

Designing Neutral Zone Guidelines and Implementation Plan to Increase Sharp Safety

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RELEVANCE & SIGNIFICANCE

- Sharps and needlestick injuries among clinicians remain a persistent issue, despite the presence of national clinical standards and safety protocols.
- These incidents not only pose serious health risks due to potential exposure to bloodborne pathogens but also result in operational disruptions, including staff reassignment, occupational health reporting, and the financial burden of testing both patients and clinicians.

PURPOSE

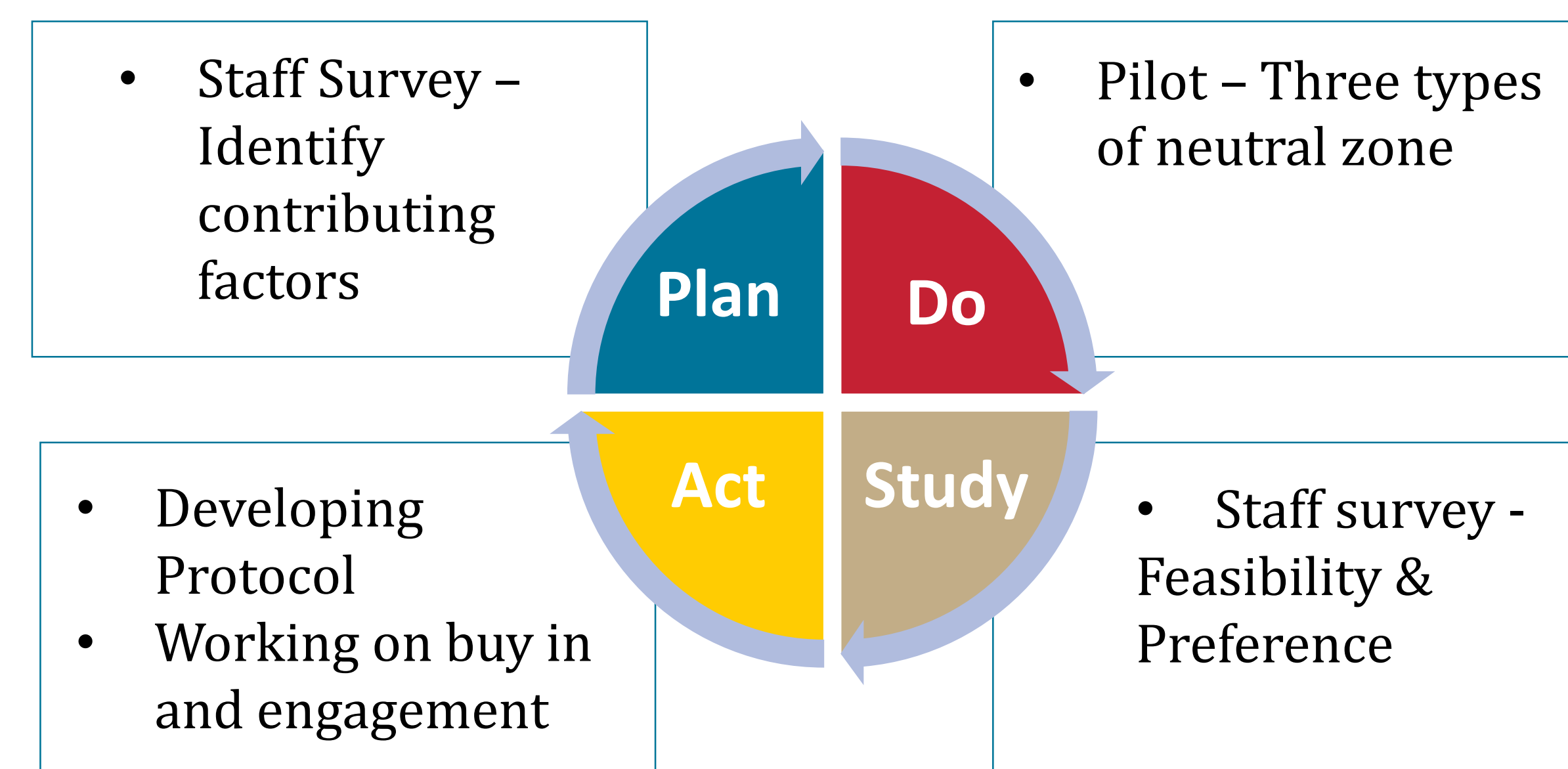
- This project aims to implement and evaluate a hospital-approved guideline that includes staff education and the adoption of the neutral zone technique.
- The goal is to assess its effectiveness in reducing the frequency of needlestick injuries per month by 10% by December 1st.

