OVERVIEW

The burden of incontinence in hospitalized patients is significant, with consequences ranging from inefficient clinical workflows to patient dissatisfaction and hospital-acquired pressure injuries. Studies show 47% of patients in the hospital setting are incontinent,[1] and 45% of those patients have incontinence-associated dermatitis (IAD),[1] an inflammatory response caused by frequent or prolonged contact with urine and/or feces. Patients with IAD have a 3.5 times higher risk of pressure injury[1] as well as a 2.4 day increase in length of stay compared to patients without IAD.[2] Hospitals rely on nursing staff to regularly assess patients, but increasing workloads and unpredictable patient needs may make rounding insufficient for incontinence detection.

In addition to the obvious impact on patient dignity and patient experience, duration of exposure to moisture is also an important factor associated with skin damage. A recent study demonstrated that healthy skin is compromised within 15 minutes of exposure to an incontinence event.[3] So how can hospitals reduce exposure time, preserve patient dignity and improve workflow efficiencies for clinicians? One answer is by implementing an integrated technology solution to detect incontinence events immediately and notify the appropriate caregiver via automated alerts.

3 KEYS TO SMART INCONTINENCE DETECTION IN THE ACUTE CARE SETTING

1

TRANSITION FROM TRADITIONAL TO 'SMART' HOSPITAL BEDS AND SURFACES

Today's most advanced hospital beds can do much more than provide a comfortable place for patients to rest and recover. When hospitals transition to "smart" beds and surfaces, caregivers and patients can benefit from innovative technologies designed to enhance safety and improve patient outcomes and recovery.

Are your beds connected?

Smart beds are connected medical devices that use wired and wireless technologies to help caregivers optimize care and enhance outcomes for their patients. Using easy-to-read visual projections displaying bed safety status, smart beds in conjunction with standard of care have proven to reduce falls by 55% and injuries related to falls by 27%.[4] Pairing smart beds with applications that integrate with the EMR to automatically arm the bed exit system for fall risk patients has proven to reduce the average rate of falls by 62%.[5] When connected to nurse call systems or mobile communications devices, a smart bed becomes a critical component of a hospital's care and technology ecosystem, capturing important data and alerting the appropriate clinician.

Are your absorbent pads connected?

Absorbent pads have been used for many years on hospital beds to keep moisture away from a patient's skin. (See the Incontinence Management Timeline on the following page.) Unfortunately, traditional barrier methods are insufficient to reduce patient exposure to moisture, and they involve awkward incontinence checks by nursing staff that can compromise patient dignity. Studies show layers of pads may impede air flow to the patient's skin, restrict the flow of heat from the body into the surface or reduce the ability to evaporate moisture,[6] increasing the risk of pressure injuries.[7] Today's smart pads contain embedded sensing technology to detect moisture and send an immediate signal to the hospital bed, which sends an alert via nurse call or directly to the appropriate caregivers' mobile device.

15MIN
time for skin to be compromised after exposure to a single incontinence event[3]

70%
of patients experienced skin irritation within 1 hour[3]

15 YEARS OF CHANGING PRACTICES

INCONTINENCE MANAGEMENT TIMELINE

2005-2006

Deficit Reduction Act of 2005 is signed into law.[13]

Hospitals are held accountable for eliminating or reducing key quality indicators, including catheter associated urinary tract infection (CAUTI).

2006-2008

Foley catheter use is discouraged to reduce CAUTI incidence.

Hospitals experience greater incidences of patient incontinence, heavier nurse workload and unhappy patients.

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey asks patients, "Did you have bathroom help as soon as you needed it?" Only responses of "Always" meet reimbursement requirements for value-based purchasing.

2007

Incontinence associated dermatitis (IAD) is defined as an inflammatory response of the upper dermis caused by frequent or prolonged contact with urine and/or feces.[14]

2008

Disposable incontinence pads start to replace thick cotton pads, with vendor promises of patient comfort and keeping urine away from skin.

Due to the substantial clinical and financial burden of pressure injuries in the Medicare population, advanced-stage pressure injuries (Stage 3 and 4) were the first hospital-acquired conditions (HAC) payment to be implemented.[15]

2019

The first incontinence management solution with moisture-detecting technology and absorbent smart pads sends near-instant alerts to nursing staff via nurse call and mobile devices.

