

ENGAGE WITH QUALITY IMPROVEMENT AND PATIENT SAFETY (E-QIPS)

The Procedure Based Telehealth Utilization Initiative



American
Urological
Association

QUALITY OR SAFETY PROBLEM

Telehealth (TH) visits were underutilized in the surgical clinics. Unnecessary in person post-operative visits decreased the efficiency of the surgical clinic and reduced the availability for new consult or in person follow up appointments.

BACKGROUND

Prior to the intervention, the current state revealed 32% of post-operative appointments, for appropriate operations, were scheduled for TH. Ideally, all elective outpatient procedures, not requiring suture or drain removal, would be seen as a post-operative TH appointment. Therefore, a gap of 68% is present between the current and ideal practice.

Current literature suggests TH is a safe and effective modality for post-operative follow up for both adult and pediatric urologic procedures.^{1,2} The benefits of telehealth utilization for clinic efficiency, patient satisfaction, and access to care are well defined both within and outside of urologic surgery literature.^{3, 4, 5, 6, 7}

Using LEAN methodology and a Plan, Do, Study, Act (PDSA) framework preliminary data was obtained to determine a SMART aim. Next, both leadership and frontline stakeholders were engaged to assemble a multidisciplinary implementation team including surgical faculty, clinic coordinators, and administrative staff. Within this team, current workflows and potential interventions were identified to target outpatient, elective procedures. Process mapping outlined current TH scheduling workflows. Outcomes such as percent TH scheduled in clinic or at discharge, in addition to cost, and adverse patient events were collected post implementation.

PROJECT OBJECTIVES

The objective of this initiative was to increase TH utilization by scheduling post-operative appointments as TH, for appropriate surgical procedures.

The aims of this project are as follows:

1. Identify which surgical procedures are appropriate for TH follow up
2. Determine current workflows regarding TH scheduling
3. Collaboratively derive a standardized process for TH scheduling of selected procedures
4. Create a reliable auditing system for long term sustainability.

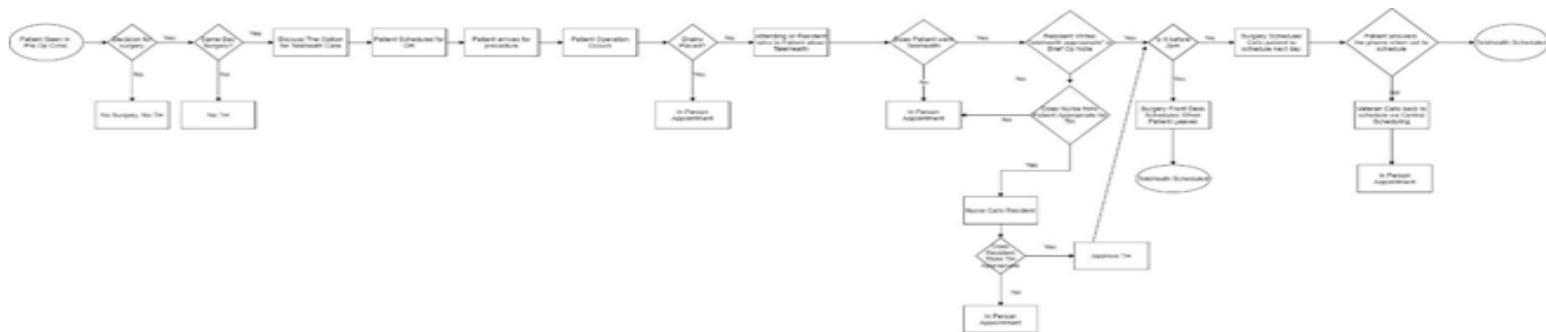
INTERVENTION

The intervention involved scheduling the TH visit at the time of surgery scheduling, within the surgical clinic, when a patient was scheduled for an appropriate procedure. Standardization of this process created an “opt out” process for appropriate procedures, where the standard pathway included TH follow up scheduling, rather than an “opt in” process where patients are asked if they desired TH (Figure 1).

