chairman of Overlook's emergency department (ED).

"But more than that, the Seventh Scope of Work talks about 90% of the patients receiving antibiotics within four hours. This is no longer a statement about central tendency; it really states something about variation and distribution. You could, for example, achieve an average or a median of less than four hours but still not be compliant with the 90%; it's a *much* harder test," he says.

The key question for Espinosa then became — how could he gain a sense of assurance that an improved process would behave not only in an average time of fewer than four hours but 90% of the patients would be treated in less than four hours?

"The traditional way would be to brainstorm best practices; look at what we have done in the past; make an intervention; and if the

## Key Points

- Hospital seeks sense of assurance that process will work.
- Consultants apply process capability tools from industry.
- Nurses' time estimates are compared to historical data.

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tendency is below four hours [but you don't have the 90%], that's good, but you still may need to retool. The tough thing in those situations if you do not perform at 90%, is the question becomes whether the design is not robust enough, or you simply have not implemented it enough — i.e., your people have not adapted to the new process. This takes several more months, so it can be four or five months before you have a decision as to whether the design is good enough," he continues.

The bottom line was that Overlook concluded it was unable, using traditional methods, to estimate the capability of the improved process in terms of the fraction of patients who would receive the first dose within four hours of admission. "For that reason, we decided to work with computer simulation," Espinosa says.

For help with the project, he turned to Twin Peaks Group LLC of Sherborn, MA, an operations management consulting firm with expertise in product development process and operations flow management, supply chain management, and financial impacts.

"We brought our experience from the industrial world to the health care field," says **Shashi Sathaye**, PhD, a Twin Peaks principal, who began working with Overlook in February 2003.

"In discussions, we thought this may be an opportunity to apply computer simulation, which we have done for product design in industry," he says. "In terms of treating pneumonia, it's similar to process design in that you're coming up with a new cycle time." But the CMS shift from a mere target time from ED admission to first dose of

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### Editorial Questions

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

## Flow-gorithms: New tools for process improvement

**A**t the heart of the decision to use computer simulation modeling at Overlook was the need to answer one basic question: Will the flow-gorithms work?

What, you may well ask, is a *flow-gorithm*? It is the marriage of a flowchart and an algorithm, created by Overlook to depict the new processes for the emergency department (ED) and pulmonary unit direct admissions. **(See example, p. 28.)**

"The idea was to integrate the more traditional medical algorithm for what antibiotics should be selected with the more nursing-oriented structure of how to triage the patients, and the ED physician's challenge of how to pick up on what he sees in nursing," explains **James Espinosa**, MD, FACEP, FAAFP, chairman of Overlook's emergency department. "Many EDs see this as an ED problem and believe direct admissions to the floor are someone else's concern. We looked at *all* pneumonia patients — direct to floor and ED-admitted. We made tools for both."

A team of Overlook professionals worked on the basic structure of the flow-gorithms, including representatives from the ED and from pediatrics, and received notable support from Robert Sussman, MD, the director of pulmonology.

"We looked at best practices, got the team together, and responded to their particular elements," Espinosa continues.

He's enthusiastic about flow-gorithms as a new data collection tool. "It's an exciting possibility to use in other studies. We will look at new designs with this and with new pathways." ■

antibiotics to a percentage of patients falling within that target range “was a significant change from our perspective,” Sathaye adds. “Now, the tail of the distribution — the outliers — could not be more than 10%.”

This called for a tool to determine what is referred to in industry as process capability.

“When people design and improve processes, we just don’t know how much they will improve,” explains **Dan Krupka**, PhD, managing principal of Twin Peaks. “Process capability answers the question, ‘What’s the fraction of people that get the right meds within a specific amount of time?’”

To create the simulation, the process was broken down into *major* steps, such as, “CXR performed” and “MD confirms pneumonia, evaluates patient, and orders meds,” and *detailed* steps, such as, “Wait for triage nurse,” and “Wait for X-ray technician.” Time distributions for the new process steps were based on ED nursing staff estimates.

