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## ➔ INSIDE

Best practices for developing case management leadership skills. . . . . cover

Field-based care management helps with challenging patient population . . . . . 64

RN care management model targets high-cost utilizers . . . . . 65

Is a hospital discharge unsafe? Ethical response is needed . . . . . 67

Can alarm fatigue be conquered?. . . . . 69

## Case Managers Can Learn Best Practices in Leadership Skills

*Groom teams and themselves for better leadership*

Case managers might think of themselves as care coordinators and the enzyme that keeps a healthcare continuum flowing, but the truth is they also are leaders, according to several case management professionals.

“Leadership skills are important whether or not the case manager is in a titled position of management,” says **Christine Tedeschi**, MS, RN, CDE, manager of ambulatory disease management programs at Sharp Rees-Stealy Medical Group in San Diego.

“Case managers have to have some leadership skills because, for the most part, they work autonomously,” Tedeschi says. “They have to manage a workload and work through a whole burden of work independently and help others as needed.”

Leaders, like case managers, need skills of emotional intelligence, self-awareness, and the ability to develop relationships, says **Julie Mirkin**, MA, RN, corporate vice president of care coordination at New York-Presbyterian

### EXECUTIVE SUMMARY

Case managers do their best work when they use leadership skills to keep all stakeholders on track with care coordination.

- Leaders need to enhance their emotional intelligence, self-awareness, and ability to develop relationships.
- Leadership skills, as well as skills competence, also help case managers develop credibility with other providers.
- Finding a mentor is a great way to improve one’s own leadership skills, and later, becoming a mentor helps to spread those skills to the next generation.

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Health System in New York City.

"A big part of being an effective case manager is having credibility," Mirkin says. "It starts with clinical competence in the area."

Other necessary leadership skills include the ability to negotiate and understanding other people's interests and how overlapping interests can meet the needs of patients, she adds.

When nurses and other healthcare professionals begin their careers, or when they move into case management, they likely are not thinking about leadership skills building, notes **Chriss Wheeler**, RN, MSN, CCM, a partner with Innovative Care Consultants in Independence, MO.

For instance, when Wheeler was a new nursing graduate, she probably was an informal leader even though she never saw herself that way, she says. "I was trying to solve problems and identify areas where I needed growth," she adds. "I think self-reflection is needed to move into leadership roles."

Effective leadership can improve care management teams, staff engagement, and patient outcomes. Tedeschi, Mirkin, and Wheeler provide the following best practice strategies for how case managers can improve their own leadership skills and help to develop these same skills in others:

- **Build emotional intelligence.**

At New York-Presbyterian, case management teams review cases and talk about what could have been done better, Mirkin says.

"We look at the opportunities to improve and share best practices over and over again," she says. "Engaging staff to participate in ongoing learning opportunities and reviewing individual performance is key to improving emotional intelligence."

Care manager leaders can build

emotional intelligence — a critical skill — in their teams. "They can set an expectation for the staff, hardwire accountability, and give positive feedback in formal and informal ways," Mirkin says.

- **Find a mentor/become a mentor.** For Wheeler, her first leadership-building moments were ones she didn't initiate: "I had someone who came to me and said, 'You need to join this organization called CMSA [Case Management Society of America]," she recalls. "It was at a time in my life when I was busy with young children and middle-school children."

At her boss' urging, Wheeler joined CMSA and then attended a local meeting.

"It was close to the local chapter's election time, and my boss said, 'There's a treasurer position open. I think you should run for that,'" Wheeler says.

Wheeler took the advice and found a mentor through CMSA, and her involvement with the organization helped her develop leadership skills.

"All along the way, the professional organization and the mentors I've had in my life have brought me to this point," says Wheeler, who is the public policy co-chair for the Kansas City Chapter of CMSA and is the vice chair of CMSA's national public policy committee.

Case managers who have experience and connections with local and national organizations can become mentors for the next generation of case managers.

"We can nurture those other potential leaders and give them opportunities to lead," Wheeler says. "Nurturing and mentoring are absolutely important to develop leadership skills."

- **Hire people with leadership potential.** "I look for people who

had some previous experience making a contribution to wherever they are coming from,” Tedeschi says. “Maybe they’ve been on a committee elsewhere or developed a safety [program] on their prior unit.”

Tedeschi also looks for people with good communication skills and the ability to handle issues that arise in a logical manner.

“We have leaders who are quiet, and we have leaders who are really vivacious, so there’s not one general [personality type],” she adds. “For me, potential leaders have communication skills, some experience, and demonstrated excellence in the work we’re asking them to do.”

Attitude also can make a difference, Wheeler says.

“Our formal leaders and informal leaders can either break a team or help a team excel, depending on the attitude they bring into the environment,” Wheeler says.

