Linkage of microbiology reports and hospital discharge diagnoses for surveillance of surgical site infections.

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Surveillance of surgical site infections (SSIs) with feedback to surgical personnel is pivotal in decisions regarding infection control. Prospective surveillance is time and resource consuming, so we aimed to evaluate a method based on data collected routinely during care delivery. The study was carried out at three acute hospitals in North-eastern Italy, from 1 January 2001 to 31 December 2001. Hospital discharge diagnoses (selected codes from the International Classification of Diseases, 9th Revision--Clinical Modification) and electronic microbiology reports (positive cultures from surgical wounds and drainages) were linked to identify suspected SSIs. A random sample of tracked events was submitted to total chart review in order to confirm the presence of SSIs retrospectively according to Centers for Disease Control and Prevention definitions. Of 865 suspected SSIs, 64.5% were identified from the microbiological database, 27.1% from discharge codes, and 8.4% from both. Four hundred and three admissions were sampled for review; the overall positive predictive value was 72% (95%CI=69-76%). Since inpatient individual antibiotic exposure is not registered in Italy, the combined use of discharge codes and microbiology reports represents the most feasible automated method for surveillance of SSIs developing during hospital stay.

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