“We knew from the data we had what our current process was yielding; it was in the low 60s,” Krupka notes. “If we broke down the process into several steps, we could ask the people who ‘live’ each of these steps to estimate the time distribution of each so we could get a triangular distribution. In other words, what’s the least amount of time you’ve seen this happen? What’s the longest? What’s the most likely? It’s not perfect, but it’s a good way to go. If you ask people about each step and use the input for simulation, you can get the process capability.”

“This type of data is much more reliable — much better than just moving through from the time of admission to the time the patient leaves,” Sathaye says. “What the computer simulation does is take [the minimum, maximum, and most likely] small subprocess times and throws a dart to come up with a time.”

That process is repeated for thousands of simulated patients for each of the subprocesses. “Then you get a histogram for patients to go through the entire process,” he continues. “You then compare that to the distribution you got with the historical data.”

Based on the simulation, the new process was far superior to the old process — a 75% process capability vs. 62%. However, there was a nagging question: Just how accurate were the nurses’ estimates? To ascertain just how good the nurses were at estimating, the Twin Peaks team had them estimate distributions for the old process steps and compared that to the historical data; their success in these estimates lent further credence to their

estimates of time distributions for the new process steps.

This approach has several advantages over more traditional PI methods, Sathaye adds. “Speed is, of course, one advantage. Second, you can actually visualize the flow; you can have a moving picture, have patients go through the process, depict interactions of doctors and nurses. You can convey to all the stakeholders what it means to them.”

“One of the good things about simulation software today is there are better graphics,” Krupka explains. “You can show people on the screen and how things are moving.” Different icons can be designed for beds, X-ray machines, physicians, nurses, patients, and so on.

## Simulation shows promise for health care modeling

The use of computer simulation modeling at Overlook Hospital was really “a very simple application of a simulation model,” asserts **Dan Krupka**, PhD, managing principal of Sherborn, MA-based Twin Peaks Group LLC. In fact, he says, the more complex the process, the greater the need for computer simulation.

“For simple processes, it is overkill,” Krupka concedes. “If it’s complex, or if there’s a bunch of money or patient safety is at stake, a more quantitative approach is helpful.”

Here are some questions, he says, such a simulation might answer:

- How many beds do I *really* need on this ward?
- How many people do I need for housekeeping?
- How should I schedule them?
- How do I manage my discharge process?

At the highest level, Krupka adds, computer simulation would be a valuable tool if you are designing a new facility. “I would certainly advise people to simulate the main processes to get a balanced flow,” he points out.

What precisely does he mean by balanced flow? “For example, one of the things we are working on now with Overlook is admission cycle time — how fast it takes to get you from the emergency department into the bed. There are many variables. When you look at balanced flow, you are asking if there are significant bottlenecks between the decision to admit and getting the patient on the floor.”

Another advantage of computer simulation is that it does not require any special knowledge or expertise on the part of staff. As for budget, he says, “Ultimately, it should involve financial or safety decisions. One of the challenges in health care is that you can’t really put a value on a life.” ■

“You can see all of them move around — even see queues forming because something did or did not happen,” he points out. “You see the patient come in, see the queue growing, and visualize the average wait time. Then, for example, you can put in a second X-ray machine and see what happens.”

The final advantage, according to Sathaye, is reliability. “You can take the model and actually set up measurements of each of the individual processes. By comparing the nurses’ best estimates with what actually happened historically, you get a certain comfort level. Without it, it’s hard to take a leap of faith.”

In this particular case, he notes, they got a 90% to 95% confidence level from the simulation.

The computer simulation efforts have had a

significant impact on Overlook’s PI efforts, notes **Tina Maund**, MS, RN, CPHQ, director, performance improvement.

“The most important impact from my viewpoint is that it allows very detailed review of process substeps and precise analysis of related time intervals,” she observes. “This has allowed highly objective and detailed study of process substeps and has supported cycles of work based on clearly defined priorities for action — i.e., we make some process changes, examine the impact, and if improvement in that area is at an acceptable level, we move on to another priority focus area for changes within the process.”

In addition, Maund explains, the simulation model building requires that her staff estimate the time impact of proposed process changes and then evaluate the actual time impact of the change.

