



Improving OR Point-of-Use Treatment Compliance Through Audit and Barrier-Driven Intervention

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INTRODUCTION

- Surgical site infections (SSIs) are a major contributor to health care-associated infections (HAIs).
- Meticulous instrument cleaning at Point-of-Use (POU) is a critical component in SSI prevention.
- Gel spray prevents bioburden desiccation (Image 1) which improves downstream cleaning effectiveness.
- Inconsistent application of gel spray introduces avoidable infection risk.
- Objective: Assess and improve POU compliance using audit and feedback mechanisms.



METHODS

DESIGN

Observational audit with feedback intervention

- Duration: 10 months (Apr 25 – Jan 26)
- Frequency: 2 audits/week
- Audit conducted by Infection Prevention

DATA COLLECTION

- Direct observation of OR instrument trays for evidence of gel spray application.
- Findings were documented using photographs and compiled into reports distributed to OR leadership.
- Audit reports included OR room number, number of trays sprayed (numerator), and total trays observed (denominator).

BARRIER ANALYSIS

- A multiple-choice questionnaire accessible via a QR code to facilitate rapid staff participation using personal mobile devices.

PUBLIC HEALTH SIGNIFICANCE

- Improving POU treatment in high-volume surgical environments serving immunocompromised populations may reduce downstream SSIs and associated healthcare utilization.
- Workforce-informed process improvements support scalable infection prevention strategies that enhance patient safety and align with public health goals for HAI reduction.



Image 1: Dried blood and bioburden on untreated surgical instruments (above). Failing to treat instruments with gel spray allows blood and bioburden to dry, facilitating biofilm formation that shields organisms from sterilization, increasing the risk of SSIs.



Image 2: Instruments treated with gel spray (above). Treating instruments with gel spray decreases the number of organisms on instrument surfaces, prevents biofilm formation and decreases SSI risk. It also facilitates efficiency in decontamination processes and helps in maintaining instrument functionality.

RESULTS

Figure 1. Primary Outcome Gel spray compliance improved from 54% to 95% during the intervention period.

