

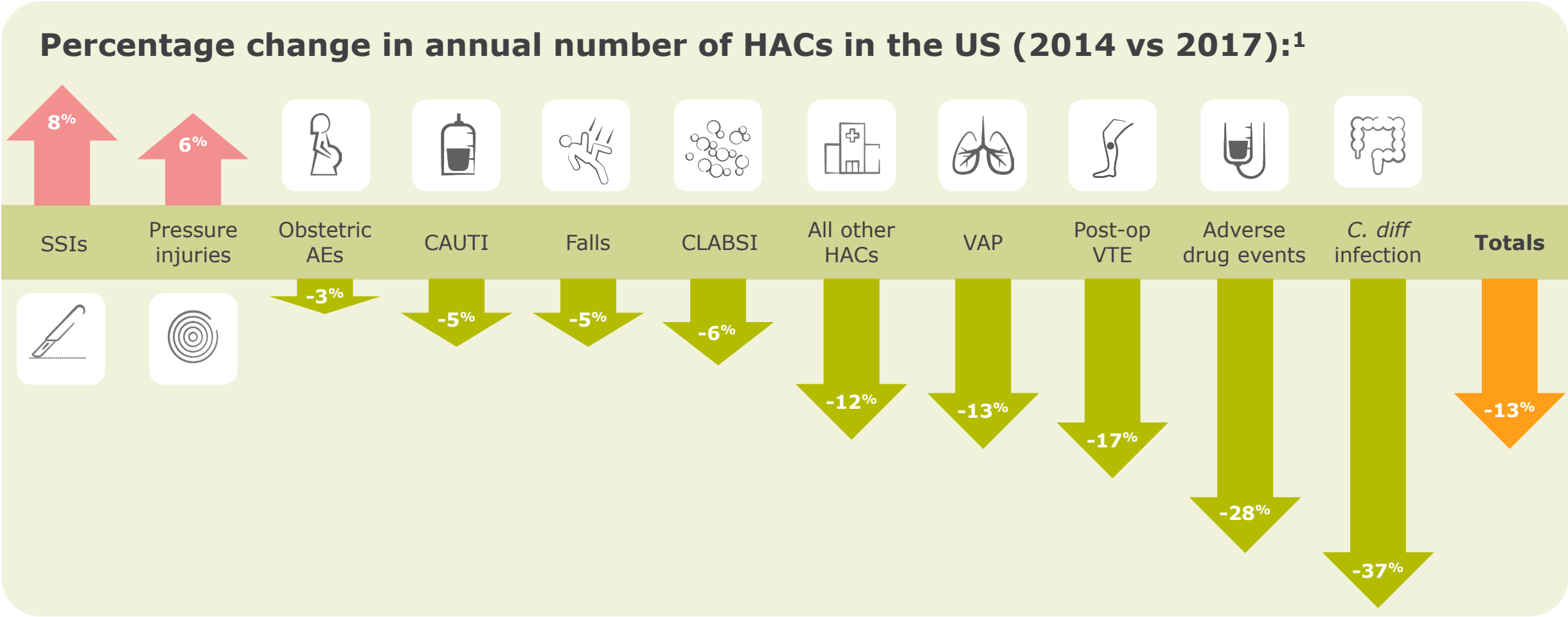
Computer-Aided Detection and Notification of Whole Body Positioning Status using Wireless Sensor

A patient wearable monitoring system that allows care staff to coordinate individualized turn protocols for their patients.