“This provides interesting insights into the *expected* process function vs. the *reality*,” she points out. “In some instances, this has revealed greater impact than expected and in others, the impact has fallen short — leading us to restudy the process substeps involved and to strengthen the redesign.”

Another interesting aspect of the computer simulation relates to potential application to failure mode and effect analysis (FMEA), Maund explains.

“That process now requires an estimate of frequency re: process failures,” she says. “We plan to experiment with linking the simulation estimates of frequency of process failures — re: events that exceed target times for specific actions — with FMEA analysis and see how this impacts the risk priority numbers for that process. We expect that this linking will give us a more accurate risk priority number,” Maund notes.

“This seemed custom-fit to what we needed; it’s been very energizing and helpful,” Espinosa adds.

“If nothing else, it sends the staff a very strong signal that something very special is in the

## ED Flow-gorithm: Community Acquired Pneumonia

Source: Overlook Hospital, Summit, NJ.

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air, and that we *must* care to be doing this." In the future, he adds, Overlook will apply computer simulation to admission-cycle time as well as to some aspects of door-to-balloon time. "We're doing pretty well, but I'd like to see if we can trim a little more time off the process." ■

## Holistic wound center takes DM approach

*Addressing underlying conditions speeds healing*

In just two short years, the Jefferson Regional Medical Center Wound Care Center in Jefferson Hills, PA, has achieved impressive net revenues and recorded a healing rate nearly twice as fast as that achieved through conventional wound care.

What sets the center apart is the holistic, interdisciplinary approach to wound care taken by Curative Health Services, a leading disease management company in the field of chronic wound care based in Hauppauge, NY, that is partnering with Jefferson Regional Medical Center in this endeavor. Jefferson Regional is a member hospital of VHA Inc., an Irving, TX-based nationwide network of community-owned health care systems and their physicians.

"We take a care management approach using a proven clinical pathway that emphasizes a holistic approach to patient management," explains **Melissa Weimer**, MS, the center's program director employed by Curative.

Curative's approach is aptly described as disease management, she explains, because it addresses the

four underlying diagnoses that prevent healing quickly.

"Normal wound healing occurs within four to six weeks," she notes. "When wounds don't heal in that time, complications due to diabetes is the most common cause. Other causes include venous insufficiency, poor circulation, and pressure ulcers in compromised patients."

The Curative approach entails looking into different aspects of the patient's lifestyle and support system. "It is a total patient concept," Weimer says. "Is the patient living alone? What's the nutritional status? Are there significant others to provide care between visits?"

### **Home-grown center evolves**

In the late 1990s, Jefferson Regional treated wound patients utilizing the services of one nurse, whose treatment options were limited; physician follow-up was intermittent.

"Wounds were treated as acute care conditions," Weimer says. "There was a very limited window of time to treat the wound, and patients often were discharged before any protocol could be established." The clinic cost the hospital more than it earned, and healing rates were lower than expected.

A disease management approach, by contrast, incorporates protocols and clinical pathways that start by identifying the wound etiology, she adds. The wound care centers in Curative's network, Weimer says, are "comprehensive outpatient centers designed to complement physician services. Physicians refer patients for aggressive, outcome-based wound management." The centers treat nonhealing wounds that have not shown significant improvement under standard care.

The new, designated outpatient clinic includes six exam rooms, in operation Monday through Friday, with a panel of five physicians who have set clinic hours each week. "They are already credentialed at Jefferson Memorial, and they had a keen interest in being involved in this center," says Weimer. "They have to stay current with the

### **Key Points**

- Healing rate is twice that achieved through conventional wound care.
- Patient's lifestyle and support system are considered in the treatment plan.
- Protocols and clinical pathways start by identifying wound etiology.

## Need More Information?

For more information, contact:

- **Melissa Weimer**, MS, Program Director, Jefferson Regional Medical Center Wound Care Center, 575 Coal Valley Road, Suite 207, Jefferson Hills, PA 15025. Phone: (412) 469-7676. E-mail: mpweimer@jeffersonregional.com.

newest technologies and approaches.” The staff also include 10 part-time nurses from the hospital and a front-office assistant.

