

Implementation of Barcode Tracking to Prevent Surgical Pathology Specimen Loss

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Problem Statement

The loss of irreplaceable biological specimens can lead to delayed or incorrect diagnoses and pose a significant patient safety risk

- **Three surgical pathology specimens were lost in three years (2021-2024)** in an academic hospital's Endoscopy Suite
- The National Quality Forum classifies specimen loss as a 'Never Event'

Purpose/ Goals

Purpose: Eliminate surgical pathology specimen loss to improve patient safety

Key Structure Goals:

- All procedural and specimen areas will have the necessary hardware and software
- Staff handling specimens will have appropriate EHR access

Key process Goal

- 100% staff adherence to barcode scanning at each checkpoint

Outcome Goal

- All specimens sent to the laboratory will have electronic tracking documentation and will be received accordingly

Methods

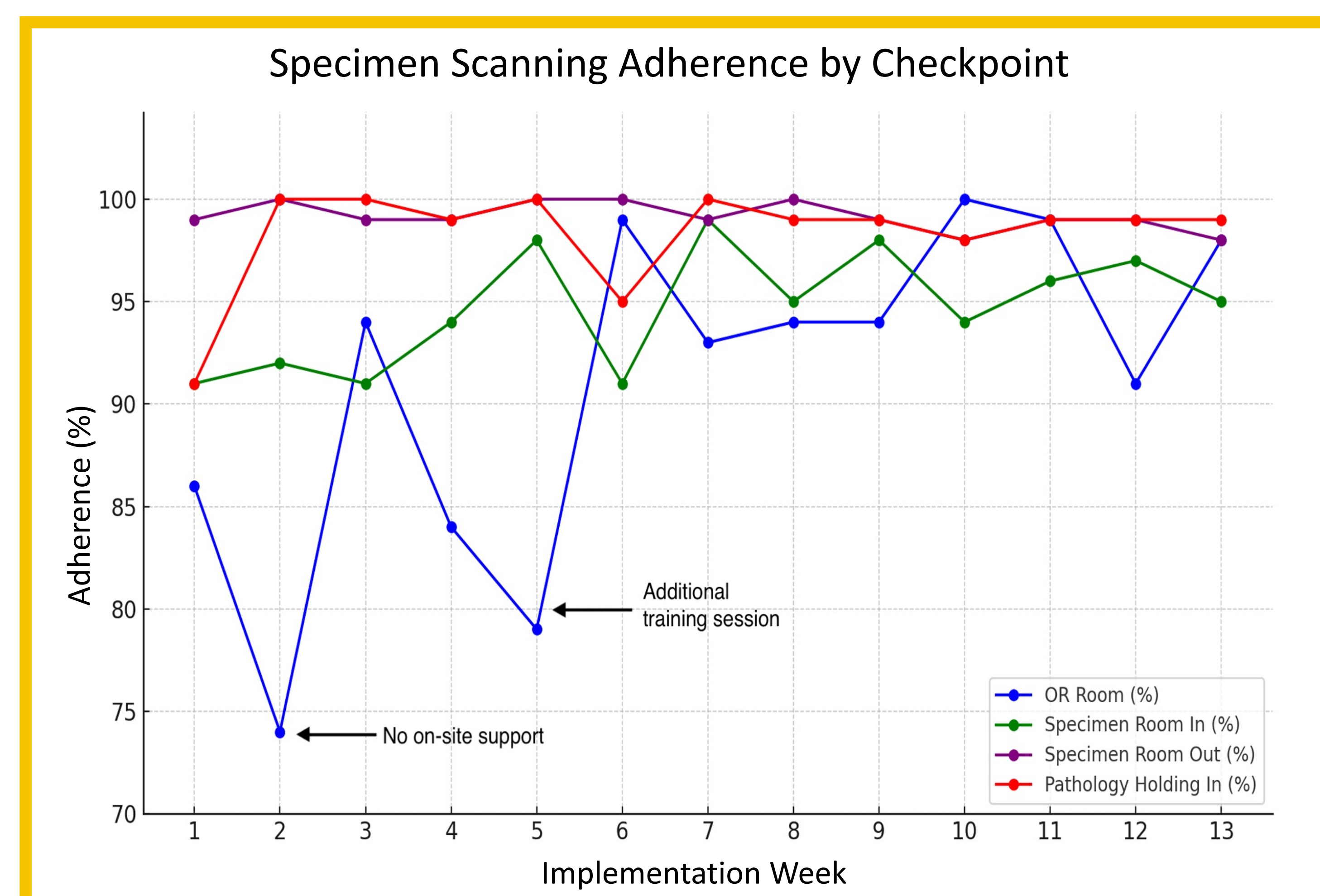
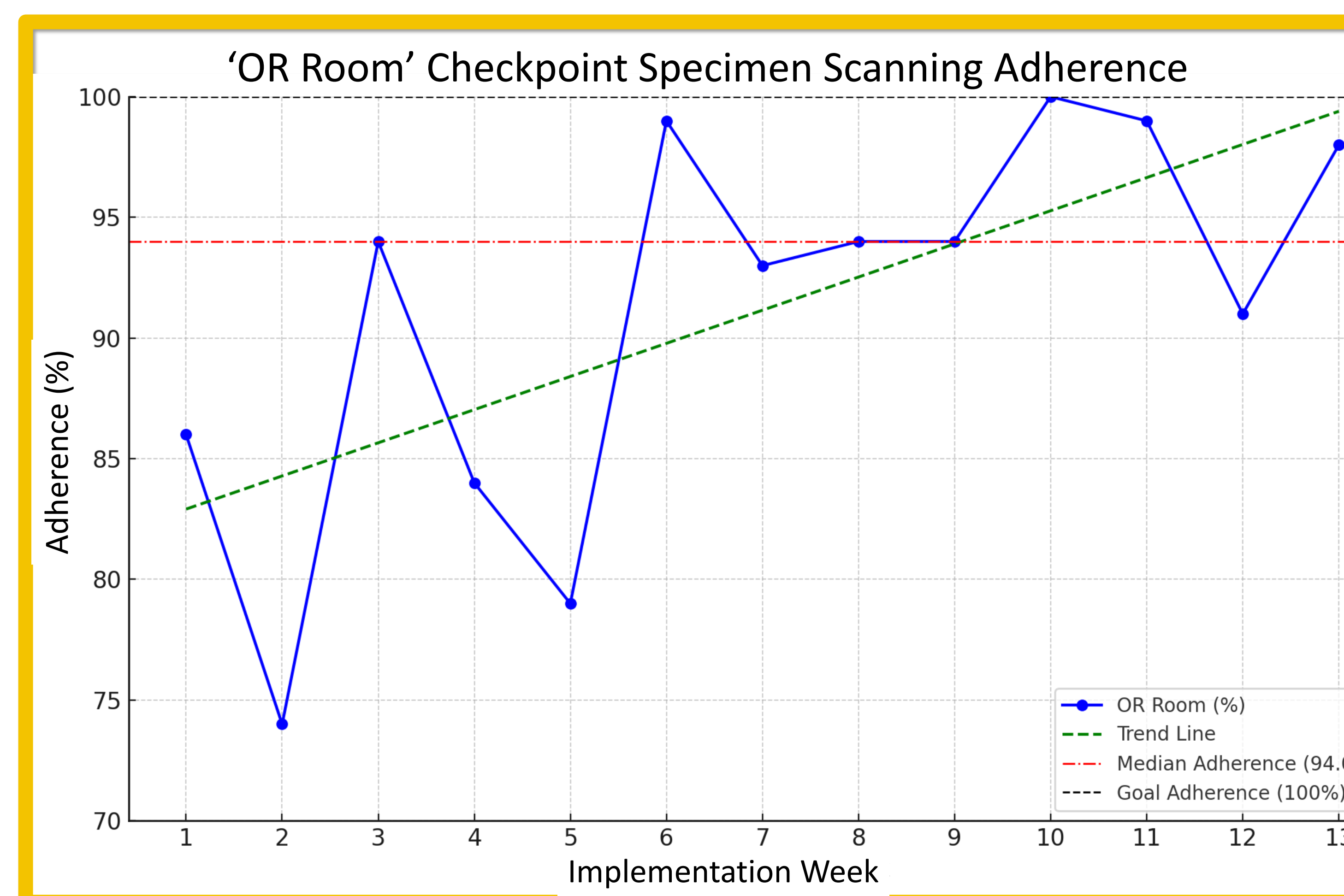
- **Design:** Quality Improvement project
- **Setting:** Endoscopy Suite, academic hospital
- **Population:** Adult patients undergoing endoscopic procedures for surgical pathology specimens (excluding microbiology and blood specimens).
- **Interventions:**
 - Installation of new hardware & software
 - Transitioned to electronic documentation
 - Training by the Project Lead & Unit Champions
 - Biweekly multidisciplinary meetings
