

INCREASING NURSE-DRIVEN HEPARIN INFUSION ADMINISTRATION SAFETY: A QUALITY IMPROVEMENT INITIATIVE

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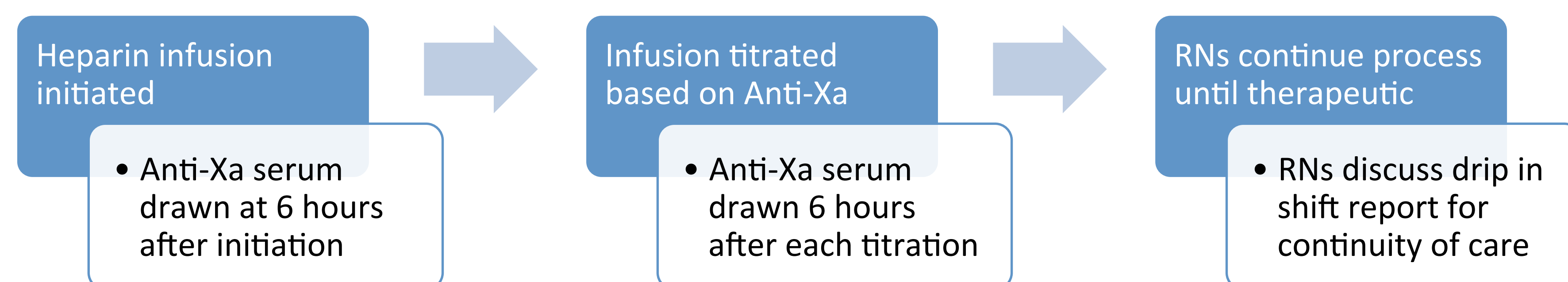
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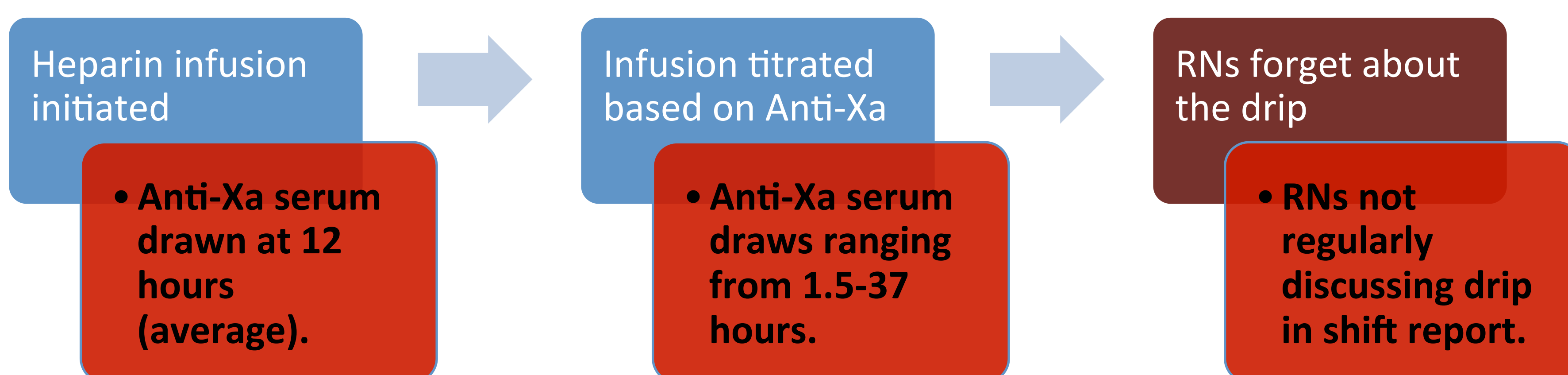
Background

- Anticoagulants are one of the top five drug types associated with patient safety incidents in the United States.
- UAB hospital protocol requires patients on a therapeutic heparin infusion to have Anti-Xa serum lab draws every 6 hours after titration, however this is not being followed.
- The cause for this was investigated and found to be related to lack of communication during shift report and nursing memory lapse.

Process Mapping According to Protocol



Process Mapping of Unit's Actual Performance



Purpose

Improve nursing adherence to heparin protocol and increase patient safety through a toolkit of nursing aids.

1. Standardized shift report tool
2. Transitioning shift report to the bedside
3. Scheduling Anti-Xa lab draw times

Methods/Evaluation

Plan: Form multi-disciplinary team. Develop standardized paper shift report tool. Determine times to schedule standardized Anti-Xa lab draw times for patients on therapeutic heparin infusions (0800, 1600, 2400).
Do: Implement standardized report tool for first four weeks. Then add implementation of standardized lab draw times for next 4 weeks.
Study: Analyze data (time between Anti-Xa lab draws) separately during each implementation. Analyzed using MS Excel with QI Macros and SPSS v. 23.
Act: Implementation of new processes hospital wide.

