

# A quality improvement in approach to pulse oximetry in non-hypoxic patients

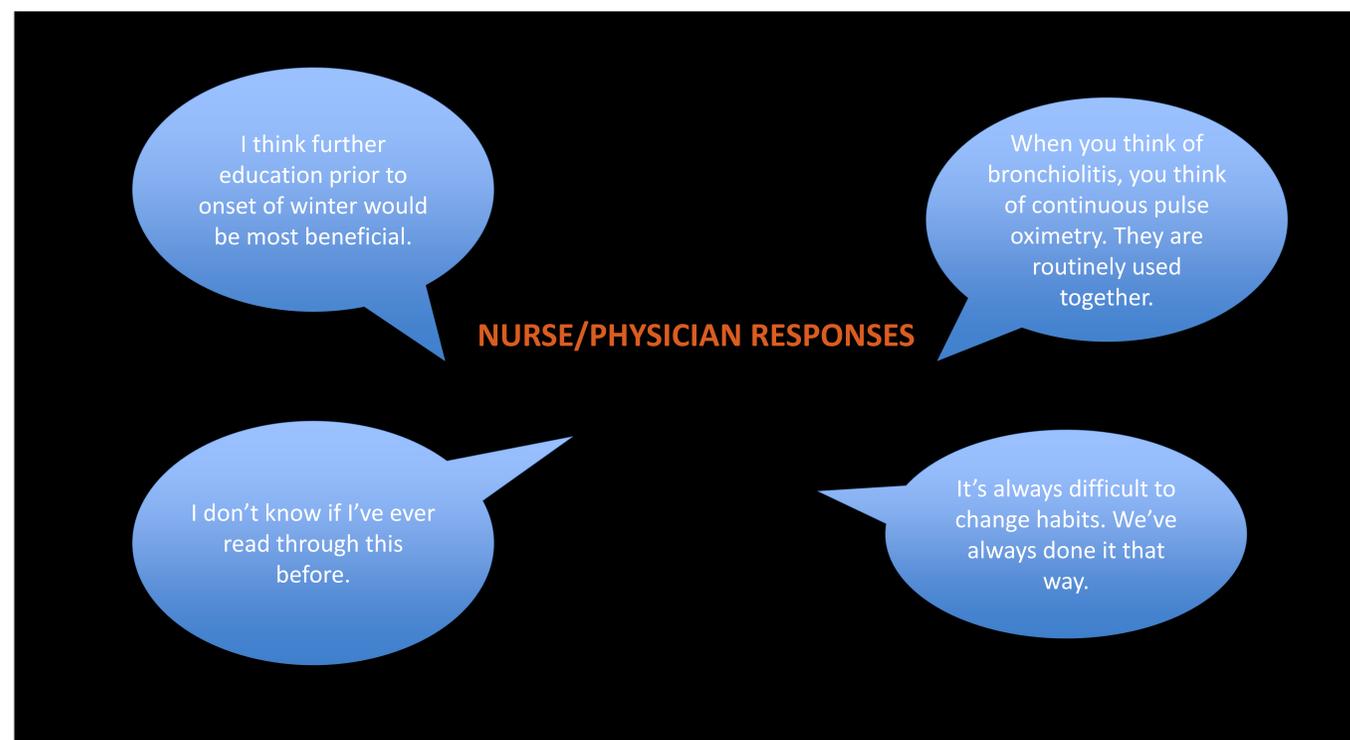
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## BACKGROUND

A retrospective chart review was conducted on children ages 0 to 24 months admitted for the varying bronchiolitis diagnoses from November 1, 2015 to February 28, 2018. This review showed continuous pulse oximetry (CPO) utilization for bronchiolitis admissions was disproportionate to children who were hypoxemic on admission, correlated to increased length of stay by approximately 0.5 days (p-value < 0.0001), and was not consistent with current bronchiolitis guidelines. The results derived from this study resulted in a quality improvement project with multiple Plan, Do, Study, Act (PDSA) cycles to implement a new pulse oximetry protocol along with new admission order recommendations based off O2 status. We had multiple short education sessions throughout the winter season of 2018-2019 on our new guidelines along with weekly reminders to continue to adhere to new policy. A chart review was done throughout those months that showed no significant change in pulse oximetry use, despite continued education at multiple levels throughout the winter season. It was necessary to determine underlying reasons for non-adoption of the new protocol; thus, a qualitative review was undertaken.

## METHODS

Using qualitative methodology, Dr. Craft assessed barriers of change in association to CPO at Saint Francis Children’s Hospital. He conducted semi-structured interviews of identified key stakeholders to elicit feedback on current CPO protocol, current practice guidelines, and barriers of change noted during most recent attempts to implement best practices. Key stakeholders had multiple roles in the hospital including nurses, nurse managers, residents, and attending physicians.



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## RESULTS/CONCLUSION

The focused interview data identified barriers when it comes to better implementation of pulse oximetry. 72% of interviewees thought that better understanding of our current protocol would help with better implementation. All of the interviewees had something that surprised them following closer review of current protocol. This information shows that education is critical when it comes to structured change within a health system. 45% of interviewees freely recommended presenting protocol during “Winter Readiness” didactics. This is a scheduled didactic session used for the children’s hospital prior to the busy winter season. There was an interesting group of outliers that included ideas of habits within our care of bronchiolitis. One interviewee stated, “When you think of bronchiolitis, you think of continuous pulse oximetry. They are routinely used together.” This points to an underlying issue that is present with any change, habits. I am hopeful that further education of staff, both nurses and physicians, about our current protocol, ideally as part of Winter Readiness, will result in better care of bronchiolitis at Saint Francis Children’s Hospital.



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