

# Healthcare Benchmarks and Quality Improvement

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## Medical Team Training at VHA reduces rate of adverse events

Reported adverse events decreased from 3.21 to 2.4 per month

A recent follow-up study in the Archives of Surgery shows that improvement in patient safety has resulted from the implementation of Medical Team Training at a number of Veterans Health Administration (VHA) hospitals.

The report shows a decrease in adverse events and harm at VHA hospitals over a three-year period. It found a significant decrease in the number of adverse events reported per month from July 2006 through December 2009, compared to a study conducted from 2001 to mid-2006 (2.4 vs. 3.21). The authors attributed the decline to a greater emphasis on safety, team training and communication. They also identified 237 incidents, 101 of which were adverse events and 136 of which were “close calls.”<sup>1</sup>

VHA began implementing Medical Team Training (MTT) in March 2005 to improve patient outcomes through more effective communication and teamwork among providers in critical care areas. Since then, the training program has facilitated 217 learning sessions that have involved 15,470 caregivers at VHA facilities nationwide.

“Eliminating wrong-site surgery has been a real challenge for the health care field,” notes Julia Neily, RN, MS, MPH, associate director, National Center for Patient Safety (NCPS), Field Office, and lead author of the Archives study. “It seems people can’t get to zero; we’re really pleased about the fact that we saw a decrease.”

## KEY POINTS

- Pre-operative briefings, post-operative briefings seen as important tools.
- Medical Team Training draws its inspiration from the aviation industry.
- Staff must be encouraged to speak up when they have safety concerns.

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## Following aviation's model

According to the Department of Veterans Affairs (VA), the idea for MTT came from the realization that many safety issues in health care are related to miscommunication and the failure of groups to operate as effective teams. The aviation industry recognized this problem 30 years ago and developed Crew Resource Management (CRM) to address communication failure in the cockpit. (CRM is defined as using all available sources — information, equipment, and people — to achieve safe and efficient operations.)

NCPS began developing the MTT program in

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### EDITORIAL QUESTIONS

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2003. Phase I focused on operating room and surgical intensive care unit staff. It was rolled out in March 2005 and ended June 2009. Phase II extended the program to non-operating room clinical areas and began in July 2009. In a final Phase I update report, dated Aug. 30, 2010, teams from 121 VA medical centers provided this additional insight into the program's effect in the operating room:

- Sixty-nine percent reported improved teamwork.

- Sixty-six percent indicated improved efficiency (better equipment use; improved first-case on-time starts).

"The goal and mission of the program are to improve outcomes for veterans by enhancing teamwork and communication skills of providers," says Douglas E. Paull, MD, FACS, FCCP, director of Patient Safety Curriculum for NCPS.

The first phase, he explains, includes preparation and planning. "It starts with a leadership call — engaging facility leadership in the project. If they are on board, our own publications disclose a four-fold increase in the success of a process improvement being sustained one year later."

"About three months prior to the learning sessions we did our pre-work, which included developing an inter-disciplinary team — thinking about what they wanted to work on, and which specialty they wanted to start improvement in," adds Neily. "That way we already had some buy-in on what they wanted to improve."

Local champions and implementation teams were selected by each local VA facility clinical area, Paull continues. So, for example, the chief of surgery would be a champion, and in turn would select frontline staff and administrators to join him or her on the implementation team. The local champions and their implementation teams would then select from among the six available patient safety projects: checklist-guided preoperative briefings and postoperative debriefings; SBAR hand-offs; interdisciplinary administrative briefings; interdisciplinary patient centered rounds; code debriefings; and fatigue management. Many sites selected a second project, Paull notes.

The second phase, says Paull, was the on-site training itself. "This was heavily influenced and based on CRM communication techniques," he notes. The peer-to-peer training was multidisciplinary and interactive, Paull says.

The final phase, follow-up, involved sharing of

lessons learned, troubleshooting, PDSA (Plan Do Study Act) cycles, and celebrating successes.

## Gaining staff buy-in

When addressing staff buy-in, “we are really talking about patient safety culture here,” says Paull. “They want best outcomes for veterans and superior working relationships with their colleagues. They design their own projects, checklists, and which patient safety issues are tackled. They own their projects.”

Paull shared initial MTT results in improvements in efficiency and success stories with teams early on, he notes. “Tracking outcomes data that is already collected made it easier for implementation teams,” says Paull. “Providing support in the way of a website, a listserv, monthly calls, follow-up interviews and coaching aided the cause.”

