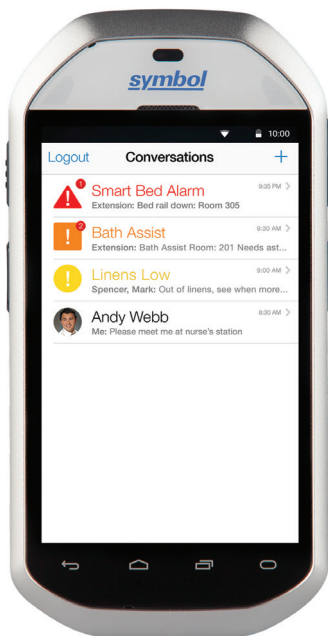


Reducing Inpatient Falls Using Vocera Engage

Vocera Communications, Inc. Case Study: Florida-Based 240-Bed Acute Care Hospital

Nursing leaders in this case study recognised an opportunity to improve care, made fall prevention a top priority, and reduced the fall rate by 40% in the first two years with an ROI of \$1.06M.



Example screenshot only.
Vocera Engage supports VoIP
phones and smartphones.

Problem: The central nursing stations at one 240-bed, acute care hospital located in Fort Lauderdale, FL. were not integrated with bed exit alarms, making nurses solely dependent on audible notifications. The lack of integration was exacerbated by the geographical layout of the units, in which all are designed with long hallways, making it difficult to hear an audible alarm sounding in a patient's room.

Aim: To decrease the number of patient falls, by delivering bed exit alarms to nurses via mobile phones.

Background: Patient falls in hospitals are widespread, posing a serious hazard to patient safety, as well significant legal and regulatory problems for the hospital.^{1,2,3} According to the Agency for Healthcare Research and Quality (AHRQ), there are between 700,000 and one million patient-falls in hospitals each year.⁴ The Joint Commission estimates that the average increase in a hospital's operational costs for a serious fall-related injury is a minimum of \$14,000, and up to double that amount in urban area hospitals.⁵ Accidental falls are among the most common incidents reported in hospitals.⁶ In one study, a single fall with injury added an average of 6.3 hospital days to the patient's stay.⁷ Of importance to note, as of 2008 the Centers for Medicare and Medicaid Services (CMS) has ceased reimbursement costs associated with a hospital-acquired fall; reasoning that a patient fall is an event that should never occur during hospitalisation.^{8,9}

Without federal reimbursement, many hospitals have initiated a falls prevention program, consisting of an interdisciplinary team to drive its success. The Veterans Affairs Greater Los Angeles Healthcare System found several attributes are associated with a successful fall prevention program: leadership support, a multidisciplinary team to oversee the program, front-line staff engaged in program design, education, and the use of information technology.¹⁰ In today's ubiquitous technology environment hospitals too, look to advanced information technology to help address the issue of patient falls and prevention.¹¹ To accomplish this coordination, high-quality prevention requires an organisational culture and operational practices that promote teamwork and communication.⁴

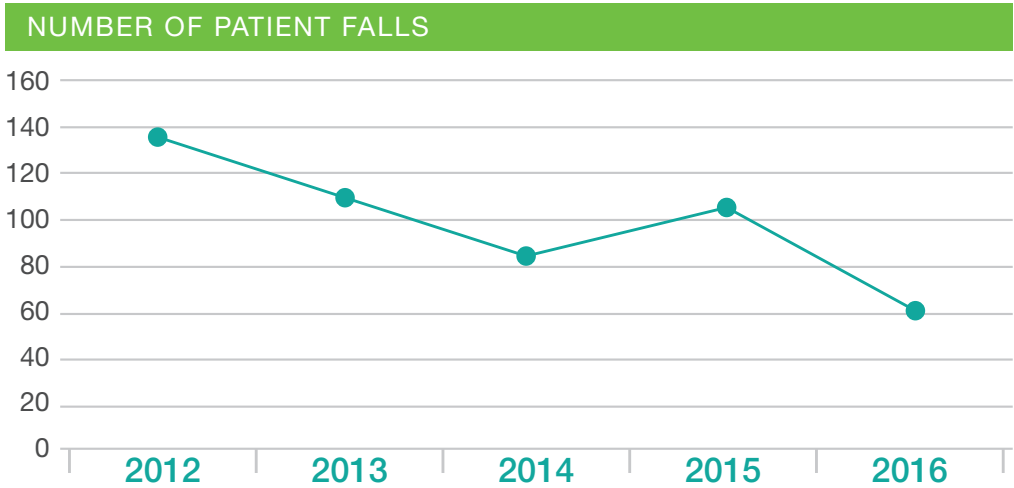
Root cause of patient falls at case study hospital: The Morse tool does not capture falls associated with underlying physiologic factors; nurses do not consider physiologic factors related to patient's medical condition in determining fall risk and prevention strategies.** Multiple contributing factors were identified and addressed.

Methodology: The case study hospital leveraged the Vocera® Engage alarm management and event response platform designed to integrate clinical systems with mobile phones.

Comprehensive goals for improvement:

1. Improve bed exit alarm – direct calls to nurses’ handheld devices via the Vocera Engage Mobile app
2. Enhanced fall risk handoff communication including physiologic factors
3. Communication of potential high fall risk patients in management safety huddles
4. Delineate workflow regarding red alarm rules for patient bed exit
5. Education

Findings: With the implementation of the system, the hospital achieved incremental reductions in patient falls, with an overall 40% reduction in the first two years. Combining state of the science technology to alert clinical staff when a patient at high risk for a fall, has exited the bed, along with staff education, is a significant quality process improvement.



ANNUAL CHANGE			
Year	Patient Falls	Change from Baseline	Annual Cost
2012	137	Baseline Data (no intervention)	\$2.46 M
2013	109	21% Decrease (Vocera Engage Mobile implemented)	\$2.3M
2014	83	39% Decrease	\$1.4M
2015	105	24% Decrease	\$1.89M
2016 (YTD)	62	55% Decrease (Through August 2016)	YTD \$1.1M

Implications for Practice: Additional data analysis led to implementation of further strategies to reduce nighttime bathroom related falls.

1. Fall risk assessment requires critical thinking
2. Teach back includes physiologic reasons for fall risk to increase patient and family participation in fall prevention
3. Consistent communication raises awareness for better prevention
4. Optimise the platform for patient care collaboration technology use model in partnering in care
5. Accountability for outcomes is necessary to sustain improvements

Conclusion: Nursing leaders at this case study hospital recognised an opportunity to improve care, made fall prevention a top priority, and reduced the fall rate by 40% in the first two years with an ROI of \$1.06M. This represents a decrease in patient falls from 3.27 per 1,000 to 1.97 per 1,000 in one year. Moving beyond existing best practices to include the Vocera Engage technology has catapulted this process in the intended direction. Hospital leaders proudly presented this data at last year's 2015 NICHE (Nurses Improving Care for Healthsystem Elders) conference.

The case study outlined is a 240-bed, acute care hospital located in Fort Lauderdale, FL. The hospital provides the full spectrum of advanced healthcare services, from behavioral health to rehabilitation and wellness programs. It is part of a multihospital, nationally recognised healthcare system in South Florida that offers world-class health care to all.

**<https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=morse%20tool%20falls%20assessment>

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