National HAPI Rates Are Increasing

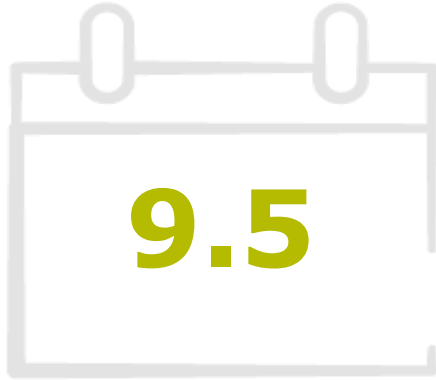
Data sourced from the Agency for Healthcare Research and Quality (AHRQ)



References: 1. National Scorecard on Hospital-Acquired Conditions, Agency for Healthcare Research and Quality (AHRQ). 2020. Available from: <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/pfp/Updated-hacreportFinal2017data.pdf>. Accessed on: 11th September 2025.
Abbreviations: AE, adverse event; CAUTI, catheter-associated urinary tract infection; C.diff, *Clostridium difficile*; CLABSI, central line-associated bloodstream infection; HAC, hospital-acquired condition; HAPI, hospital-acquired pressure injury; PIP, pressure injury prevention; post-op, postoperative; SSI, surgical site infection; US, United States; VAP, ventilator-associated pneumonia; VTE, ventilator-associated pneumonia.

The Impact of Pressure Injuries on US Hospitals

Results from a clinical analysis of over 9M patient records



**Average bed day
increase¹**

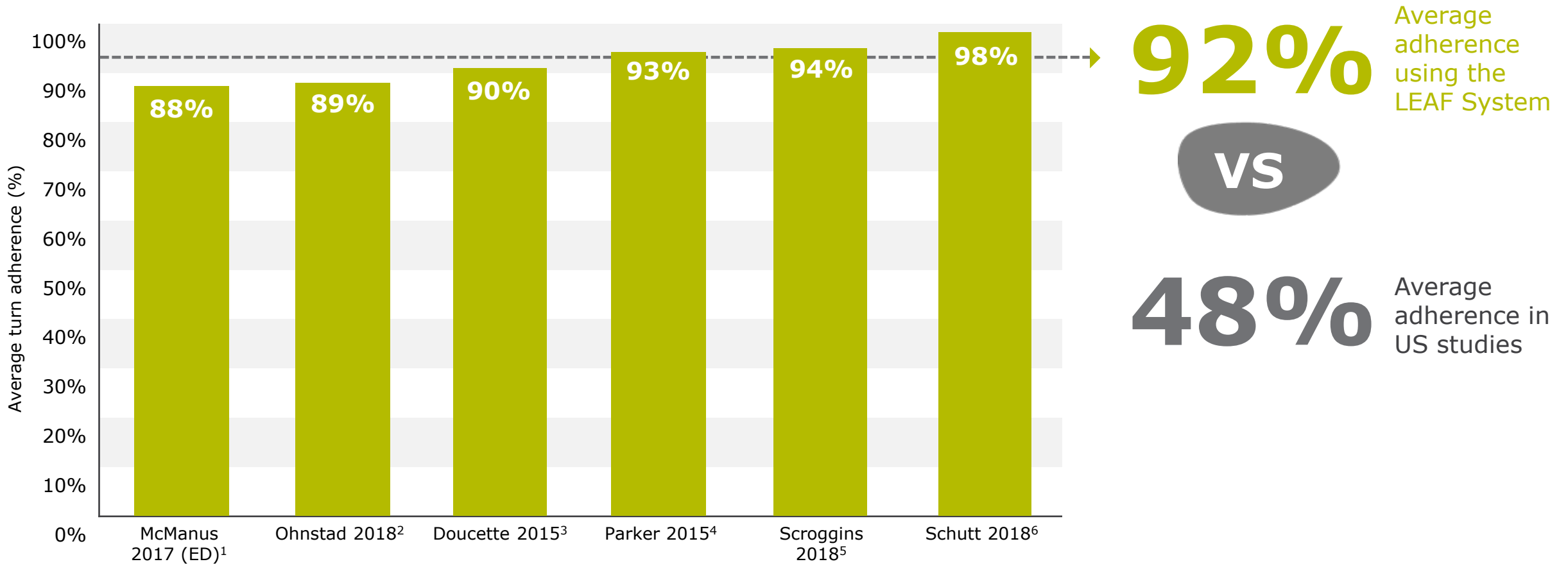


Readmissions²

*in ICU patients

References: **1.** Wassel CL, Delhougne G, Gayle JA, Dreyfus J, Larson B. Risk of readmissions, mortality, and hospital-acquired conditions across hospital-acquired pressure injury (HAPI) stages in a US National Hospital Discharge database. *Int Wound J.* 2020;17:1924-1934. <https://doi.org/10.1111/iwj.13482> **2.** Dreyfus J et al. *Am J Med Qual.* 2018;33(4):348-358.