While certain standardized approaches were employed, each facility made adaptations to their environment. “We felt that helped the buy-in of folks from all different levels; we honored their system,” says Neily. “It also helped with implementation.”

In terms of implementation, notes Paull, from about 2003-2009 MTT focused largely on the OR and the ICU. “Because of acuity and complexity of care, errors that occur in these arenas can have serious consequences for patients,” he says. “Also, studies have demonstrated that MTT and CRM training are particularly effective in these micro-systems.” The VA undersecretary mandated MTT for every Veterans Affairs medical center conducting surgery, “so we enrolled and trained each facility, about 129 or so,” he says. Each of these facilities initiated checklist-guided preoperative briefings; Veterans Health Administration policy now requires such a process for all invasive procedures. “Implementation has moved forward, and now teams from cardiology, endoscopy, ER, and medical surgical floors are involved in voluntary MTT,” he says.

One of the most important things Neily teaches staff members is to speak up if they have a concern about care. “We developed a process to support that, which includes pre-operative briefings and post-op debriefings,” she says. “We taught surgical teams to talk about the case beforehand, guided by a checklist — a template people can use.” The aforementioned national directive, she adds, made the 12 critical elements of the briefing mandatory, “so we not only taught about it, but it was embedded into the national directive.” (The national directive can be found at [\[publications/ViewPublication.asp?pub\\\_ID=2243\]\(http://www1.va.gov/vha-publications/ViewPublication.asp?pub\_ID=2243\).\)](http://www1.va.gov/vha-</a></p></div><div data-bbox=)

For the training sessions on these briefings, the OR was closed. “The message we sent was that everyone was important — scrub techs, nurses, CRNs,” Neily says. “Second, we wanted everyone included in the briefing. Through various activities, we encouraged people to get know each other by name. One of the things we said was, ‘we want you to develop a briefing tool to guide your discussion; here are some templates to use.’” While the template had to be followed, she adds, the ultimate tools were developed so they would work in the specific environment of the facility.

## Other results

A number of additional “successes” have been published in the VHA’s online quarterly newsletter, “Briefings and Debriefings,” says Paull. They include the following:

- Circulating nurses do not have to leave the OR to gather equipment as often.
- OR cases are more likely to start on time.
- Patients are more likely to receive antibiotics or DVT prophylaxis.
- Staff members are more satisfied with their professional lives.
- There is less nursing turnover.
- Morbidity and mortality rates are lower.

“Is this a safer healthcare organization because of MTT? Yes it is,” says Paull. “MTT is an evidence-based improvement strategy for all healthcare organizations in fulfilling the IOM’s vision of safer healthcare.”

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# “Pillars” of quality help hospital win recognition

Family-centered care one key ingredient for success

**M**emorial Regional Hospital in Hollywood, FL, recently received the top “Quest for Quality” award, presented by the American Hospital Association and McKesson Corp., and the Memorial Health System’s senior vice president thinks he knows why. “A lot of it has been accomplished with regard to the IOM’s “Six Aims” and great integration with our seven pillars of excellence,” says Zeff Ross, FACHE, who is also the CEO of Memorial Hospital. Those pillars, which he can quickly enumerate from memory, are: safety, quality, service, people, finance, growth, and community. “We keep our focus on them,” he says.

One aspect of Memorial’s approach to quality, which touches on several of the pillars, is patient/family-centered care. “We have a number of examples that include some novel ideas, like our patient family-friendly MAR — medication administration record,” Ross says. “If you’re a patient in the hospital, you actually receive a listing of all your medications, what they’re for, and when they’re supposed to be given, and we discuss the potential side effects with you when we give them.” So, for example, a nurse might enter the patient’s room and say, “It’s time for your Lasix; one of the side effects may be urinating little more.”

“There’s a lot of safety involved in this,” Ross says. “A patient can double-check the nurse, and, if the patient desires, the family can be aware of all this information and can assist as well. For example, they might say, ‘Wait, this is not on his list — why are you giving him that?’” The hospital has many safety checks, he adds, including bar code administration, making sure the right patient gets the right medications, “but this is also a safety

check and requires a true understanding by the patient and family.”

Patients and their family members are also an integral part of a process called “help alerts.” There is a special line they can call and get a rapid response team to come to the room. “If we’ve educated the patient correctly, they will not call because their toast came cold,” says Ross. He explains that when patients are admitted they are told about the program, what it is, and when and why they should use it.

