

Implementing a Postoperative Nausea and Vomiting Protocol for Adult Patients Undergoing General Anesthesia

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Introduction

- The definition of postoperative nausea and vomiting (PONV) is typically defined as any nausea, vomiting, or retching occurring during the first 24-48 hours after surgery.
- PONV is associated with increased morbidity and mortality, increased hospital costs, and decreased patient satisfaction. Patient satisfaction is an important hospital quality metric indicator. Up to 80% of patients experience PONV.
- Anesthesia providers can administer medications that antagonize various receptors to help prevent PONV (Dopamine 2, NK-1, Muscarinic, 5-HT-3, and Histamine 1).
- The 2020 Fourth Consensus Guidelines are a comprehensive and evidence-based set of guidelines for PONV management.
- According to the Fourth Consensus Guidelines, risk factors for PONV include females, age < 50, non-smokers, post-operative opioid use, use of volatile anesthetics and/or nitrous oxide, gynecological procedures, and laparoscopic procedures. Patients with 1-2 risk factors should receive 2 anti-emetics and those with >2 risk factors should receive 3-4 anti-emetics.
- A mid-Michigan teaching hospital has inconsistent practice compliance with their PONV management protocol. The PONV protocol is also inconsistent with the 2020 Forth Consensus Guidelines.