“Also, case managers who work in workers’ compensation have to be self-starters who are self-motivated and understand how to get all the people on the same page,” she says.

• **Implement goals, realize organizational vision.** Case managers are expert in more than care management. They’re also expected to see a department’s vision and develop processes within their own group, Tedeschi says.

For example, when a telehealth program involving texting for patients was implemented, the group’s leader had to understand how it would fit into staff and team workflows, she explains.

“That’s what a leader would be doing: understanding what the department wants and understanding how they’re a team and creating processes so the team can be clear on what the steps are and what needs to be done,” Tedeschi says. “The leader

understood the technology from the beginning because she was in the meeting when we were considering bringing on this technology.”

The leader had done additional homework, as well. She knew the organization’s patient population focus was the new technology that would help enhance case management. “There were very general messages about how patients could manage their diabetes, and our staff nurses and case managers were expected to enroll patients in this activity,” Tedeschi says.

“OUR FORMAL LEADERS AND INFORMAL LEADERS CAN EITHER BREAK A TEAM OR HELP A TEAM EXCEL, DEPENDING ON THE ATTITUDE THEY BRING INTO THE ENVIRONMENT.”

There were multiple steps case managers had to take, and the leader was able to audit nursing charts to make sure those steps were followed. For instance, if a patient indicated interest in the technology, but was never enrolled, the leader would have someone call the patient and get the person enrolled, she adds.

• **Grease the wheels that keep care coordination rolling.** Effective patient advocacy and positive outcomes require leadership skills. Care managers work with physicians and others who might have their own ideas of what needs to be done for patients and who might not be

interested in collaboration, Mirkin notes.

“When I talk with physicians, I discuss my staff’s ability to provide patient advocacy,” she says.

“We’ll grease those wheels to get testing done and to make sure patients don’t have to wait for things,” she adds. “We’ll work with admitting, and we’ll be the grease on the wheels to navigate the patient and serve as an advocate.”

“After explaining all that case managers can do for patients, but also to help physicians with their challenges, a case manager might say, ‘This is why the care coordinator is important, because you’ll tell me everything you want done with your patient and I’ll make sure it happens,’” Mirkin says.

Once case managers exhibit this type of leadership skill, other healthcare professionals will begin to trust them, and collaboration will be easier. Then there will be positive outcomes that will further improve trust, she says.

“As long as you advocate for the patient, physicians are very much on board with this,” Mirkin says. “We all want the same thing.”

• **If it’s broken, fix it.** “If you’re an on-the-ground case manager, when you see something that is broken don’t just go to your manager to complain,” Wheeler suggests. “The person who identifies the issue probably has the solution.”

This is one way to demonstrate leadership. Another way is to influence others to be the solution.

“There are leaders, managers, and transformational managers,” Wheeler says. “A manager will manage things from day to day, and if something needs to be fixed, the manager will show people what they’re doing wrong.”

A leader, by contrast, will influence staff to set goals and accomplish tasks. “Transformational leaders will share their vision and lead the way and challenge the process,” Wheeler says. ■

# Field-based Case Management Program Works with Challenging Patient Population

*Effort reduces hospitalizations*

WellCare Health Plans in Tampa, FL, implemented a field-based care management program with the goal of changing an industrywide reactive model into an innovative, proactive model that is used with a high-risk Medicare/Medicaid population.

The first aspect of the model is proactive identification of people who need in-person case management. “We are not waiting for a crisis to happen before we seek to engage our membership,” says **Michael Radu**, senior vice president of clinical operations and business development for WellCare Health Plans, which covers 15 states for Medicare and nine states for Medicaid.

“We focus on the most vulnerable people and use a variety of information that’s available to us, whether it’s claims data or clinical information,” Radu says. “We focus on individuals with chronic conditions that are actionable, and we have an eye toward people with multiple chronic conditions.”

The care managers, who have

nursing or social work backgrounds, meet at people’s homes and assess each individual, starting with the person’s goals and social determinants of health. The care managers then develop a care plan that will be seen by a comprehensive and integrated care team, he says.

This approach has a broad spectrum of results, including reducing hospitalizations, ED use, and readmissions, Radu says.

“What was pleasing to us is we saw services increase in a couple of areas where we felt it validated our outcomes,” he says. “Our prescription use went up 3%, which we thought was a good indication of better medication adherence. We saw outpatient services go up, which we felt was better access to care in the right setting.”

The following is how the program works:

- **Launched with engagement script.** “When we launched the program in four markets, we sort of left it to each program to develop their engagement script, and we had a wide variation in reach and

engagement,” Radu says.

The program is being expanded and relaunched with a standardized script that care coordinators learn through role playing, he says.

The type of language people use is important, and care coordinators are trained in how to describe the program to plan members, such as emphasizing that the program is a free benefit to the member, he adds.

