

GRANTEE HIGHLIGHT

# Indiana University Health

## Impact of infection prevention care bundles on surgical site infections post-cesarean section in Kenya



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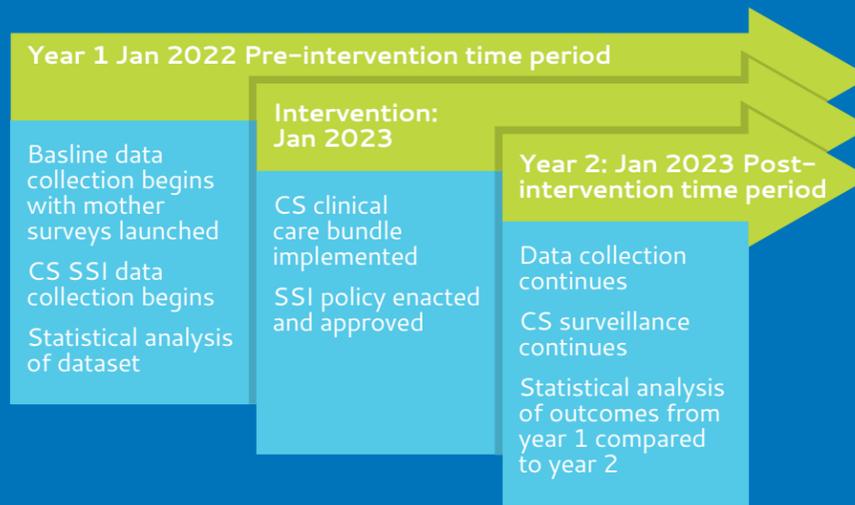
Surgical site infections (SSI) represent a significant, yet preventable, cause of morbidity and mortality while remaining disproportionately prevalent in lower middle-income countries. Our interdisciplinary team conducted a time series study with pre- and post-intervention periods to evaluate the effects of an infection prevention bundle on reducing SSIs on mothers undergoing Cesarean-Section (CS) surgery at Kenyan tertiary referral hospital. The study objectives were to: 1. Implement CS surgical site surveillance and identify the current healthcare provider antimicrobial prescribing patterns for patients undergoing CS; 2. Determine the antimicrobial susceptibility patterns in c-section wound infections and compare against antimicrobials prescribed; 3. Identify the baseline prevalence of surgical site infections and analyze the short- and long-term complications of SSI after cesarean section; 4. Based on objectives 1-3, develop and implement a surgical site bundle around pertinent risk factors: determinants of health, antimicrobial use, modifiable risk factors, and clinical gaps in care. During the first year of the project, the Indiana University Health Infection Prevention team trained several team members from Moi Teaching and Referral Hospital in Kenya to accurately identify SSI cases using a modified version of the National Healthcare Safety Network Criteria. After training was complete, the team enrolled every third mother undergoing CS surgery into the

study and followed up with them through phone call interviews on post-op days 7, 14, and 30. Any patient who had signs or symptoms of an SSI was asked to return to the hospital for further evaluation and treatment. After 14 months of surveillance and data collection, the team recognized an important need for registrar education, preoperative bathing, and postoperative patient education. Each of these interventions was implemented in a stepwise manner while enrollment continued. Final analysis will be performed to understand the impact these interventions had in reducing CS SSI rate.

During the pre-intervention phase of the study, the CS SSI rate declined from 12.2% to 5.3%. Subsequently, the intervention period included implementation of various strategies to reduce SSIs including routine registrar education on SSI prevention in the operating room, postoperative patient education on wound healing, and the introduction of preoperative chlorhexidine gluconate (CHG) baths on the pre-natal ward. After implementation it was observed that the SSI rate continued to decrease.

This study underscores the efficacy of using telephone interviews for patient follow-up in enhancing education and awareness regarding signs and symptoms of infection, leading to early identification and treatment of SSIs. Notably, an unforeseen positive outcome of the follow-up phone calls was the extension of community health outreach. Mothers involved in the study frequently shared their phones with neighbors facing health issues, seeking advice from our MTRH outreach Nurse. Our nurse, in turn, offered guidance and directed them to appropriate resources or recommended hospital visits. Additionally, the mothers expressed gratitude for the follow-up calls, citing an increased sense of care from the hospital and enhanced comfort during the post-surgery period at home.

PROJECT TIMELINE



PARTNERS



MOI TEACHING AND REFERRAL HOSPITAL

Excellent Healthcare Delivery

An ISO 9001:2015 Certified Hospital



Percent Positive SSI Rate Over time

