

Postoperative Nausea and Vomiting Screening and Prevention in Laparoscopic Surgical Patients

Problem Statement

Postoperative nausea and vomiting (PONV) is an unpleasant phenomenon in which the patient experiences nausea, retching, and/or vomiting, after general anesthesia. Patients undergoing laparoscopic surgeries are at higher risk than the general surgical population for experiencing PONV.

Evidence suggests that patients should be assessed for their individual risk of developing PONV and treated prophylactically with antiemetics based on their risk level.

At the site, the rate of PONV in the non-gynecologic laparoscopic surgical population is 21%. There is no evidence based PONV screening tool in place for anesthesia providers to use to stratify patient risk for PONV, and there is no PONV prevention guideline to reference once level of risk is established.

Purpose

Purpose Statement: to implement a PONV screening tool (Apfel Score) and prevention guideline in the non-gynecologic laparoscopic surgical patient population to reduce occurrences of PONV.

Process Goals

- 100% compliance with PONV screening using the Apfel Score during the preoperative anesthesia assessment
- 100% compliance with PONV prevention guideline adherence in patients with a documented Apfel Score

Outcome Goal

- To decrease the rate of PONV in the non-gynecologic laparoscopic surgical population from 21%

Methods

Setting: Perioperative area at a Baltimore community hospital

Population: Adult patients undergoing laparoscopic surgery, excluding laparoscopic gynecologic procedures.

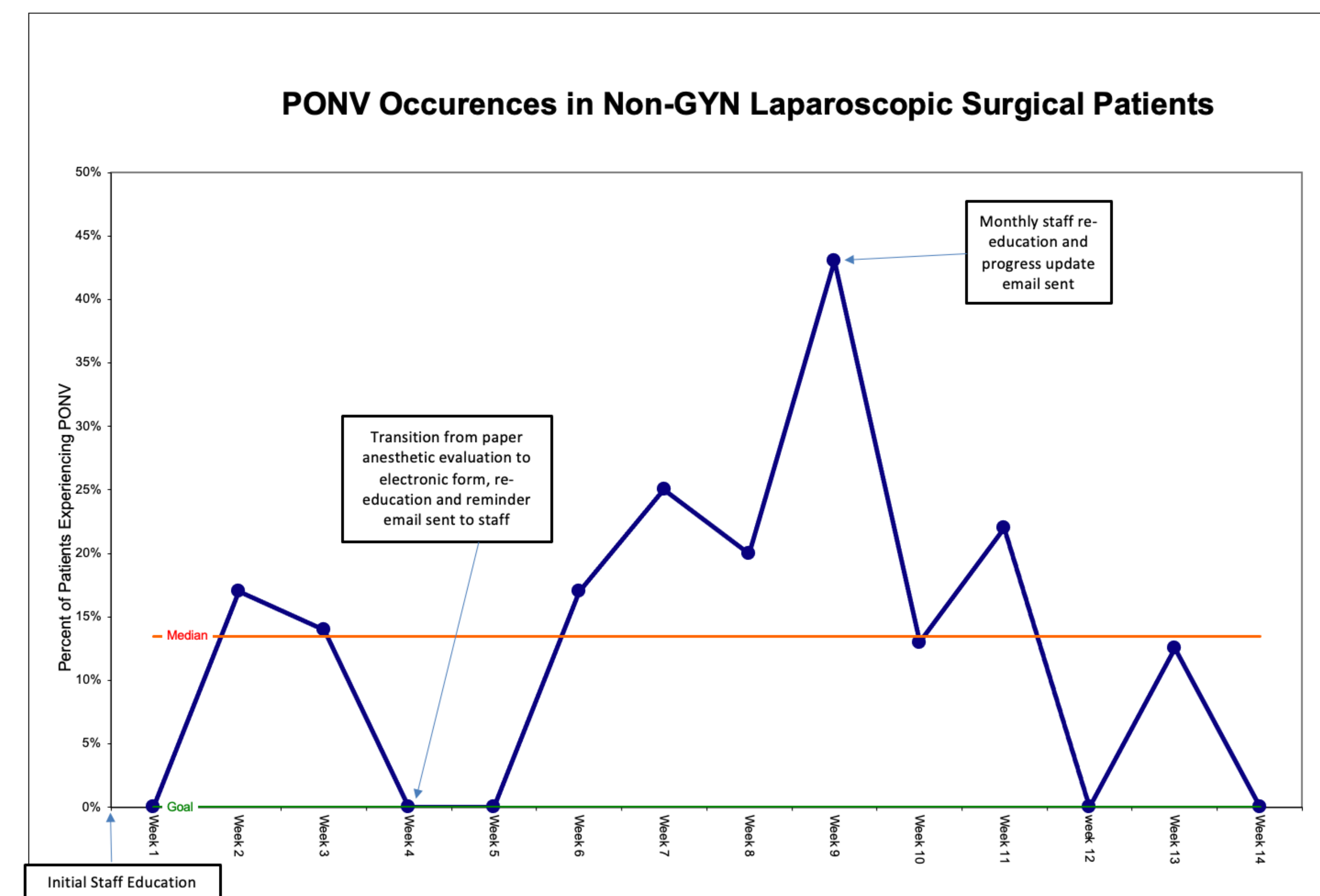
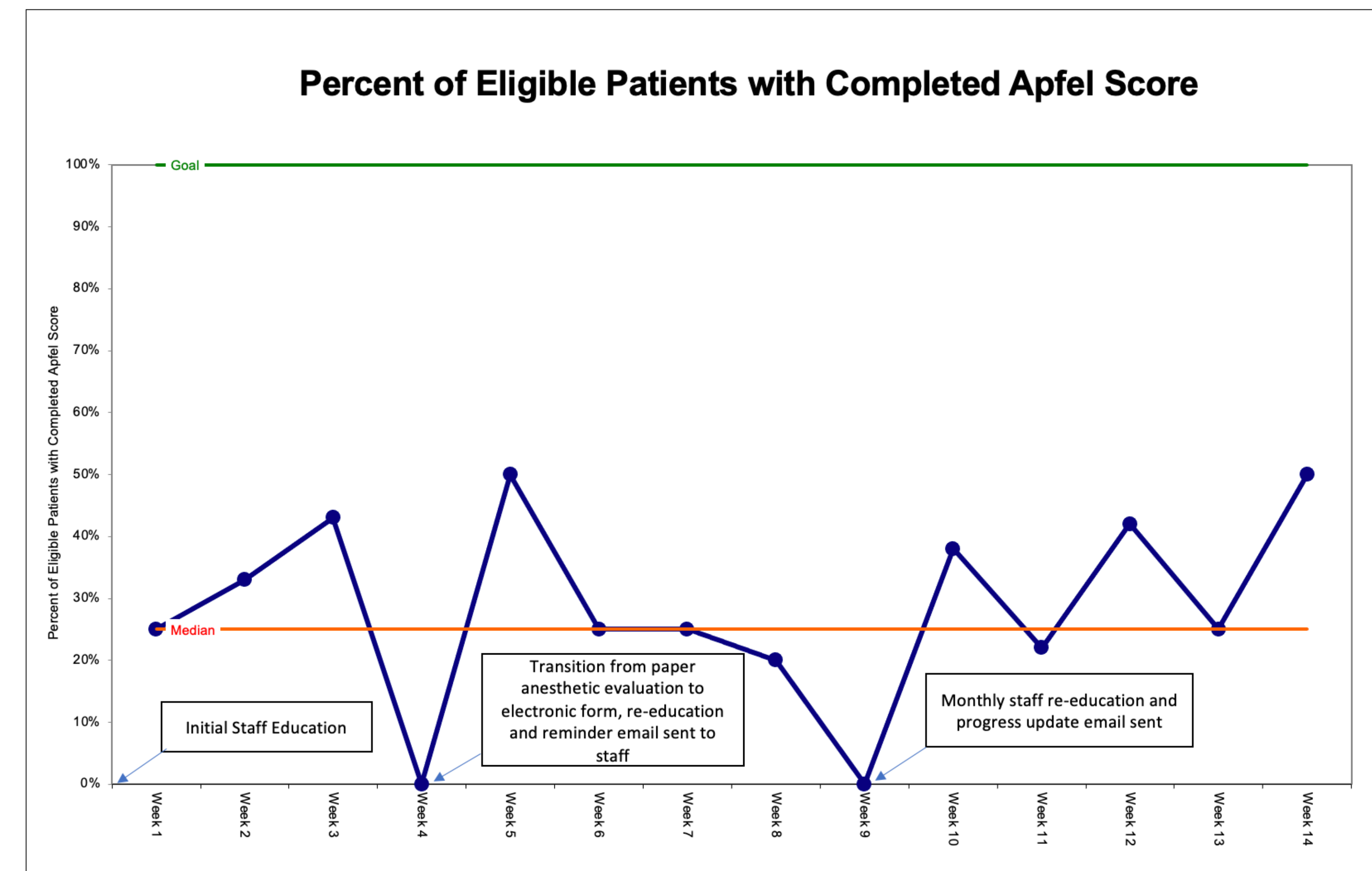
Intervention: Implementation of Apfel Score for PONV risk assessment and PONV prevention guideline (Scan QR code).

