Development And Implementation Of An Advanced Practice Nurse Driven Telemedicine Project For Preoperative Evaluation

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Background

- A large urban oncology hospital needs to meet the increasing need for surgical options for cancer care management.
- There is an increasing need for the expansion of presurgical testing clinical sites.
- Pre-implementation Data: High surgery cancellation rate (7.15% in 2021, 7.06% in 2022)
- Need more time between preoperative evaluation and surgery patients needing medical optimization.
- Need for telehealth adoption to promote patient-centered outcomes (Cooling et al., 2021).

Aims and Objective

- An evidence-based practice (EBP) change involving the implementation of a telemedicine visit option in the pre-surgical testing (PST) clinic.
- To increase healthcare access due to the growing need for surgical treatment for cancer care management.
- To examine the implementation of preoperative telemedicine evaluations and their impact on surgery cancellation rates.

Ethical Consideration

- Completed the Collaborative Institutional Training Initiative (CITI Program)
- IRB waiver was obtained from Wilmington University's Human Subjects Review Committee (HSRC) and MSKCC's Department for Scholarly Projects Review Committee (SPRC).
- Data security according to Protected Health Information (PHI) guidelines.

Context

Inclusion criteria

- Low-risk gynecologic surgical patients
- Over 18 years old
- Low risk based on ASA levels I and II

Exclusion Criteria

- ASA level III, IV, and V patients
- Symptomatic or severe systemic disease.
- Patient metabolic equivalents (METs) of <4
- Congenital or acquired maxillofacial abnormality
- A history of airway-related anesthesia complications.

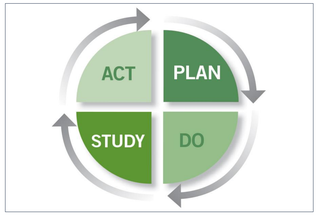
Key Stakeholders

The APRN PST team and manager, Director of the PST clinic, nursing informatics specialist, project managers, surgical outpatient APRNs, and Registered Nurses.

PICOT Question

P – Patients undergoing surgery
I – Telemedicine evaluation
C – Current practice
O – Surgery cancellation
T – Six weeks

Theoretical Framework



EBP Model

The EBP model used for this project is the Advancing Research and Clinical Practice through a Close Collaboration Model (ARCC).

Literature Review

- The final 20 pieces of evidence aligned with the National Quality Forum for domains for telehealth measures.
- Six peer-review journal articles strongly supported surgery cancellation.
- Positive findings for patient satisfaction and cost savings without an increase in case cancellations among the telemedicine cohort (Kamdar et al., 2020).
- Medical and technical feasibility of teleconsultation without procedure cancellations (Wienhold et al., 2021).
- Fewer cancellations without a statistical difference in appointment no-shows among the telemedicine group (Le et al., 2022).
- Positive findings in reduced cancellations increased patient satisfaction and reduced cost with telemedicine (Zhang et al., 2021).
- Benefits in terms of surgery cancellations compared to the in-person visit groups (Mullen-Fortino et al., 2018).

Methodology

- **Project Setting:** PST clinic, Rockefeller Outpatient Pavilion.
- **Project Design:** Telemedicine or in-person visit for a preoperative evaluation
- **Sample Size:** N= 50 patients (25 in-person and 25 telemedicine patients)
- **Participants:** PST APRNs, the APRN manager, and care coordinators.
- **Descriptive statistical analysis:** Retrospectively compared the cancellation rate among both visit options.

Data Analysis

Chi-square

- Revealed that age ($p=0.025$) and type of PST visit ($p<0.001$) showed a significant relationship. The p-value for the day of surgery cancellation ($p=0.317$) was insignificant.

Two-tailed Wilcoxon signed rank test.

- The result was insignificant based on an alpha value of .05, $V = 2.50$, $z = -1.00$, $p = .317$. Differences between the surgery cancellation of visit types are explainable by random variation.

Linear regression

- $p = .077$, Indicated that the type of PST visit did not explain a significant proportion of variation in surgery cancellation

Clinical Significance

- Positive statements from staff and patients regarding travel cost savings and improved clinic workflow.

Implication for APRN

- Enhance accessibility allowing the APRNs to reach a broader patient population.
- Allows for collaborative care virtually.

Limitation

- Confounding variables in data analysis of surgery cancellation (Aldawoodi et al., 2021).
- Push-back on the use of telemedicine for physical examination and anesthesia examination.

Conclusion

- With secure buy-in and support from the hospital leadership, MSKCC integrates telemedicine seamlessly into its existing clinic workflows by designing a workflow that guides providers and patients through the completion of the telemedicine visit.