

Improving Operating Room Efficiency Through Reducing First Start Delays in an Academic Center



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Background

- Delays in operating room (OR) first case start times occur due to systemic inefficiency, human errors, and procedural delays
- These delays result in care team frustration, delayed patient care, and significant costs for health care systems
- First case on-time starts are critical for preventing cascading delays throughout the day

Objective

- **Assess if a targeted process improvement strategy can improve first case start times at an academic medical center**

Methods

- First case in room start times was recorded for three operating rooms in an academic medical center from December 2020 to May 2021
- A root cause analysis was performed to determine the top three reasons for documentation related delays
- Three interventions were implemented:
 - **Automatic pre-operative order forms**
 - **Dot phrases to permit re-creation of unavailable consent forms**
 - **Improved H&P linking to the surgical encounter**

Methods Ctd.

- First case start times were recorded over 4-week running intervals and compared to a previous "pre-intervention" time period

Results

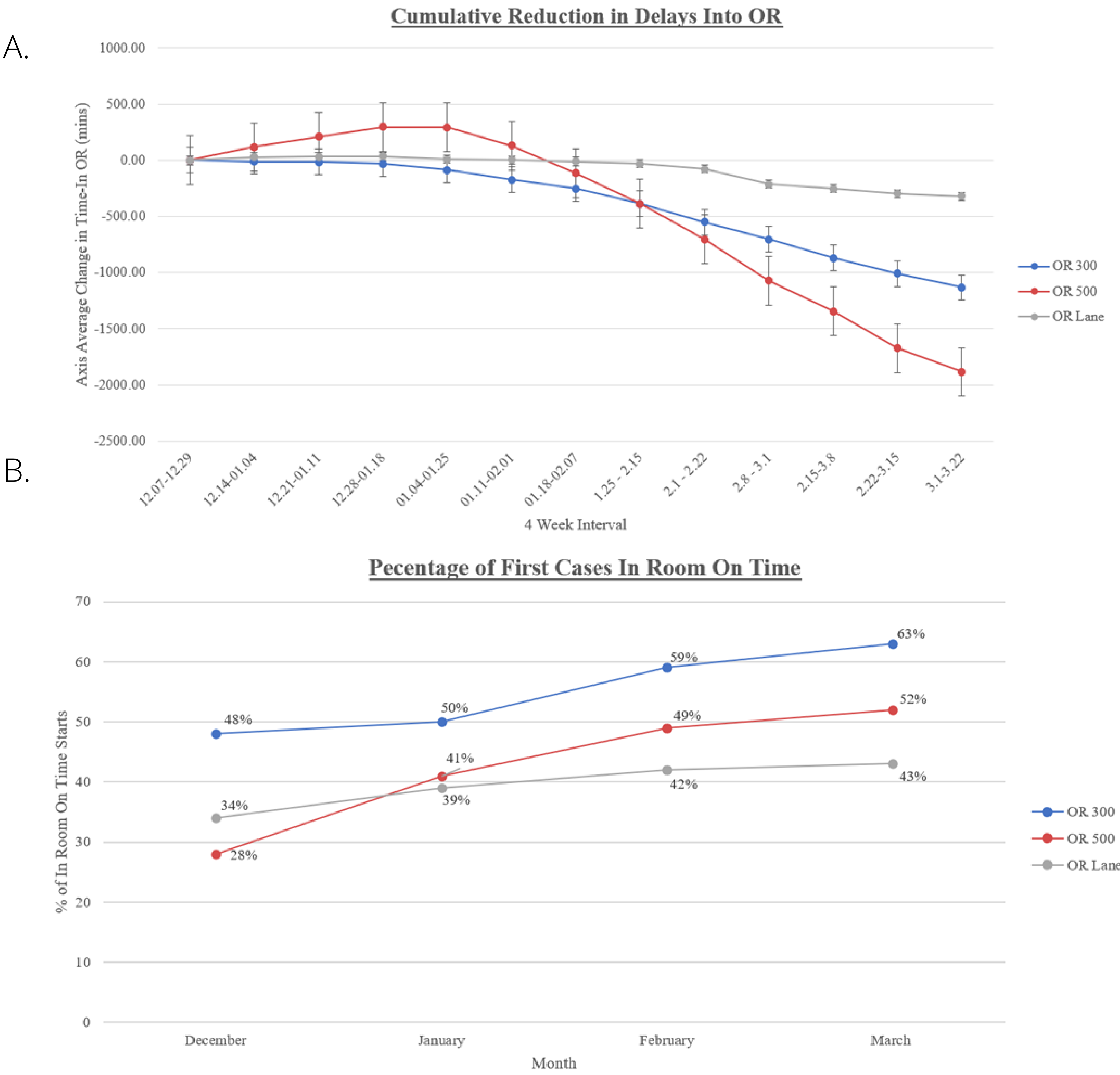


Figure 1: Per case (A) and cumulative reduction in delays in first case time into operating room and (B) Percentage of first case in room on time starts in operating rooms 300P, 500P and Lane.

Operating Suite	Number of First Cases	Mins Saved in 3-Month Interval	Estimated Costs Saved (\$)
OR 300	521	1132.46	41,334.83
OR 500	750	1884.19	68,772.79
OR Lane	553	321.28	11,726.90
Total	1824	3337.93	121,834.52

Figure 2: Number of cases, minutes and estimated cost saved during the 3-month post interventional period

- First case start times were reduced by an average of **1.79 minutes per case**
- During the first 3 months after the implementation:
 - **1824 cases** performed
 - **55.63 hours** saved
 - Percentage of first case on time starts increased from an average of **36.7% to 52.7%**
 - Estimated **\$121,834.52** saved

Conclusions

- By implementing multiple quality improvement interventions, delays to first start in room OR cases can be meaningfully reduced
- Understanding the root cause of OR delays and designing quality improvement protocols to target those root causes can be a significant driver to reduce healthcare costs