“This is not a ‘gotcha’ on the staff,” Ross says. “But we all need additional eyes.” Accordingly, the registrar goes through the program, there is signage about it throughout the hospital, and the nurses also reassure patients that they want them to be comfortable, and if they feel something is awry, then please call “help alert.”

Ross says programs like these have resulted in improved patient satisfaction scores, as well as better safety. “We may not always know what we saved a patient from, but you have a good idea when the rapid response team comes and says, ‘we now recognize why you feel this way’ that we know we made saves,” he says.

## Infection rates down

Memorial has also achieved significant improvement when it comes to infection rates. “At Joe DiMaggio Regional five years ago, we started out with about a 6% central line-associated bloodstream infection rate; in 2010 we ended up with just over 1%,” Ross says. “The key is a lot of focus, recognizing that nobody comes into the hospital to get sick, but we do not want infections.”

The improvement, he adds, is attributable to a combination of improved techniques and better hand-washing, and recognizing a greater responsibility to the patients. “We put up greater signage and we tell patients upon admission that if any health care worker comes in and they do not see them wash up first to please ask them to do so,” Ross notes. “We have a very high compliance rate now. Also, we have people making rounds looking at our practice — are we practicing what we preach?”

Having physicians act as role models is also critical, and Ross shares how Memorial gets them on board. “We don’t necessarily say it’s important to wash your hands, but we might say it’s important to prevent an infection and having the patient become ill and possibly die from it; now

### KEY POINTS

- Patients and family are kept up to date on medications, potential side effects.
- Storytelling can be an important tool in achieving staff compliance.
- Rounding is one of several strategies to ensure better hand-washing practices.

it becomes something they understand and everything is connected," he says.

This approach has also dropped the rate of ventilator-associated pneumonia (VAP). "Where we would have had at Regional alone 60 in a year, by having greater adherence to bundles we've brought it down to three," says Ross. "Don't get me wrong; three is not tolerable, but to think we've brought the rate down by 95% is phenomenal."

Storytelling is a key ingredient to successful compliance, Ross asserts. "When you tell a story literally about how one time you cared for a patient who did get VAP and they had to spend an additional week in the hospital, or be put on antibiotics, the other staff members can internalize what could have happened and realize it could possibly lead to mortality, or at the very least an increased length of stay," he says. Ross notes that stories are told by administrators to department leaders, department leaders to employees, and sometimes from employees to employees. "We also involve a Patient Family Advisory Council, which includes guest patients and family members who are also able to get up and talk with us — about the good and the bad," says Ross. "Transparency is very important to us."

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## EHRs can help you comply with NPSGs

However, authors note that challenges remain

**E**lectronic Health Records, or EHRs, can be valuable tools for quality managers as they strive to comply with The Joint Commission's National Patient Safety Goals. That's a clear message communicated in a recent commentary in JAMA<sup>1</sup>; however, the authors take care to not only outline some best practices for EHR use, but to also review some of the challenges presented.

Take, for example, patient identification. "Wrong-patient errors occur in virtually all stages of diagnosis and treatment. Reliably identifying individual patients is especially challenging in high-volume practice environments with limited continuity of care,"<sup>1</sup> the authors wrote.

### KEY POINTS

- High-volume practice environments with limited continuity of care present a particular challenge.
- Highlights, color changes or italics may be used to bring attention to important data.
- Make sure that CDS and BCMA fit within clinicians' workflow.

"At least once a shift you will not know the patient's name — or the name will not mean anything to you," says one of the authors, Ryan P. Radecki, MD, Department of Emergency Medicine, East Carolina University/Brody School of Medicine, Greenville, NC.

The authors cited a study of ED physicians that used eye tracking, which showed that physicians often fail to adequately confirm the identity of patients prior to order entry. "Eye tracking involves placing a small camera above the top of the computer screen that picks up the pupils and you can see where the eyes are looking — in the case of EHR users, you can see if their eyes look to a particular portion of the screen and you can see if they're performing the desired task or not," Radecki explains.

Naturally, the authors continue, the goal should be for clinicians to reliably identify patients when accessing records and entering orders. What's the best way to do that?

"It's tricky — it really depends on what your interface for the EHR is," says Radecki. "If you put a picture of the patient where you sign the order, or use a different color on the screen, it forces your eye to verify information. Putting it where they're less likely to miss it — like the center of the screen — is as effective as you can be short of forcing someone to do it."