Use of LEAF Patient Monitoring System in Hospital Units Leads to Increased Turn Protocol Adherence¹



References:¹. McManus JG. Poster presented at: Medical College of Georgia at Augusta University; 2017; Augusta, GA, USA. ². Ohnstad C, Levin A. Leveraging technology to prevent hospital acquired pressure injuries: A 24-month quality improvement initiative. Poster presented at: Annual CALNOC Conference; October 21 - October 23, 2018; San Diego, California, USA. ³. Doucette M, et al. Poster presented at: The National Pressure Ulcer Advisory Panel Conference. 2015. ⁴. Parker C, O' Neill M, Tam N. Strive towards CALNOC excellence: Adopting innovation to improve bedside nursing care. Poster presented at: CALNOC Annual Conference; October 26- October 27, 2015; Long Beach, California, USA. ⁵. Scroggins. Poster presented at: John Peter Smith Hospital; 2017; Fort Worth, TX, USA. ⁶. Schutt, S. et al. Pilot study: Assessing the effect of continual position monitoring technology on compliance with patient turning protocols. Nursing Open. 2018;5:21-28.

LEAF[◇] Patient Monitoring System

The next step in patient mobility monitoring



In bed



Sitting



Walking

- ✚ A wireless, single use, disposable device that is adhered to a patient's chest
- ✚ Monitors the patient's position, orientation, movement and activity
- ✚ Remote status monitoring for care providers
- ✚ Visual notifications for care providers when assistance needed

LEAF[◇] Patient Monitoring Sensor



Single patient use Sensor:



Water resistant



Low risk of skin irritation¹



Weighs less than an ounce



Gentle silicone adhesive that is designed for use on fragile/delicate skin²⁻⁷



Battery tested with up to 21 days of continuous monitoring

Automatically:



