



Children's Hospital Colorado
Heart Institute

Affiliated with
University of Colorado
Anschutz Medical Campus

Reducing Preventable Harm Through High-Risk Rounding in Heart Institute: CICU and CPCU

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Background

- Preventable harm events such as central line blood stream infections (CLABSI) and hospital acquired pressure injuries (HAPI) are avoidable complications of hospitalization.
- Both increase morbidity, mortality, length of stay, and cost. Adherence to prevention bundles has been proven to effectively decrease rates of preventable harm.
- Despite stable bundle compliance in 2020, the Heart Institute: CICU and CPCU at Children's Hospital Colorado experienced an acute increase in CLABSI and HAPI rates, 39% and 49% respectively.

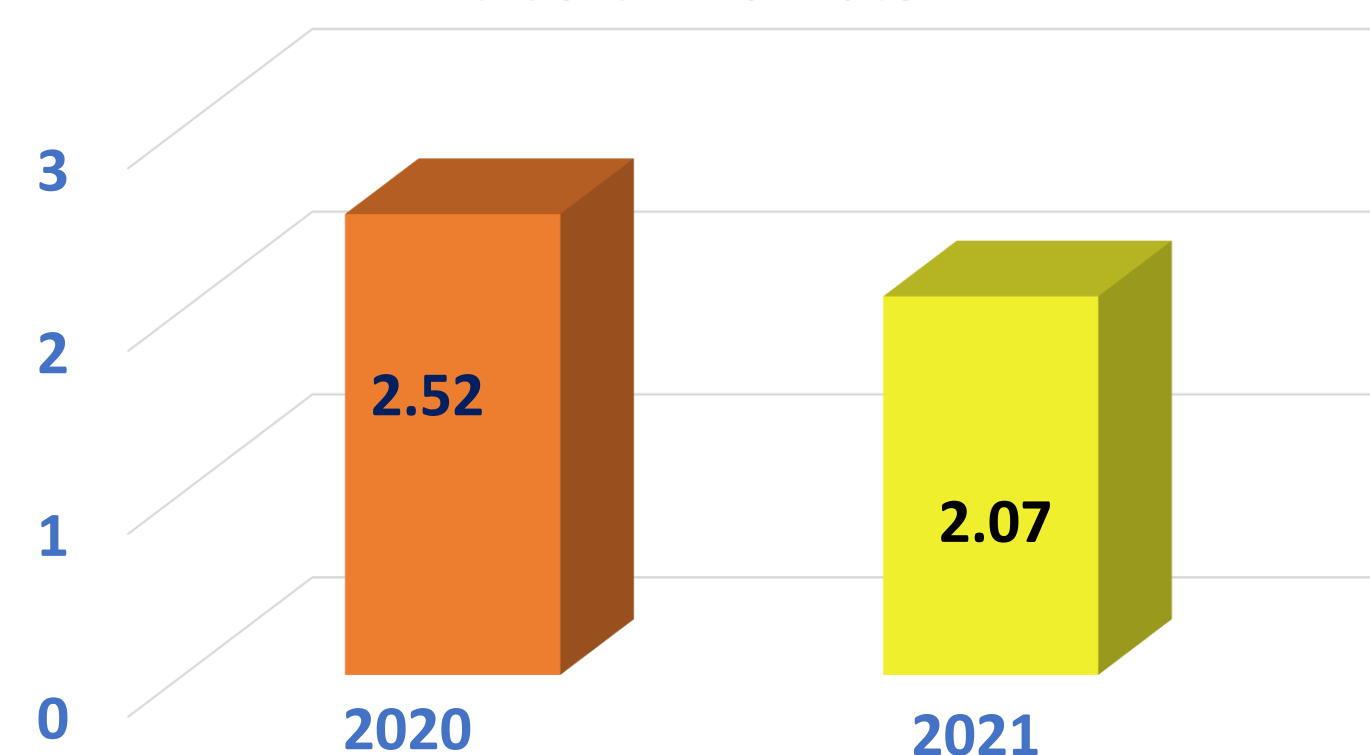
Methods

- Formation of multidisciplinary taskforces for CLABSI and HAPI.
- Development of unit and harm specific High-Risk Rounding format defined as: a multidisciplinary proactive coaching session targeted at patients determined to be high-risk for developing CLABSI or HAPI.
- The HRR teams provide "just in time" coaching and hands on assistance by role modeling correct prevention strategies such as central line sterile dressing changes or application of a skin barrier.
- Patient Inclusion Criteria:
 - CLABSI: Patients under 1 year of age with complex congenital heart defect and/or any patient with heart failure, or pulmonary hypertension.
 - HAPI: Patients with a Braden Q score <16 or Braden Score <12, a moderate risk in an adolescent/adult-sized patient, or on non-invasive respiratory support, or on ECMO.