You could enter into your system the requirement to do this before you can sign an order, he continues, but that could add several minutes to each physician's day. "You need balance, so it takes experimentation," he says, adding that highlights, color changes or italics may be used to bring attention to important data such as sound-alike names, patient's initials, date of birth, and so on.

### Alert fatigue

While the authors note that EHRs can enhance

test result communication with automatic notifications of the responsible clinicians about abnormal test values, they added that “this alone does not constitute a fail-safe system.”<sup>1</sup>

“One of the problems with putting alert mechanisms into a computer system is you have so many of them and clinical relevance is hard to distinguish,” Radecki says, noting that “between 90% and 95% are dismissed and ignored by doctors because they are not well designed or are deemed irrelevant.”

For example, he says, there are many medication interactions, but in some the benefits may outweigh the risks. “When you get so many irrelevant alerts you can develop alert fatigue,” he cautions, “so if you have a system, it really has to be cautiously defined.”

While this constitutes a major area of research, Radecki notes that no solution has yet been found. However, the authors stated, “a fail-safe strategy might be requiring that clinicians acknowledge abnormal test values within a certain time frame (i.e., depending on severity), after which laboratory staff use direct notification.”<sup>1</sup> Since there is no way to verify that the information has been received if it is not acknowledged, says Radecki, “you might have to fall back on direct communication between providers.”

## Using meds safely

The authors noted that electronic health records with CDS (Clinical Decision Support) and BCMA (Bar Code Medical Administration) capabilities can significantly improve patient safety. However, they warned, “care must be taken to ensure that all of these interventions fit within clinicians’ workflow.”<sup>1</sup>

In addition, they said, BCMA systems need to be implemented both in the pharmacy and at the point of care.

“When fully integrated into the system, a bar code is printed in the pharmacy, affixed to the vial or container that is transported to the bedside and the nurse has a scanner at the bedside to see if there’s a match,” Radecki explains. “If there is, the patient gets the drugs. Another bar code is on the patient to ensure that the correct patient receives the correct medication or blood product.”

One potential challenge here is “work-arounds.” How do they occur? “Clever nurses,

instead of scanning at the patient’s wrist, will print out second labels to have at the nurses’ station rather than having one on each patient, which defeats the whole purpose,” says Radecki. Hospitals have addressed this problem, he adds, by “making it really hard to get second bar codes printed out.”

## Monitoring compliance

EHRs can also be useful in making sure that staff members are complying with infection control protocols. For example, the authors wrote, “when appropriately configured with easy-to-use targeted checklists, [EHRs] may provide an electronic delivery mechanism.”

In addition, they explained, nearly any device can be fitted with software and radio frequency identification (RFID) transmission capabilities so that checklist monitoring can take place in real time via the EHR. “For example, if you want 100% compliance in hand-washing, you can put a transmitter on the dispenser, and if a staff member’s RFID tag goes near it without registering, you can tell that staff member isn’t washing their hands,” says Radecki.

Similar checklists may be used to assess suicide risk, he continues. “This is challenging, but you can force the EHR to prompt people at registration to ask certain questions,” says Radecki.

“You can also program it to look for words like ‘sad,’ ‘depressed,’ or ‘quiet,’ and conduct a quick screening.”

“As with all computer-based interventions, incorporation of EHRs into routine clinical workflow is critical; their effectiveness depends on appropriate maintenance, effective user training, periodic institutional self-assessment of EHR safety and effectiveness, and clinically focused policies to support their use,” the authors concluded.<sup>1</sup>

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# Wrong-site surgery still happens 40x/week

**T**he news from the Joint Commission Center for Transforming Healthcare is not good: No matter how much healthcare providers and regulatory bodies stress the need to avoid wrong-site surgery, this sentinel event still occurs about 40 times a week.

That figure was disclosed as the center announced the preliminary results of a wrong-site prevention project with eight hospitals and ambulatory surgery centers (ASCs). The facilities identified the most common causes of wrong-site surgery as scheduling and preoperative/holding processes, ineffective communication, and distractions in the operating room.

The timeout procedure, which held so much promise for eliminating wrong-site procedures when it was first introduced, has been found to be imperfect. Even when the timeout is conducted, not all people in the operating room participate, the facilities reported.

