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Reducing Surgical Cancellations

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How Cancellations Hurt Health Systems, Practices, and Patients

Whether you operate in an outpatient Ambulatory Surgery Center or in-patient hospital operating theater, surgical cancellations are costly to both your revenue and Operating Room (OR) time and efficiency. It could also be costly to the patient who is not getting the procedure in a timely manner.

Across the United States, patient cancellation rates for surgery centers average between 6% and 39%, with differences depending on procedure type, location, demographics (such as rural vs. urban patients), and whether last-minute rescheduled appointments and procedures are classified as "canceled".[1] With each surgical cancellation, the estimated average revenue loss is approximately $1,500 per hour,[2] but this loss is much greater for canceled surgeries with higher total costs such as heart valve replacement (pricing at an average of $170,000 per operation).[3] Cancellations slash at the bottom line of surgery centers during a critical time where multiple health systems and hospitals are struggling against record facility closures.[4]

As a practicing orthopedic surgeon for over 20 years, I personally have faced the challenges caused by cancellations firsthand. My frustrations came to the forefront seven years ago when my practice lost more than $100K in one day due to back-to-back canceled surgeries. The seemingly avoidable nature of the cancellations that day inspired my pursuit into uncovering the root causes of cancellations and building solutions to protect facilities and ensure patients receive the timely care they need. Here are some of my findings:

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Top Adjustable Causes of Cancellations

While there are a myriad of reasons why a surgery might be canceled, we can categorize unexpected surgical cancellations as either avoidable or unavoidable. Unavoidable cancellations beyond your facility's control might include unexpected changes in a patient's health, patient socioeconomic challenges (e.g. a patient's insurance status/coverage), emergency surgeries overtaking elective surgeries in hospitals, etc. However, the good news is that the majority of cancellations (59.2%) are in fact avoidable.[5]

The two most commonly reported reasons for avoidable cancellations are a shortage of operating time or no-shows* due to patient-related factors (*defined as patients not attending the originally set appointment). By identifying the root causes, facilities can begin making structural adjustments to prevent cancellations.

Top Reasons for Avoidable Cancellation	Potential Root Causes
Shortage of Operating Time One study found this to be the case for 63% of their recorded cancellations.[6]	In 78% of cases where the OR was running late, causes of delay could be attributed to logistical factors surgery centers could modify, such as:[1,6] • Late starts • Delayed patient transport and/or discharge • Scheduling errors • Operating room preparation/cleaning delays • Bed shortages across inpatient hospitals
No-shows By the prior study mentioned above, 54.3% of the total canceled cases were tied in some way to patient-related issues.[6]	**Transportation barriers** More than 5.7 million people in the US lack reliable transportation to and from medical appointments. Unreliable transportation can often lead to last-minute cancellations.[7]
	Absenteeism Some patients forget appointment dates/times and important pre-operative instructions. While these sometimes occur due to patient apathy, long lead times are often at the root of patient forgetfulness.
	Interpretation barriers Limited English Proficient (LEP) patients pose the additional challenge for healthcare staff of finding appropriate and timely interpretation services to schedule and complete their surgery.
	Geographic barriers Over 60 million Americans live in rural areas, yet only 10% of US general surgeons directly serve these individuals.[8] A rural patient often must traverse many miles to attend their surgery.
	Lack of support post-surgery 3-6 million caregivers in the U.S. live an average of 450 miles away from those they provide care for.[9] With this distance, many individuals without nearby support would have no one to aid them in their most vulnerable moments post-procedure.
	Anxiety (including Severe Preoperative Anxiety) Over half (59.3%) of patients experience severe preoperative anxiety with patients over 60 being nearly six times more anxious than patients between 18-29 years old.[10] Anxious patients may end up canceling surgery in the days leading up to it.

Let's Talk Solutions

Now that we've identified the most common root causes of avoidable surgical cancellations, let's explore the ways we can fight shortages of operating time and patient-related barriers to yield greater reductions in cancellation rates.

1. Construct a preoperative care system (beyond traditional pre-screenings)

Standardizing a preoperative care system for gathering information about patients' health and coordinating care plans can reduce day-of surgical delays and cancellations.

When it comes to updating or building a preoperative system, try to avoid focusing your attention solely on the traditional clinical pre-screening. With the innovation of Electronic Health Records (EHRs) and other digital clinical tools, implementing electronic preoperative care pathways (like e-Forms) in addition to in-person triage can vastly improve documentation and information sharing across your facility's teams.[2] E-Forms also serve as a great way to pre-screen for non-medical issues that might lead to day-of cancellations (such as a lack of reliable transportation). Coordination protocol can be enacted in response to ensure these factors won't lead to a potential cancellation.

