

First Case on Time: A Quality Improvement Initiative in Interventional Radiology with Optimized Anesthesia Setup

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Introduction

First-case start delays in procedural areas such as Interventional Radiology disrupt workflow, reduce efficiency, and compromise patient care. These delays often cascade, affecting subsequent cases, hospital operations, and patient satisfaction.

Anesthesia-related factors are frequently cited as major contributors, underscoring the need to identify and address root causes. Our university hospital launched a quality improvement initiative to evaluate and mitigate anesthesia setup issues contributing to delayed first-case start times.

Benchmark Data

Benchmark data from the electronic health record (EPIC) were reviewed for first-case starts in the Interventional Radiology suite scheduled at 7:30 or 8:00 a.m. over 36-weeks spanning July–March.

Anesthesia-related delays occurred in 9 of 100, 10 of 99, and 13 of 69 cases across the three quarters, with a median **delay of 15.2 minutes**. Pareto analysis identified anesthesia setup as the most frequent contributing factor, guiding the focus of our quality improvement initiative on setup-related inefficiencies.

Aim Statement

To reduce first-case delays related to anesthesia setup in Interventional Radiology suite from a baseline of 15.2 minutes to under 5 minutes through a printed reminder intervention.

Intervention Description

The intervention consisted of providing CRNAs and Anesthesiologists with a printed reminder prior to first-case starts to reduce anesthesia-related delays.

The reminder consisted of key data on delay frequency and duration, highlighted setup as the primary cause, and focused on tasks such as confirming medication labels, verifying equipment readiness, and completing machine checks. Its goal was to promote proactive preparation, improve workflow efficiency, and reduce first-case delays due to anesthesia.

Results

Following the intervention of printed reminder, a run-chart was used to monitor first-case start delays in Interventional Radiology (See Figure 1).

Post-intervention data demonstrated a clear and sustained improvement, with anesthesia-related delays decreasing to an average of 3 minutes, compared with 15.2 minutes prior to the intervention.

Conclusions

The reminder, which highlighted setup-related contributors to delays and reinforced key tasks such as medication labeling and anesthesia machine checks, effectively promoted proactive provider preparation.

The resulting decrease in delay times demonstrates that targeted awareness strategies can enhance workflow efficiency, support timely first-case starts, and improve coordination between anesthesia and procedural teams.

References

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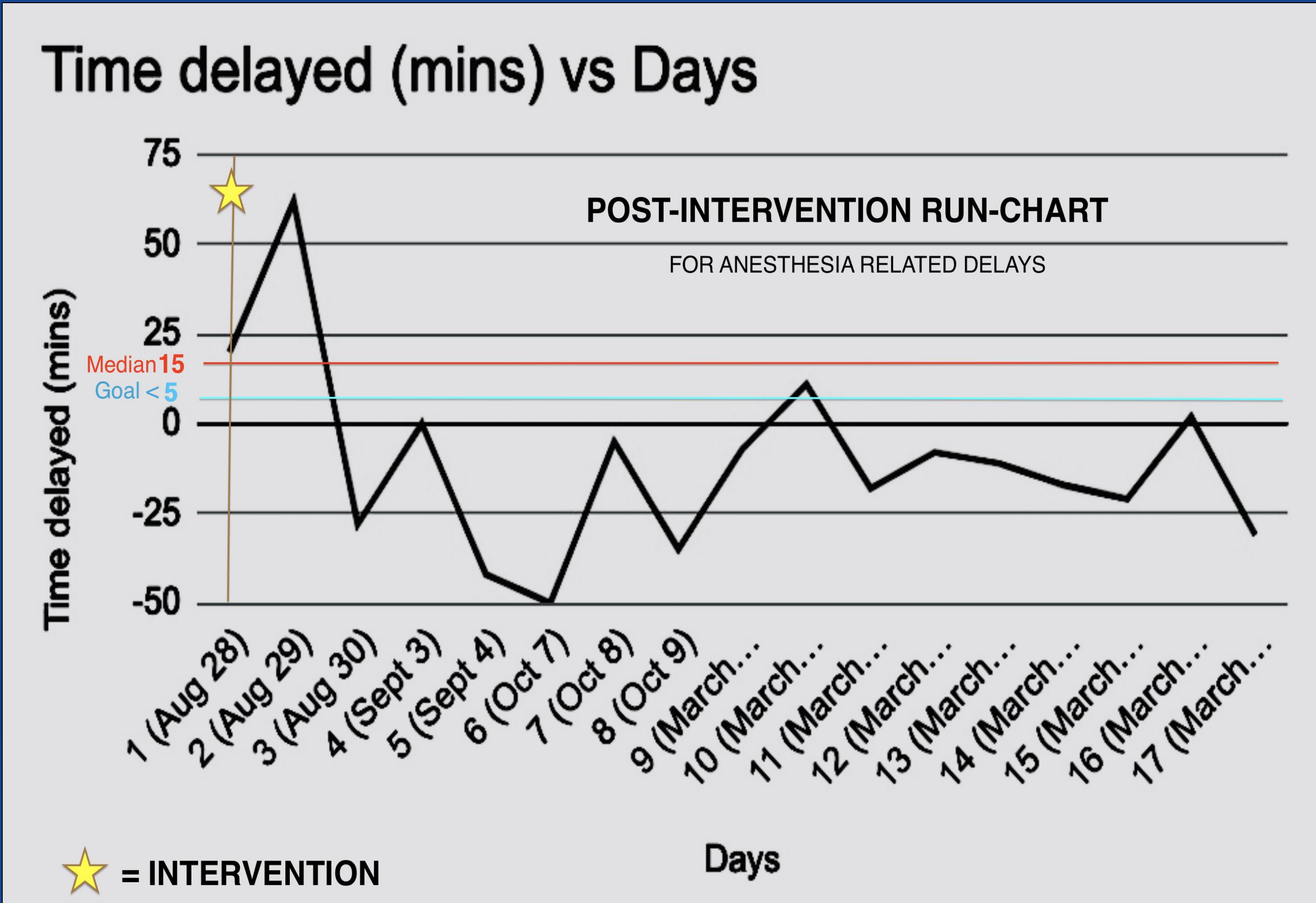


Figure 1: Post-intervention