Activated by light



Connects to network



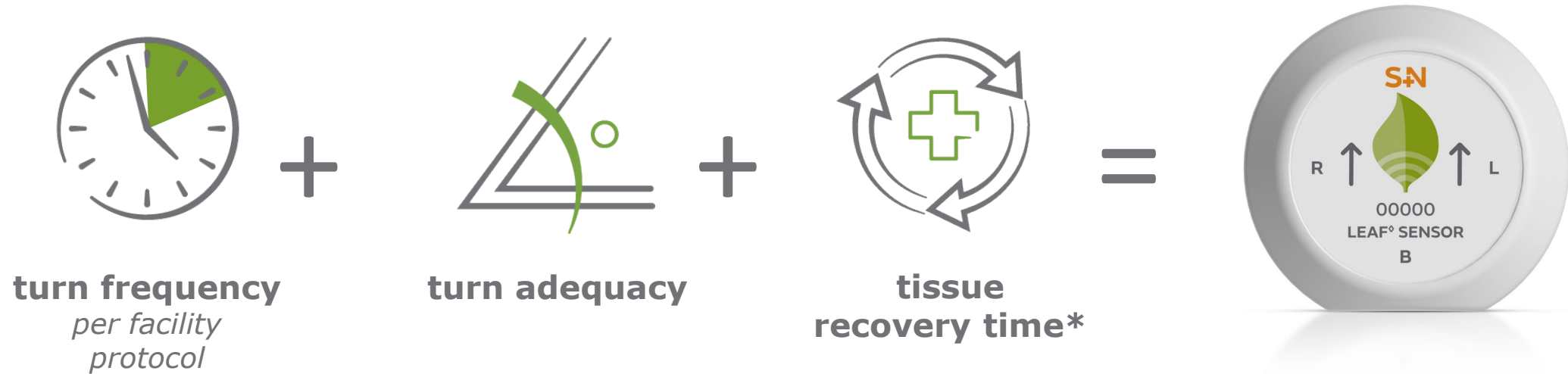
Recognizes when attached to patient

References: 1. Smith+Nephew 2021. LEAF 2.0. Claims Support 'Non-Sensitizing', 'Non-Irritating' and 'Low Allergy'. Internal Report. BES035. 2. Clarke. Paper presented at: CAET; 2013. 3. Rossington et al. Wounds UK. 2013;4(9):91-95. 4. Stephen-Haynes et al. Br J Nurs. 2011;20(20):S36, s38-42. 5. Rafter et al. Wounds. 2016;12(2):70-78. 6. Forni et al. J Wound Care. 2020;29(2):120-127. 7. Lisco. Paper presented at: WOCN; 2013.

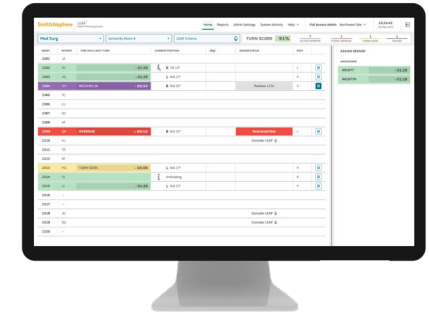
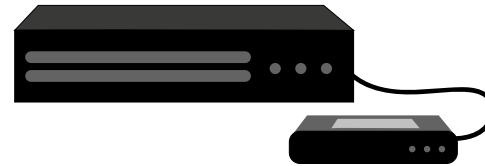
LEAF ♦ Repositioning Intelligence



The LEAF repositioning algorithm is built directly into the sensor and is grounded in studies showing that it takes about 15 minutes for compressed tissue to fully reperfuse.



LEAF ♦ Patient Monitoring System Components



LEAF Sensor

A wireless single use disposable sensor that transmits patient orientation and activity, allowing staff to coordinate care (e.g., turns) for individual patients. Components of the sensor include tri-axel accelerometer, photo transistor, capacitive sensor.

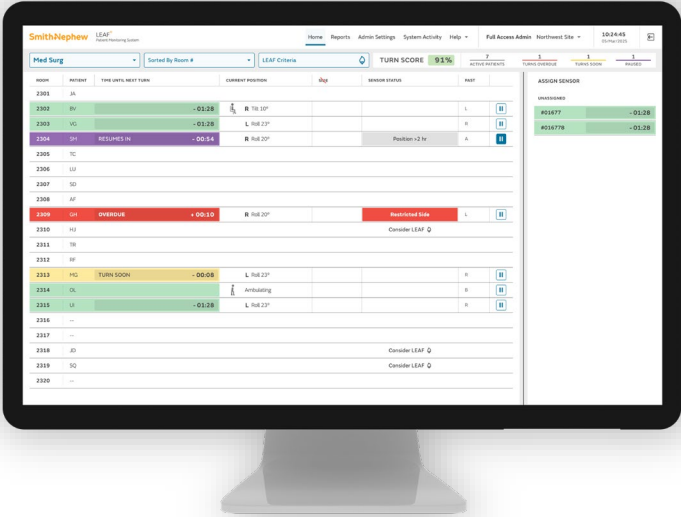
Antenna + Bridge

A local LEAF network that collects LEAF Sensor Data and now transmits that information wirelessly, to the LEAF Cloud, facilitating initial setup and later expansion simpler

User Interface

Updated monitoring dashboard provides unit-wide visibility for clinicians to identify patients who are in need of repositioning

LEAF[◇] Patient Monitoring System Provides Visual Cue Indicators for Turns in Three Ways



