

Pre-procedural Evaluation and Optimization: National and Local Approaches to Performance Improvement

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Pre-procedural Evaluation and Optimization: National and Local Approaches to Performance Improvement

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Background

- Currently at Lehigh Valley Hospital Network (LVHN) there is interest in reducing the rate of day of surgery (DOS) cancellations
- In June of 2020, the rate of DOS cancellations was 3.3 %, above the benchmark metric of 3.0 %
- Best performers in this metric report rates around 1.0 %
- Starting in 2016, preprocedural visit reimbursement was bundled into the payment for anesthetic care

Problem Statement

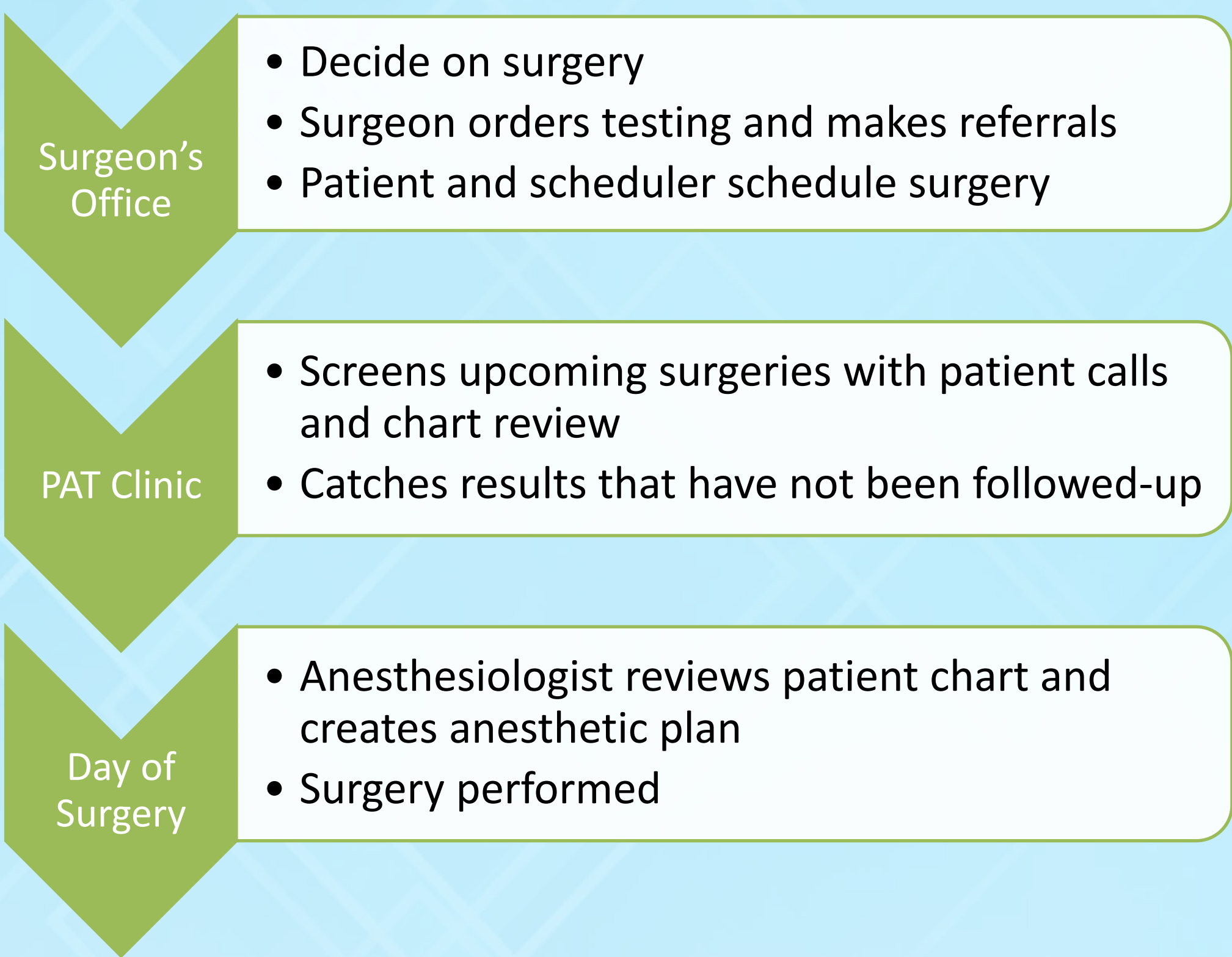
A day of surgery cancellation rate of 3.3 % is an opportunity for improvement at a multicenter regional hospital network and the implementation of the Preprocedural CARE (Call, Assess, Review, Educate) clinic will reduce the cancellation rate to 1 % in-line with top performers while generating new revenue streams.