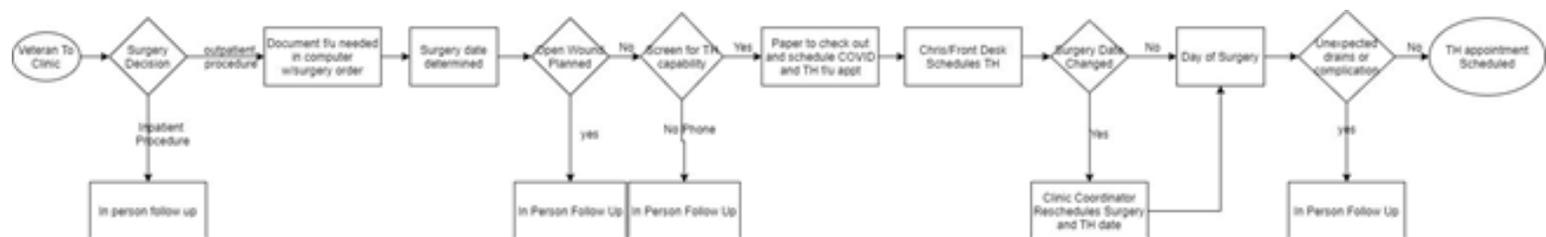
To complete this implementation, process mapping to determine current workflows regarding TH scheduling is necessary. Using this process map, the stakeholders involved in TH scheduling are identified. Collaboratively, a new workflow should be devised to include TH scheduling at the time of surgery scheduling. This may involve inclusion of TH scheduling in the surgery packet, an order set, or including TH scheduling orders on check out paperwork.

For successful implementation, good buy in from the clinic coordinators, clinic scheduling staff, and the surgeon is needed. Cultural barriers are overcome by early inclusion of all three staff divisions to determine essential project components including procedure selection, a signaling process for TH scheduling, and a workflow for completion of TH scheduling.

Figure 1: Current and Future State Process Maps for Telehealth Scheduling
1a: Current State Pre Implementation



1b: Future State Following Implementation



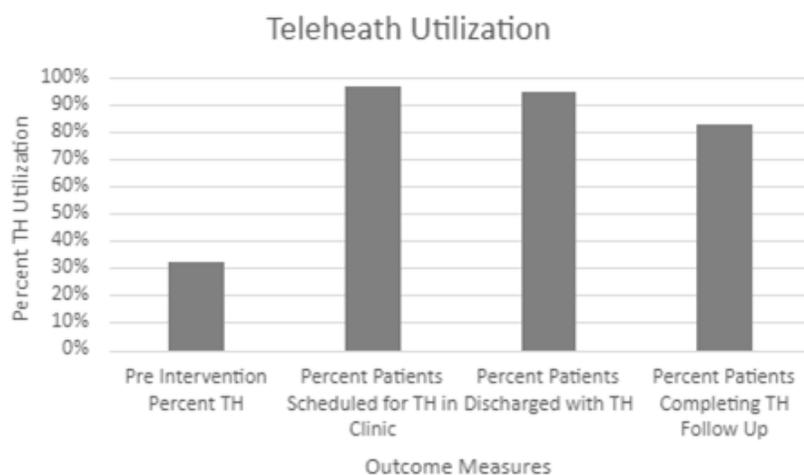
MEASURES OF SUCCESS

Metrics of success were measured as both process and outcome measures. Process measures included percentage of patients undergoing appropriate procedures who were scheduled for TH at the time of surgery scheduling. The main outcome measure was defined as the percentage of patients discharged from their day of surgery with a TH appointment scheduled. Additionally, the percent of patients completing a TH appointment was collected. Secondary metrics involving increased clinic revenue was also collected.

OUTCOMES

Overall, the pre-implementation TH scheduling rate was 32%. Following implementation, 95% of patients undergoing elective, outpatient general surgery procedures were scheduled for a TH visit. At discharge on the day of surgery 93% of appropriate patients had a TH visit scheduled and 83% of patients completed their follow up via TH (Figure 2). This resulted in increased revenue of \$30,431 in billable visits due to increased clinic visit availability. No adverse events were seen.