Purpose

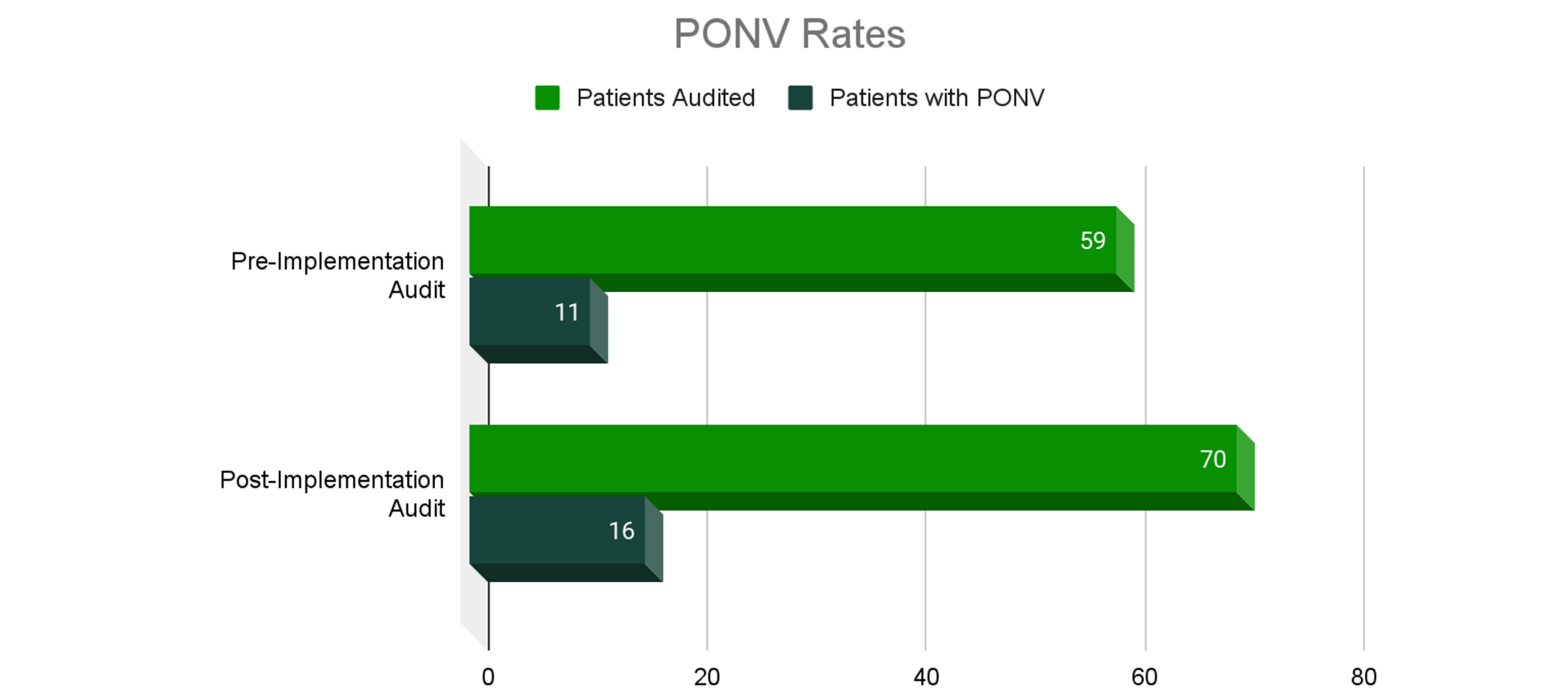
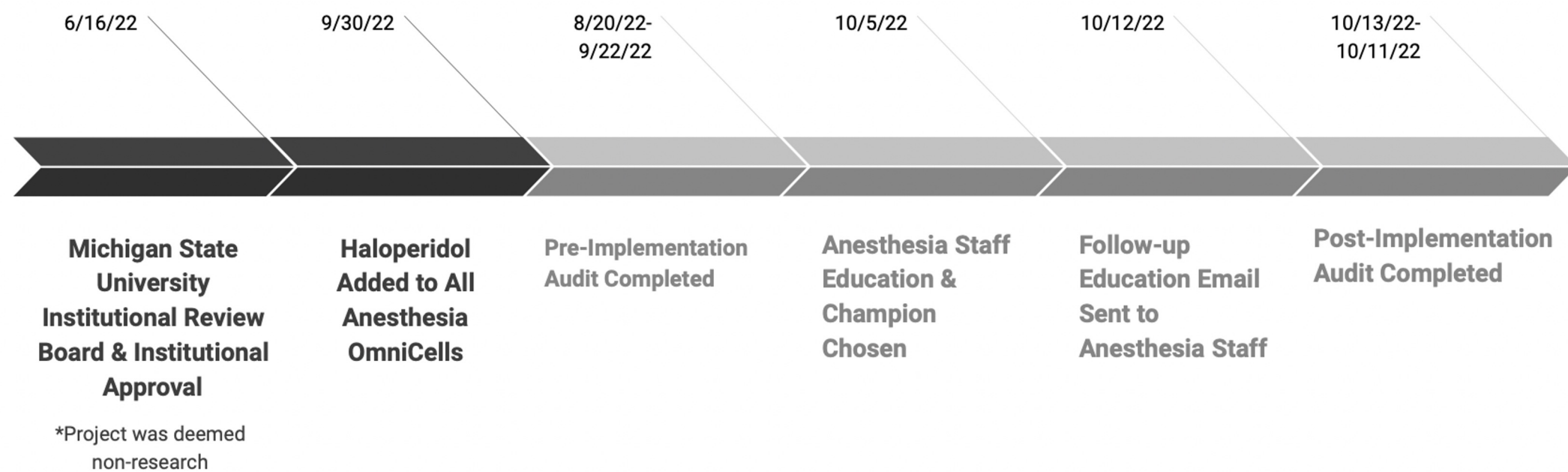
- The purpose of this quality improvement initiative is aimed at reducing the rate of PONV in adult patients undergoing general anesthesia and improving the adherence to an updated PONV guideline.
- Clinical Question:** Will integrating an updated PONV guideline into practice decrease the incidence of PONV in adult women ages 18-50 undergoing a general anesthetic for gynecological surgery?