Strategies: Staff education, identification of project champion, monthly email reminders and progress updates

Data Collection: Weekly chart audits were conducted to assess Apfel Score documentation, adherence to the PONV prevention guideline, and occurrences of PONV.



Results



- Patients eligible for PONV screening: n = 90
- Of 90 eligible patients, 28% were screened for PONV using the Apfel Score.
- 84% (n =21) of patients with a completed Apfel Score received appropriate antiemetic prophylaxis per the PONV prevention guideline.
- The overall PONV rate decreased from 21% pre-implementation to 15% post-implementation.

Discussion

- Process goal of 100% compliance with Apfel Score documentation not met.
- Process goal of 100% compliance with PONV prevention guideline not met.
- Outcome goal to reduce PONV rate from 21% was met.
- Due to low compliance with interventions, it cannot be determined that the outcome of decreased PONV is a result of the interventions.

Limitations

- Site transitioned from paper pre-anesthetic assessment, which contained text reminder for notation of Apfel Score, to electronic documentation without an Apfel Score reminder, one month after project start, which created a barrier to implementation.
- No prompt in the anesthesia electronic health record to document PONV risk assessment and prompt for prophylactic treatment.
- Multiple QI projects occurring within anesthesia department at site, creating confusion among staff about which interventions were applicable to which patient populations.

Conclusions

Implications: A PONV risk assessment using the Apfel Score and a PONV prevention guideline are simple, evidence-based interventions requiring minimal resources that can be implemented into the perioperative process to combat PONV in patients undergoing laparoscopic surgery.

Spread and Sustainability: These interventions can be extended beyond laparoscopic surgical patients and applied to all surgical patients to prevent the unpleasant experience of PONV. Continuous staff education can help bolster application of the interventions. Integration of the Apfel score into the electronic anesthesia preoperative assessment may increase compliance with risk assessment and flag high risk patients.

Next Steps:

- Work with IT to integrate Apfel Score into electronic pre-anesthesia evaluation.
- Apply risk assessment and prophylaxis protocol to all surgical patients.

References