2309	GH	OVERDUE	+ 00:10	R Roll 20°
2310	HJ			
2311	TR			
2312	RF			
2313	MG	TURN SOON	- 00:08	L Roll 23°
2314	OL			Ambulating
2315	UI		- 01:28	L Roll 23°



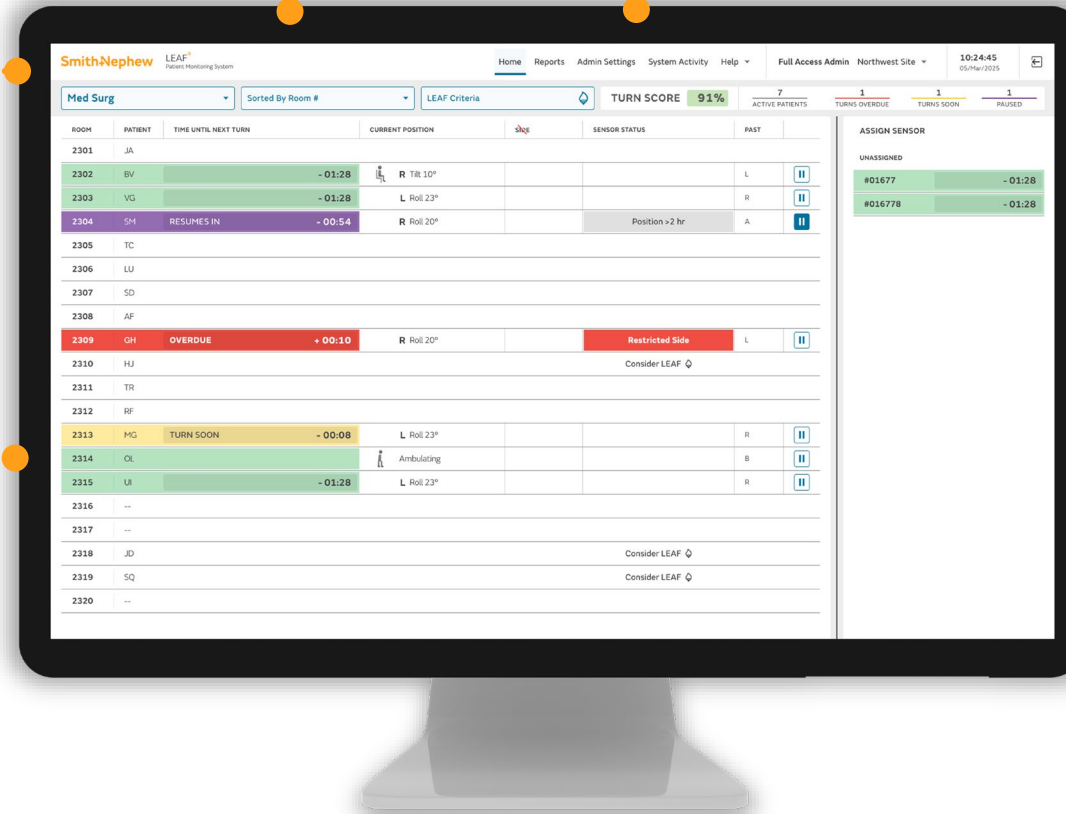
LEAF[◇] Patient Monitoring System User Interface



+ **Real-Time Analytics:** Access rich reporting and analytics on patient orientation and turn data via your LEAF application designed to facilitate the implementation of nurse and care protocols via LEAF

+ **Improved Workflow:**
Modern user interface designed in consultation with multidisciplinary nursing staff (Wound/Critical Care/ICU/Med. Surgery, etc)

