Monitoring cancellation rates on day of surgery

Case cancellations in the 24 hours before surgery are undesirable—they are also unavoidable. To find out if their cancellation rate is high, many facilities benchmark their cancellation rates with others. Yet the usual way of monitoring cancellation rates can result in poor decision making.

If you benchmark cancellation rates without confidence levels, there is a good chance of finding that some hospitals have higher or lower cancellation rates than others—not because they truly do but simply because of random error. That can lead to implementation of processes that waste everyone’s time.

How to monitor cancellation rates for electively scheduled cases has not been studied previously. In a recent study, my colleagues and I describe statistical methods for calculating cancellation rates.

The article demonstrates that the usual method of calculating confidence intervals, such as the Clopper-Pearson method, built into many statistics packages is not appropriate for routine monitoring of cancellation rates. The typical method is fine for estimating the percentage risk of a patient’s case being cancelled because of a medical event. In that situation, the fact that one patient’s case was cancelled does not change the probability that other patients will have their surgeries cancelled. Yet that is not the reason for most cancellations among adults. Most of these cancellations are due to administrative events, for which single causes can result in more than one case being cancelled. For example, when the cardiothoracic intensive care unit fills, several cardiothoracic cases on that day are cancelled.

The article describes a step-by-step method for measuring the cancellation rate accurately. The method uses Student’s t test after transformation of the data.

A summary of the study and statistical method are in the OR Manager Toolbox at www.ormanager.com.

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More information on the science of OR management and monitoring OR performance is available at www.FranklinDexter.net. Franklin Dexter can be contacted at Franklin-Dexter@uiowa.edu.

Reference