Studies from Dartmouth-Hitchcock[16], CHI St. Joseph Health[11] and Stanford Health Care[12] show incontinence management solution use significantly reduces exposure time,[16,11] preserves patient dignity[11] and improves nurse efficiency.[12]

2020

Patient Safety Indicators (PSI) 90 score related to reimbursement risk for pressure injuries (and other safety and quality factors) weighting has increased.[17]
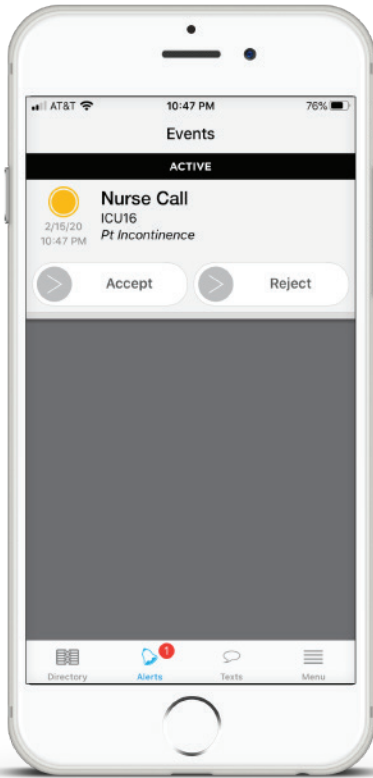
3 KEYS TO SMART INCONTINENCE DETECTION IN THE ACUTE CARE SETTING

Do your beds communicate with your nurses?

Most hospital nurses would agree that more alerts do not equal better alerts. To avoid alarm fatigue and ensure that alerts contain relevant clinical insights, hospital data and devices must work together. By bringing together data from numerous sources, including smart beds and surfaces, physiological monitoring, nurse call and more, hospitals ensure important patient information is available to busy nursing staff. Such efforts help safeguard patients and improve outcomes, and also significantly decrease the alarm burden while increasing nurse and patient satisfaction.[10]

The most advanced hospital beds communicate patient needs in numerous ways. When it comes to incontinence, floor illumination at the foot of the bed, dome lights outside the room and alerts sent through the nurse call system are a discreet way to maintain patient dignity while alerting caregivers the patient needs attention. When those alerts are customized to work in conjunction with the nurse call system, alarm middleware and mobile communications devices, caregivers can prioritize their work accordingly and intervene quickly.

One study of a smart incontinence management system in the critical care environment found the system "provided a voice for patients where they would not have had one otherwise." In two cases, patients were unable to voice the need for a bedpan due to aphasia."[11] The same study found the average incontinence event exposure time with the system dropped 83.4% from the standard of care prior to system implementation.[11]

83.4%
reduction in average incontinence event exposure time

2

ADOPT ALARM AND ALERT TECHNOLOGIES THAT INTEGRATE WITH EXISTING HOSPITAL SYSTEMS

The Healthcare Information and Management Systems Society (HIMSS) defines interoperability as "the ability of different information systems, devices and applications to access, exchange, integrate and cooperatively use data in a coordinated manner."[8] By 2016, over 95 percent of hospitals in the United States had demonstrated meaningful use of certified health IT through participation in the Centers for Medicare & Medicaid Services (CMS) Electronic Health Record (EHR) Incentive Programs.[9] Now that EHRs are a central repository of patient data, it's more important than ever for hospitals to adopt interoperable systems that can receive, store and deliver actionable patient information directly to caregivers at precisely the right time.

"Notification of an incontinence event allowed nurses to gather necessary supplies before going into the patients' rooms, increasing their efficiency."[12]

3

DEVELOP EFFICIENT CLINICAL WORKFLOWS FOR INCONTINENCE DETECTION

Nurses are often working in settings with high patient-to-nurse ratios, with many medical-surgical nurses managing five to seven patients at a time.[18] Patient census can have a big effect on nursing staff, who are responsible for providing high-quality care even in the most challenging circumstances. The "traditional" method of checking for incontinence events involves a multi-step process that is embarrassing for patients and time-consuming for nurses.

