Update of a Standardized Closed-loop System for Reporting and Reducing Pediatric Tracheostomy Related Adverse Events (TRAEs)

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Objectives:
Describe a standardized, closed-loop system for reporting and addressing Tracheostomy Related Adverse Events (TRAEs) and provide an updated analysis over a three year period.

Conclusions:
This standardized method of tracking TRAEs, modeled after other successful ICU reporting systems, has decreased preventable events.

Background:
• Pediatric tracheostomy is increasingly performed\(^1\)
• Children with tracheostomy have high morbidity and mortality with an increased risk for adverse event\(^2\)
• In 2015, a Multidisciplinary Tracheostomy Team (MDT) was developed at Boston Children’s Hospital to improve care of patients with tracheostomy.

Results:
• 106 TRAEs occurred between Jan 2015 and Dec 2017
• Across 19,515 Inpatient Tracheostomy Days, this averaged:
  5.46 TRAEs / 1000 Inpatient Tracheostomy Days (ITD)
• The majority of events occurred in the ICUs (72.3%) and on inpatient floors (16.9%)

Methods and Materials:
• A “Tracheostomy-Related” category was established within the hospital-wide adverse event reporting system in January 2015
• Adverse events are standardized per 1000 Inpatient Tracheostomy Days. Monthly reports of TRAEs include:
  1. Severity [ 0-5 ]
  2. Preventability [ not preventable; possibly preventable; preventable ]
  3. Event Details

Conclusions:
• This system has improved the monitoring of TRAEs and has provided context to our reports via standardization in line with other ICU settings (eg. CLABSI)
• Most TRAEs at our institution are minor
• The frequency of preventable events has decreased since the implementation of the MDT

Next Steps for MDT:
1. Patient/Family Satisfaction Surveys
2. Institution of Multidisciplinary Tracheostomy ward rounds at local Rehabilitation Hospitals
3. Quantifying Tracheostomy Go-Bag Metrics

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