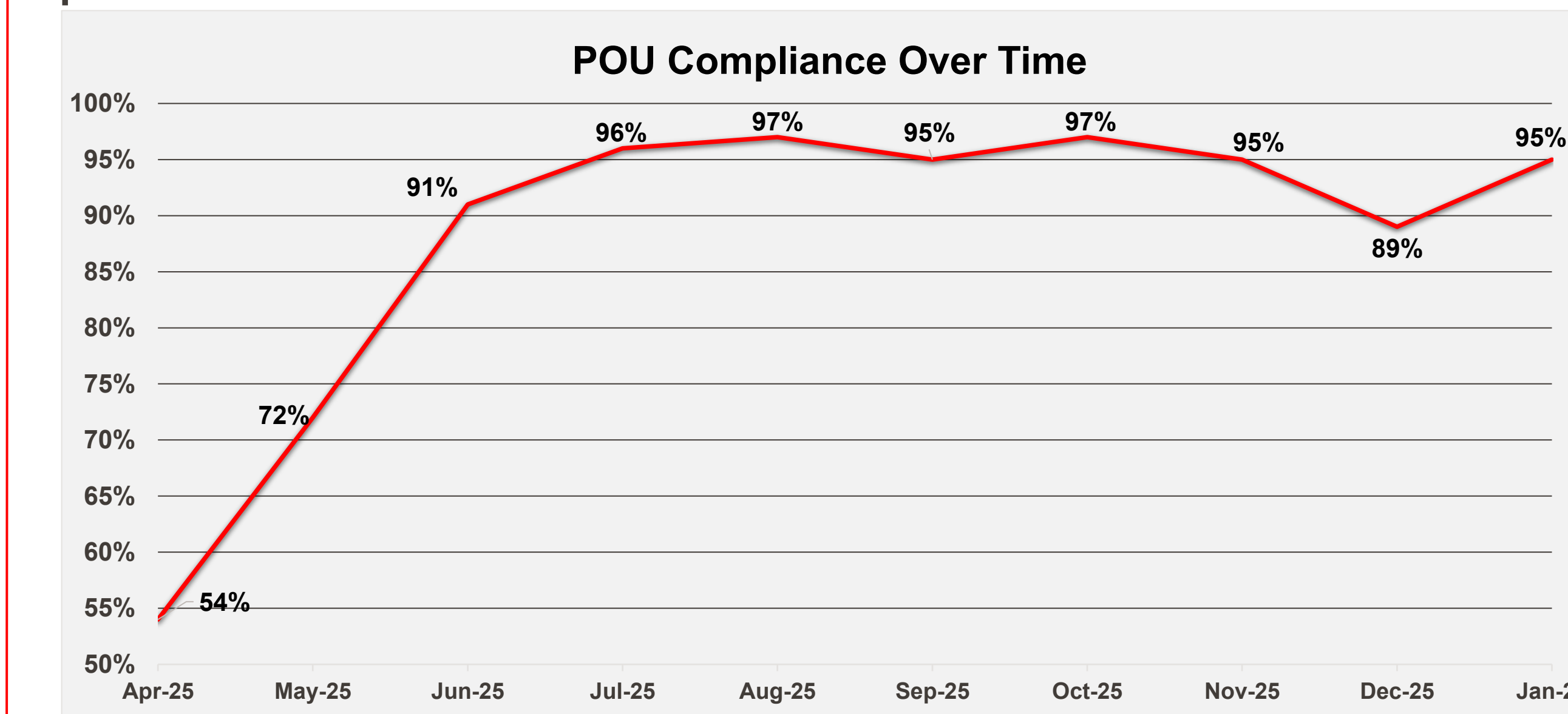
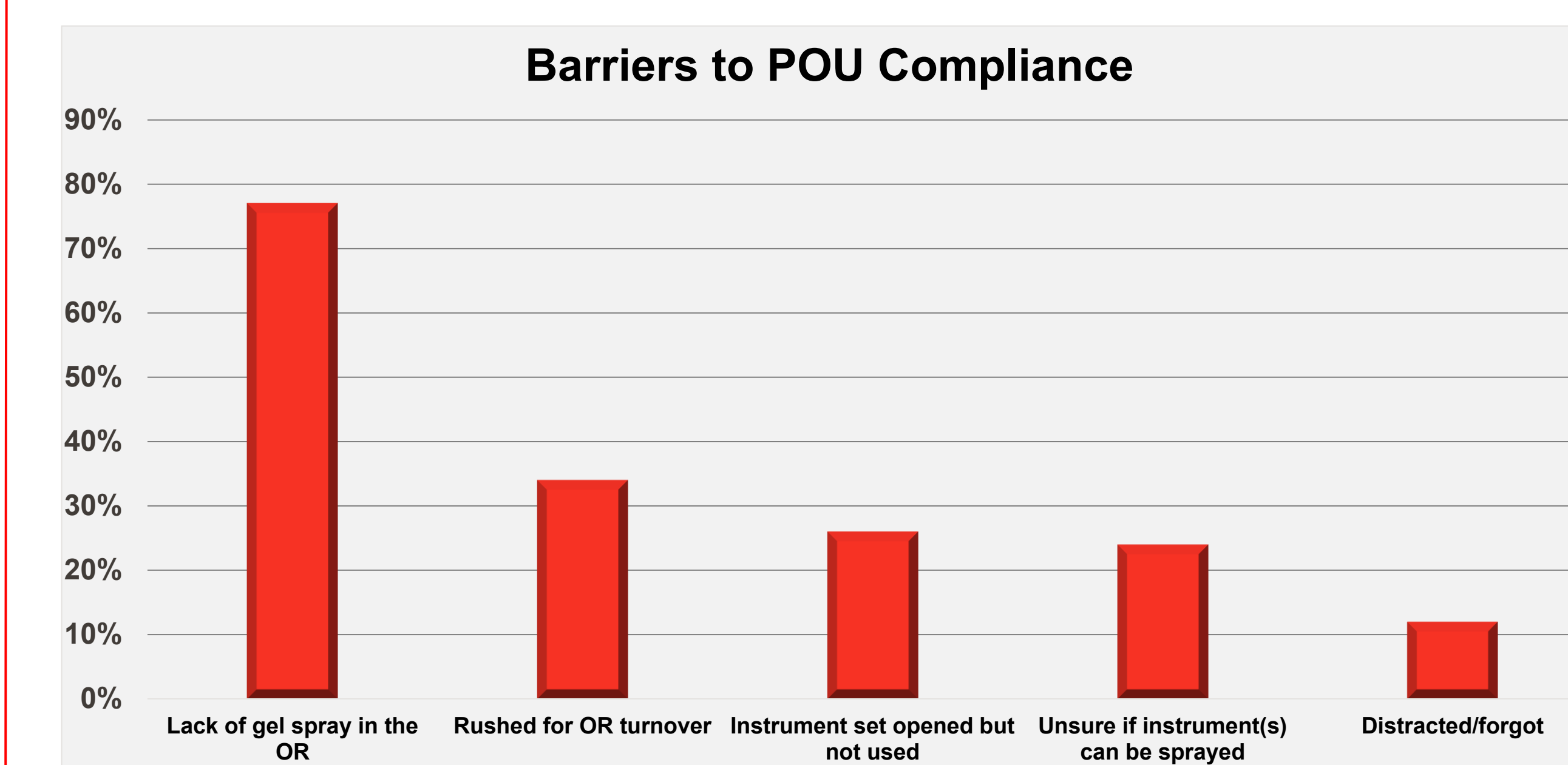


Figure 2. Key Barrier to POU Compliance Identified 77% of total responses: “Lack of gel spray availability.”



Operational Impact:

- Data transparency enabled targeted intervention planning.
- Real-time audit and feedback strengthened collaboration between Infection Control and OR staff.

CONCLUSIONS & RECOMMENDATIONS

- Structured audits and staff feedback tools can improve and sustain POU treatment compliance.
- Barrier identification enables precise intervention (not generic education).
- Primary barrier to POU indicated system-derived barrier.
- Method to improve compliance is low-cost, scalable, and sustainable.
- Gel spray must be readily available in each OR.
- Visual aids help remind staff to validate spray par levels.
- Review POU compliance in OR staff meetings and quality reviews.

References:

Association of periOperative Registered Nurses (AORN). (2026). *Guidelines on Perioperative Practice*. <https://aornguidelines.org/>
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