Among the lessons learned are strategies for making initial telephone contact and finding times and telephone numbers for reaching people, he says.

- **Market the program to plan members.** Another strategy for enrolling people in the program involves four- or five-minute videos available on YouTube, in which a patient and his or her care management team talk about how the program can help people.

In one such video, a social work care manager talks about how she rode on the bus with an amputee WellCare member to the doctor’s office. “I would go with her on the bus to make sure she made it safe and sound,” the care manager said. “I want to make sure every part is addressed; not just the medical part, but the social needs because I know that is a major factor.”

- **Provide comprehensive assessment.** “We have general guidelines tailored to individual situations for the member,” Radu says. “The first contact after setting up the logistics is a comprehensive assessment on the first visit that could take an hour to two hours.”

The assessment’s intensity depends

## EXECUTIVE SUMMARY

With a field-based care management program, WellCare Health Plans has reduced hospitalizations, ED use, and readmissions. The program also has improved prescription use and outpatient services.

- The program identifies a high-risk Medicare/Medicaid population through claims data and clinical information.
- Care managers use an engagement script to encourage plan members to join the program.
- Aided by field visits, care managers complete a comprehensive assessment and an environmental assessment.

on the individual's chronic condition, activity level, social support, and needs, he says.

• **Do an environmental assessment.** The power of having a face-to-face visit is that the care manager can assess the plan member's nutritional status by checking the refrigerator and cabinets. Also, the case manager can look at pest control issues and safety factors involving rugs and whether the person needs grab bars or other environmental assistance, Radu says.

Case managers can look at the

person's medications and do an inventory of his or her prescriptions. If problems are identified, the care manager can request that a pharmacist conduct a medication reconciliation, he says.

• **Engage with communities.** "We have a formal program of surveying hundreds of thousands of community and program providers," Radu says. "We employ community outreach workers who go out into our states in person to develop relationships with a lot of the community providers."

On rare occasions, the organization can formalize its relationship with community providers and share confidential member information to ensure people have access to those community resources, Radu says.

Most of the time the community organizations can be resources for when members have food insecurity issues or need financial support, rent assistance, or help with utilities. These organizations also can help with transportation and dental and vision care, he says. ■

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## Ambulatory RN Care Management Model Targets High-Cost Utilizers

*Case management strategy proves effective*

Starting with a list of 2,500 patients who were high-cost utilizers, an ambulatory case management program effectively reduced the cost of care by 17% over three years.

The high-cost utilizers initially were adults referred by their providers, based on having catastrophic conditions related to heart disease, renal disease, diabetes, chronic obstructive pulmonary disease (COPD), and asthma.

"Our all-cause, 30-day readmission rate went down 19% in 30 days," says **Mary Morin**, RN, NEA-BC, vice president, nurse executive for Sentara Medical Group in Norfolk, VA.

The ED's treat-and-release episodes decreased by 41% from June 2010 to the end of 2013, Morin says.

Patients also reported statistically significant improvements in their sense of physical and emotional well-being.

"We found that 43% of patients had an improvement in their mental health," Morin says. "Patients who feel better psychologically tend to take better care

of themselves."

The program now uses an 18-metric core card for advance care planning and has 14 care managers in the medical group who work with higher-acuity patients. "We no longer pick the list of patients based on a referral by the provider," Morin notes.

"All care managers are trained in chronic disease advance care planning with two days of intensive training," she adds. "They go into patients' homes and discuss the advance care plan."

In 2015, the program had 180 advance care plans, she says. "We find out what patients' and families' wishes are and that's documented in the emergency medical record, so if a patient ends up in the ED [providers] can see what the advance care plan is," Morin says.

Sentara Medical Group created the model in around 2011 with two RN care managers who provided telephonic care management for patients with congestive heart failure (CHF). There

were cross-continuum teams for chronic diseases, Morin says.

"I got involved in the spring of 2011 and asked to oversee the care management piece," Morin says. "We wanted to study the population of patients to see if RN care management could bend the cost curve, and since we have a health plan, we could get at claims data."

With additional care managers, Morin built a new type of model with the expectation that care managers would do home visits, hospital visits, and go wherever the patient resided.

"We took care managers, including two doing telephonic work, and redesigned their model, redeploying them into a new model," Morin says.

Each care manager received office space based on a hybrid, embedded model, Morin says.

"They could Skype with patients, and we gave all of them laptops and phones for this technology," Morin says. "They only had to get patients to agree."

They followed the high-cost utilizer population for three years, looking at all-cause medical admissions and readmissions, ED visits, advance care planning, and seven-day follow-up with care providers.

