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No conflicts of interest to disclose.

## BACKGROUND

- Pediatric Critical Care Services (PCCS) at Primary Children's Hospital (PCH) consists of two units, a 28 bed Pediatric Intensive Care Unit (PICU) and a 16 bed Cardiac Intensive Care Unit (CICU).
- Baseline coverage of 25 registered nurses (RNs) per shift spread among 172 full, part and PRN staff.
- During winter seasons, staffing needs surge to 35 to 40 RNs per shift covered by PCH float and travel RNs.
- Float and travel RNs are not familiar with PCCS best practices, documentation system, equipment and frequently need mentoring from experienced PCCS staff.
- Primary Children's Hospital is committed to a culture of Zero Harm.

## ASSESSMENT

- Experienced PCCS RNs caring for the most critically ill children were frequently interrupted by floaters and travelers less familiar with unit.
- Experienced pediatric ICU AND CICU RNs are primarily employed at PCH and need to continue to staff units at PCH.
- Value of telehealth technologies in pediatric intensive care settings is not well documented or understood by clinical providers<sup>1</sup>.

## RECOMMENDATION

- Assess feasibility of TeleHealth service in pediatric critical care setting.
- Implement an internal Pediatric Critical Care Service TeleHealth service based on adult critical care RN only model<sup>2</sup>.
- Use experienced PCCS RNs to provide guidance, mentoring, and support to travelers, floaters, and RNs recently completing new hire orientation via telehealth technologies.
- TeleHealth RNs collaborate with bedside RNs to monitor highest acuity patients.

