

Web-only Appendix 2: Electronic surgical site infection surveillance at Kaiser Permanente

Electronic surgical site infection (SSI) numerator and denominator tools make SSI surveillance more efficient, reducing the effort for chart review and data entry by up to 95%.

Denominator

A monthly extract of data from KP HealthConnect captures all reportable surgical procedures occurring within the desired date range. This data extract contains almost all of the demographic and surgical data necessary for NHSN reporting and is in the appropriate format for upload to the NHSN system.

Surveillance

The Surveillance report, which is in the form of an Excel spreadsheet, reduces the pool of patients that need to be investigated for an SSI. KP HealthConnect is queried for OpTime (surgical log), claims, and patient demographic and clinical trigger data as follows:

- Antibiotic trigger: Drug name and order date of antibiotics
- Wound culture trigger: Name of culture and order date
- SSI diagnosis trigger: ICD code and date of diagnosis
- Non-KP Emergency department visit or hospital admission trigger: Admission date, principal diagnosis and name of facility. Obtained from external claims data, this trigger is only applied for regions without Kaiser Foundation Hospitals as information for the preceding triggers is unavailable.

The surveillance period for the clinical triggers is 2 to 30 days for all procedures, with an extended surveillance period for deep-tissue implant procedures.

The surveillance report easily filters for relevant cases (the denominator report population of NHSN-reportable procedures with one or more positive triggers), reducing the surveillance

population substantially. In addition, positive trigger data pinpoint the parts of the patient chart that require review in the rare event of a reportable SSI event.