With a strong standardized preoperative clinic system, not only can your facility reduce surgical delays and cancellations, but you can also reduce unnecessary testing, increase patient and surgeon satisfaction, improve information transfer, implement multidisciplinary care coordination, and more.

2. Identify and thoroughly vet patients with comorbid conditions

While the preoperative care process can be streamlined for all patients, it's also vital to check specific clearance for patients with comorbid medical conditions such as high blood pressure and diabetes.

Hypertension is the leading comorbid condition in surgical cancellations,[11] as hypertension in both preoperative and postoperative periods poses an increased risk in cardiovascular events, cerebrovascular events, bleeding, and mortality. By crafting preventative assessments and interventions targeting comorbidity, one clinic found a 7.1% decrease in cancellations caused by patients' hypertension.[12]

Anesthesia can be another hurdle for patients with comorbid conditions. I recommend pre-surgical consultation with anesthesia to assess airway for patients with high BMI or at risk of having difficult airways during surgery. Identifying early-on the potential day-of difficulties that could postpone surgery allows your team time to choose what method of administering anesthesia would be best for the patient.

3. Provide Transportation

Patient transportation is a two-pronged problem for surgery centers. Pre-operative patients need reliable

transportation to ensure their timely arrival so as to not delay the OR, and discharged patients need to be in trusted hands to be transported home post-procedure. Offering non-emergency medical transportation (NEMT) for patients will help keep your OR on schedule and ensure your patients' safety.

Getting Patients to Surgery: Over 5.7 million people in the US lack reliable transportation to and from medical appointments[7], and the often inaccurate scheduling of public transit can lead to patients arriving late or completely missing their scheduled surgery altogether. Offering NEMT coverage to patients can ensure your patients arrive at the OR on time and do not delay any other scheduled surgeries that day.[13]

Release from Surgery: In accordance with federal regulations, surgery centers possess a legal obligation to discharge patients under the influence of anesthesia to a responsible transporter.[14,15] Putting a postoperative patient in any typical untrained rideshare vehicle could potentially result in severe legal troubles if any issues were to arise. NEMT services offer certified transporters that can accompany and aid medically vulnerable patients with an array of ambulatory, wheelchair, and stretcher vehicles.

Healthtech-focused NEMT services with scheduling features, such as MedTrans Go, also offer an additional boost in timeliness for elective surgeries. Using an online portal, a nurse, administrative staff, or a patient coordinator can schedule NEMT services hours, days, or weeks in advance based on the patient's needs, so the transport is immediately ready once the patient discharge criteria have been met. Reducing day-of worry about transportation allows your staff to focus more on providing high quality care to the patient pre- and post-operation.

Each year, 1 in 5 Americans without access to a vehicle or reliable public transit skip their appointments and procedures due to transportation barriers.[16] In early preoperative discussions, I suggest always asking patients whether they may have difficulty obtaining transportation on the day of surgery.

4. Send Reminders to Patients

Long lead times can result in patients forgetting surgery times and details. Sending a simple reminder, however, can reduce missed attendance rates to medical appointments by 41%.[17]

To keep their surgery top of mind, send out a reminder to patients a week before and the day before their surgery. Patients prefer communication from their provider by email, phone, and text respectively.[18] Multiple automated email and text reminder systems exist across the web, as well as many coordination solutions like MedTrans Go also include patient reminder services on your behalf.

5. Schedule high-risk cancellation patients at the end of the day

If a patient meets the criteria for being a high-risk cancellation, a simple strategy can be scheduling their surgery at the end of the day. This preparative scheduling allows the OR to keep momentum moving forward so if the patient does cancel at the

last minute, it will not impact the preparation of the other surgeries scheduled for that day.

The criteria for high-risk cancellation can be standardized by analyzing prior facility cancellations and identifying the commonalities in the cancellation cases. For your practice, what patient-related factors appear most often for your canceled procedures?

6. Utilize predictive scheduling tools

We can take the previous solution a step further, with the use of predictive AI scheduling tools.

Healthcare providers and healthtech companies can utilize EHRs to analyze patients' no-show history and feed that information into predictive models that assess the probability of each new patient being a no-show. Multiple versions of these predictive systems have proven a high level of accuracy, with Duke University finding that their EHR scheduling model correctly predicted nearly 5,000 no-shows before they happened.[19]

By scaling this predictive system across your entire patient population, these scheduling tools can identify the best times to effectively overbook patients, ensuring the OR will always have a patient available and on-time for surgery.

7. Offer medical interpreters

There are over 25.7 million Limited English Proficient (LEP) individuals in the United States that need appropriate interpretation services to communicate with their surgeons, nurses, and other healthcare professionals.[20] When medical interpretation is not provided, LEP patients may not understand their preoperative instructions, provide proper informed consent prior to surgery, nor fully comprehend their postoperative treatment plan.[21,22] Each of these issues can lead to either the patient or surgeon being forced to cancel the surgery or achieve a less than optimal outcome after surgery.

