Title
State-Level Quality Improvement Campaigns Can Successfully Reduce SSI Rates Following Arthroplasty Procedures

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State-Level Quality Improvement Campaigns Can Successfully Reduce SSI Rates Following Arthroplasty Procedures

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Background. In 2011 the Institute for Healthcare Improvement (IHI) collaborated with state hospital associations, quality improvement organizations, and health departments ("nodes") to spread evidence-based practices for preventing surgical site infections (SSIs) following hip and knee arthroplasty. To assess the project's impact, we compared SSI outcomes in the 5 states that participated in the intervention versus 5 additional states that were chosen as controls.

Methods. Using Medicare claims, we compared outcomes following hip and knee arthroplasty in intervention versus control states. Interventions included pre-operative chlorhexidine bathing, *Staphylococcus aureus* screening and decolonization with nasal mupirocin, and alcohol-containing preoperative skin preparation. Between May 2011 and October 2011, educational materials were shared and IHI hosted a series of hospital calls. We used ICD-9 codes 996.66, 996.67, and 998.59 to identify SSI events within 90 days of surgery. We analyzed data from both the May 2010–April 2011 baseline period and the November 2011–September 2013 post-intervention period. We compared outcomes in intervention versus control states using logistic regression mixed effects models adjusted for age, gender, and comorbidities, clustering by hospital and state. We evaluated the interaction between study period and arm to assess the intervention effect (difference-in-difference approach).

Results. Baseline individual-level demographics and comorbidities were well matched between intervention and control states. In intervention states, 197 hospitals participated in the intervention. We found a 15% greater decline in SSI rates in intervention versus control states for hip arthroplasty (OR = 0.85; 95% confidence interval [CI], 0.75–0.96; P = .01), with SSI rates declining from 2.0% to 1.6% in intervention states. We found a 12% greater decline in intervention versus control states for knee arthroplasty (OR = 0.88; 95% CI, 0.78–0.99; P = .04), with SSI rates declining from 1.7% to 1.3% in intervention states.

Conclusion. Our analysis demonstrated significant state-wide impact on SSI outcomes associated with dissemination of SSI prevention strategies via state nodes, suggesting spread of practice improvements to non-participating hospitals linked within regional networks.

Disclosures. **S. S. Huang**, Sage Products: ABATE Study Investigative Team Member, Contributed product for ABATE Study. Molnlycke: ABATE Study Investigative Team Member, Contributed product for ABATE Study

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