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908. Use of Claims Data to Identify Cases of Surgical Site Infection Following Colon Surgery Identified Many Unreported Infections in a State-Wide Validation

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Background. Since 2011, California has required hospitals to report surgical site infection (SSI) data using CDC's national surveillance system. SSI rates following colon surgery are now used to determine Medicare reimbursement through CMS' Hospital Value-Based Purchasing Program. To assess variation in hospital SSI capture and reporting, the California Department of Public Health (CDPH) performed an external validation.

Methods. Infection preventionists (IPs) from CDPH performed on-site SSI data validation for colon surgeries performed in volunteer hospitals in 2012. Validation

involved 1) provision by each hospital of patients with specified post-operative SSI claims codes, and 2) chart review of both SSI cases reported by hospital surveillance and cases flagged for review by SSI claims codes. We assessed the sensitivity of traditional surveillance and the added benefit of reviewing cases flagged by claims codes. We also evaluated the positive predictive value of claims-based surveillance and characteristics of infections missed by traditional surveillance.

Results. We reviewed 561 colon procedures at 42 hospitals, confirming 239 SSIs (82 superficial, 55 deep, and 102 organ/space). This included 34% identified by both traditional surveillance and claims codes, 16% identified by traditional surveillance only, and 50% identified by claims codes only. Traditional surveillance had a sensitivity of 50% (46% for deep and organ/space SSIs), while claims-based surveillance had a sensitivity of 84% (88% for deep and organ/space SSIs). Claims-based surveillance identified one SSI for every 2.6 patients flagged for review. The 119 cases missed by traditional surveillance were more likely to have occurred during the surgical admission ($p < 0.01$) and less likely to have been re-opened by a surgeon ($p = 0.02$). Documentation of an SSI by the surgeon or attending physician was the same in the two groups ($p = 0.57$). Claims-based surveillance identified additional SSIs in 31 of 42 hospitals, 7 which had previously reported no SSIs.

Conclusion. Claims-based surveillance performed favorably compared to traditional surveillance. This method provides a comprehensive and efficient method for external validation by health departments.

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