

Postdischarge Nausea and Vomiting Risk Assessment in Breast and Gynecological Surgical Patients

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Problem Statement

- PDNV is nausea and vomiting occurring after discharge from post anesthesia care unit (PACU) up to seven days post-operatively
- Consequences include increased healthcare costs and low patient satisfaction
- Internal organization data demonstrated 40% of gynecological out-patient surgical patients had PDNV as reported in follow up phone calls
- The Apfel PDNV risk assessment tool is supported by ASPAN and SAMBA

Purpose of the Project

- The purpose of this quality improvement project was to:
 - Measure staff compliance in the use of the Apfel PDNV risk assessment tool
 - Implement and evaluate the effectiveness of the Apfel PDNV risk assessment tool in order to improve PDNV screening in the PACU for breast and gynecological out-patient based surgical patients
- Short term goals:
 - 50% nursing staff compliance by week two, 75% compliance by week four and 100% compliance by week six
 - Improved identification of patients at risk for PDNV
- Long term goal:
 - PDNV risk screening in all adult ambulatory surgical populations with incorporation of patient education and management protocols

Methods

- Implementation of the Apfel simplified PDNV risk assessment tool over an eight week period in a PACU at a large mid-Atlantic academic hospital
- Inclusion criteria: Ambulatory out-patient based breast and gynecological surgical patients; total of 92 patients assessed
- Education offering presented using handouts and PowerPoint presentation during three PACU shift meetings
- PACU registered nurses identified patients meeting inclusion criteria and completed the Apfel PDNV risk assessment tool prior to patient discharge
- Standing follow-up phone call policy was followed to call patients 24-48 hours post discharge to evaluate for PDNV and post-operative pain
- Staff compliance measured at 2, 4, 6 and 8 weeks post implementation
- Rates of patients identified with 3 or more risk factors compared to patient identified PDNV rates and pre-implementation rates

Figures/Results

Apfel PDNV Risk Assessment Tool	
Risk Factors	Points: Place 0 if risk factor is NOT present, Place 1 if risk factor is PRESENT
Female gender	
History of PONV	
Age <50 years	
Use of opioids in the PACU	
Nausea in the PACU	
Sum (0-5 possible)	

Note: Corresponding prediction model demonstrates risk of PDNV to be 10%, 20%, 30%, 50%, 60%, 80% when zero to five risk factors present