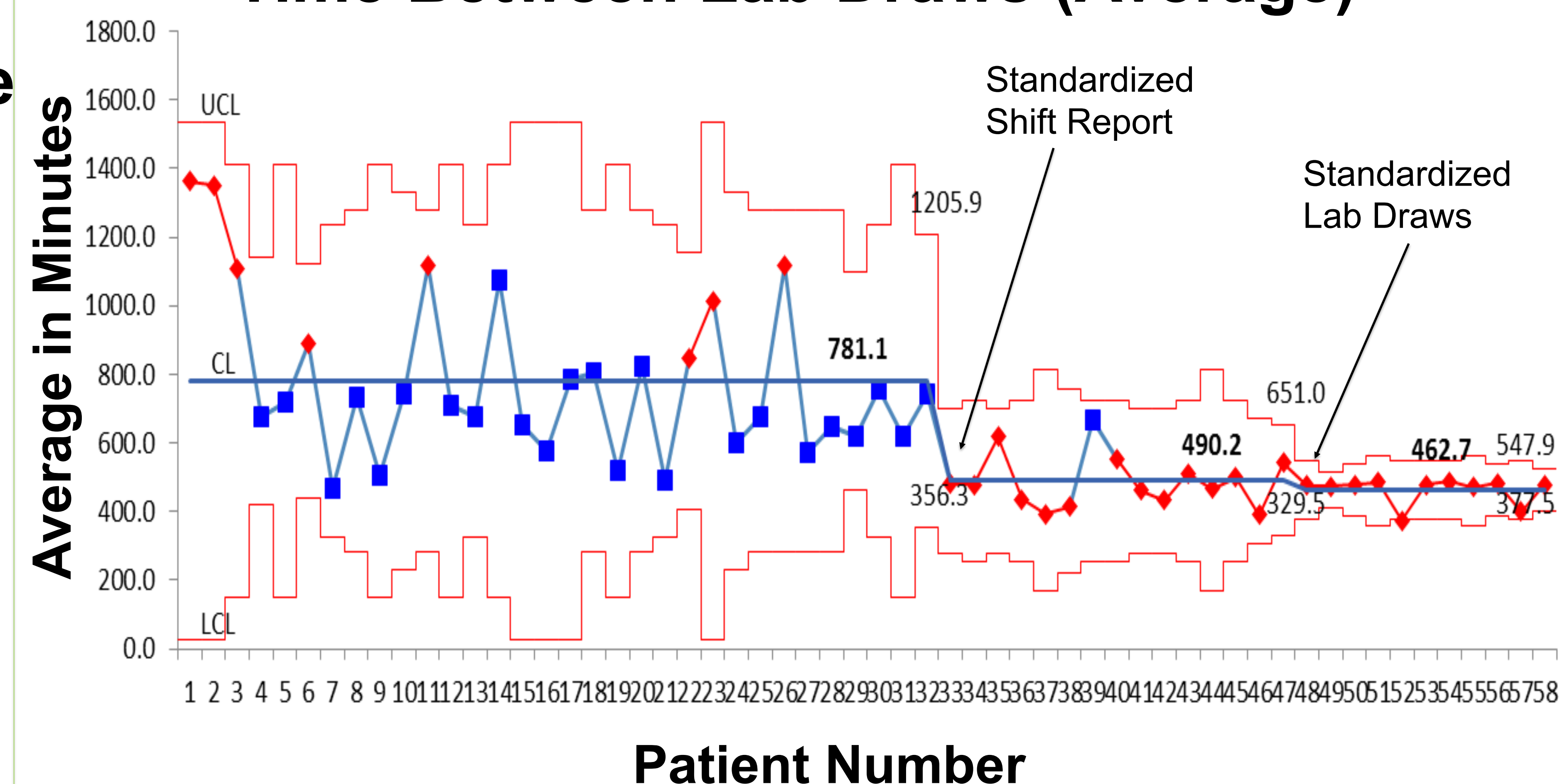
Results

- **Baseline data:**
 - Average time between Anti-Xa lab draws: **758 minutes (Range: 90- 2231 minutes)**
- **PDSA 1: Standardized Shift Report Tool**
 - Average time between Anti-Xa lab draws: **518 minutes (Range: 101- 1360 minutes)**
- **PDSA 2: Standardized Scheduled Anti-Xa Lab Draw Times**
 - Average time between Anti-Xa lab draws: **464 minutes (Range: 185- 554 minutes)**

ANOVA:

- The difference in the baseline and post intervention was significant ($F = 25.205$; $p < 0.001$).
- There was no significant difference in standardized shift report and standardized lab times.

Time Between Lab Draws (Average)



Using QI Macros in MS Excel, this X-bar S Chart shows baseline process was unstable. There was improvement with use of the standardized report, and a positive shift from the baseline performance when the standardized labs were implemented.

Conclusion

- Success required the implementation of several interventions.
- Standardization of shift report improved nursing monitoring of heparin infusions, suggesting more effective communication.
- Nursing memory lapse was reduced by scheduling lab monitoring times as evidenced by less variation in the times between lab draws.
- Plan to spread this standardized practice throughout UAB hospital.