Methods

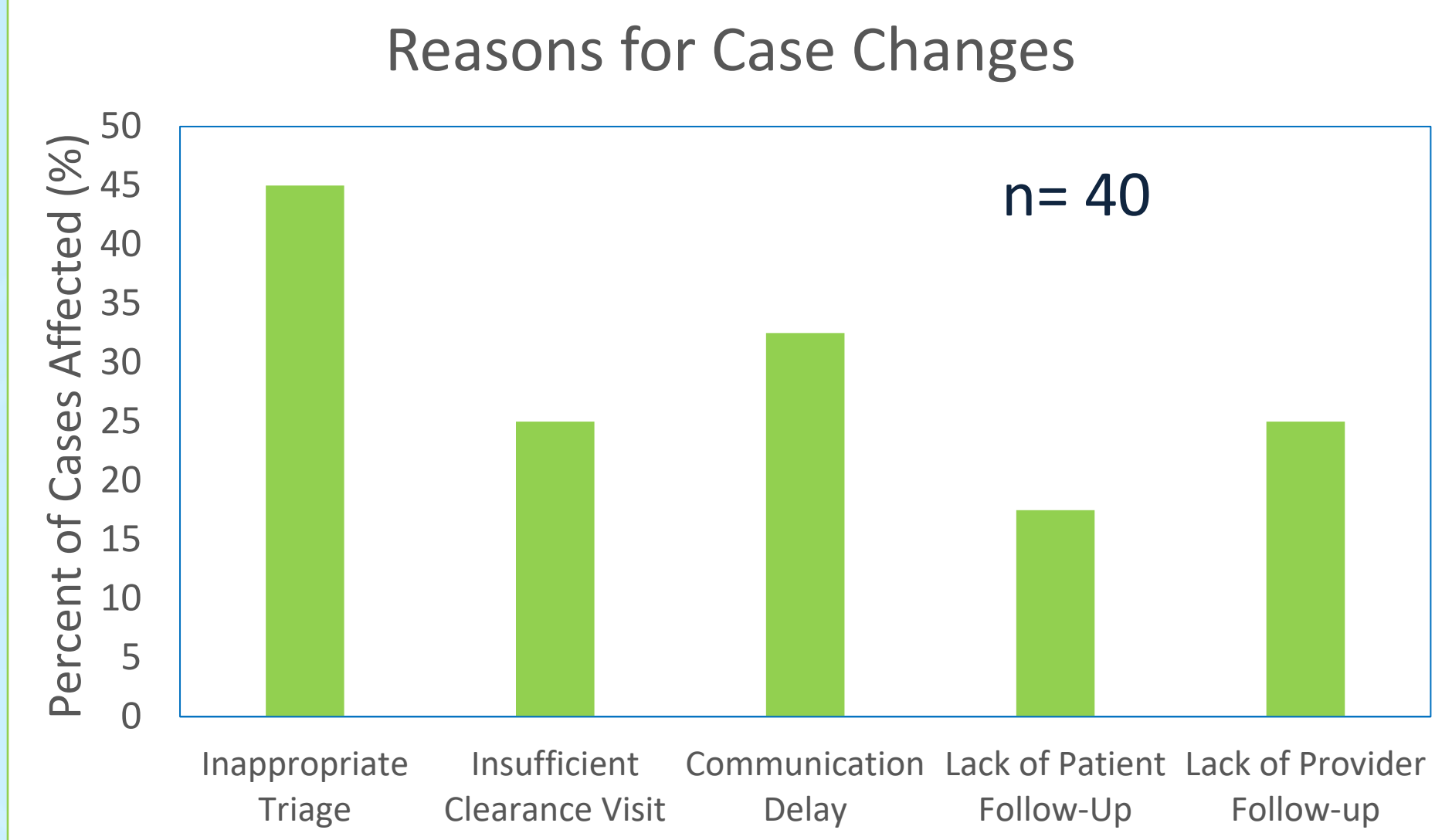
- Models of the current and proposed preoperative pathway were constructed using interviews with stakeholders, including surgeons and members of the PAT staff and leadership
- Qualitative analysis of gaps in the current pathway was conducted following the codebook methodology of MacQueen et.al.
 - Data for analysis was collected from reports filed by an APC working in the PAT clinic in the month of September 2021
- Financial Analysis was performed with assumptions that:
 - 27 % of cases would require warrant CARE clinic referral (based on the University of Iowa data)
 - subsequent 10 % would need follow-up with clinic
 - Targeted same day cancellation rate at 1 %
 - Net Present Value (NPV) discount rate of 15 %

