Leveraging Novel Technology to Decrease Hospital-Acquired Pressure Injuries

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BACKGROUND

- Hospital-Acquired Pressure Injuries (HAPI) are costly[1] and have risen (10%) while other Hospital-Acquired Conditions (HAC) have decreased by 17%[2].
- Similar to published rates[3], hospital survey suggested that the compliance rate with 2-hourly turns was in the 60%'s and that gaps in documentation existed, which could open the facility to litigation by California Department of Public Health (CDPH).
- Routine repositioning is strongly associated with HAPI reduction[3], and the 2019 International Guidelines recommend using cueing technology (CT) to increase adherence to turn protocols.[4]

PURPOSE

To assess the impact of wearable technology that cues staff on both turning frequency and required turn-angle magnitude on the rate of HAPI.

METHODOLOGY

- A multi-disciplinary nurse-lead team managed and executed the pilot.
- Funding was sought from the hospital's philanthropic arm at the facility.
- Success criteria were set as achieving a minimum of 50% HAPI reduction, 60% reduction was identified as stretch goal.

METHODOLOGY CONT.

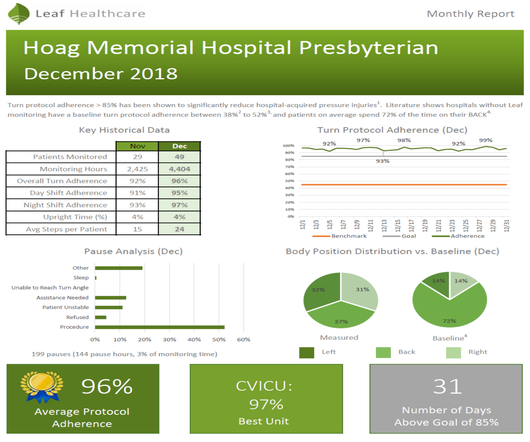
Implementation

- Patient wearable, wireless monitoring system was implemented on the CCU and CVICU units.
- Automatic monitoring and documentation of all turns-in bed and chair- were initiated per the following criteria:
  - Minimum 20-degree lateral turn angle in bed; 10-degree tilt in chair
  - Minimum 15-minute tissue recovery time between turns
  - 2-hour turn frequency
  - Staff received hands-on education on how to safely and adequately reposition patients

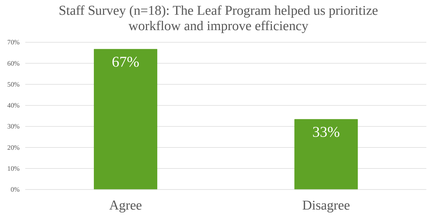
Data Collection

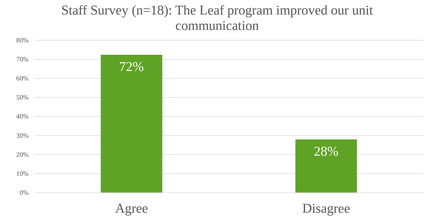
- A baseline turn protocol adherence study was completed before the pilot.
- Daily and monthly reports provided feedback on the turning program to measure progress.
- HAPI and unit census data was collected for the Pilot period and for the same period previous year.
- Staff were surveyed on their perceptions regarding the effect of the CT on their workflow and communication.

RESULTS



Monthly reports provided feedback.





RESULTS CONT.

	Baseline	Pilot
Total Unit Patient discharges	809	875
# Patients Monitored		231 (26%)
Turn Protocol Adherence	67%	95%
Increase	**41%**	
HAPI Incidence %	2.97%	0.46%
HAPI Reduction %	**84.6%**	
Chi-square	15.6477	
p-value	<.0001	

- HAPIs were reduced by 85%; the difference was statistically significant.
- Pilot produced an estimated return on investment (ROI) of $389,480 in harm avoidance.
- Program was continued after the pilot and was expanded to another campus.
- Staff reported that wedges provided adequate offloading when compared to hospital pillows

CONCLUSIONS

- Using cueing technology has a significant impact on HAPI rates in Critical Care Units.
- Nursing leadership support and involvement were vital for pilot funding, approval and staff acceptance.

REFERENCES & ACKNOWLEDGMENTS

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