Figure 2: Telehealth Utilization. Patients with deviations from the pathway due to intraoperative findings were excluded from analysis.



POTENTIAL IMPACT AND SCALABILITY

Locally, TH utilization has increased in the desired patient population. Additionally, the adaptation of TH in one surgical clinic has sparked interest in adapting the TH Utilization Initiative into multiple surgical clinics including the Colorectal Surgery clinic and Vascular Surgery clinic. Scaling this intervention can improve TH utilization rates and increase access to necessary subspecialty care for patients who may be unable to return for a post operative visit due to distance or other socioeconomic barriers.

SUSTAINING THE CHANGES

This change is sustained due to regular auditing. Initially, patient TH visits were audited daily to identify barriers to successful implementation. After 1-month, weekly audits were employed. Through weekly audits, a barrier due to staffing changes was identified and a second PDSA cycle was initiated. Following the second PDSA cycle, again daily audits were instituted until the process was stable. Next, weekly audits occurred for 8 weeks. The clinic coordinator was then trained to audit each clinic list to identify patients who present in person and should have been scheduled for TH. This provides constant auditing during every clinic visit. When patients present inappropriately, thereby failing the process, a collaborative discussion is held to determine how the process failed and how to improve upon it. This auditing and feedback structure has led to 7 months of sustainment.

ADDITIONAL RESOURCES

A standardized check out form for surgery scheduling with patient's surgery date, COVID test date, and TH date was utilized. This was given to each patient as part of their surgery scheduling instruction packet and facilitated the scheduling desk to appropriately schedule all necessary appointments.

KEY SUMMARY

- a. TH is a safe and effective modality for surgical follow up in appropriate procedures. Utilizing TH improves access to care, clinic efficiency, and increases revenue.
- b. Implementing a procedure based standardized TH workflow improves TH utilization 3-fold within surgical clinics.
- c. Using LEAN methodologies, specifically process mapping, standardization, and auditing, to improve TH workflows is achievable and sustainable within surgical clinics.

PROJECT LEAD CONTACT INFORMATION

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REFERENCES

1. Canon S, Shera A, Patel A, et al. A pilot study of telemedicine for post-operative urological care in children. *J Telemed Telecare*. 2014;20(8):427-430. doi:10.1177/1357633X14555610
2. Rapp, D. E., Colhoun, A., Morin, J., & Bradford, T. J. (2018). Assessment of communication technology and post-operative telephone surveillance during global urology mission. *BMC research notes*, 11(1), 149. <https://doi.org/10.1186/s13104-018-3256-2>
3. Modi PK, Portney D, Hollenbeck BK, Ellimoottil C. Engaging telehealth to drive value-based urology. *Curr Opin Urol*. 2018;28(4):342-347. doi:10.1097/MOU.0000000000000508
4. Pannell SC, Soni SM, Giboney P, Santamaria A, Bergman J. Access to Urologic Care Through Clinical Integration in a Large, Underserved Population. *JAMA Surg*. 2019;154(11):1072-1074. doi:10.1001/jamasurg.2019.2525
5. Buchalter DB, Moses MJ, Azad A, et al. Patient and Surgeon Satisfaction with Telehealth During the COVID-19 Pandemic. *Bull Hosp Jt Dis* (2013). 2020;78(4):227-235.
6. Shivji S, Metcalfe P, Khan A, Bratu I. Pediatric surgery telehealth: patient and clinician satisfaction. *Pediatr Surg Int*. 2011;27(5):523-526. doi:10.1007/s00383-010-2823-y
7. Parnell K, Kuhlenschmidt K, Madni D, et al. Using telemedicine on an acute care surgery service: improving clinic efficiency and access to care. *Surg Endosc*. 2021;35(10):5760-5765. doi:10.1007/s00464-020-08055-9