A Unit Based Effort to Prevent Harm

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Define: Background

Hospital Acquired Conditions (HACs) including central line blood stream infections (CLABSIs), peripheral intravenous infiltrations and extravasations (PIVIEs), catheter associated urinary tract infections (CAUTI), surgical site infections (SSIs), pressure injuries (PIs), and unplanned extubations (UEs), are preventable conditions that contribute to increased length of stay, higher rates of morbidity and mortality, significantly higher health care costs and poor outcomes in all patient populations (Moghadamyeghaneh, Z., Stamos, M.J., & Stewart, L., 2019) In FY22 our cardiac intensive care unit (CVICU) experienced an average of 24.25 days between HAC events. As a unit we are committed to providing safe care to our patients and as such we made a unit goal for FY23 to increase the days between harm.

Empowering team members by engaging them in preventing harm has been well documented to improve quality and safety outcomes, aligns with JHACH mission in pursuing excellence, and optimizes patient and family experience.

Objective/Goal

SMART AIM:

Increase the number of days between HAC events in CVICU by 20% from 24.25 days in FY22 to 29.1 days by June of FY 2023 by engaging internal unit multidisciplinary HAC teams and implementing HAC prevention strategies unit wide.

Scope

- Inclusion: All reportable HACs for FY 22 (baseline data) and FY 23
- Exclusion: None
- Location: JHACH 22-Bed Dedicated Cardiac ICU

Measure

Measures:

- **Outcome Measures:** Rates of individual HACs and days between all reportable harm events (CLABSI, PIVIE ≥ stage 3, CAUTI, SSI, PI ≥ stage 3, and UE)
- **Process Measures:** Average unit census, average patient acuity, average number of float nurses used per day, total float nursing hours**,** percent of staff in attendance at quarterly skills days, K-card bundle compliance
- **Balancing Measures:** Average total cost of FY 23 CVICU skills days, $28,182.16.

Baseline Data FY 2022:

- Total HACs: 10
- Average days between events: 24.25

HAC FY22	Rates FY22	K-Card Compliance FY22
CLABSI	1.31	83%
PIVIE ≥ stage	0.36	91%
UE	0.35	100%
SSI Superficial	0.65	NA
SSI Deep	2.32	NA
PI ≥ stage	0	82%

Analyze/Improve

Quarterly interventions (PDSA cycles) for FY 23 to increase days between HAC events and decrease individual HAC rates.

PDSA 1: First nursing quarterly skills day (CLABSI prevention station), shared CLABSI and PIVIE apparent cause analysis (ACA) results and action plans with bedside nurses in staff meetings.

PDSA 2: Skills day (CLABSI prevention station), shared SSI ACA results in staff meetings, and nursing leadership began intentional HAC rounds weekly on unit.

PDSA 3: Skills day (infection prevention and PIVIE prevention station), shared CLABSI and PIVIE ACA results in staff meetings, unit quality team met with each HAC team and discussed engagement ideas and process improvement strategies. HAC cost jeopardy game.

PDSA 4: Skills day with HAC prevention station (elements of CLABSI, PIVIE, CAUTI, UE, PI, and SSI prevention bundles), shared CLABSI, PIVIE, UE, and SSI ACA results in staff meetings. UE rolling cart education brought back.

Figure 1

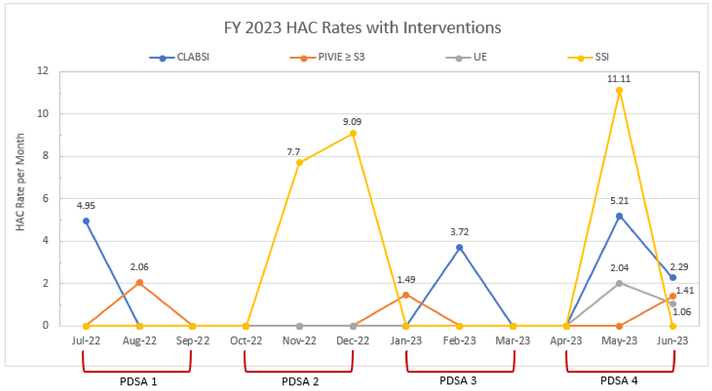


Figure 2

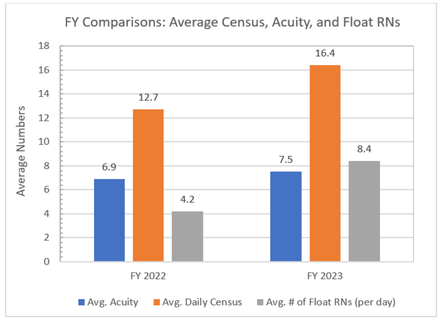
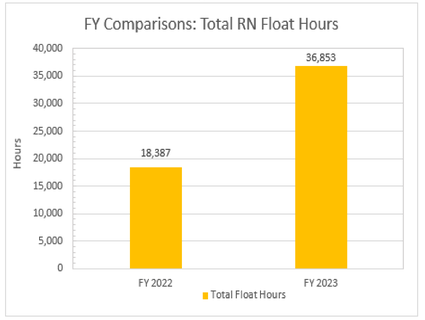


Figure 3



FY 23 Measures: Total HACs: 15 HACs ↑ Increased by 5

- **Outcome:** Avg. 17.02 days between events ↓ Decreased from 24.25 and individual HAC rates: (Fig. 1)
- **Process:** Avg. acuity, census, # of floats/day, total float hrs. (Fig. 2 & 3), % of CVICU RN attendance (skills days): 100%, and K-card compliance
- **Balancing:** Average total cost of FY 23 CVICU skills days, $28,182.16.

HAC FY23	Rates FY23	K-Card Compliance FY23	Avg. Cost per HAC
CLABSI	1.17 ↓ Decreased	85% ↑ Increased	$48,108>
PIVIE ≥ stage	0.4 ↔ Unchanged	82% ↓ Decreased	$2,000
UE	0.4 ↔ Unchanged	97% ↓ Decreased	$36,692
SSI Superficial	0.76 ↑ Increased	NA	$28,219
SSI Deep	1.65 ↓ Decreased	NA	$28,219
PI ≥ stage	0 ↔ Unchanged	84% ↑ Increased	$14,506

Total vent days FY 22: 572
Total vent days FY 23: 1,010

We were not able to meet our goal to increase overall days between harm by 20% for FY23, however our interventions and active engagement of our HAC teams helped decrease some of the individual HAC rates. While our UE rate remained unchanged from FY22 to FY23, our ventilator days nearly doubled. We believe that due to our targeted efforts in FY23 our unit did not experience an increase in most HACs despite a sharp increase in average acuity, census, number of float nurses used per day, and total float hours.

Sustainability Plan & Next Steps

Next steps are focused on the float/traveler team and SSI; engaged RN float team manager and educator to ensure unit specific education updates are shared and extended our hands-on unit specific HAC prevention education interventions to RN float staff, and developed a comprehensive wound care protocol directed at preventing dehiscence and superficial and deep SSI. F**or Q1 of FY24** we had **ZERO** CLABSI, PIVIE, PI, SSI and CAUTI. We experienced one UE early in July. **Days between all reportable HARM 96 days.**
Sustainability: Monthly preventable harm Infogram distributed to CVICU staff and posted at all nursing stations containing monthly HAC performance rates and safety reminders.