STRATEGY

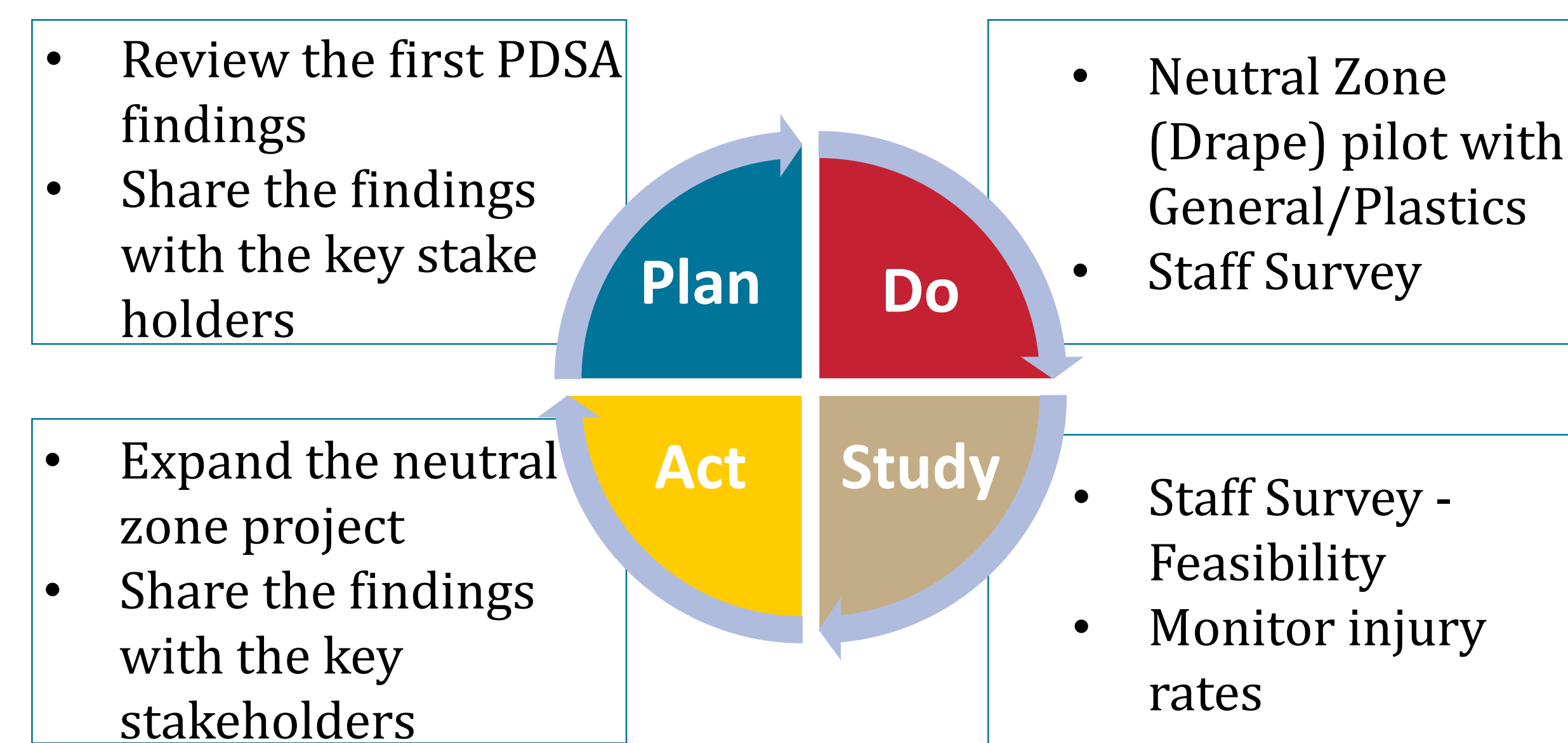
- Framework: FOCUS-PDSA (Abuzied et al., 2023)
 - F: Find a problem; O: Organize a team; C: Clarify the problem; U: Understand a problem; S: Select an intervention
- Interventions
 - (1) the implementation of a hospital approved guideline in UMMC operating room downtown campus
 - (2) identification and designation of a neutral zone on the sterile field
 - (3) staff education on the rationale, benefits, and correct use of the technique and internal online reporting system
 - (4) ongoing monitoring and documentation of injury rates.