“We measured their perception of their physical and psychological well-being,” Morin says. “Then we monitored their utilization and we had to get providers on board, creating a bi-weekly huddle with providers.”

Care managers had to have the skill set to establish a long-term relationship with patients and caregivers. They needed to manage patients until patients no longer required intense care management, although some patients would always need that level of service, she notes.

“Care managers work closely with patients to understand them,” she says. “You can teach people about their diabetes and can teach about CHF and how to better manage their health through diet and exercise.”

Sentara Medical Group studied the results, which were very positive. The company gave the program an award for innovation and allowed it to expand with additional resources. “After three years of data, we found that we were able to decrease the cost of care by 17%, and we also learned there is seasonality to admissions and readmissions,” she says. “There also were patients who had

learned behavior of using the ED as their primary care provider, and it takes a long time to change that behavior.”

The organization collects seven-day follow-up metrics because evidence suggests that quick contact with discharged patients will reduce readmissions, Morin says.

“Patients are most frequently readmitted within seven days,” she explains. “This improved by 76%.”

In 2013, the program expanded to reducing length of stay, mortality, and readmission rates for patients with CHF, sepsis, and pneumonia. “We followed up all medical discharges through the end of 2013,” Morin says. “In 2013, we added a social worker to help deal with patients who have psychosocial issues, chronic back pain, migraine pain, and gastrointestinal pain.”

The social worker works with patients when referred by care managers. Some people with chronic pain also have chronic conditions, but they need a different skill set than those with just chronic diseases, she says.

The program’s population health focus has been expanded to include a medical group of patients on anticoagulants. Registered nurses consult about warfarin protocol and provide population management. There are 17 clinics and 25 RNs who manage patients face to face and provide virtual visits regarding anticoagulant treatment,

Morin says.

The program has resulted in patients having a better-than-national-average anticoagulant therapeutic range outcomes, Morin says.

“We have not had any serious safety events since implementing this model,” she says.

Starting in 2014, the team partnered with the health plan to look at Medicare Advantage populations, following all payers. “We work closely with their case managers and our care managers to manage that population, and we’ve had some great reduction of inappropriate ED utilization in that group,” Morin says.

Case managers in the program typically receive transfer forms from the hospital and ED, and they monitor and identify patients who need follow-up at discharge. There is both weekday and weekend coverage because the program quickly showed that without a 48-hour clinical assessment, patients would fall through the cracks, Morin says.

Care managers then call patients and arrange for a visit. If the patient is readmitted to the hospital, the care manager will go to the hospital to meet the person.

Follow-up appointments occur within seven days, and case managers call to verify that patients will be there. The day after the appointment, the case manager will call and continue to follow up by phone every seven days for a month. With CHF patients, the telephone follow-up continues for 50 days because data showed these patients had issues with readmissions on day 45, Morin says.

The next step would be to apply the same model to reducing readmission rates for non-Sentara physician practices, Morin says.

“We need better resources to keep people out of the hospital,” she adds. ■

## EXECUTIVE SUMMARY

Sentara Medical Group’s ambulatory case management program reduced the cost of care by 17% over three years.

- The program focuses on high-cost utilizers, most of whom had comorbid conditions.
- The all-cause, 30-day readmission rate decreased 19% within 30 days, and patients reported improvements in their physical and emotional well-being.
- Care managers call patients, arrange an in-person meeting, and provide follow-up telephonic support for 30-50 days.

# Is Hospital Discharge Unsafe? Ethical Response is Needed

*Unsafe discharges are “serious issue,” experts say*

It’s a difficult yet common scenario: A patient with complex care needs does not have a reliable caregiver at home to assist with implementing his or her post-discharge care needs.

In these cases, it’s necessary to determine if the patient has the capacity to make the decision, says **Erin Sarzynski**, MD, MS, an assistant professor of geriatric medicine at Michigan State University in East Lansing.

“If the patient does have capacity, then a clinician is challenged to facilitate the discharge against his or her better judgment,” Sarzynski says.

If Sarzynski is concerned about a patient’s welfare post-discharge, she works with case management to create a contingency plan. This could include having family or friends check on the patient and arranging home healthcare services or sub-acute rehabilitation care, which may be a viable option for up to 30 days post-discharge if the patient was admitted for at least three nights under inpatient status.

“However, if the patient lacks capacity to make the decision to return home without a reliable caregiver, then the clinician must determine who is the proxy decision-maker,” says Sarzynski. If the patient has not previously appointed a durable power of attorney for healthcare, it is necessary to contact next of kin, or in some cases apply for a court-appointed guardian.

“Thereafter, clinicians must arrange post-discharge care with input from the proxy decision-maker,” says Sarzynski.

In some cases, an elderly, frail patient is determined to go home alone, “and nobody thinks it’s a good idea. That becomes a serious issue sometimes,” says **Wayne Shelton**, PhD, professor at the Alden March Bioethics Institute at Albany (NY) Medical College.