Jefferson contracted with Curative in 2000 to manage its wound care program. Along with its pathways, Curative offers an extensive outcomes database, reimbursement support, and community and medical education.

From the start, the interdisciplinary approach involves the patient’s primary care physician. “We depend on them for baseline information, and the treatment plan is prescribed with the wound care physician,” Weimer says. “We photograph and measure wounds each week. If it heals appropriately, we know the patient is following the prescribed recommended treatments. Within two to three weeks, we can assess if the treatment plan is effective.” If the wound healing is not progressing as expected, changes to treatment plans may be implemented, she explains.

The Curative approach includes several key areas of focus:

- **Patient education.**

This covers patient compliance in terms of nutrition, follow-up instructions, and patients’ commitment to maintaining their own health for the best healing potential, be it quitting smoking, eating correctly, or controlling sugar intake. In addition, patients are encouraged to keep their weekly appointments throughout the 14-week program to keep them compliant with their treatment protocols.

- **Home care services coordination.**

This supplements weekly visits to the wound care physician. “We use home health agencies as our eyes and ears in the field for our docs,” says Weimer. “Since patients are seen by our physicians during each visit, their treatment plan may change, so home care nurses can instruct patients on changes in their care plan.”

- **Prevention.**

“Our rate of recidivism is very low,” she points out. “If patients do return, it’s because of health

conditions beyond their control, i.e., chronic venous or arterial disease. Our patient education helps prevent recurrence and creates awareness so the patient may contact the Wound Care Center earlier if a new wound occurs.”

As part of Curative’s network of approximately 100 centers and a database of over 350,000 wound cases, Jefferson receives a set of benchmarks that cover such measures as days to healing, patient satisfaction, and percentage of healed patients.

Within the first year of operation, the center reported that 91.6% of the 454 patients who completed treatment were healed within 37 days — nearly twice as fast as with conventional wound care. Patient satisfaction levels are 97.5% — and in its second year, the center achieved \$1.1 million in net revenues from operations and direct expenses totaling \$834,000, or a 29% direct margin. ■

## Best practices guide statewide QI project

*Benchmarking achieves significant improvement*

In what its sponsors say is a first-of-its-kind program in the United States, the Pennsylvania Department of Health has shown that quality of care can be improved significantly for nursing home residents through a systematic and consistent implementation of best practices protocols.

The Pennsylvania Nursing Care Facilities Best Practices Project employed methods based on quality indicators to benchmark and measure the success of certain best practices in nursing facilities’ treatment plans.

The project, which began implementation in March 2002, has achieved these results:

1. 30% to 40% improvement in residents’ capabilities in activities of daily living (eating and dressing);
2. 20% to 40% improvement in the behavior of residents indicating pain;

### Key Points

- Improvement was seen in activities of daily living, pain, and depression management.
- Multidiscipline team was employed to identify best practices.
- Participating nursing homes received technical assistance.

3. 22% improvement in depression management, compared to a 15% decline experienced by control facilities.

"We here in Pennsylvania and in many other states have a lot of data reflecting what happens to patients at nursing homes in terms of minimum data sets, so we can look at outcomes," explains **Richard Lee**, MPA, Pennsylvania's deputy secretary for quality assurance, based in Harrisburg.

"However, while we in QI often get involved in measuring inputs, we don't get involved as often on the outcome side," he adds.

As part of his department's role in improving quality, Lee contends it was important to help providers. "We were in a position to know much more about the system than they did, so it made sense for us to take a lead role in quantifying what works and what doesn't."

### ***Determining best practices***

The state went through a complicated process in identifying the best practices, Lee says. "Our main contractor was Morrison Informatics Inc. [in Mechanicsburg PA], an information management company, but there were a number of subcontractors." These included the Hebrew Rehabilitation Institute in Boston, which, Lee says, is known as an international expert on nursing homes, and Clifton Gunderson, a CPA firm that does a lot of management consulting in nursing homes and long-term care. "In the operations area, we used Kendall Crosslands, a nursing home provider in Pennsylvania that has done a lot of creative long-term care work," he adds.

What resulted was a multidisciplinary team that was experienced in statistical quantitative evaluation, as well as the clinical side, Lee explains.