Mark R. Chassin, MD, FACP, MPP, MPH, president of The Joint Commission, said during a news conference that the hospitals' reports were useful in identifying the likely causes of wrong-site procedures throughout the health system. "The eight hospitals and ASCs identified where errors can creep into the process and took steps to correct them," Chassin said. "We hope to use their experience as a roadmap to measure risks."

All facilities and physicians who perform invasive procedures are at some degree of risk, he said. In 2010, wrong-site surgery was the third most common sentinel event reported, he noted. "The magnitude of this risk is often unknown or undefined. Providers who ignore this fact, or rely on the absence of such events in the past as a guarantee of future safety, do so at their peril," Chassin said. "Unless an organization has taken a systematic approach to studying its own processes, it is flying blind."

Because wrong-site surgeries are relatively rare events, they are difficult to study, he noted. Research has shown, however, that there is usually no single root cause of failure. More often, wrong-site surgeries occur as the result of a number of small errors that compound each other and lead to the final mistake, Chassin said.

Marking the incision site should help avoid wrong-site surgery, but the execution varies

greatly within facilities, said Mary Reich Cooper, MD, JD, senior vice president and chief quality officer of Lifespan Corp., who also spoke at the press conference. Lifespan has four hospitals in Providence, RI, that participated in the wrong-site project. "In the past, the mark was made in the holding area," Cooper said. "We found discrepancies between what was seen there before the surgeon arrived and what he thought he was doing in the operating room. So now we have surgeons go out to the holding area to make the initial mark. Then in the OR before the procedure starts, we affirm that mark, asking if everyone sees the mark. We shut down our OR for a day and put everyone through training. Every new staffer gets the same training."

The type of pen also makes a big difference, she said. "Sometimes, the mark was washed away during the prep," Cooper said. "So make certain that only approved indelible pens are used. This was a simple but important intervention."

Tom Feldman, chief executive officer at the Center for Health Ambulatory Surgery Center in Peoria, IL, noted that timeouts were handled inconsistently in several participating locations. "Was the timeout occurring before prep and drape, or after? Who leads the time out: the circulating nurse or the attending surgeon?" Feldman said. "We closed some gaps and decreased variation. That helps everyone in awareness." ■

## Hospitals could use TMDS to convey data

Study shows improvement with its use

**O**ne important obstacle to clear, effective care transition communication is the format in which information is conveyed. If information about hospital patients is sent electronically, what should be included? Which fields are essential? And is it possible to include flexibility in an electronic form or data set?

Researchers at the MGH Institute of Health Professions in Boston have developed a transitional minimum data set (TMDS) that might serve as a model that addresses and resolves these issues. The TMDS tool was developed based on a literature review and an expert panel's suggestions. A study of the TMDS in use found that it

was associated with marked improvement in the transfer of essential clinical information, although additional educational efforts were needed to improve consistency in its use.<sup>1</sup>

"Our focus was to help avoid hospital admissions for elders who go to the emergency room from long-term care facilities," says Diane Feeney Mahoney, PhD, ARNP, BC, FGSA, FAAN, a Jacques Mohr professor of geriatric nursing research at the MGH Institute of Health Professions.

Mahoney and co-authors sought to make the encounter in the emergency department more productive.

"Many elders who come to the emergency department are confused," Mahoney says. "So you need to know how they were normally; were they alert or confused? How did they normally function? Also, what are their risks for falls, aspirations, wandering, and seizures?"

The TMDS collects these details, giving clinicians a broader picture of who the patient is and what a particular patient's "normal" should look like.

"The emergency department staff loved it," Mahoney notes. "They felt the data set helped save them time, and they could more quickly focus on the issue at hand."

The form's usage rate was 91%, indicating it was widely adopted in clinical practice.<sup>1</sup>

Such a data set also can include information about the nursing home or other provider to which the patient will be transferred. For instance, the data set could show hospital discharge providers that a particular nursing home does not provide access to acute rehabilitation, which the patient will need, Mahoney says.

"This checklist appears to work, and it improved communication in the study, despite the fact that it was new and a pilot effort," she says.

One area that did not improve with the use of the data set was the reporting of the patient's tetanus/diphtheria vaccination status, Mahoney notes.

"We were surprised this part didn't improve, and it was the only thing that didn't," she says. "The emergency department staff really wanted to know someone's tetanus/diphtheria status, and that was on the form as a critical area, but only 3% had sent that information before and only 5% sent it with the TMDS form."