Physicians and nurses have an ethical obligation to ensure that the discharge is safe, says Shelton. This

“SAFE DISCHARGE” LAWS PRECLUDE HOSPITALS FROM DISCHARGING PATIENTS WHO DON’T HAVE A SAFE PLAN FOR CONTINUED CARE AFTER THEY LEAVE A HOSPITAL.

includes the safety of the patient’s caregiver. “A spouse may have the best of intentions, but has health problems of his or her own,” he says. If the spouse is clearly unable to care for the patient, the bioethicist may need to become involved to discuss other options. “You may have to talk about sending the patient to a nursing home, which may be something they don’t want to talk about,” says Shelton.

Ethicists can begin the discussion by making sure that patients and

family understand the risks involved. “Basically, we try to get them to reconsider their decision,” says Shelton. “We explain that they risk getting in worse shape medically.”

Shelton says it’s “virtually impossible” for ethicists to tell an elder person with capacity who has made up his or her mind to go home that he or she can’t do so, regardless of the risks. “We do have patients who leave against medical advice. Even if it entails some risk, we can’t stop them,” says Shelton.

The clinical team struggles with seeing a patient leave, knowing it’s likely unsafe. “Sometimes the patient comes back with additional problems,” Shelton says. “This is one of the prices we pay for autonomy.”

“Safe discharge” laws preclude hospitals from discharging patients who don’t have a safe plan for continued care after they leave a hospital. “This has become a real challenge with regard to uninsured patients,” says **Janet L. Dolgin**, PhD, JD, co-director of the Hofstra University Bioethics Center in Hempstead, NY. Dolgin is also director of Hofstra University’s Gitenstein Institute for Health Law and Policy.

“Mostly, now, this is relevant to undocumented immigrants, who are not generally covered by Medicaid or state exchanges,” notes Dolgin. Hospitals are required by the Emergency Medical Treatment and Labor Act (EMTALA) to accept all “emergency” patients, but nursing home facilities are not. In fact, nursing homes are typically reluctant

to accept patients whose care costs will go uncovered.

“Thus, hospitals have sometimes kept patients long after the patients were not well-served by continued hospital care because no safe discharge options were available,” says Dolgin.

Ethicists can offer valuable mediation if there’s disagreement as to whether a particular patient should be discharged. “Sometimes meetings among clinicians, patients, patients’ family members, social workers, or hospital administrators can shape options that seem acceptable to everyone involved,” says Dolgin.

The following are other ethically challenging scenarios involving hospital discharges:

- **A patient is medically cleared for discharge, but refuses to leave the hospital.**

“There are a variety of reasons why patients stay in the hospital longer than they need to. This is a big problem in healthcare,” says Shelton.

Several recent ethics consults at Albany Medical College have involved this very scenario. Sometimes it’s a family member who objects to the discharge on the grounds that the receiving facility is too far away.

“This raises the question of how far is too far for the family, if there is no local place for the patient to go to,” says Shelton. “There are limited options for other places patients can go.”

If a patient or family strongly objects to the discharge, ethicists sometimes work with clinicians to find a way to accommodate them to some extent. “We can usually work things out and negotiate an extra day. It’s not a hard science — these things are negotiable in terms of decision-making,” says Shelton. “But there are limits.”

One reason is that keeping patients hospitalized who are medically ready

for discharge is simply not in the patient’s best interest. “The hospital is not a place to be, unless you really need to be there,” says Shelton. “And it’s certainly not in the best interest of the healthcare system because it costs a whole lot of money.”

Ethicists try to get across that the patient doesn’t need the level of care he or she is receiving in the hospital, and that the patient is better off in a long-term care facility. “People can get quite comfortable having

**“THERE ARE A VARIETY OF REASONS WHY PATIENTS STAY IN THE HOSPITAL LONGER THAN THEY NEED TO. THIS IS A BIG PROBLEM IN HEALTHCARE.”**

nurses and doctors taking care of them here,” says Shelton. “It’s a communication challenge.”

- **Case managers and social workers can’t find a facility willing to accept the patient.**

“Some patients have a reputation for being difficult, and nobody wants to take them,” says Shelton. “Facilities sometimes push difficult patients on each other, protecting their own turf.”

The next step may be unclear if one facility after another flatly refuses to accept a particular patient. “This has raised some questions about the role of the ethics consult,” says Shelton. “It’s not really our role to call nursing homes and talk about discharge planning.” However, Shelton occasionally has stepped in

to make such calls. “Strictly speaking, it’s not something we should be doing,” he says. “But it tends to get people’s attention.”