 - Weekly adherence data collection & analysis

Results

- **3,067 surgical pathology specimens** were collected in the 13-week implementation
- 100% of the specimens collected were received in the laboratory

Median scanning adherence by checkpoint:

- OR Room: 94%
- Specimen Room In: 95%
- Specimen Room Out: 99%
- Pathology Holding In: 99%



Discussion

- **No surgical pathology specimens were lost during the implementation**
- Specimen scanning adherence at the 'OR Room' checkpoint varied during weeks 1-5
- Additional training at week 5 initiated an upward, showing the most improvement over the 13-week implementation
- Consistently high scanning adherence was at the 'Specimen Room Out' & 'Pathology Holding In' checkpoints.

Limitations:

- Site time constraints leading to reduced implementation time
- Staff participation in biweekly meetings
- Resistance to change

Conclusions

- Implementing a barcode-based tracking system in the Endoscopy Suite standardized specimen handling and eliminated specimen loss over 13 weeks.
- Real-time tracking improved chain-of-custody documentation and enhanced staff accountability, improving patient safety and clinical outcomes.

Next steps:

- Focus on compliance by educating staff, evaluating processes, and using technology to streamline specimen management
- Expand barcode tracking to additional procedural areas within the institution to enhance patient safety and improve operational efficiency across the healthcare system.

References