"We also had advisory committees, the most important of which was made up of actual nursing home residents, people representing nursing facility associations, and state government people from the departments of aging and public welfare, as well as advocates for the elderly." They came up with a list of 15 to 20 best practices they felt could influence care in nursing homes in the state, he points out.

"We [then] mined the minimum data set data [MDS]," Lee continues.

MDS is a comprehensive, standardized database the federal government requires state agencies to collect on every resident. It includes evaluation of a resident's needs, strengths, and preferences upon

admission, quarterly, annually, and upon significant change in status.

"We use it as part of our reimbursement tools," he explains. "The data are collected by nurses at the facilities."

The benefit of having this information, he notes, is that "people didn't have to go to a new source; they mined a very rich data source no one else was mining."

It was the MDS-adjusted mega quality indicators that were used to evaluate the effectiveness of the best practices protocols on the quality of care.

Lee then went back to the consultants at Hebrew Rehabilitation to determine which areas of patient care they thought the project actually could influence, revisited with the surveyors and the working group, and ultimately chose pain, depression, and activities of daily living as the three areas for which protocols initially would be provided.

### ***Getting under way***

For the first phase of the project, 10 test and 10 control facilities were chosen. "We identified a number of good, solid performing nursing homes, of which 70 to 100 volunteered," Lee recalls. "We did not want to pick those with serious histories or problems, or a history of survey or satisfaction problems. Nor did we want those that always seemed exemplary."

Other selection criteria included size and geographic location, to get a variety of both, as well as for-profit and not-for-profit facilities. "We wanted to demonstrate you did not have to be a certain type of facility to have positive outcomes," says Lee, noting that the companion facilities were chosen for the purpose of having a control and for generating additional data.

In March 2002, the department began giving the selected nursing homes their protocols as well as assistance in the form of a nurse educator.

Why was the project so successful? "We think it's because we found out what had helped the residents in the past, provided lots of technical

### **Need More Information?**

For more information, contact:

- **Pennsylvania Department of Health**, P.O. Box 90, Health and Welfare Building, Harrisburg, PA 17108. Phone: (877) PA-HEALTH. Web: [www.health.state.pa.us](http://www.health.state.pa.us).

assistance to the nursing homes, and the fact that the staffs all responded positively," he says.

The team, Lee explains, picked very sophisticated protocols, explained them to the staffs, and helped them implement them.

"When Mrs. Smith has pain, the staff know right up front what to do," he observes. "The staffs try to have pain medication available in advance; everyone in the facilities is sensitive to the idea of pain, and they have learned how to notice when there's pain even if it is not verbalized by the residents — i.e., a grimace, lack of mobility, a lack of interest." Thus sensitized, he notes, the staff member can initiate questions about whether the patient is in pain.

The project now is in its second phase, which will include protocols for urinary incontinence reduction and the reduction of decubitus ulcers (bed sores). "We expect to measure our results at the end of May 2005," Lee says. ■

## Physician buy-in helps PI team reduce LOS

*Data credibility, physician champion key elements*

Winning physician buy-in, one of the toughest challenges in any process improvement (PI) endeavor, was the key to success in a PI project undertaken by Peninsula Regional Medical Center in Salisbury, MD. The project, which targeted clinical PI in pneumonia, realized a reduction in average length of stay (LOS) from 5.7 days to five days between 2001 and 2003, along with significant drops in resource utilization.

"We try to build credibility with our physicians," notes **Thomas P. Lawrence**, MD, MBA, vice president for medical affairs and premier physician ambassador at the 370-bed regional tertiary care center that serves Maryland's Eastern Shore and nearby sections of Delaware and Virginia. "Most important of all, you have to be

credible with your data."

Hospital data, in general, often have been incorrect, and physicians, therefore, are very suspicious, Lawrence observes. "Unfortunately, they are looking for perfection, which is almost unattainable," he notes.

To help address that resistance, Peninsula decided to use Premier Inc.'s Perspective clinical benchmarking database. Internet-accessible, Perspective has 525 hospitals enrolled to comprise its clinical resource comparative database.

