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Improving Operating Room Turnover Times at a Tertiary Veterans Affairs Hospital

Purpose/Significance: Operating room (OR) turnover times greatly impact surgical services and contribute to inefficient work-flow leading to patient/staff frustration, longer work days, and fewer cases completed. Veteran Affairs National Surgery Office (VA NSO) sets metrics for turnover times based on case complexity and assigns VA hospitals scores of 1-4 based on % of on-time turnovers. Historically, the Nashville VA facility has had a consistent score of 1 (<40% compliance); however, we aimed to improve to a score of 3 (55 to <70% compliance).

Methods: A multidisciplinary committee met monthly beginning Feb. 2019. Turnover time data was tracked, as were reasons for delays. Interventions included defining and standardizing turnover time metrics, improving staff education and communication, and targeting timeliness of procedural consents. Project progress was disseminated on public dashboards and via a stakeholder meeting. Data was collected weekly and analyzed via t-tests using STATA. Pre-intervention operating room turnover times were retrospectively analyzed from 2018. Post-intervention data were prospectively collected and analyzed from Feb. - Dec. 2019.

Results: There were 2497 and 2620 turnovers in 2018 and 2019, respectively. Monthly trends of on-time turnovers show an improvement from score 1 to 4 ($\geq 70\%$ compliance) by Dec. 2019. Average turnover times for 2019 were significantly shorter than in 2018 (43.0 vs 47.1 min, $p < 0.01$). In the last quarter, turnover times were reduced to an average of 33.0 min. The top four reasons for turnover time delays were add-on cases (not true turnovers) (27%), room set up (18%), consent (16%), and environmental services (9.8%).

Conclusion: Multidisciplinary quality improvement efforts had substantial positive impact on VA OR turnover time compliance with improvement from <40% on-time turnovers to >70% within a year. Primary interventions centered on clearly defining and communicating metrics, goals, and progress with stakeholders. Quality improvement frameworks can be applied to a variety of public health issues.