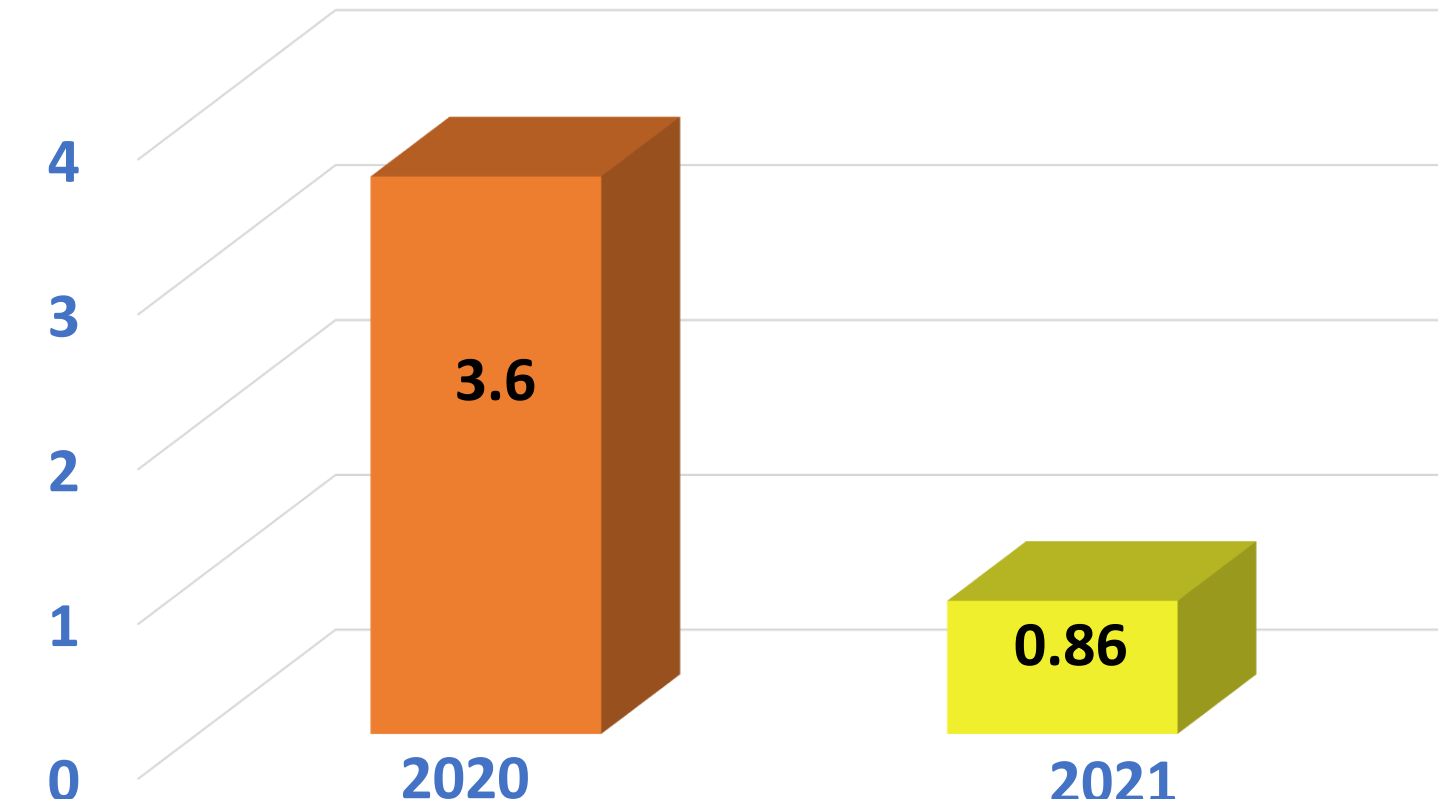
Results

Key Measures	Definitions	Baseline (2020)	Goal (2021)	Progress (12/31/21)
Process	CLABSI Weekly High-Risk Rounding	0	Both 75% (40 out of 52 weeks)	87% (45 of 52 weeks)
	HAPI Weekly High-Risk Rounding	0		96% (50 of 52 weeks)
Financial	Estimated cost of CLABSI: ~ \$55,000 per infection	\$ 715,000	N/A	\$495,000
	Estimated cost of HAPI: ~\$18,537 per in pressure injury (Costs per Cincinnatichildrens.org/evidence (2016))	\$ 204,000		\$74,000

