

Evidence-based approaches toward reducing cancellations on the day of surgery

The need to plan and implement a profitable business model, which improves the quality of care, safety and patient satisfaction, while not adversely impacting the \$\$\$ value- is overwhelming to physicians. Anesthesiologists are struggling to reduce unnecessary surgical cancellations.

Cancellations on the day of surgery are widely recognized as a healthcare dilemma with potential negative impact on the provision of healthcare, including hospitals, patients and healthcare providers. Cancellation rates (CRs) vary significantly, from as low as 1% to as high as a quarter of elective outpatient cases and two-thirds of inpatient cases.^[1] These rates depend on organizational factors, the types of surgery involved, patients' medical conditions, and staff availability, among others. Redesigning workflow, improving perioperative patient care, and providing satisfactory human resource management have proven to be somewhat helpful, though the issue has yet to be resolved.^[2] Thus far, the most reliable solution to this dilemma has been to analyze the details of cancellations for each organization, apply general rules derived from studies conducted on cancellations, and set reasonable expectations with regard to CRs with the clear understanding that the ideal rate simply does not exist.^[3,4]

The roles of patient assessment, preoperative education, and management have been debated for years. The evidence for the impact of preoperative clinics on the CRs is scant.^[5] McKendrick *et al.*, in this issue of Saudi J Anesthesia, demonstrated that the rolling out of a preoperative preparation clinic in one of the district hospitals located in the United Kingdom helped to decrease the number of cancellations on the day of surgery by about 50%, assuming no other interventions were involved. The authors of this study also discovered a dramatic 3-fold decrease in the number of no-shows with the introduction of the preoperative preparation

clinic! These are noteworthy outcomes. Also, they found that CRs secondary to medical reasons dropped almost twice since the introduction of the preoperative preparation clinic. The length of the rollout (i.e., 5 years), which commenced in the year 2006, was, however, significant.^[6] It may be considered as a limitation of the present study for the following reason. There has been increasing attention on telemedicine in recent years.^[7] The remote preoperative assessments conducted through the preoperative preparation clinic appeared to have excellent potential because the outcomes projected seemed to be similar to those obtained with in-house clinics. While hospital, patient, and caregiver costs were dramatically decreased with the introduction of the clinic, McKendrick *et al.* did not examine the cost-effectiveness of their clinic in the study. It would be interesting to see how the rolling out of telephone/video examinations in the perioperative period would change CRs as well as costs.

McKendrick *et al.* were surprised that the number of patients who called and cancelled their surgeries increased since the introduction of their preoperative preparation clinic. This, however, seems to be a positive sign, possibly indicating increased responsibility among patients with regard to their appointments. It could also potentially be attributed to patients' exposure to improved perioperative patient education and personification in communication through preoperative preparation clinic services. As a result of this education, the number of patients who called and cancelled increased in comparison to the number of those who just did not show up for their appointments.

This article brings up several other points to consider that may catch the attention of readers of this issue of the journal. The number of cancellations that were related to a variety of organizational and other problems during the last year of the study, but not related to patient compliance or medical condition, was found to be 2.5 times higher: 427 cancelled cases versus 177 in 2010, the last year of the study. Problems contributing to this increase included the following: The hospital or ward was full and was unable to accommodate the patient; lists overrunning (resulting in insufficient time to complete scheduled surgeries or requiring prioritization of emergency cases in access to operating rooms); missing

Access this article online	
Quick Response Code:	Website: www.saudija.org
	DOI: 10.4103/1658-354X.143921

notes; equipment failure; and non-availability of nursing staff or physicians. It is fair to say that organizational calamity became evident only after the rolling out of the preoperative preparation clinic. Five years prior, these numbers were comparable: 604-462 cancelled cases. The study opened Pandora's box, revealing significant room for improvement in terms of healthcare organization, with almost 250% more opportunities for improvement in this area than in the management of patients' medical conditions or patient compliance. Studies have suggested that there are significant economical and psychological benefits to integrating an expected range of cancellations into operating room management processes, perioperative capacities in intensive care areas, and staff schedules, and not just "overbooking!"^[8,9]

In summary, preoperative clinics seem to be effective in helping to reduce the number of no-shows and cancellations on the day of surgery that are related to medical management. Further exploration of organization-related factors of cancellations and incorporation of telemedicine technology into routine perioperative care may help decrease CRs even further.

Dmitri Souzdalnitski, Samer Narouze

*Center for Pain Medicine, Center for Pain Medicine, Western Reserve Hospital, Cuyahoga Falls, OH, United States.
E-mail: narouzs@hotmail.com*

REFERENCES

1. Mesmar M, Shatnawi NJ, Faori I, Khader YS. Reasons for cancellation of elective operations at a major teaching referral hospital in Jordan. *East Mediterr Health J* 2011;17:651-5.
2. Dimitriadis PA, Iyer S, Evgeniou E. The challenge of cancellations on the day of surgery. *Int J Surg* 2013;11:1126-30.
3. Kumar R, Gandhi R. Reasons for cancellation of operation on the day of intended surgery in a multidisciplinary 500 bedded hospital. *J Anesthesiol Clin Pharmacol* 2012;28:66-9.
4. Hovlid E, Bukve O, Haug K, Aslaksen AB, von Plessen C. A new pathway for elective surgery to reduce cancellation rates. *BMC Health Serv Res* 2012;12:154.
5. Ahmed T, Khan M, Khan FA. Cancellation of surgery in patients attending the preoperative anesthesia assessment clinic: A prospective audit. *J Pak Med Assoc* 2009;59:547-50.
6. McKendrick DR, Cumming GP, Lee AJ. A 5-year observational study of cancellations in the operating room: Does the introduction of preoperative preparation have an impact? *Saudi J Anaesth* 2015.
7. Applegate RL 2nd, Gildea B, Patchin R, Rook JL, Wolford B, Nyirady J, *et al.* Telemedicine pre-anesthesia evaluation: A randomized pilot trial. *Telemed J E Health* 2013;19:211-6.
8. Hovlid E, Bukve O. A qualitative study of contextual factors' impact on measures to reduce surgery cancellations. *BMC Health Serv Res* 2014;14:215.
9. Epstein RH, Dexter F. Rescheduling of previously cancelled surgical cases does not increase variability in operating room workload when cases are scheduled based on maximizing efficiency of use of operating room time. *Anesth Analg* 2013;117:995-1002.

How to cite this article: Souzdalnitski D, Narouze S. Evidence-based approaches toward reducing cancellations on the day of surgery. *Saudi J Anaesth* 2014;8:6-7.

Source of Support: Nil, **Conflict of Interest:** None declared.