- **Clinicians are pressured by hospital administrators to discharge patients.**

Hospital administration recently alerted Sarzynski of “high census,” with a request to discharge patients in the early morning. At the time, one of her patients was a homeless man medically ready for discharge, but a severe weather advisory had been issued. “These cases are difficult to navigate,” says Sarzynski.

The primary ethical issue is non-maleficence, says Sarzynski. The homeless patient is the clinician’s primary responsibility, she says — not patients waiting to be admitted to the hospital. “Even so, it’s best to negotiate a compromise that enables the largest number of patients to receive the medical care they need, thereby meeting the ethical principle of utilitarianism,” says Sarzynski.

Sarzynski chose to discharge the homeless patient in the evening, with explicit instructions to stay overnight in the hospital lobby — a warming center — before departing the next day. “Thankfully, the case manager was able to provide a meal voucher as well,” says Sarzynski.

While Sarzynski did feel pressure to proceed with a potentially unsafe discharge, in the end she felt that the hospital did support her contingency plan. “In the end, I believe we met both ethical principles: non-maleficence and utilitarianism,” says Sarzynski.

Such plans require a team effort, however. “It’s an excellent example of the role a bioethicist can play: offering nuanced solutions that enable members of the medical team to negotiate clinical problems,” says Sarzynski. ■

# Can Alarm Fatigue be Conquered?

The problem of alarm fatigue has gained attention in recent years, with evidence showing that it can threaten patient safety. Now hospitals are finding ways to effectively address the problem by minimizing the number of alarms and prioritizing the rest, and they also are finding that something as simple as a trash can lid can play a role in alarm fatigue.

Alarm fatigue has risen to the level of a recognized safety risk that must be addressed. The Joint Commission (TJC) found 98 alarm-related instances of patient harm, including 80 deaths and 13 cases of permanent disability between January 2009 and June 2012. As of January 2016, TJC's National Patient Safety Goals (NPSGs) mandate that hospitals take definitive steps to implement policies and procedures to safely reduce and prioritize the number of primary and secondary alarms. The ECRI Institute ranked alarm proliferation as the second top technology hazard in 2016, and an investigation by *The Boston Globe* found more than 200 deaths nationally related to alarm problems. (To access the TJC report, go to <http://bit.ly/1PI4ilQ>. You can access the NPSG related to alarm fatigue at <http://bit.ly/1qYEnL6>. Readers can access ECRI's technology hazards at <http://bit.ly/1WQJIUM>. Access the report from *The Boston Globe* online at <http://bit.ly/1MWEX7Q>.)

Several hospitals are reporting success with their efforts to reduce alarm fatigue. Boston Medical Center recently reported that its analysis showed the vast majority of warning alarms at the hospital don't need an audible signal, so the hospital decided it was safe to switch them off. At the same time, the hospital also upgraded some low-level warning

alarms to a higher level that signifies a crisis. Boston Medical also gave nurses the authority to change alarm settings to account for the differences among patients. As a result, just one division of the hospital went from 90,000 alarms a week to 10,000. (*The hospital's experience with addressing alarm fatigue is described in the Journal of Cardiovascular Nursing, which readers can access online at <http://bit.ly/1RPVulq>.*)

TJC FOUND 98  
ALARM-RELATED  
INSTANCES OF  
PATIENT HARM,  
INCLUDING 80  
DEATHS AND  
13 CASES OF  
PERMANENT  
DISABILITY  
BETWEEN  
JANUARY 2009  
AND JUNE 2012.

Texas Children's Hospital (TCH) in Houston addressed alarm fatigue with multiple strategies. Hospital leaders wanted to create a safer patient environment by making alarms more meaningful and useful to clinicians, explains **Jennifer Sanders**, MSN, RN, NEA-BC, director of clinical support operations at the hospital. Initial efforts focused on gathering data to quantify what clinicians knew anecdotally: that there were too many alarms going off too often, and they had a detrimental effect on patient care. TCH worked with an outside clinical decision technology vendor

to develop an alarm dashboard that provided a patient-level analytics platform the care team could use to make decisions about alarm settings.

The hospital also formed a multidisciplinary team with membership from the medical staff, nursing staff, clinical informatics, biomedical engineering, information services, and the vendor. TCH chose the Progressive Care Unit (PCU), a step-down ICU, as an early adopter unit because it was known anecdotally to have a high number of alarms. The team began collecting data from the electronic medical record, cardiac monitoring system, and nurse staff assignments.

The team made recommendations based on a 53-day data analysis, which included an onsite environmental analysis, multiple staff interviews, and a comprehensive analysis of the alarm and patient data collected in the PCU. Based on these findings, the team decided to use a Plan-Do-Study-Act (PDSA) approach, a four-stage problem-solving model used for improving a process or carrying out change. The hospital started with simple changes and progressed to the introduction of patient-specific alarm dashboards. For example, some of the first changes involved simple environmental improvements such as changing trash and linen bins so that they would not make as much noise.

