From Screen to Scalpel: APP Total Telemedicine Pathway Shortens Liver Surgery Clinic Wait Time

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Introduction: Patients have a long wait to be seen by a surgeon face-to-face in clinic from the date of referral to the date of initial outpatient hepato-pancreato-biliary (HPB) surgical consultation, which has the potential to cause an increase in morbidity and mortality rates. Long wait times was partially attributed to limited clinical availability due to constraints of a surgeon's schedule. Systematic review of literature suggested two major themes within this problem: utilization of advanced practice providers (APP) in surgical practices and telemedicine strategies for reducing wait times. The aim of this study is to reduce the average wait time from referral to initial surgical consultation by 25% through utilization of an APP led telemedicine clinic, Total Telemedicine Pathway (TTP).

Methods: The cohort study compared the average wait time between two cohorts of patients within the UPMC HPB surgery department: face-to-face by a surgeon (F2F) and TTP by an APP (TTP) for statistical significance. Quantitative data was analyzed with Microsoft Excel and IBM SPSS Statistics. Improvement measures included process measures within the office staff, balance measures with stakeholder debriefing, and outcome measures with calculated mean wait times. Statistical analysis was performed with independent samples t-tests, one-way ANOVA test, and Bonferroni post hoc t-test. Statistical significance set to $p<0.05$.

Table 1: Cohort analysis between F2F MD clinic and TTP APP clinic.

Pre-operative Consultation Clinic Type	Number of patients	Median wait time from referral to initial surgical consultation (in days)	Median wait time from referral to date of surgery (in days)
Face-to-face (F2F) MD clinic	180	20	70
Total Telemedicine Pathway (TTP) APP clinic	41	7 * p<0.001	42 * p=0.01

Results: The median wait time from referral to consultation for the F2F cohort (n=180) was 20 days (SD 23.5) and for the APP TTP cohort (n=41) was 7 days (SD 7.9), *p<0.001. The median wait time overall from referral to the date of surgery for the F2F MD cohort was 70 days (SD 90.6) and for the APP TTP cohort was 42 days (SD 58.4), *p=0.01.

Discussion: The APP-led TTP clinic resulted in a statistically significant reduction in median wait times for both initial surgical consultations and time to surgery compared to the traditional F2F model. Patients seen through the TTP clinic experienced a 65% shorter wait time than those seen face-to-face by a surgeon, with no associated increase in morbidity or mortality. These findings suggest that the TTP is a safe and effective approach for preoperative consultations, and utilizing APPs for virtual visits can substantially reduce preoperative wait times for liver surgery patients. Patient satisfaction with the TTP pathway and encounters with the APP were outstanding.