Enhancing SSI Reviews Through Secure Electronic Data Capture

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Background and Objectives

Surgical Site Infection (SSI) review at our 528-bed community hospital was largely completed by Infection Prevention (IP), independent of Surgeon review meetings, and did not include Nursing partners. Manual chart review is required to determine adherence to SSI bundle elements and nursing audits compliance.

We sought to determine if secure electronic data capture can be used to review SSI cases, standardize work, engage perioperative partners, and enable data aggregation/analysis.

Goals of SSI Case Review:
- Obtain feedback on what may have led to the SSI
- Identify opportunities for improvement to prevent future SSIs
- Create an action plan to address gaps
- Produce a summary and discrete reports

Methods

IP partnered with perioperative services to validate questions assessing adherence to the system SSI Prevention Bundle Elements. IP created an SSI database, using Secure Electronic Data Capture (SEDC), with multiple surveys for each phase of care. Discrete data fields were created to enable aggregate analysis. Subjective fields were also included to allow for clinical assessment of opportunities.

Results

57 SSI cases have been imported with SEDC, and had reviews initiated by IP. SEDC enables sharing and reviewing of infection events among multiple stakeholders, simultaneously. SSI events at our facility are quickly reviewed across all phases of care, with automated summary and electronic export for aggregate analysis. Questions and formatting are updated easily, if needed.
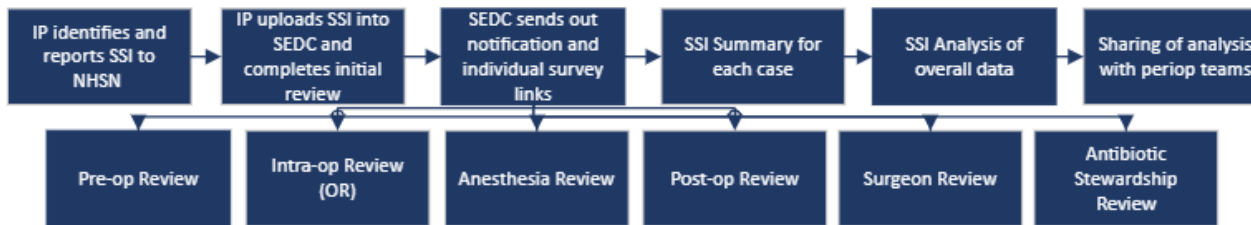
Figure 1. SSI Case Review Process

Table 1. Percent of SSI Reviews completed by each phase of care (n=57)

Pre-op	OR	Anesthesia	Post-op	Surgeon
100%	89%	86%	96%	35%

Figure 2. SSI case summary example

Additional Information and materials:
https://redcap.link/ssicasereviewposter

Conclusion

SEDC is a flexible method of collecting data that allows for customization and collaboration. Seamless integration of multiple data sources, including data imports, enable both discrete case summaries and aggregate data analysis.

Simplifying the data collection tools and including stakeholders in database creation led to high levels of participation. Surgeon review proceeds in a parallel process that has not been completely combined.

Future application includes automated data dashboard population with standard analysis.

Disclosures and References

No disclosures

References:
Calderwood MS, Anderson DJ, Bratzler DW, et al. Strategies to prevent surgical site infections in acute-care hospitals: 2022 Update. *Infection Control & Hospital Epidemiology*. 2023;44(5):695-720. doi:10.1017/ice.2023.67

Study data were collected and managed using REDCap electronic data capture tools hosted at Rochester Regional Health. REDCap (Research Electronic Data Capture) is a secure, web-based software platform designed to support data capture for research studies.