Literature Summary

- Since evidence-based PONV management guidelines already exist, the literature was searched to learn how to best implement a guideline into practice.
- Protocol implementation is more successful with the utilization of various implementation approaches versus using a singular approach.
 - Staff education, electronic follow-ups, infographics, and champions are all frequently cited to facilitate PONV guideline implementation in anesthesia departments.
- Barriers to guideline implementation are identified as cost and lack of time, resources, teamwork, and organizational support.
- Research is lacking on how to overcome barriers and is recommended as a topic for future research

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Methodologies

- Conduct 30-day pre-implementation chart audit
- Update PONV protocol to reflect 2020 Fourth Consensus Guidelines
- Collaborate with pharmacy to add Haldol to all operating room OmniCells
- Contact IT to create Electronic Medical Record (EMR) pop-up reminders
- Educate anesthesia staff at monthly anesthesia meeting
 - Evidence-based review on PONV/PONV management, infographic, Fourth Consensus Guidelines, recent studies on Decadron dosing for PONV
- Post infographics in all operating room suites
- Identify CRNA champion
- Send electronic follow-up to all anesthesia staff with same information provided at in-person meeting
- Conduct 30-day post-implementation chart audit

Results

- The pre-implementation chart audit included 59 patients; 11 of these patients experienced PONV in the PACU
 - PONV rate= 18.6%
- Goal: decrease PONV rate to less than 10%
- The post-implementation chart audit included 70 patients; 16 of these patients experienced PONV in the PACU
 - PONV rate= 22.9%

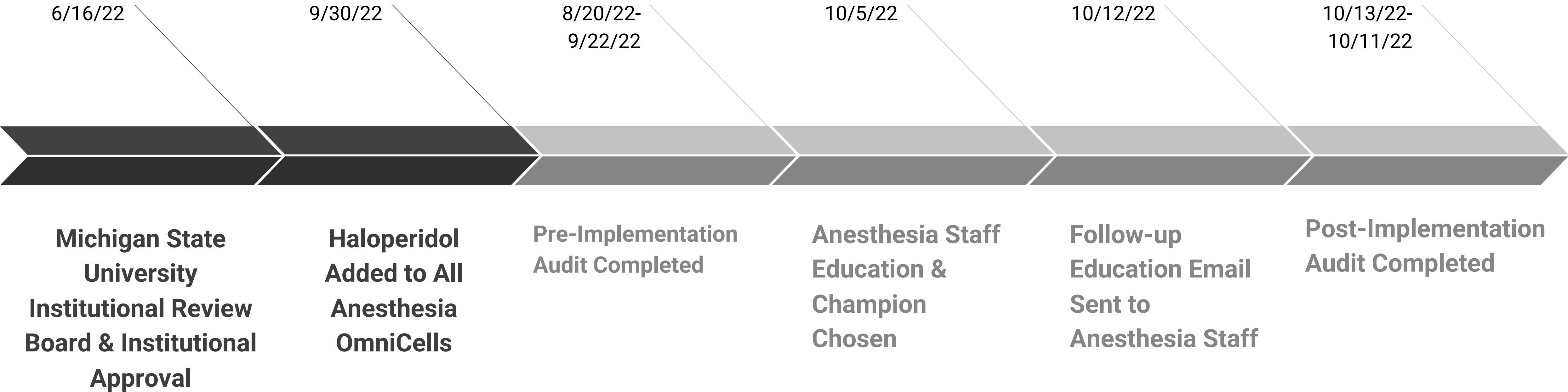
Conclusions

- Implementing an updated PONV guideline into practice did not decrease the incidence of PONV in adult women ages 18-50 undergoing a general anesthetic for gynecological surgery.
- Project limitations
 - Unable to make EMR pop-up reminders with IT, NK-1 antagonists unavailable due to cost and supply issues, SRNAs did not rotate to site during implementation, small sample size
- Recommendations
 - More research on how to overcome barriers to guideline implementation
 - Survey staff to investigate cause of poor compliance
 - Readiness for change assessment

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*Project was deemed non-research