Results

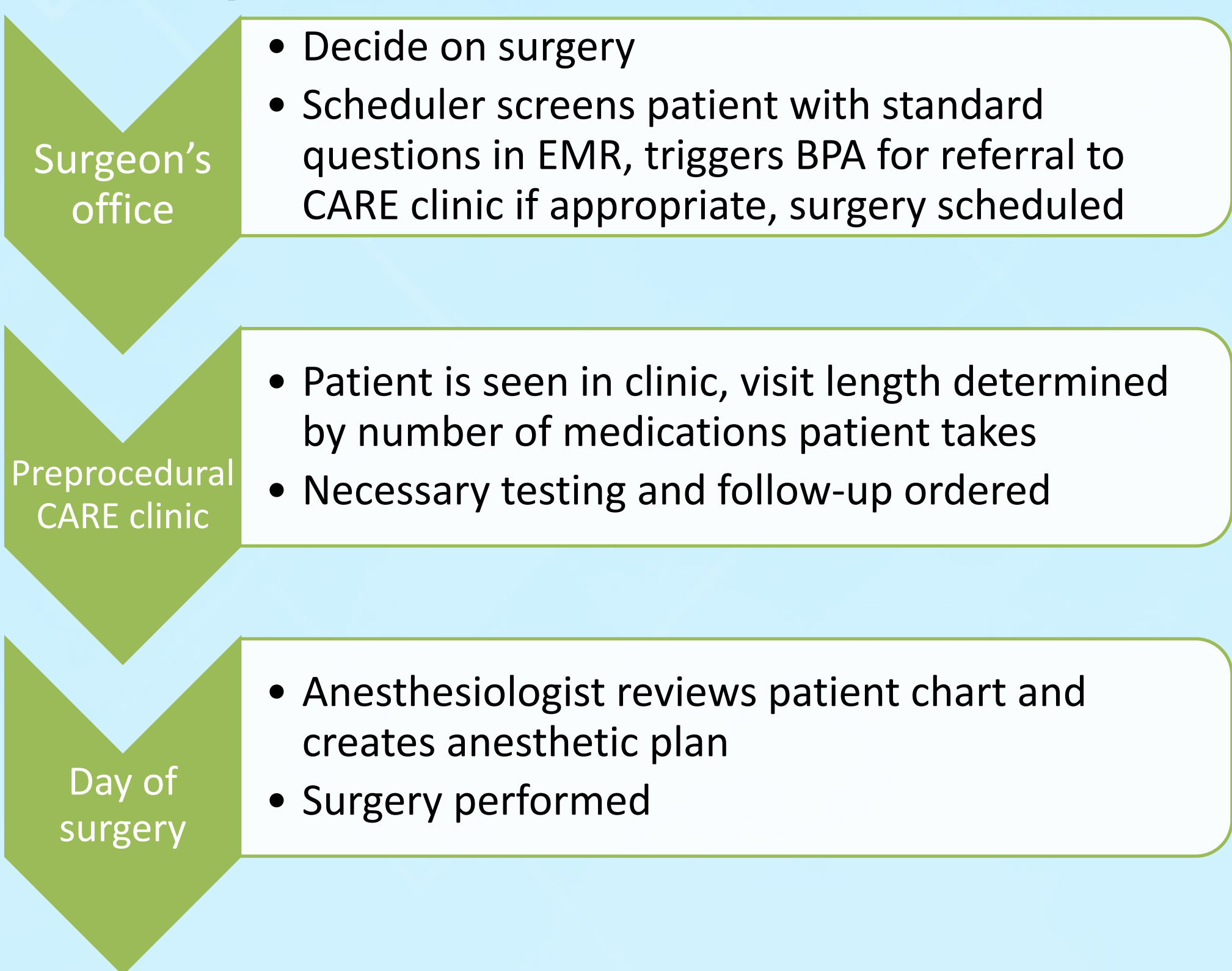
Current State:



Qualitative Analysis:



Proposed Workflow



Financial Analysis:

Annual Cashflow	Revenue from Consults	\$ 2,601,478.00
	Revenue from Follow-ups	\$ 160,925.00
	Decrease losses from cancelled surgeries	\$ 200,679.00
		\$ 2,963,082.00
10-year NPV		\$ 13,121,726.00
Yearly Expense		\$ (930,826.00)
IRR		249%

$$NPV = \frac{C_t}{(1+i)^t}$$
$$0 = NPV = \sum_{t=1}^{10} \frac{C_t}{(1+IRR)^t} - C_0$$

NPV = net present value
IRR = Internal Rate of Return
 C_t = cash flow for period t
 $t = 1$ year
 C_0 = initial investment

Discussion

- A plurality of the analyzed cancellations were due to inappropriate triage, the formalized tool for pre-operative screening and BPA for CARE clinic referral are targeted interventions to address this procedural gap
- Currently the responsibility of following up on ordered tests falls on the ordering provider (the surgeon); the CARE clinic would take over responsibility for ordering and following up on tests.
- Staffing the CARE clinic with an internal medicine physician will capture revenue beyond the bundled reimbursements for surgery and anesthetic care
- This project applied to the SELECT domain of healthcare systems as it was focused on creating a more efficient delivery of necessary surgical care by reducing surgical cancellations
- Through this project, I met my self-directed learning goals by familiarizing myself with pre-operative clearance at a large hospital network and learning how anesthetic care is reimbursed

Conclusions

- Implementation of the preprocedural CARE clinic would improve patient care and safety.
- The CARE clinic would provide revenue streams via reimbursement for care provided under the direction of a non-surgical or anesthesia provider and increase efficiency by reducing cancelled surgeries

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