Intervention with surgeons improves the accuracy of predicted operating room time

March 13 2024

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Reducing the manipulation of operating room (OR) scheduling can improve scheduling accuracy and potentially maximize OR usage, avoid delays, and enhance patient satisfaction, according to a study published

in the *Journal of Healthcare Management* (*JHM*).

"Traditional OR scheduling, based on the surgeon's self-estimation of the time of the operation, has been shown to be insufficient for optimal OR utilization," explains Mohamed Elsaqa, MD, a research fellow at the Baylor Scott and White Medical Center in Temple, Texas, and colleagues. "More recently, electronic health record (EHR) systems and machine learning models have been used to improve OR scheduling accuracy. These predictive models can determine the expected operative time for a specific operation based on the average of the surgeon's previous similar procedures."

However, the surgeon or scheduler often manipulates the predicted OR time, the authors say, and this issue is rarely discussed or acknowledged. The researchers continued, "the incentive for manipulating OR time can be the lack of trust in the EHR system prediction model and the perception of deficient accounting for the variability and complexity of cases. The manipulation also may be seen as a way to allow extra or urgent cases to be added to an already-loaded schedule."

Unfortunately, when an operation extends beyond the planned time, subsequent operations may need to be postponed or even canceled, resulting in patient stress and dissatisfaction, staffing challenges, and unplanned overtime. When the actual time is shorter than predicted, the OR may remain unused, which wastes resources and results in increased expenses.

Reduced manipulation of OR time increased overall scheduling accuracy

In the first study of its kind, Dr. Elsaqa's group examined a strategy to reduce manipulation of OR time predictions at three hospitals in a single tertiary care center. Through a virtual meeting followed by e-mails, surgeons were educated that optimal OR planning and efficient scheduling can be achieved only when predictions about the time needed for elective operations are reliable. They were urged to not manipulate the operative time predicted for their cases through the Epic EHR.

The primary endpoint of the study was the percentage of subsequent operations that were accurately scheduled. Accuracy was defined as total actual case length within ±30 minutes of the scheduled time for procedures lasting ≥150 minutes or within ±20% of the scheduled time for procedures lasting