This is a communication deficit that nursing homes should address since it's critical to hospitals, and emergency medicine clinicians do not

have time to search through hundreds of pages of documentation to find the answer, Mahoney adds.

A potential solution would be a better graphic design of the TMDS, making it easier for nursing home staff to see the question and provide an answer, she suggests.

An electronic transitional minimum data set also could be pre-populated with basic information, making it easier and faster to complete. For instance, the names and numbers of key staff, such as social workers and medical directors, could be pre-populated in the form.

"This is so people don't have to fill out everything under a crisis," Mahoney says.

Another way the TMDS could be improved is if the data set were embedded in an electronic medical record (EMR) as part of a standard form used at times of care transition. The EMR would not let users proceed until they answer all of the essential questions, she says.

With a data set embedded in an EMR, the pre-populated information could include the patient's basic demographics and family contacts.

"If they do not know the patient's tetanus vaccination status, then they can put in the form that it's unknown," Mahoney explains.

While MGH Institute's data set form was used solely from the nursing home to the emergency department, it easily could be created for hospitals to use and send to community providers, she says.

"I would think nursing homes would want to know how the medications were changed and what were any new diagnoses or new syndromes or exacerbation of syndromes," Mahoney says. "They'd need to know more about how to manage the patient's symptoms, and they could learn which information from the hospital could help the nursing home prevent readmissions."

Hospitals using such a data set could seek input and buy-in from the community providers who will be using it.

"They could educate nursing homes as to the utility of the form," Mahoney suggests.

The TMDS study followed hospital admissions from a 140-bed nursing home. There were 33 cases in the baseline comparison group and 41 cases in the post-TMDS group, she says.

The skilled nursing facility averaged 17 emergency department transfers per month. Investigators determined the effectiveness of the TMDS tool by measuring the proportion of TMDS items received by the emergency department after implementation of the TMDS when compared

with prior care.<sup>1</sup>

The TMDS tool had 30 items, but its length did not appear to be a barrier to its adoption by clinicians, Mahoney says.

Users of the tool suggested that it list why the patient was being transferred, providing space for more detail or an open-ended question, she says.

Hospitals and other health care providers increasingly will find they need to use tools and checklists to improve communication during care transition, Mahoney says.

"The regulatory side wants it; the technology side can do it, and now there are more financial incentives for facilities to adopt the technology that makes it possible," she explains. "Everybody knows issues get dropped."

So it's important to determine the critical elements that will make the transition safe and successful, and these elements need to be collected quickly and efficiently, she adds.

The purpose in having a TMDS tool is that it asks the right questions for the provider receiving the patient. This provides a greater understanding of the situation since each provider has different priorities and the nursing home might need to know different information than do emergency department physicians.

"The patient's status is a moving target, and it's critically important that we keep that information about him easily achievable," Mahoney says.

For instance, a nursing home patient's data set might indicate he was walking to dinner, sitting with friends, and having conversations a couple of months earlier. So the dementia noted when he was brought into the hospital might be delirium caused by a recent infection or new medications, and it's been misidentified as Alzheimer's disease, she explains.

With the correct information readily available to hospital clinicians, the patient's care plan and goals are adjusted with the hope of returning the patient to his former level of function.

"We want to get patients back to their pre-existing best optional functional level," Mahoney says.

## REFERENCE

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## Turn to staff for boost in productivity

Volunteer team members weed out inefficiencies

When it's typical for patients to wait four hours or more to see an emergency physician, and your leave-without-being-seen (LWBS) rate is pushing 10%, you know it's time to rethink the whole process. And these were the grim realities facing the ED at Baylor Medical Center in Garland, TX, as recently as two years ago, explains Steve Arze, MD, the medical director of the ED.

"We had hit the point where our waiting times had just become too long to be safe," he says. "While there are certainly places in the nation where the wait times are longer, we were not in a place that we felt was appropriate for our patients."

Taking a closer look at the problem, administrators quickly realized the issue was hardly inadequate staffing levels. "As patients would pile up in our waiting room, there were doctors who were not seeing patients and nurses who were not seeing patients," says Arze. Instead, what was gumming up the process was a triage plan that was packed with too many unnecessary steps. "There is no reason to wait to see a triage nurse, for instance, if there are plenty of beds open in the area where patients need to go," adds Arze.