"We realized that every time a nurse would wash her hands and throw the paper towel away in the trash bin, the lid would make a very loud noise, and all the patient alarms would go off because they were startled and their heart rates went up," Sanders explains. "The simple fix was putting silent closing lids on the

trash cans, and that alone produced an almost 3% reduction in alarms on those units.”

## Alarm threshold changed

The team went on to adopt a new alarm threshold for low peripheral capillary oxygen saturation (SpO<sub>2</sub>), an estimate of the amount of oxygen in the blood. The standard alarm threshold was changed from 93% to 90%, though physicians can set it differently for individual patients. This change in the standard threshold resulted in a 10% reduction in SpO<sub>2</sub> alarms per bed per day, a 13% reduction in SpO<sub>2</sub> as a percentage of total alarms in the unit, and a 15% reduction in SpO<sub>2</sub> alarms that lasted fewer than 10 seconds, also known as chattering alarms and considered one of the most annoying.

The next step was educating the staff about alarm management and the proper way to use silence and suspend functions. Nursing education resulted in an additional 11% reduction in SpO<sub>2</sub> alarms per bed per day.

Finally, TCH introduced the patient-specific dashboards that can be reviewed during rounds, which enabled physicians to engage in the alarm management improvement process and evaluate alarm settings for specific high-alarming patients. The process takes an average of less than two minutes per patient during rounds, Sanders says. Presented graphically, the patient dashboard shows, for example, that the patient experienced 122 SpO<sub>2</sub> alarms in the past 24 hours. This information means that the patient’s “time in alarm” or amount of time alarms sounded in the room was 52 minutes and 27 seconds over the last 24 hours. The data also show that compared

to the prior day, the alarm count is greatly reduced. A plot shows alarms aggregated by time of day. Currently, the patient’s SpO<sub>2</sub> limit is set to 90%, but this patient’s 95% confidence limit of observed vitals are between 81% and 96%. A table also provides data to the care team regarding the potential impact of changing the patient’s SpO<sub>2</sub> threshold.

“They have real-time conversations about this particular patient and how the alarms are sounding,” Sanders explains. “They can discuss whether the patient really was decompensating and needed intervention, or whether we need to change the alarm parameters to avoid nuisance alarms.”

Rather than focusing on alarm fatigue as a technology problem or a nursing problem, the multidisciplinary team considered it a patient care issue and sought ways to improve the patient experience, she says. Assessing the data from different perspectives was important, Sanders says. The unit level data showing the alarms by bed can help identify the patients frequently in alarm status, and the nurse-level information depicts the alarm load by nurse, which allows nursing leaders to review patient assignments for appropriateness of total alarm volume by staff nurse. The patient view shows the alarms by patient for the past 24 hours and provides data and recommendations on changes to alarm limits to reduce alarm fatigue.

“This was a project that brought almost instant gratification,” Sanders says. “You could look at the data, make a change, and almost immediately see a change in the alarms and the noise on the unit.”

## Alarms cause fatigue

The Hospital for Special Care

(HSC) in New Britain, CT, also has taken aim at alarm fatigue and reduced ventilator alarms by 80%, says **Donna M. Reinholdt**, MHL, MM, RN, LNC, director of corporate risk management and compliance.

The hospital formed an alarm committee a year in advance of TJC’s implementation of the alarm safety NPSG. It included the chief of pulmonary medicine, leaders from respiratory medicine, and respiratory therapists who are responsible for responding to most alarms. The committee identified all high-risk clinical alarms, assessed device-specific alarms, and prioritized both the devices and specific alarms on each device. The goal was to differentiate which alarms were immediately actionable from those that were non-emergent, Reinholdt explains.

“The committee continues to meet on a regular basis and reviews any risk-related concerns regarding alarm device volume and audibility,” Reinholdt says. “The committee utilizes a true risk management strategy in coping with potential alarm device fatigue by implementing monitors that measure response time and volume, as in the number of alarm conditions occurring.”

Most of the patient population at HSC is mechanically ventilated, so the threat of alarm fatigue stemmed primarily from those devices, Reinholdt notes. The Respiratory Therapy Department at HSC manages more than 100 ventilators, each with its own set of alarms, at patients’ bedsides across the hospital. In addition to the ventilator alarms, staff still had to deal with alarms from the usual mix of devices found in any hospital, such as pumps and physiological monitors.

For many years the number of ventilators and the complicated layout of the units forced the hospital’s

respiratory therapists to spend much of their shifts racing from room to room responding to hundreds of non-actionable alarms, says **Connie Dills**, MBA, RRT, RPFT, respiratory practice manager at HSC. Most of the alarms were for events that, while noteworthy, did not require immediate intervention, she explains. Not only did the repeated alarms distract staff and take them away from other duties, but the noise also disturbed patients who were trying to recover.