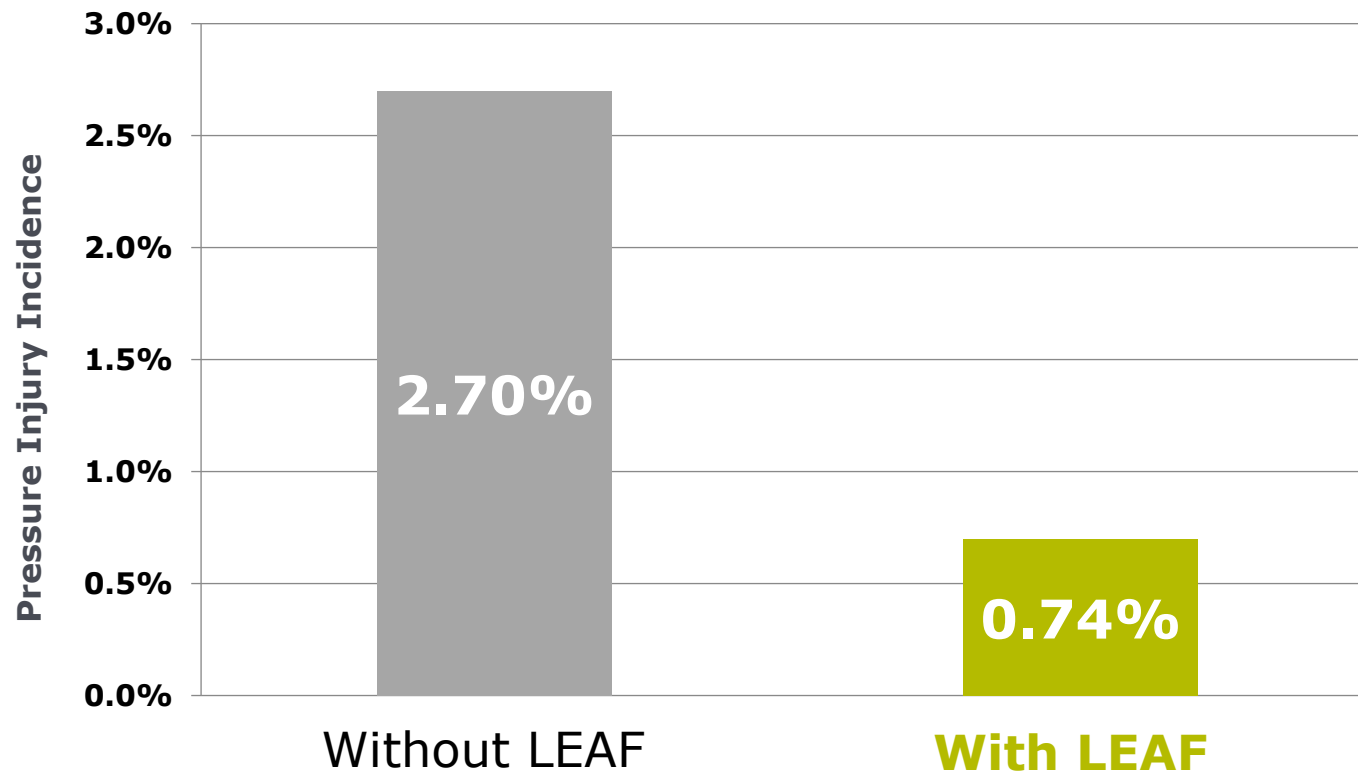
+ **Security and Compliance:**
Our approach to data management is rooted in 'Secure by Design' and 'Privacy by Design' best practices, ensuring safeguards are embedded from the outset.



Patient Assessment Triggers

+ **Automated Identification based on established criteria:** LEAF references the Patient's Medical Record (EMR/EHR) to distinguish if the patient qualifies for LEAF use, based on facility protocols. This then triggers a visual indication on the home screen for the staff to "Consider LEAF" for that patient.

Randomized Controlled Trial: Outcomes



73%

**reduction in
incidence of
pressure injuries
when using the
LEAF[◇] System**

LEAF reduced the incidence of developing a pressure injury by 73%
OR=0.27, 95% CI [0.10,0.75] p=0.012. In ICUs, based on PP analysis.