Do your clinical workflows really work?

When overloaded nurses are moving from room to room caring for multiple high-acuity patients, an hourly incontinence check may not be feasible or sufficient. Unless a patient requests assistance, nurses may be unaware an incontinence event has occurred and unable to address it in a timely and efficient manner. By contrast, according to one study, a smart incontinence detection system reduced the time nurses spent checking patients' incontinence status. The same study pointed out, "Notification of an incontinence event allowed nurses to gather necessary supplies before going into the patients' rooms, increasing their efficiency."[12]

CONCLUSION

If your hospital is using the traditional nurses' "arm sweep" to check patients for incontinence events, it's time to upgrade to a smarter solution. Absorbent pads with built-in sensing technology automatically alert the responsible nursing staff and offer an efficient solution for incontinence detection in the acute care setting. The solutions available today empower hospitals to not only protect patients' skin and optimize caregiver effectiveness but also improve the overall patient experience with discreet and dignified care.

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References

1. Gray M and Giuliano K. J Wound Ostomy Continence Nurs. 2017;00(0):1-5.
2. Campbell J, et al. Exploring Incontinence-Associated Dermatitis in a Single Center Intensive Care Unit: A Longitudinal Point Prevalence Survey. JWOCN 2019; 46⑤:401-407.
3. Phipps L, Gray M, Call E. Single exposure to clinically relevant levels of moisture contained by an incontinence pad compromises skin health.
4. Hillrom case study. West Branch Reg. Med. Ctr. Oct 2016.
5. Hill-Rom Customer (HC). NaviCare® Patient Safety Customer Interview. August 2017. Email results on file.
6. Williamson R and Sauser F. Linen usage impact on pressure and microclimate management. 2009.
7. Kayser, Susan A., et al. Predictors of superficial and severe hospital-acquired pressure injuries. International Journal of Nursing Studies 89 (2019) 46-52.
8. What is interoperability in healthcare? HIMSS https://www.himss.org/what-interoperability
9. Hospitals participating in the CMS EHR incentive programs. 2016. https://dashboard.healthit.gov/quickstats/pages/FIG-Hospitals-EHR-Incentive-Programs.php
10. Brill, E. 10 Ways to improve your alarm management practices. Becker's Health IT & CIO Alert. November 28, 2017. https://www.beckershospitalreview.com/healthcare-information-technology/10-ways-to-improve-your-alarm-management-practices.html
11. Kennedy, R, Slaughter C, Raygoza, H, Brooks, P. Evaluation of an incontinence management system in the critical care environment: A case series. Presented at NPUAP Annual Conference 2019.
12. Mayer, B, Shih, C. Use of an incontinence management system to improve nurse efficiency. Presented at American College of Wound Healing and Tissue Repair Conference 2019.
13. Centers for Medicare & Medicaid Services. Deficit Reduction Act. https://www.cms.gov/Regulations-and-Guidance/Legislation/DeficitReductionAct/index?redirect=/DeficitReductionAct
14. Kottner, J, Kolbig, N, Bultemann, A, Dissemond, J. Incontinence-associated dermatitis: a position paper. Jan 2020. 71①:46-52.
15. Lee Squitieri, L, Waxman, DA, Mangione, CM, Saliba, D, Ko, CY, Needleman, J, and Ganz, DA. Evaluation of the Present-on-Admission Indicator among Hospitalized Fee-for-Service Medicare Patients with a Pressure Ulcer Diagnosis: Coding Patterns and Impact on Hospital-Acquired Pressure Ulcer Rates. 2018.
16. Abbott, C.L., Chin, S.G., Pollard ,M.H., Stavseth, M. & Usher, C. Incontinence management system use significantly reduces incontinence exposure time. Presented at American College of Wound Healing 2019.
17. Hospital-Acquired Condition Reduction Program Fiscal Year 2020 Fact Sheet. https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Downloads/HAC-Reduction-Program-Fact-Sheet.pdf
18. The three Bs of med-surg nursing, Lippincott Solutions, September 3, 2014. http://lippincottsolutions.lww.com/blog.entry.html/2014/09/03/the_three_bs of_med--cEOD.html