Figure 1: Type and Frequency of TeleHealth Nurse Activity

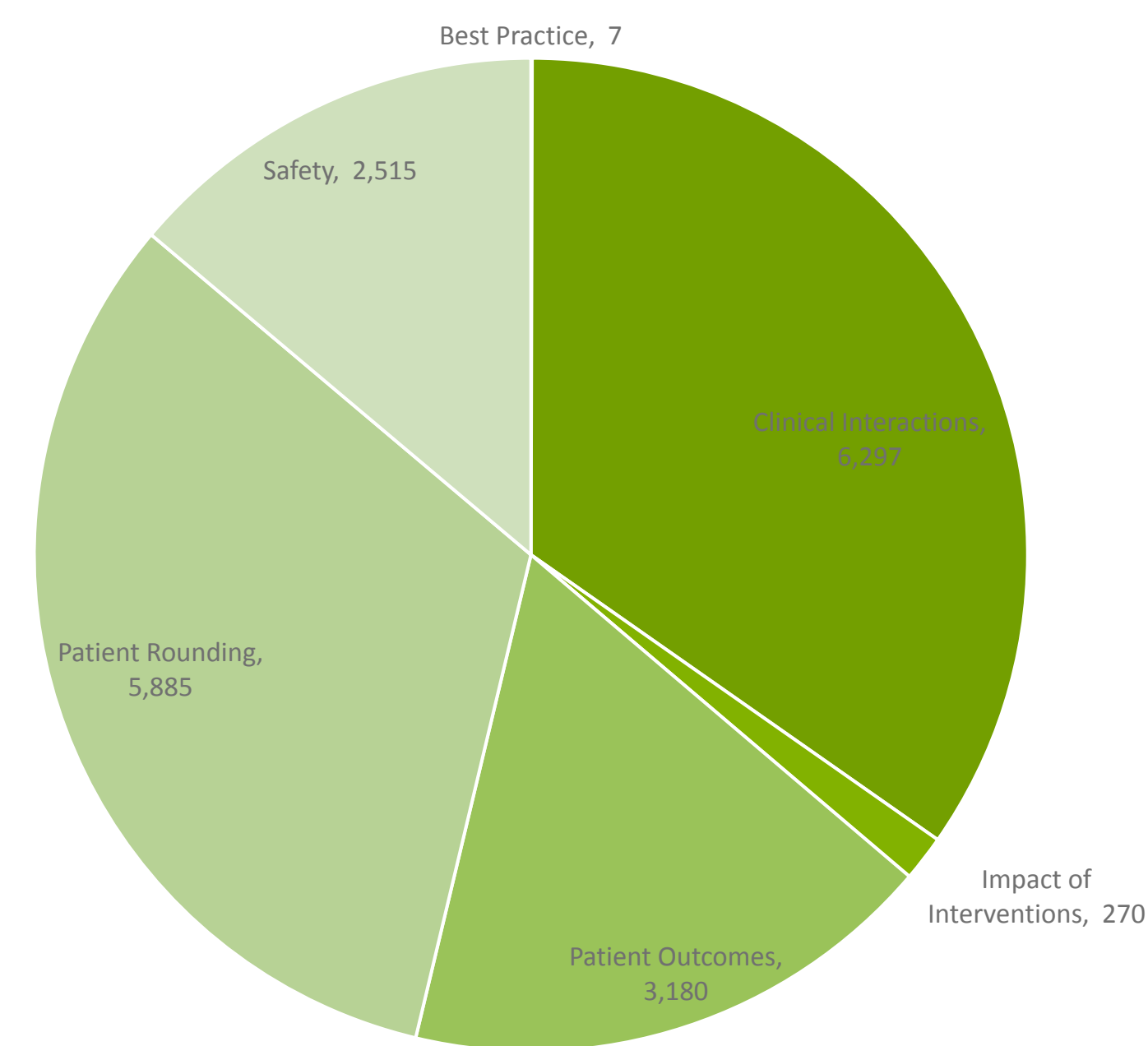


TABLE 1: TeleHealth Critical Care Nurse Activity Documentation (Updated August 2018)

Patient Rounding	Patient / Family Interactions
Shift Rounding	Patient/Family Engagement
Video Rounding	Patient/Family Teaching
Best Practice	Clinical Interaction
DVT Chem Missing	Admission Support
DVT Physical Missing	Staff Mentoring/Education
SUP Missing	Phone Call to Bedside Staff
VAP Missing	Bedside Staff Support
Sepsis Bundle	Response to Physiological Changes
Best Practice form sent	Response to Mental Status Changes
Best Practice Call to RN	Lab
CAUTI Prevention Support	Frequent Monitoring
CLABSI Prevention Support	
Safety	Impact of Intervention
Accidental Extubation	Request for bedside LIP
Fall Prevention	Request for TH LIP
Medication Concern	Issue resolved
CODE Assistance	Plan of care adjusted
Good Catch	Rapid response initiated
Other	Transferred to a higher level of care
	Transferred to palliative care

## FUTURE OPPORTUNITIES

### PRACTICE:

- Promote evidence-based clinical decision-making among pediatric critical care services.
- Combine adult, pediatric and newborn Connect Care Pro services to provide RN support across the lifespan.
- Expand use of TeleHealth pediatric critical care services with MD consultation and RN rounding to other intensive care units.

### RESEARCH:

- Development of nursing competencies for TeleHealth pediatric critical care nurses.
- Impact of TeleHealth pediatric critical care on evidence based care and patient outcomes.
- Influence of telehealth technologies on workforce optimization for pediatric critical care specialists.

## PROJECT IMPLEMENTATION

- Employ 26 RNs with a combined **382 years** of pediatric critical care experience as TeleHealth staff.
- TeleHealth in room equipment installed in six high acuity rooms with three mobile carts available, as needed.
- Program activated at PCH, January 2017. All rooms TeleHealth enabled by September 2017. Expanded to four pediatric beds at Utah Valley Hospital, February 2018.
- Initial nurse documentation adopted from TeleHealth adult critical care program included best practice, clinical interactions, impact of interventions, patient outcomes, patient rounding and safety categories.

## EVALUATION

- From Peds TeleHealth program inception to July 2018:
  - 1,979 unique patients supported by TeleHealth RNs.
  - 10,259 patient days supported by TeleHealth RNs.
- Within one month of activation, RN staff requested all PCCS rooms to be TeleHealth enabled.
- September 2017 RN staff survey (n=99),
  - Overall responses were very positive in support of TeleHealth Pediatric Critical Care.
- Bedside staff verbalized increase confidence with supportive resource, assistance with monitoring, and "just in time" knowledge and skill development<sup>3</sup>.
- Managers noted decreased sick call and absenteeism on unit resulting in better staff ratios and highly skilled RN staff consistently available on the unit.

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## ACKNOWLEDGEMENTS

† Connect Care Pro: Pediatrics: Operations Manager: Jason Cox, MHA

† Connect Care Pro: Adult. Clinical Manager: Vanessa Washington, MSN, RN

† Connect Care Pro: Adult. Critical Care: Michele Rosqvist, MSN, RN