"What Premier provided was believable enough, and by beginning to change the culture, we showed the physicians that we needed direction, not perfection," Lawrence says.

Peninsula's strategy for garnering physician support is three-pronged:

1. Engage physicians in dialogue.
2. Align their goals with the organization.
3. Celebrate and recognize their contributions.

### ***A history of improvement***

The pneumonia initiative grew out of a tradition of improvement begun at Peninsula in the 1990s, adds **Donna Thompson**, RN, BSN, director for clinical quality improvement support.

"It began with the development of clinical pathways — the first one I recall was a med/surg hip clinical pathway," she says. "It was a multi-discipline team effort, and we developed a template for future pathways."

Peninsula began working with Premier a number of years ago. "When we saw the clinical comparative database Premier had, it was a natural for us to use for our quality improvement initiative because it was a robust database and we could benchmark ourselves to many other, similar organizations," Lawrence says.

Peninsula is a bit unique, he notes; it is a complex organization, but it is not a teaching institution, and yet it is rural. Still, it was able to get about a dozen other organizations within the database that were fairly similar.

"This made it easier for our physicians to see information that was relative to them," Lawrence points out.

"They were even similar in terms of volume of ED [emergency department] visits per year — and we have over 60,000," Thompson adds.

Peninsula presented the undertaking to the physicians as an education collaborative. "We explained we were not going to use the data in a punitive fashion," Lawrence says.

### **Key Points**

- Benchmarking database helps win overskeptical physicians.
- The Initiative is positioned as an education collaborative.
- An opportunity assessment is conducted to identify clinical area to target.

Once the benchmarks were identified, Perspective was used to conduct an opportunity assessment, which identified the greatest opportunity either by cost per case or by LOS.

"That's what led to pneumonia," he explains. "We could certainly come up with 10 or 20 clinical conditions [to benchmark], but we verified that there was a lot of low-hanging fruit in pneumonia, and it was a high-volume admitting diagnosis."

Peninsula already had a pneumonia pathway team in place, so with a few additions, it was ready to get to work. The process, which is a template now for all PI efforts, has six basic steps:

**1. Forum.**

To begin to get buy-in, you have to take the initiative to the medical staff leadership committee, to see if the staff would support it. In this case, it was the resource utilization committee.

**2. Clinical opportunity assessment.**

This involves winning staff agreement that this would be a good opportunity around which to form an initiative.

**3. PI issues directed to ad hoc teams.**

Once there is consensus, the initiative is sent to the appropriate team.

**4. Ad hoc team action plan review.**

The current pathway is reviewed, a gap analysis is conducted, and then the pathway is tweaked based on what has been learned.

**5. Approved plan to pertinent department.**

The team reviews the new plan, tweaks it some more, then goes back to the forum that initiated the process to ask them if the changes make sense. Then it's on to the department of medicine, where physicians are educated about the new plan and buy-in is gained.

**6. Remeasure and review.**

The results are checked, after which they are posted on a PI board and in clinically important units so that patients and employees in the units can see them.

The process involved several important changes. "We got together a group of physicians and redid the whole formulary, looking at the cost of drugs and evidence-based literature on drugs for non-ICU [intensive care unit] vs. ICU patients, and incorporated it into the doctor's actual order sheet, so there would be no guesswork," Thompson says. "We used a check box kind of format — the meds were right there with the dosage — which was more user-friendly for the physicians."

In addition, Joint Commission on Accreditation of Healthcare Organizations core measure

indicators were incorporated on the order sheet to remind the physicians what they needed for the hospital to be compliant — i.e., blood cultures, antibiotics, oxygen assessments.

"We found we were spending significantly more money on respiratory therapy than in other places, and more on blood gases than on O<sub>2</sub> saturation," Lawrence says. "We adjusted our standard so that we were 100% compliant with the core measure and significantly reduced expenses on blood gases. Also, we were doing more PT than our benchmark group. That seemed to be more expensive; but when we checked the literature, we decided it was an appropriate expense and it has helped us with decreased LOS."

None of this could have been accomplished, Lawrence says, without physician buy-in. And a key element in winning that buy-in, he says, is having a physician champion. "Without that, it's a pretty tough sell. You need someone who's supportive, a good communicator, a good listener, and can talk about his or her peers."

