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A Quality Intervention to Reduce Telemetry

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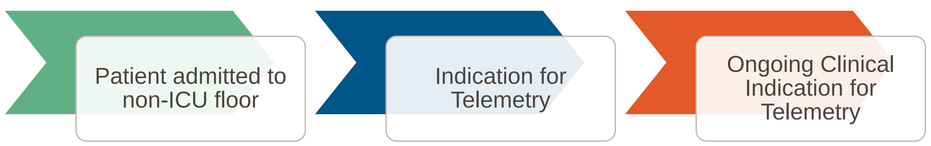
Introduction

- The Choosing Wisely campaign recommends established protocols regarding continuing cardiac monitoring outside of the ICU, as inappropriate monitoring increases healthcare expenses and may lead to patient harm.
- The purpose of this project was to provide educational material that reviews indications and timeframes for telemetry to reduce the length of stay, increase knowledge of cost-saving practice, and to look at the safety of this intervention by comparing mortality before and after the intervention.

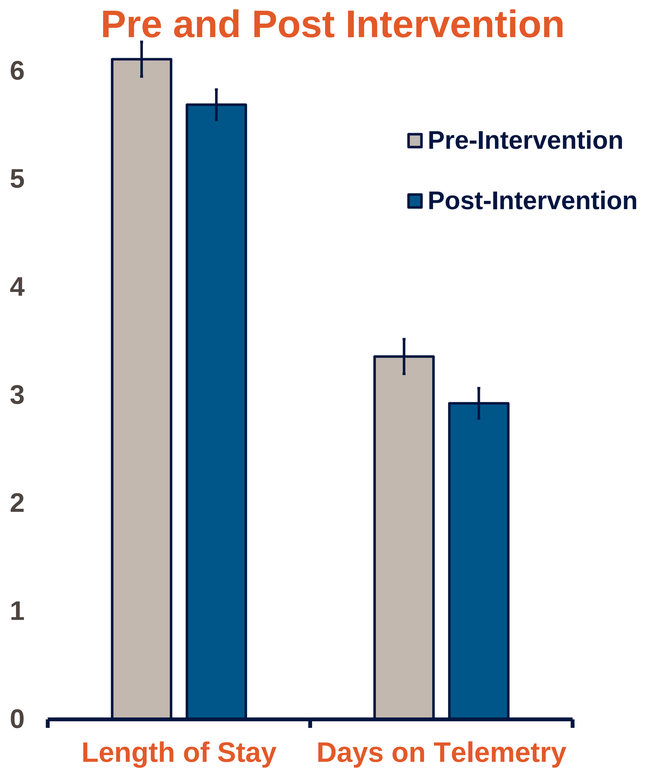
Background

- Telemetry monitoring is a limited and expensive resource. Hospitals continue to have an increased demand for telemetry beds which results in higher costs of care, alarm fatigue, confusion over patient placement, and decreased patient satisfaction.
- Educational programs that provide a review of evidence and indications for all the staff involved in making decisions relating to cardiac monitoring can help achieve quality assurance.
- Established protocols regarding cardiac monitoring are necessary for identifying patients for whom cardiac monitoring would be beneficial. In 2004 the American Heart Association published recommendations regarding indications and timeframes for ECG monitoring and an update was released in 2017.



Methods

- A literature review was performed using Pubmed from 2008 to 2018 using the term “telemetry utilization.”
- A retrospective assessment (baseline period) of hospital telemetry use between January 2018 through March 2018 was done.
- Indications for telemetry, based on the American Heart Association, were printed on a handout and presented to residents at the beginning of each ward rotation during the intervention period.
- Resident teams were encouraged to discuss daily telemetry utilization on rounds.
- Another retrospective assessment (intervention period) of hospital telemetry use between January 2019-March 2019 was done.



Results

- There was significant difference in the number of days spent on telemetry when comparing the pre-intervention and post-intervention periods (3.358 days vs 2.925 days, p <.0001). Although the effect size was small (*d* = 0.16*),* the cost of the intervention was inconsequential and lead to a reliable reduction in telemetry days.
- The average length of stay decreased (6.109 days vs 5.355 days, p < .05).
- Reduction in telemetry use did not result in an increase in patient mortality post-intervention (OR 1.1907, 95% CI 0.807 – 1.756, p = 0.3779).

Conclusion

- Educational material regarding decisions on appropriate cardiac monitoring can reduce number of patient days on telemetry and length of stay while not affecting mortality.
- **Next steps**: ongoing reinforcement of evidence based practices by both nursing and physicians to limit the inappropriate use of telemetry for fear of adverse events.
- Implement EHR based reminders to allow users to see which patients are actively utilizing telemetry to assess the ongoing clinical indication for it.

References

1. Drew, Barbara J., et al. “Practice Standards for Electrocardiographic Monitoring in Hospital Settings: An American Heart Association Scientific Statement from the Councils on Cardiovascular Nursing, Clinical Cardiology, and Cardiovascular Disease in the Young.” *Circulation*, vol 110, 2004, doi:10.1161/01.CIR.0000145144.56673.59.

2. Sandau, Kristin E., et al. “Update to Practice Standards for Electrocardiographic Monitoring in Hospital Settings: A Scientific Statement From the American Heart Association.” *Circulation*, vol. 136, no. 19, 2017, doi:10.1161/cir.0000000000000527.

3. Silverstein, Nicole, et al. “Improving Utilization of Telemetry in a University Hospital.” *Turner White Communications*, vol 12, No. 10, 2005.

4. Svec, David, et al. “Hospitalist Intervention for Appropriate Use of Telemetry Reduces Length of Stay and Cost.” *Journal of Hospital Medicine*, vol 10, No. 9, 2015.

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