

YOUR GOOD HEALTH

‘I feel like I’m in jail’

Hospital alarms torment patients

By Melissa Bailey

Kaiser Health News

When Kea Turner’s 74-year-old grandmother checked into Virginia’s Sentara Virginia Beach General Hospital with advanced lung cancer, she landed in the oncology unit where every patient was monitored by a bed alarm.

“Even if she would slightly roll over, it would go off,” Turner said. Small movements — such as reaching for a tissue — would set off the alarm, as well. The beeping would go on for up to 10 minutes, Turner said, until a nurse arrived to shut it off.

Tens of thousands of alarms shriek, beep and buzz every day in every U.S. hospital. All sound urgent, but few require immediate attention or get it.

Intended to keep patients safe alerting nurses to potential problems, they also create a riot of disturbances for patients trying to heal and get some rest.

Nearly every machine in a hospital is now outfitted with an alarm — infusion pumps, ventilators, bedside monitors tracking blood pressure, heart activity and a drop in oxygen in the blood. Even beds are alarmed to detect movement that might portend a fall. The glut of noise means that the medical staff is less likely to respond.

Alarms have ranked as one of the top 10 health technological hazards every year since 2007, according to the research firm ECRI Institute. That could mean staffs were too swamped with alarms to notice a patient in distress or that the alarms were misconfigured. The Joint Commission, which accredits hospitals, warned the nation about the “frequent and persistent” problem of alarm safety in 2013. It now requires hospitals to create formal processes to tackle alarm system safety, but there is no national data on whether progress has been made in reducing the prevalence of false and unnecessary alarms.

The commission has estimated that of the thousands of alarms going off throughout a hospital every day, an estimated 85% to 99% do not require clinical intervention. Staff, facing widespread “alarm fatigue,” can miss critical alerts, leading to patient deaths. Patients may get anxious about fluctuations in heart rate or blood pressure that are perfectly normal, the commission said.

An ‘epidemic of immobility’

In the past 30 years, the number of medical devices that generate alarms has risen from about 10 to nearly 40, said Priyanka Shah, a senior project engineer at ECRI Institute. A breathing ventilator alone can emit 30 to 40 different noises, she said.

In addition to triggering bed alarms, patients who move in bed may set off false alarms from pulse oximeters, which measure the oxygen in a patient’s blood, or carbon dioxide monitors, which measure the level of the gas in someone’s breath, she said.

Shah said she has seen hospitals reduce unneeded alarms, but doing so is “a con-



KATHERINE STREETER FOR KHN

Alarming trend

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stant work in progress.”

‘Cry wolf phenomenon’

Maria Cvach, an alarm expert and director of policy management and integration for Johns Hopkins Health System, found that on one step-down unit (a level below intensive care) in the hospital in 2006, an average of 350 alarms went off per patient per day, from the cardiac monitor alone.

She said no international standard exists for what these alarms sound like, so they vary by manufacturer and device. “It’s really impossible for the staff to identify by sound everything that they hear,” she said.

The flood of alarms creates a “cry wolf phenomenon,” Cvach said. The alarms are “constantly calling for help. The staff look at them. They say that’s just a false alarm — they may ignore the real alarm.”

Bed alarms, for example, are meant to summon nurses so they can supervise patients to walk safely. But research has shown that the use of alarms doesn’t prevent falls. Nursing staffs are often stretched thin and don’t reach the bedside before a patient hits the ground.

Meanwhile, patients may feel immobilized at a time when even a few hundred steps per day could significantly improve their recovery. Immobility in the hospital can create other problems for patients, leaving them with often irreversible functional decline, research has shown.

Bed alarms have proliferated since 2008, when the Centers for Medicare and Medicaid Services declared hospital falls should “never” happen and stopped paying for injuries related to those falls. After that policy change, the odds of nurses using a bed alarm increased 2.3 times, according to a study led by Dr. Ronald Shorr, director of the Geriatric Research, Education and Clinical Center at the Malcom Randall Veterans Affairs Medical Center in Gainesville, Florida. The alarms have become a standard feature in new hospital beds.

But Shorr noted that, in contrast, bed alarms are being removed from other settings: In 2017, CMS began discouraging their widespread use in nursing homes, arguing that audible bed or chair alarms may be considered a “restraint” if the resident “is afraid to move to avoid setting off the alarm.”

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