If the end result you are looking for is to grow corn, says Lawrence, "a lot of tilling of the soil is needed." That starts with education of the medical staff leadership. "They need to know what it means in today's age to be a good physician," he explains. At Peninsula, physicians receive leadership training from an outside consultant, as well as attend national meetings about quality, costs, and outcomes.

"Unless PI is linked to lot of hard work around medical staff development, it can be sitting out there as something you have limited success with," Lawrence asserts, adding that there is an economic incentive to quality today.

"More payers are going to pay for performance," he says. "The good news is that this not only does not compromise care, but it *improves* it." ■

## Need More Information?

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# Using drug samples can hinder quality

*Docs may opt for pricier drugs, even if less safe*

The University of Michigan Hospitals and Health Centers in Ann Arbor, as well as a number of other academic health centers, prohibits distributing drug samples to patients.

The rationale? When the free samples are gone, patients are left to pay for these drugs on their own — often at a cost much higher than that of the generics. And in some cases, physicians end up prescribing drugs that actually may have more side effects than their generic counterparts.

“It’s not that unusual for academic centers to limit access to free samples,” notes **Peter A. Ubel**, MD, associate professor of internal medicine at the University of Michigan Medical School and director of the U-M Health System’s Program for Improving Health Care Decisions.

“There are clearly things you can learn from sales representatives about new formulations, new dosages, and drug combinations you didn’t know about, so it’s a fairly efficient way to keep on the cutting edge; but I believe more often than not, people learn about the latest things out there anyway.”

In addition to being more expensive, the drugs provided in samples create habits among physicians, Ubel says. “I can’t keep 50 drug starting doses in my head. If there are five ACE inhibitors, for example, I’ll know one, not five. When there are samples, the drug I become familiar with will come off my pen.”

Sometimes, these tendencies might not hurt patients, he adds. “But look at antibiotics — broad spectrum vs. generic. Do you pull out the big guns right away when the generic has a chance of working? I’d rather save the big guns for when you really need them, so patients don’t develop a tolerance to them.”

## Key Points

- Some institutions prohibit the dispensing of drug samples.
- Once samples run out, patients must bear greater cost burden.
- Being provided samples creates prescribing habits among physicians.

In a recent study co-authored by Ubel, physicians were most likely to recommend ACE inhibitors as their first treatment choice in treating uncomplicated high blood pressure, despite numerous clinical trials that have shown diuretics and beta-blockers to be equally effective.

The physicians surveyed rated diuretics significantly less effective than the other three drugs and felt beta-blockers were more likely to cause side effects, while in reality ACE inhibitors tend to have more side effects than diuretics or beta-blockers.

## Looking to control costs

The study, published in the December 2003 issue of the *Journal of General Internal Medicine*, was borne of Ubel’s keen interest in the role physicians play in helping to control health care costs.

“I’ve seen many physicians say that money doesn’t matter, and if a patient can be touched in a better way, they don’t care how expensive the treatment is,” he notes. “But in blood pressure treatment, I noticed that the best meds were the cheapest, yet I saw people coming into my office with the more expensive drugs.”

The study — *Misperceptions About Beta-Blockers and Diuretics: A National Survey of Primary Care Physicians* — involved 1,700 primary care physicians. It presented a hypothetical patient whose blood pressure was 170/105 (anything higher than 140/90 is considered abnormal).

The patient had tried to control his blood pressure for a year using diet and exercise, but it remained high; he had no other medical problems. Physicians were asked to estimate the effectiveness in this situation of ACE inhibitors, beta-blockers, calcium channel blockers, and diuretics. They also were asked what medication they initially would prescribe for this patient.

Diuretics and beta-blockers are recommended by the Joint National Commission on High Blood Pressure Treatment as the first-line treatment for uncomplicated high blood pressure, yet in the survey, diuretics and beta-blockers were rated less effective at lowering blood pressure and were thought to have more side effects than the newer calcium channel blockers and ACE inhibitors. Further, physicians who favored prescribing the more expensive drugs were more likely to give patients free drug samples from pharmaceutical representatives.

