REDUCING CRITICAL CARE RESOURCE UTILIZATION AND URGENT INTERVENTIONS USING HIGH FLOW NASAL CANNULA ON AN ACUTE CARE UNIT IN INFANTS WITH BRONCHIOLITIS – INTERDISCIPLINARY PROCESS IMPROVEMENT

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Background / Significance: The Clinical Nurse Specialist’s (CNS’s) role in overseeing clinical practice and safety has been increasingly involved in hospital efforts to improve quality outcomes and reduce costs. Infants with bronchiolitis frequently require critical care resources due to their severity of illness and need for advanced respiratory support. Use of high flow high humidity nasal cannula oxygen (HFNC) has been shown to reduce work of breathing and improve oxygenation in this population. At our institution, the use of HFNC has historically required admission to the pediatric intensive care unit (PICU).

Purpose of the study/project: The purpose of this project was to evaluate the safety of HFNC in acute care for infants with bronchiolitis and reduce urgent interventions and critical care resource utilization.

Sample Description/Population/Setting: A plan of care was developed for use of HFNC on an acute care unit in infants with bronchiolitis.

Method/Design & Procedure: A CNS led interdisciplinary group, including nursing, respiratory and physicians, developed an evidence based plan of care, including use of the Bedside Pediatric Early Warning System (BedsidePEWS). The plan of care provided criteria for initiating and maintaining HFNC and for considering transfer to the PICU. The CNS coordinated education on the use of HFNC and the plan of care for the clinicians caring for these patients. Weekly meetings were held to develop rapid cycle improvements. Data were collected on patient age, outcome (remained on the floor or transferred to the PICU), duration of HFNC use in acute care and the need for urgent intervention (RRT or Code Blue evaluation). Urgent intervention data was compared for the unit from the same time period in the prior year.

Results/Outcomes: Twenty six patients were treated with HFNC in acute care. Nine remained on the unit and 17 transferred to the PICU. Total time on HFNC was 629 hours, representing 26.2 fewer PICU days. No patients required urgent intervention, including RRT evaluation. Compared to the prior year, there was a reduction in urgent interventions and admissions to the PICU. In addition, nursing, respiratory and medical staff verbalized confidence with the HFNC plan of care. There was a reduction in the number of unit-to-unit transfers and handoffs, decreasing the risks associated with transfer of care and handoff.

Conclusions/Implications: A CNS led interdisciplinary team, utilizing the evidence, can quickly, effectively, and safely make changes to patient care practices. Data suggests that this interdisciplinary, patient-focused practice change improved value by decreasing utilization of critical care resources and preserved or even improved care by decreasing the need for urgent interventions.