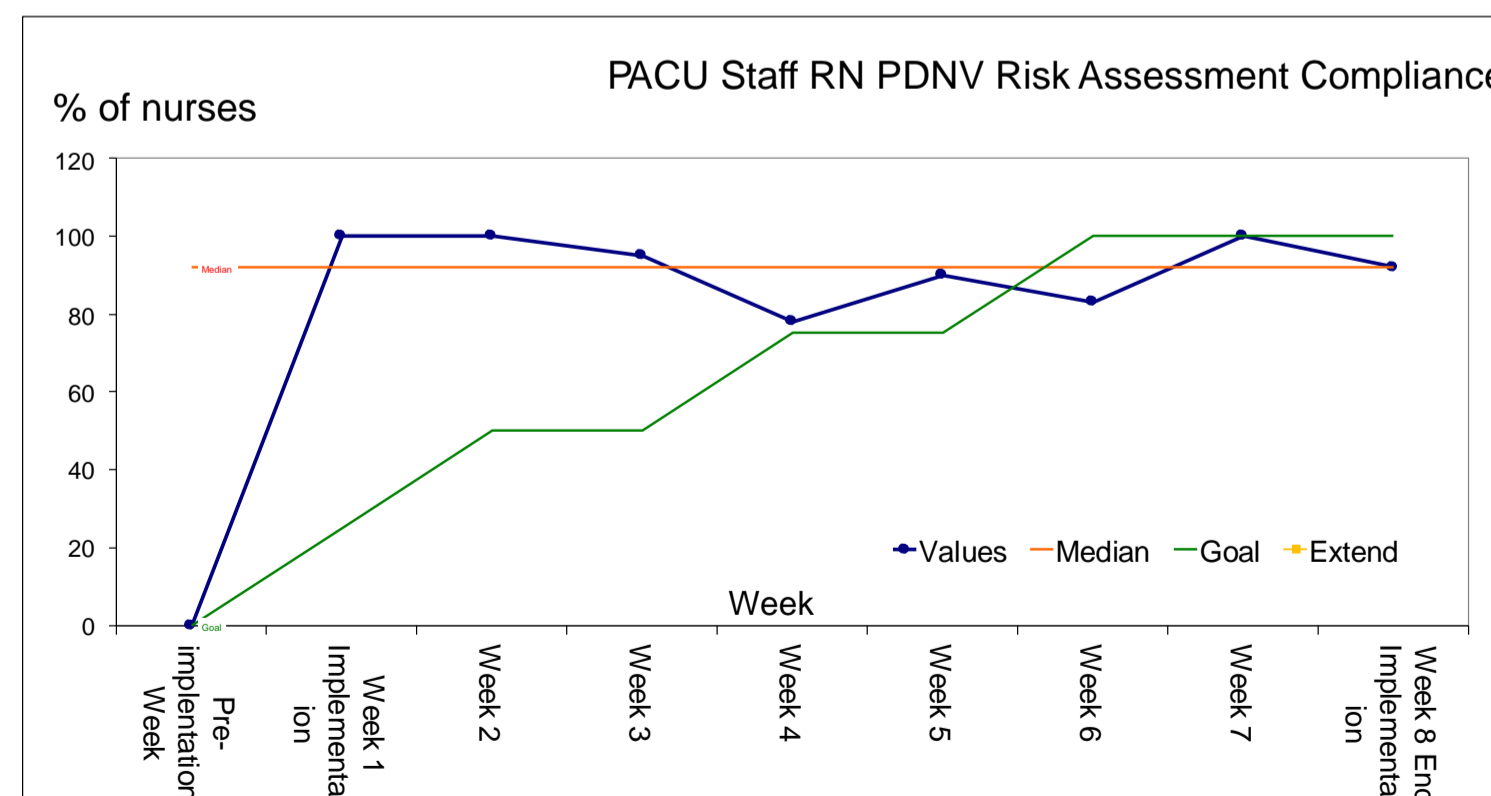
Note: Predictive for up to seven days post-operatively when pain considered a sixth risk factor

Analysis of Overall Pain and PDNV Rates Post-Discharge on Patients Who Returned Follow-Up Post-Discharge Phone Calls

# of Risk Factors Present	N	n Pain Upon Discharge	% Pain Upon Discharge	# PDNV Prophylaxis *	n with PDNV Upon Discharge	PDNV Rate (%)**
1-2	17	6	35	0	1	6
3	40	27	87	9	21	68
4	10	7	88	2	7	88
5	6	5	83	2	4	100
Total	73	45	62	13	33	45

Note. *Prophylaxis included ondansetron prescription or scopolamine patch.

**PDNV rate determined from (n with PDNV upon discharge)/(N - # PDNV Prophylaxis)



Run chart demonstrating PACU staff RN PDNV risk assessment compliance

Discussion

- Associations and comparisons
 - Patients with three risk factors present: 68% developed PDNV, compared to corresponding prediction model of 50%
 - Four risk factors present: 88% developed PDNV post discharge, compared to corresponding prediction model of 60%
 - Five risk factors present: 100% developed PDNV post discharge, compared to corresponding prediction model of 80%
 - Overall PDNV rate 45%, similar to pre-implementation data of 40%
 - Staff compliance remained greater than 75% throughout the implementation period
- Limitations of this project include:
 - Follow-up phone calls occurred within 24-48 hours post-discharge from the PACU- seven day analysis is not available
 - Follow-up phone calls not returned: 21%- corresponding Apfel PDNV risk tools were removed from final analysis
 - Only female patients due to the nature of the inclusion population- female gender is an independent PDNV risk factor

Conclusions

- The Apfel PDNV risk assessment tool adequately predicted PDNV risk
- PACU registered nurses evaluated the quality improvement project as an opportunity to take responsibility and promote evidence based practice
- Project resulted in increased compliance of standing follow-up post-discharge phone call policy
- By the end of implementation, providers started to prescribe PDNV prophylaxis to patients identified at high risk for PDNV
- Sustainment through expansion to all ambulatory out-patient based surgical populations with management protocol development

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