IMPLEMENTATION

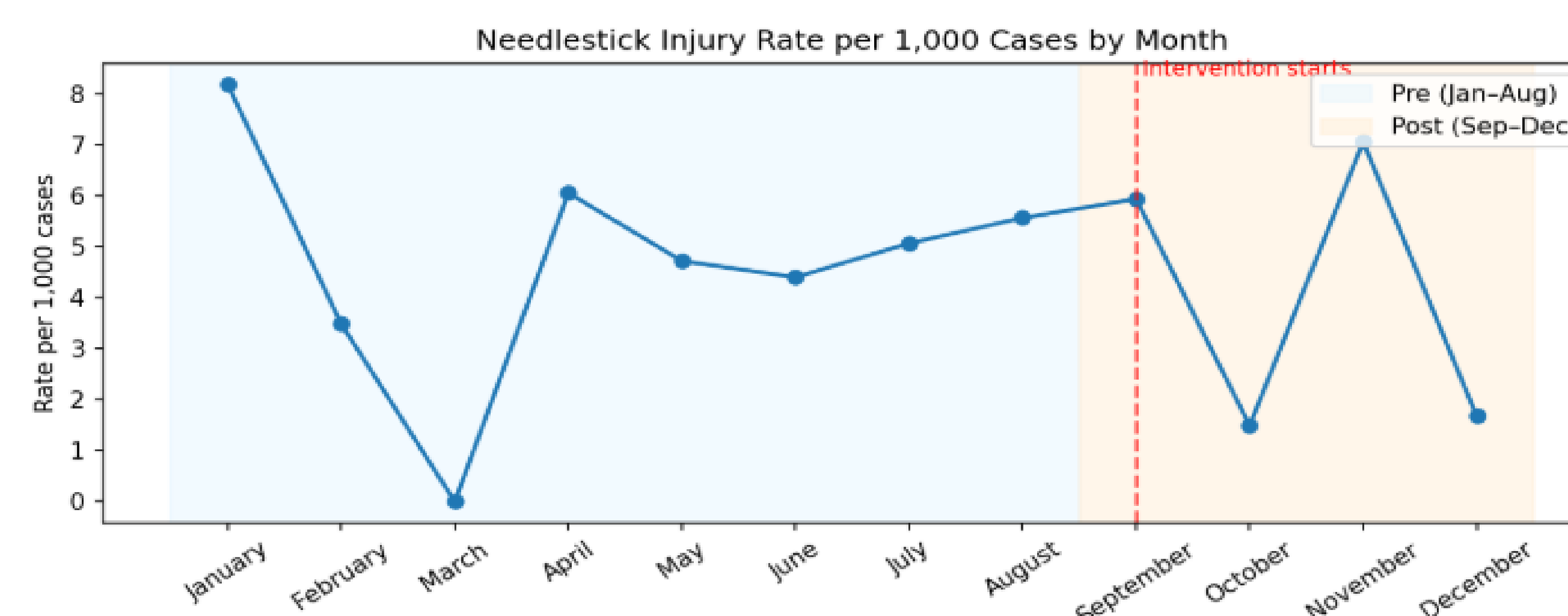
- First PDSA (August 1st-August 31st)



- Second PDSA (September 1st - December 1st)



EVALUATION & OUTCOMES



- Needlestick injuries decreased from a pre-intervention average of 4.68 per 1,000 cases (Jan-Aug 2025) to 3.92 per 1,000 cases post-intervention (Sep-Dec 2025), representing an approximate 16% reduction.

IMPLICATIONS FOR PRACTICE

- **Communication and Engagement:** Developing a clear communication plan, securing staff and surgeon buy-in, and leveraging a surgeon champion were critical to project success.
- **Staff Involvement:** Engaging staff in piloting three products and voting on their preferred option fostered ownership and cooperation.
- **Monitoring and Feedback:** Weekly utilization reports for the neutral zone product enabled teams to identify bottlenecks, provide targeted training, and address compliance challenges promptly.
- **Issue Tracking:** Implementing an issue tracker allowed team members to report concerns weekly, ensuring timely resolution and continuous improvement.
- **Financial impact:** Each needlestick injury costs the organization ~\$2,300 per staff member. The financial impact of injuries during this project was about 1 fewer staff injuries, or \$2,300 savings.

NEXT STEPS

- Expand the sharps safety protocol to additional surgical services.
- Finalize the sharps-safety protocol (reinforcing the use of neutral zone).
- Continue collecting sharps-related injury data to evaluate long-term trends and sustainability.

REFERENCES



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