Additionally, LEP patients may feel uncomfortable not being able to distinctly express medical concerns, and LEP patients and families are four times less likely to speak up about something that may negatively affect care.[23] Misinterpretation also poses high risks for healthcare facilities, as was seen in the $71 million wrongful death case regarding an ER doctor's misinterpretation of the word "intoxicado."[24]

Due to convenience and availability, there is often the temptation to use family members as interpreters over certified medical interpreters. However, there are many problems that can arise from doing so:

- Family interpreters possess underlying emotional bias. A patient may not give their full medical history as they do not want their family member to know.
- Misinterpretations by family members can happen by accident as family members are often unknowledgeable on the proper medical terminology across multiple languages. Without proper training, it can be difficult to interpret medical terms correctly.
- Under Title III of the Americans with Disabilities Act (ADA), your surgery center is legally required to offer a certified American Sign Language (ASL) interpreter to help a

deaf or hard-of-hearing patient to best understand their diagnosis and treatment.

For the most reliable care that improves LEP patient satisfaction and ensures they can fully consent and attend their surgery, offering medical interpretation is the way-to-go for surgery centers. As such MedTrans Go provides certified medical interpretation in over 100 languages, including ASL.

8. Offer home health care 24-48 hours post-procedure

Postoperative complications are always a concern, especially for older and frail (by the Modified Frailty Index) patients who possess a three-fold increased risk for complications.[25] These patients also possess a higher risk of readmission or additional postoperative medical support needed due to complications like pain and dehydration that arise because of an inability to maintain adequate postoperative care on their own.[25]

Proper wound care and identification of early site and GI infections are vital in minimizing postoperative complications and readmissions. If a patient does not have anyone to aid them once they arrive home from surgery, they may cancel or postpone the surgery until someone can provide that support.

Eliminate this concern and quell patient anxiety by offering 24-48 hour home health care options for patients that need it. Providing transitional care in the form of home health aides or certified nursing assistants offers older and/or fragile patients security that someone with medical experience can administer proper postoperative treatment, detect early signs of infections, and assist with any activities of daily living that might be hindered post-procedure.

Multiple organizations can connect you to these certified home health professionals so you do not need to utilize any of your medical staff or contract additional CNAs directly.

Often the need for home health assistance coincides with transportation needs. I recommend asking about both during your pre-operative assessment of the patient, so you can coordinate these services together once the surgery has been scheduled.

With home health care options, boost your reputation as a surgery center that cares about patients both pre- and post-operation, and ensure no patients cancel due to a lack of postoperative support.

9. Improve Patient-Surgeon Communication to Reduce Anxiety

Over half of your patients will experience high levels of pre-surgery anxiety. You can help quell this anxiety by setting realistic expectations and talking through the steps of the procedure and their recovery before surgery.

Both anxious and older patients experience poorer or more inaccurate medical memory when it comes to remembering their treatment instructions,[26] so while it might seem like they fully comprehend their procedure during initial discussions, this is not

always the case. To improve patients' understanding and memory, explicitly categorize instructions and information along with providing supplemental visual or written materials to any spoken instructions.

By ensuring patients are more medically literate about their condition, they can be more mentally prepared for their surgery and less likely to cancel due to fear of the procedure or outcome.[27]

10. Increase patient throughput by streamlining interfacility transport (for inpatient hospitals)

In the inpatient hospital setting, all face an additional barrier in the form of bed shortages. Emergency rooms across the US are overcrowded at volumes unseen, with boarding times for patients being greater than four hours nearly 90% of the time when the ER's capacity is greater than 85%.[28]

The patients that can be admitted are staying within the ER for an unnecessary amount of time or rerouted to other hospitals because an operating room or inpatient bed is unavailable. We've seen the ripples of this dilemma in the rising average length of stay (ALOS) in hospitals, which increased 19.2% across all patients from 2019 to 2022.[29]

One of the adjustable roots of this inefficiency stems from lengthy, unreliable interfacility transportation systems. I've heard horror stories from ER nurses of spending hours trying to call and find a stretcher NEMT vehicle to transport a patient only then to wait another 4+ hours for said transporter to arrive.

Patients waiting for discharge because of a lack of transportation is a bed taken from another patient, stalling a hospital's operating room efficiency, boarding times, and ALOS. Incorporating a coordination tool that can immediately receive the patient's discharge information and dispatch to a relevant, available NEMT transporter fights these inefficiencies, as well as alleviates the burden put on nurses to handle these processes themselves as they already face skyrocketing nurse-to-patient ratios.