The ED managers could have re-engineered the process themselves but, instead, they handed the problem to a cross-section of ED staff who volunteered to put the patient-flow process under a microscope and identify inefficiencies, explains Brennan Bryant, RN, MSN, MSHCAD, the hospital's director of emergency services.

"They developed solutions to the bottlenecks," says Bryant, and the results have been stunning. The average length-of-stay (LOS) for patients discharged from the ED has decreased by 36 minutes, and the average LOS for admitted patients

has decreased by 91 minutes. “In essence, we have added 11 beds without really changing anything other than the process flow through the ED,” adds Bryant. “It’s phenomenal.”

## Take a team approach

To get the volunteer team started, management collected detailed time metrics on every portion of the patient-flow process from arrival to triage to the total LOS, explains Bryant. “We mined that data and presented it to them so they could basically brainstorm around what [changes] they felt would deliver the most bang for their buck,” he says.

The team pored over the data and came up with 33 processes and efficiencies that could be improved; then the challenge was to whittle that list down to a workable group of changes based on frequency of occurrence and the impact on overall LOS, adds Bryant.

For example, the group streamlined the triage process so that patients are now asked a minimal number of questions — just enough to ensure that they proceed to the most appropriate area for care, which is either a location designated for lower acuity complaints or the main ED, explains Arze. “A full triage, including extensive histories about what happened to the patient, why they are there, what type of medicines they are on, and who their physicians are — all of that can be done later and does not need to be obtained before the patients are connected with a physician,” he says. “The triage really becomes a quick screen to determine what area the patient needs to go to, and then a primary nurse gets the remainder of the information about that patient at a later point.”

Another change to the process is that physicians no longer have to wait until a chart is generated by a nurse before they see the patient, says Arze. “We have a team approach in that either of them can go on independently to see the patient.”

If the physician sees the patient first, he or she will go ahead and take the history and issue orders without waiting for the nurse. This enables the team to see several people at a time rather than waiting for each patient to come through the process in a sequential manner, explains Arze.

Looking beyond triage, the volunteer team realized that efficiencies could be gained by enabling lower-acuity patients to travel from one point of care to the next on their own rather than being

escorted by staff. To facilitate this “standard conveyance” model, the staff developed signage on the walls and floors so that patients could be easily directed to the right place, explains Bryant. “For patients headed to radiology, for example, we have these little bones on the floors. The patients are taken to where the bones start, and then they are told to follow the bones down the hall, turn to the right, and have a seat in the chairs where someone from radiology will pick them up,” says Bryant.

A computerized tracking system lets ED staff know where patients are throughout their ED stay, adds Bryant. There are more than 40 computer monitors in the ED so that a monitor is available about every 10 feet to let staff see where a patient is on his or her journey, he explains. “They can see whether labs have been ordered, drawn, or returned, and the same thing for radiology and other procedures,” adds Bryant.

Some job responsibilities have been realigned as well. For example, in the past, the charge nurse would typically take care of some of the sickest patients and assist staff when they became overloaded, says Bryant. “The team found that we had lost that high-level vision of what is going on in the whole ED ... so they rewrote the job description of the charge nurse to pull [this person] out of direct patient care and put him or her back where the position needs to be, which is as kind of the traffic cop of the ED,” says Bryant. “That has worked very well.”

The volunteer team also observed that roughly 46% of the ED’s volume was being handled in seven rooms that make up the rapid medical evaluation area, but these rooms were under-staffed, so they adjusted the staffing matrix to better support this area, says Bryant. However, as they addressed staffing for the lower-acuity patients, they found that this change also lessened LOS times for the more acute patients. “For patients admitted to the hospital, LOS in the ED was decreased by 91 minutes,” adds Bryant.

Much of this improvement can be explained by the snowball effect that having success can create, suggests Bryant. “Once the team started to see results from the process changes that they had envisioned, it became kind of a self-fulfilling process,” he says. “Success breeds success, and when the turnaround times began to rapidly go down, everybody realized that working together as a cohesive unit and actually bringing the patient into the care team really helps to effect change.”

Any type of change is likely to prompt questions or even skepticism when people are used to doing things a particular way, but Arze stresses that in this case, there wasn't much grumbling. "On the physician side, we were able to increase the number of shifts that we had because our productivity increased so much," he says, noting that the revenue to pay for these shifts came from capturing paying patients who previously left without being seen. The LWBS rate has dropped from 10% to 2% since the improvement process began, adds Arze.