“Alarm fatigue was a huge problem for us,” Dills says. “A lot of the fatigue was from everyone getting every alarm all the time. We wanted to put the right alarm with the right person at the right time.”

With mechanical ventilation, the most critical alarm is for low exhaled minute volume, which indicates too little gas exhaled from a person’s lungs per minute.

That alarm can mean the patient is not being ventilated because there is a mechanical malfunction, a leak, or some other problem, Dills explains. However, the ventilators also can alert therapists to conditions such as high pressures and low respiratory rates, which are not critical but can lead to low exhaled minute volume if they persist. Those alarms could be triggered by something benign such as the patient coughing or talking and did not indicate a persistent condition that would become critical, Dills explains.

“In most cases there was no need to respond, and in fact, there often was someone with the patient, and that’s why they were talking and setting off that alarm,” Dills says. “But if you don’t have volume coming back to the ventilator, that’s a big indicator that they’re not being ventilated, and someone needs to respond right away.”

One of the first improvements was to route ventilator alarms through pagers to the specific respiratory therapist assigned to each patient. The hospital also changed how alarms were transmitted.

The critical alarms, such as low exhaled minute volume and patient disconnect, are routed to the handheld paging system as well as the overhead alarm system so a therapist can respond promptly. The non-critical alarms — those for conditions that are not immediately threatening — do not go through the handheld paging system, and they are not broadcast on the unit. The computer system tracks those alarms, however, and a non-critical alarm that does not self-correct will result in an actionable/critical alarm that will go into the paging system and overhead system.

That change greatly reduced the cacophony of alarms in the hospital, Dills says.

The system first was implemented in the Pediatric Unit, which has the most complex layout, making it difficult for clinical staff to move quickly from patient to patient. The unit utilizes three types of ventilators from different manufacturers, so a vendor-neutral approach was critical, Dills explains.

The software system also allowed the hospital to provide networked laptop and desktop computers with scrolling message bars at key locations. These computer stations provide the respiratory therapists with

access to data and alarms from all ventilated patients so that when they receive alarms on their pagers, they quickly can assess the patient’s status without having to go to the bedside immediately.

Real-time data from the networked system also enabled the respiratory therapists and the alarm committee to start identifying nonactionable alarms that could be adjusted or eliminated entirely, which contributed to the 80% reduction in ventilator alarms in the Pediatric Unit. After successful implementation in the Pediatric Unit, the system was expanded to the Respiratory Care and Respiratory Step-Down units as well, with similar results.

The change in alarm procedures was welcomed by the respiratory therapists and nursing staff, Dills says. The units are much quieter than before the alarm fatigue initiative. Rather than worrying that downgrading some alarms would threaten patient safety, the respiratory therapists are more confident that they know when to respond quickly to an emergency, she says.

“We recently had a server upgrade that took the system down for a while, and the therapists were just beside themselves that they were going to miss an alarm,” Dills says. “They know now that they can trust the alarms and really respond when necessary. Previously there were so many alarms that nurses and therapists sometimes stopped hearing them, and that was scary.” ■

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## CE QUESTIONS

- 1. According to several case management professionals and leaders, which personality characteristic is very important in developing leadership potential?**  
A. Authoritarianism  
B. Casual style  
C. Emotional intelligence  
D. Spontaneity
- 2. Which of the following is a benefit to a case manager doing an in-person environmental assessment of a patient's living space, according to Michael Radu?**  
A. The case manager can assess the person's nutritional status more accurately.  
B. The case manager can observe safety factors such as rugs and whether there are adequate grab bars installed.  
C. The case manager can look at the patient's medications and inventory prescriptions.  
D. All of the above.
- 3. According to Mary Morin, vice president, nurse executive for Sentara Medical Group, patients who feel better psychologically tend to do what?**  
A. Take better care of themselves.  
B. Have fewer rehospitalizations.  
C. Take fewer medications.  
D. Have better social support.
- 4. When WellCare Health Plans' care managers visit high-risk plan members, they assess each individual starting with which factor(s)?**  
A. Emotional well-being and mobility in the home environment.  
B. The person's goals and social determinants of health.  
C. Beck's Depression Inventory.  
D. Financial status.

## CE OBJECTIVES

After completing this activity, participants will be able to:

1. Identify clinical, legal, legislative, regulatory, financial, and social issues relevant to case management.
2. Explain how the clinical, legal, legislative, regulatory, financial, and social issues relevant to case management affect case managers and clients.
3. Describe practical ways to solve problems that case managers encounter in their daily case management activities.