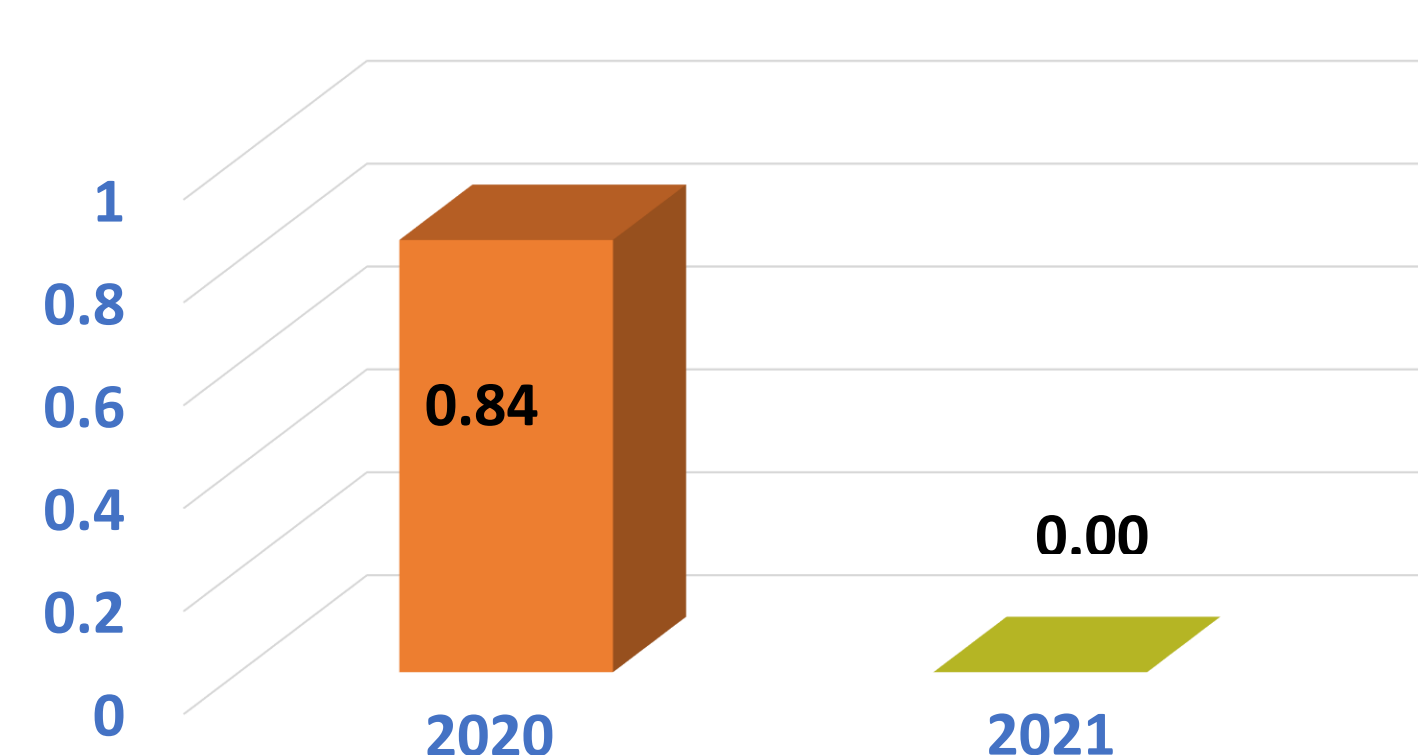
CICU CLABSI Rate



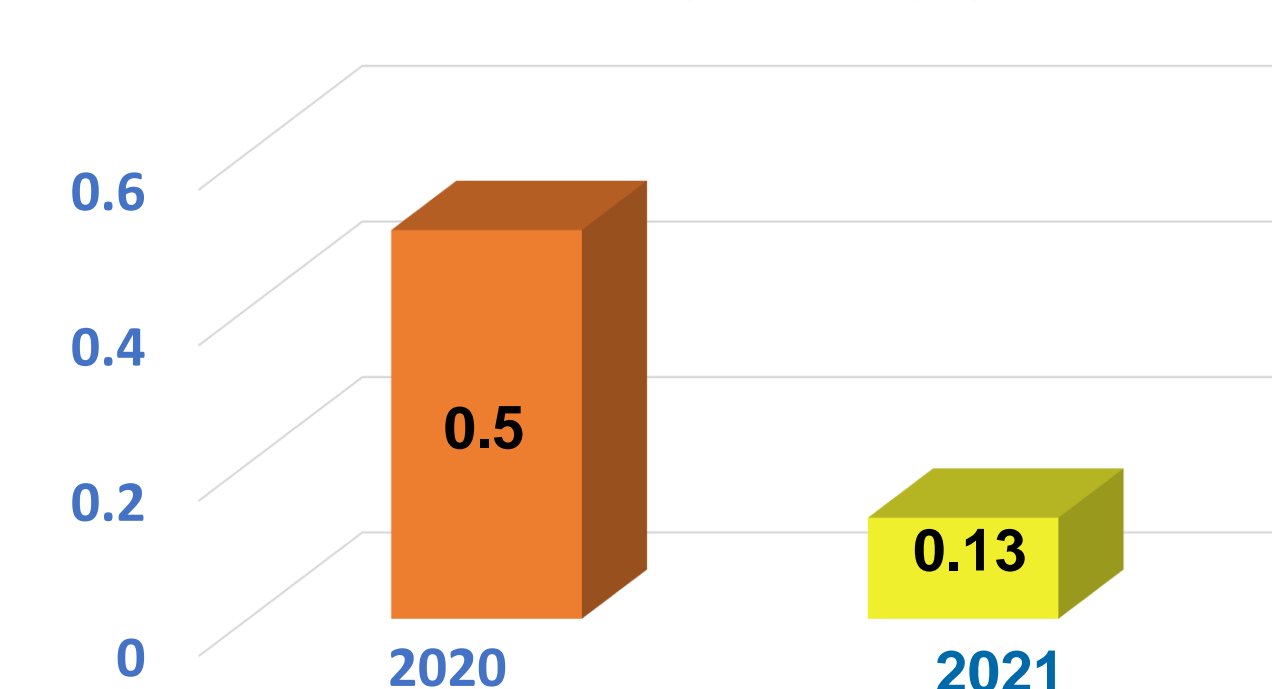
CICU HAPI Rate



CPCU CLABSI Rate



CPCU HAPI Rate



Conclusions

- High risk rounding is effective at reducing preventable harm it yielded a reduction of 18% in incidence rate for CLABSI in the ICU and a 100% reduction on the acute care floor. For HAPI there was a 76% in the ICU, and 74% on the floor. Achieving both the primary outcome and process measure goals for this project.
- The combined cost of preventable harm has decreased from about a million to \$569,00, this is a total savings of \$350,000.
- The proactive nature of HRR is appreciated by staff versus retrospective bundle compliance audit, which can feel punitive.

Lessons Learned

- The time devoted to in the moment high-risk rounding saves time, is low-cost, and most importantly improves patient outcomes.
- HRR has been integrated well into the unit culture, with nurses expressing appreciation with a conversation on prevention strategies versus an audit (critique) on their practice.

Next Steps

- Secondary data analysis to evaluate patient selection criteria.
- Focus on sustainability, and expansion to additional types of preventable harm such as SSI and medication safety.