I've seen the improvements a system like this can create firsthand with MedTrans Go. Within three months of using our centralized portal and NEMT scheduling tools, an ER in one of GA's top hospitals saw a 1.5 hour reduction in response time for discharge. And with our new TransportationNOW tool, we've streamlined getting services to safely transport patients through the hospital even easier.

FINAL THOUGHTS

Cancellations are a much bigger thorn in the side of surgical staff and operations than any of us would like. My team and I would love to connect with you to understand your challenges and see how our technology and services can alleviate your pain points and let you focus on providing the best quality care rather than perpetually fighting cancellations. As a surgeon myself, I know firsthand your frustration when the OR is prepared but there's no patient in sight. Together, let's work towards a future where that's a rare scenario for your surgery center.

Obi Ugwonali

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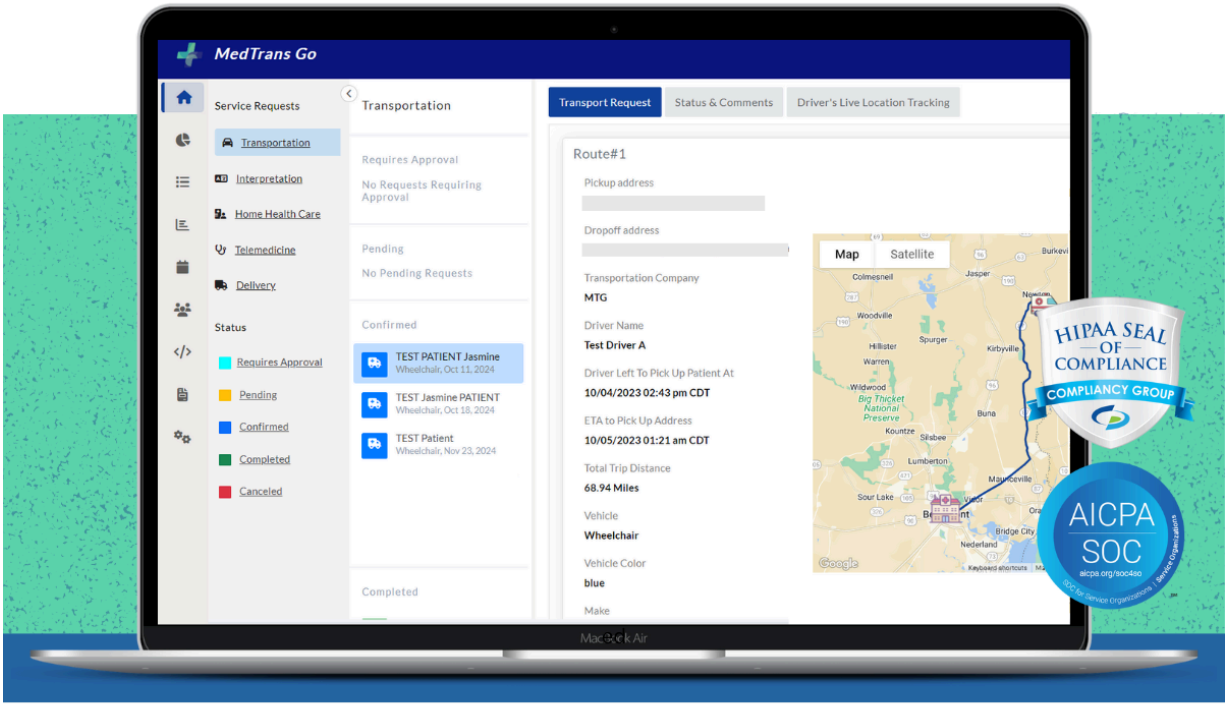
About MedTrans Go

As I mentioned, I founded MedTrans Go as a multi-level healthtech solution to surgical cancellations. Through our platform, order the services at the root of causes of cancellations to ensure social determinants of health do not keep a patient from treatment. We coordinate our certified service partners to provide needed care support and handle the rest, so all you have to worry about is the surgery itself.



At our core, we pride ourselves on being healthcare-founded, healthcare-focused. Connect with me and my team at info@medtransgo.com or 404-826-7300 to learn more about our technology and service lines - transportation, interpretation, Rx delivery, and post-operative home health care.

About the Author

Dr. Obi Ugwonali is a highly qualified double-board certified orthopedic surgeon specializing in shoulder, elbow, wrist, and hand surgery and the President and Founder of MedTrans Go. He's currently a partner and in leadership at one of the top orthopedic practices in the country. He earned his B.A.S. in Economics and Biology at Stanford and his medical degree from the Yale School of Medicine. He completed his surgical training and fellowship at Columbia University and Harvard University.

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