

Destination Surgery: Creation of A Virtual Care Hotel Program for Outpatient Surgery within Urology at Mayo Clinic in Arizona

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Background: The Mayo Clinic in Arizona campus has been historically challenged with hospital capacity, pre-dating the COVID pandemic. The institution is well-accustomed to *code purple* days, whereby there are no hospital beds available oftentimes resulting in delayed or deferred surgical cases, the emergency room on diversion status, and other challenges related to capacity management. With challenge comes innovation, and the continued lack of hospital beds has resulted in many innovations in transitioning patients to outpatient care, reflected in the dramatic growth of outpatient surgery, driven from 61% in 2019 to 69% in 2022. The Department of Urology has been an early pioneer in outpatient surgery with a record-high of 86% of all urologic procedures completed as outpatient in 2022. However, in early transitions to outpatient surgical volume dating back to 2018, institutions and clinical teams frequently see increased *outpatient in a bed* (OPIB) cases, summarized as outpatient surgery patients that remain overnight or for an extended period occupying an acute care bed without medical necessity, as they are oftentimes in place for social reasons (i.e., caregivers), convenience, or for outpatient treatment needs (i.e., infusion, etc.). The Department of Urology was identified as one of the largest contributors of OPIB cases, dating back to 2020, due to the innovation to drive more procedures outpatient. The team sought to create a care delivery model that would drive true outpatient case growth without OPIB stay, meanwhile reducing surgical readmissions and ensuring excellent patient experience for urologic surgery patients.

Objective: The Department of Urology team sought to decrease the volume of OPIB surgical cases, meanwhile reducing surgical readmissions and maintaining excellent patient care and safety for urologic surgery patients. Primary metrics of success monitored for any intervention implemented would include percentage of OPIB cases to total cases, total number of 30-day post-operative readmissions, and patient satisfaction.

Planning/Research Methods: The urology team and leadership engaged in a comprehensive review and analysis to determine variables and opportunities to decrease OPIB surgical cases without negatively impacting quality of care or outcomes. As space constraints remained a persistent challenge, the team prioritized technological interventions available with the intent for FTE neutral solutions. Activities included:

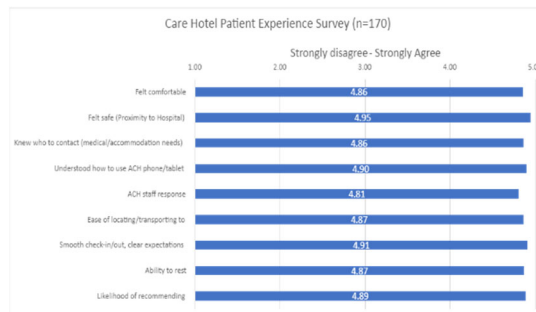
- Review of existing telehealth technology kit bundles available within the system to support remote monitoring capabilities
- Analysis of primary case types resulting in OPIB status, including holmium laser enucleation of the prostate (HoLEP), robotic-assisted radical prostatectomy (RARP), and transurethral resection of the prostate (TURP) cases and data for 30-day readmissions
- In analysis of primary contributors of OPIB cases and 30-days readmissions, key insights included: (1) 71% of 30-day readmitted patients re-admit through the ER, (2) 62.9% of total surgical patients resided more than 20 miles from hospital campus, (3) the primary driver of both OPIB status and 30-day readmissions were *soft calls* for catheter management, pain management, or caregiver anxiety, and (4) patient and caregiver anxiety related to “being away from the hospital” the night of surgery was a significant contributor to OPIB status.

In prioritizing interventions available to address these themes, implementation of a virtual *Care Hotel* model was selected, whereby selected patients would undergo outpatient surgery and discharge to home from the hospital. However, they would spend the first night post-operatively in a vacated “casita” on campus with a hotel-like room and bathroom that was connected via technology kits to nursing staff out-of-state who were available if/when clinical questions arose, recognizing no on-site staff were available and therefore no hands-on care was possible.

Interventions Implemented: Beginning February 2022, surgeons identified patients eligible for the virtual *Care Hotel* at the time of case-booking and they were confirmed for a one-night stay following surgery with a caregiver, usually a family member or friend. Patients and caregiver were connected remotely to registered nurse (RN) staff in a centralized call center via a video-capable tablet and phone for clinical questions and monitoring. These were typically patients that would have otherwise incurred an OPIB hospital stay. Patients were educated that they were not staying in licensed clinical space, so no hands-on care was available, and any emergencies would involve a call to 911.

Results: From 2021 to 2022, the Department of Urology saw a marked decline in OPIB cases, despite total growth in surgical volume, due to the implementation of the virtual *Care Hotel*. The department also recognized significant improvements in 30-day readmissions, meanwhile maintaining excellent patient care and satisfaction. These results are transferrable to other surgical departments, demonstrating the key impact that a virtual *Care Hotel* model of patient monitoring can produce on OPIB volume within the hospital setting.

- Total of 237 unique patients stayed in the *Care Hotel* during this period of time:
 - Case breakdown: 120 HoLEP, 81 RARP, 8 percutaneous nephrolithotomy, and 28 unique patients with other urologic case types
 - 73 out-of-state patients (31%) vs. 164 in-state patients (69%); of all in-state patients 70 unique patients (43%) were from outside of Phoenix metro
 - 72 additional *Care Hotel* patient stays planned with 45 patients admitted via OPIB and 27 patients electing to go home instead; 1 readmission for shortness of breath and chest pain and 2 ER visits for bladder spam without readmission (i.e., patient returned to *Care Hotel*)
- Total volume of urologic surgery cases increased 14% from 2021 to 2022, yet total OPIB cases declined 1% for the same period. This decline in OPIB cases was most evident in HoLEP procedures, which increased by 59% from 2021 to 2022, yet OPIB cases declined by 11%. This has returned 237 bed days back to the hospital
- Results showed a decline in total OPIB cases in the department from 9.9% of all urologic surgery patients having an OPIB stay in 2020 to 5.4% in 2022.
- Urology 30-day readmission, as measured through American College of Surgeons’ National Surgical Quality Improvement Program (NSQIP) improved from *needs improvement to as expected* between January 2022 and October 2022.
- Patient satisfaction was positively impacted, as evidenced by an average score of 4.88 out of 5 (positive) on all questions asked of patients in the patient experience survey that they were asked to complete after their stay. A total of 170 patients have completed the survey across 237 unique patient stays for the same period.



Urology OPIB- January - November 2022			
Total Surgical Cases			
	2020	2021	2022
RARP	247	252	247
HoLEP	179	244	388
Other	1892	2445	2711
TOTAL	2318	2941	3346
Total OPIB Cases			
	2020	2021	2022
RARP	94	41	32
HoLEP	54	55	44
Other	81	88	104
TOTAL	229	184	180
% OPIB			
	2020	2021	2022
RARP	38.1%	16.3%	13.0%
HoLEP	30.2%	22.5%	11.3%
Other	4.3%	3.6%	3.8%
TOTAL	9.9%	6.3%	5.4%