

Background

- Operating rooms represent a major share of hospital costs, highlighting the importance of efficient and effective pre-anesthesia testing (PAT).
- Pre-Anesthesia Testing initiates the patient's perioperative optimization, aiming to minimize delays and cancellations (Azizad & Joshi, 2021).
- Traditional PAT clinics evaluate patients by a phone interview, in-person visit, or chart review (Aronson et al., 2020).
- Focused assessments using anesthesia-specific questions and evidence-based testing support risk identification and patient optimization.
- Incomplete or delayed patient information can slow chart reviews and hinder Advanced Practice Provider (APP) clinical throughput.

Purpose

- This study evaluates the impact of a patient-driven electronic health questionnaire on PAT efficiency.

Methods

- Non-experimental retrospective pre-post comparison study.
- Retrospective review of existing data extracted from Cerner.
- Data reviewed pre and postimplementation of the anesthesia focused-intake form.
- Data pre-implementation: May 2023 and June 2023.
- Data post-implementation: May 2024 and June 2024.

OUTCOMES OF USING AN ANESTHESIA-FOCUSED INTAKE FORM

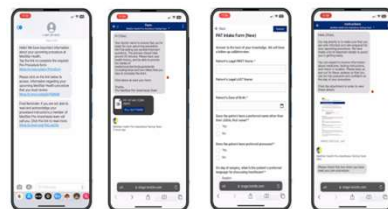
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Setting

- MedStar Georgetown University Hospital (MGUH), a non-profit community-based healthcare organization located in the District of Columbia.
- MedStar Georgetown University Hospital performed approximately 15,900 surgeries for each fiscal year (2023 and 2024).

What is Twistle

- Twistle is a patient engagement tool used by PAT.
- Patients are enrolled in Twistle when surgery is scheduled.
- Patient receives a secure HIPPA compliant message by text message or email.
- Medical and anesthetic history is obtained, and patients are risk stratified.
- APPs use the information obtained by Twistle during preoperative evaluation.



Which respiratory disease or condition has the patient had? Check all that apply.*

- ☐ Asthma
- ☐ Chronic Obstructive Pulmonary Disease (COPD)
- ☐ Home Oxygen Use
- ☒ Sleep Apnea (OSA)
- ☐ Upper Respiratory Infection (URI) in the last 2 weeks
- ☐ Pneumonia in the last 3 months
- ☐ Pulmonary Embolism (PE)

Results

RQ1: Do the Advanced Practice Providers (APPs) process more charts per day when patients complete the electronic anesthesia-focused intake form?

- APPs cleared on average a total of 20.28 charts per day pre-implementation vs. 33.70 charts per day post-implementation.
- This represents a statistically significant increase of 13.42 charts per day ($p < 0.001$) indicating improved chart clearance efficiency.

Group Statistics					
	Pre0 Post1	N	Mean	Std. Deviation	Std. Error Mean
Cleared	0	39	20.28	6.329	1.013
	1	37	33.70	8.928	1.468

RQ2: Has the implementation of the anesthesia-focused intake form affected the timeliness of chart clearance to the day of surgery compared to the period before its implementation?

- Mean days from chart clearance to the day of surgery decreased from 2.32 days (pre) to 2.07 days (post) ($p = 0.003$).
- Post implementation charts were cleared closer to the day of surgery.

Group Statistics					
	Anesthesia Focused History Form	N	Mean	Std. Deviation	Std. Error Mean
Lag Test	Pre implementation	791	2.3161	1.59469	.05670
	Post implementation	1247	2.0738	1.95150	.05526

RQ3: Is there a difference in the number of charts cleared by APPs based on American Society of Anesthesiologists (ASA) Classification when the patients complete the anesthesia-focused intake form.

- Mean ASA score decreased from 2.53 (pre) to 2.33 (post), indicating a statistically significant shift in patient complexity ($p = 0.003$).
- Post-implementation workflow changes (APPs reviewing all charts) may have influenced this shift and decreased the ASA rating based on their expertise.

Group Statistics					
	Anesthesia Focused History Form	N	Mean	Std. Deviation	Std. Error Mean
ASA Classification	Pre implementation	869	2.53	.600	.020
	Post implementation	1393	2.33	.620	.017

Conclusions

- The anesthesia-focused intake form significantly improved APP efficiency, increasing daily chart clearance from 20.38 to 33.70 charts.
- While overall throughput improved, further refinement is needed to optimize timing of chart clearance relative to the surgical date.

Discussion

- The total number of charts cleared per day reflected the combined efforts of all APPs, not individual performance.
- Pre-implementation, APPs reviewed only RN-escalated charts; post-implementation, they reviewed all charts.

References