The improvements are also evident in the brand-new ED that the hospital constructed about six months after the improvement process began. "We now use less space than we used to in our old ED to see the same number of patients," says Arze. "It's just purely because of the improvements in efficiency that we have achieved. Patients don't linger in our beds for a long time because we are able to move them through quickly. That has enabled us to essentially reduce the number of beds that we have to have operational at any one time." ■

## Giving advice on clear communication

### Lead health literacy improvements

To address the issues of health literacy, St. Vincent Charity Medical Center in Cleveland, OH, made a radical move. It abolished its patient education committee and formed the Health Literacy Institute, which consists of an interdisciplinary team of caregivers who are dedicated to improving health literacy through better communication.

Karen Komondor, RN, director of patient and staff education, heads up the team. All team members developed a passion for improving health literacy through education on that subject, which gave them a different perspective, Komondor says. "We saw that although many of us had been in health care a long time, we didn't realize that maybe our patients didn't understand what was being taught, and it wasn't about noncompliance," she explains.

Their tutors were staff members from Project Learn, an adult learning center in Cleveland. The partnership was formed in 2007 when the adult learning center received a grant from Sisters of Charity Foundation of Cleveland to form a partner-

ship with St. Vincent Charity Medical Center to address low health literacy.

Project Learn remains a partner of the Health Literacy Institute, which made its overall goal the institutionalization of health literacy across the continuum of patient care. The first step to reach this goal was to conduct health literacy awareness training, beginning with senior leadership.

Senior leader buy-in and support is critical when addressing health literacy, says Mary Ann Abrams, MD, MPH, health literacy medical advisor at Iowa Health System Center for Clinical Transformation in Des Moines. "The health literacy focus at this institution began about 2005. Administrators can raise the visibility of the issues and dedicate time, space, and resources for staff to work on them, and they can change policies and procedures," Abrams explains.

One way to engage them is by providing data compiled in national reports, she says. To use national data in making a case for a focus on health literacy within an institution, make it personal by adding state statistics and data from your location, Abrams advises. "People are inclined to say the problem exists somewhere else, but indeed the problem does exist locally," she says.

Another powerful way to engage leadership, as well as colleagues, is by involving patients, family members, and adult learners. Let them share their stories about struggling to understand information. Healthcare providers will see that these people are the same as those patients in their clinic waiting rooms or those admitted to the hospital, she says.

Komondor says that health literacy education must encompass all staff. It begins with health literacy awareness training, and then it becomes more specific by providing guidance on the use of plain language or teaching techniques.

Members of the health literacy team attend staff meetings in different departments to provide health literacy training. The topic of health literacy is

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included in general hospital orientation and annual competencies. Administrative policy related to patient education requires the use of plain language and the teach-back method in all provider communication.

Health literacy teams within the Iowa Health System are similar to those at St. Vincent Charity Medical Center, with patient education coordinators or managers heading up the teams. However, direction is given to the hospitals within the system by providing three areas of focus for health literacy projects. Abrams says that these include the care environment, interpersonal verbal communication, and written materials.

Under the heading of care environment, teams might implement a program to enhance understanding, such as "Ask Me 3," a patient education program designed to promote communication between healthcare provider and patient.

Interpersonal verbal communication might entail training on the use of plain language. Work on written materials involves making sure instructional handouts and forms are user- and reader-friendly. Abrams says teams are providing guidelines and training for staff about user-friendly handouts, which encompasses layout, word choice, and organization of content. Although the health literacy teams at the hospitals within the system review written materials, as they teach staff to write in plain language, fewer and fewer revisions are required.

Komondor says that The Health Literacy Institute made rewriting patient education documents to an average sixth-grade reading level its second major focus and has revised more than 100 handouts. Staff members at Project Learn do the major revisions, and team members and experts review content before the document is posted on the Intranet for distribution. Adult learners at Project Learn are sometimes used to gain a patient perspective on written materials and videos.

Gaining the patient perspective is important, Abrams says. Health literacy teams at all the institutions are encouraged to include one or more patients or an adult learner on the team. Adult learners at New Readers of Iowa have helped with documents at the system level, says Abrams. For example, they helped with the development of reader-friendly informed consent documents.

Patient input also can be spontaneous, says Abrams. When creating a new form or handout, ask patients on the hospital floor or in the clinic waiting room to provide feedback. "It helps to make sure we are communicating accurately," says Abrams. ■

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