“It is crystal clear from the literature that there’s no advantage to ACE inhibitors in these

## Need More Information?

For more information, contact:

- **Peter A. Ubel**, MD, Associate Professor of Internal Medicine, University of Michigan Medical School; Director, Program for Improving Health Care Decisions, U-M Health System, Ann Arbor, MI. E-mail: paubel@umich.edu.

cases," Ubel explains. "If the patient had diabetes or a big prostate, that's a different story." In terms of side effects, "The main side effect in ACE inhibitors is the dry cough. It goes away when you stop taking the medicine, and it's not dangerous, but otherwise all the drugs have the same side effects."

In some cases, he points out, receiving the free samples affected physicians' prescribing habits without affecting their beliefs. "I expected misperceptions about generics, but the people who gave away drug samples to their patients were no more wrong, just more likely to prescribe them because of habit, even if they didn't think more favorably about them than anyone else did."

### **Effective communication**

Basically, says Ubel, the big pharma companies know how people learn and retain information, and they do a better job of informing physicians than the medical journals. "They hit you with the message in a way that sticks," he says. "We need to do a better job in that context."

According to Ubel, the policy of most scientific/medical journals is to refer to medications by their generic names not trade names. For example, an article will discuss the effectiveness of omeprazole without any mention of Prilosec. That likely reduces the "stickiness" of the information. Trade names often are catchier and easier to remember than generic names. So a physician who is used to thinking about the risks and benefits of Prilosec may not remember what he or she read about omeprazole.

What does Ubel recommend to readers of

*Healthcare Benchmarks and Quality Improvement?*

"If you're trying to improve the quality of care at your institution, you should think like a pharmaceutical rep and send the message to the docs that you want them to get," he advises.

"Pharmaceutical sales reps call what they do detailing; what is needed is what has been called counterdetailing," Ubel adds.

"Walk in like a sales rep, set up a table of donuts, and teach people about the most inexpensive and effective ways to treat patients. Before your presentation, just ask yourself, 'What would a pharmaceutical rep do?'" ■

## NEWS BRIEFS

### **HHS reports on quality disparities in the U.S.**

U.S. Department of Health and Human Services (HHS) Secretary Tommy G. Thompson has released two reports that represent the first national, comprehensive effort to measure the quality of health care in America and differences in access to health care services for priority populations.

The *National Healthcare Quality Report* and the *National Healthcare Disparities Report*, provide baseline views of the quality of health care and differences in use of the services.

Future reports will help the nation make continuous improvements by tracking quality through a consistent set of measures that will be updated as new measures and data become available.

The reports are available on a new web site: [www.qualitytools.ahrq.gov](http://www.qualitytools.ahrq.gov). Print copies of the reports also can be obtained by calling (800) 358-9295. E-mail: [ahrqpubs@ahrq.gov](mailto:ahrqpubs@ahrq.gov). ▼

### **COMING IN FUTURE MONTHS**

■ IOM identifies most costly conditions and associated best practices

■ Open visiting in the ICU: Can it really work?

■ Errors of omission: Are they more costly than medical mistakes?

■ AHA claims many hospitals are suffering from HIPAA burnout

■ Studies question use of volume as a quality indicator

# NQF launches outpatient quality initiative

The National Quality Forum (NQF) has begun a four-year initiative to identify voluntary consensus standards for measuring the quality of outpatient care, including care delivered in physicians' offices and freestanding or hospital-based outpatient facilities. The project will seek national consensus on standardized ways to assess the quality of ambulatory primary and specialty care consistent with its national quality framework. NQF expects to complete the first phase of the project, funded by a \$300,000 grant from the Robert Wood Johnson Foundation, in nine months.

Phase one involves a literature review and assessment of available and needed measures, after which the group expects to publish a report on those findings. ■

## Mark your Calendar!

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## Correction

In our cover story in the November 2003 issue, **Tania Bridgeman, RN, PhD**, director of clinical path development of the University of California at Irvine Medical Center, was quoted as using a clinical documentation system called TDF from Atlanta-based Eclypsis.

The correct name of the system is TDS. ■