

cesarean section. The SSI prevention bundle together with improvements by multidisciplinary teams and a good patient-safety culture helped reduce SSI rates. Patient education on pre- and postoperative infection prevention also played an important role in reducing this infection rate.

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**Abstract Number:** SG-APSIC1066

**Costs and surgical-site infection outcomes using ChloroPrep versus aqueous povidone iodine after colorectal surgeries in Australian public hospitals**

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**Objectives:** In Australia, the prevalence of SSI is 3.6%, with a particularly high burden in colorectal procedures of 8.7%. ChloroPrep (2% chlorhexidine gluconate (CHG)–70% isopropyl alcohol formulation) is a preoperative sterile alcoholic CHG solution prefilled in a ready-to-use applicator. We compared the costs and SSI outcomes of adopting ChloroPrep versus a bulk aqueous povidone iodine (PVI) solution for colorectal procedures in a public hospital setting. **Methods:** We used a budget-impact tool to evaluate the clinical and economic impacts of skin preparation methods. The PVI SSI rate was assumed to be the baseline rate observed in Australia (8.7%). The ChloroPrep SSI rate was derived by applying the demonstrated ChloroPrep SSI reduction versus PVI (41%) to the PVI SSI rate. The cost of ChloroPrep was AU\$8 (US \$5.50) and the cost of PVI solution was AU\$3 (US \$2). The PVI equipment cost AU\$2.13 (US \$1.47). Additional average length of stay was 9.4 days, and the daily average cost was AU\$2,347 (US \$1,618). The average skin preparation time was 3.5 minutes using ChloroPrep and 8.5 minutes using PVI. The hospital-acquired complication (HAC) penalty for SSI was calculated using the national efficient price (AU \$5,797 or US \$3,996), national weighted activity unit (4.6261), and adjustment rate for patient complexity levels (high, 4.8%; moderate, 5.9%; and low, 7.9%). **Results:** The model estimated SSI rates were 5.1% using ChloroPrep and 8.7% for PVI. For every 1,000 patients, skin preparation cost was estimated to be AU\$8,100 (US \$5,583) using ChloroPrep and AU\$5,200 (US \$3,585) using PVI. SSI treatment cost was estimated to be AU\$449,900 (US \$310,127) for ChloroPrep and AU\$762,500 (US \$525,610) for PVI. In addition, 330 bed days could be avoided and at least 80 operating room hours could be saved with 35 SSIs avoided. With 35 SSIs avoided, a potential reduction of AU\$26,500 (US \$18,267) in HAC penalty could be expected. This intervention could yield an overall cost savings of AU\$336,300 (US \$231,820). **Conclusions:** Using ChloroPrep for skin preparation prior to colorectal procedures could result in lower SSI rates and cost savings from treating fewer SSIs. Operational efficiency might also be improved.

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**Surgical-site infection in Hung Vuong Hospital, a gynecology and obstetrics tertiary-care hospital in Ho Chi Minh City, Vietnam**

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**Objectives:** Surgical site infection (SSI) is the most common healthcare-associated infection (HAI) in our gynecology and obstetrics hospital. SSI among patients following gynecological and obstetrical surgery not

only results in increased morbidity but also has far-reaching implications. Thus, this study was conducted to determine the incidence, risk factors, and bacterial pathogens related to SSI. **Methods:** We conducted this retrospective study based on medical records from January 2019 to December 2020 at Hung Vuong Hospital. **Results:** Of 51,466 patients undergoing surgery, 581 patients (1.34%) developed an SSI after cesarean section and 145 patients (1.77%) developed an SSI after gynecological surgery. A multivariate logistic regression analysis identified the following risk factors among patients who underwent cesarean section: age (OR, 1.02; 95% CI, 1.01–1.04), emergency cesarean section (OR, 1.62; 95% CI, 1.36–1.93), operation time >60 minutes (OR, 2.04; 95% CI, 1.48–2.80), surgery during the night shift (OR, 1.29; 95% CI, 1.08–1.54), and prolonged hospital stay ≥2 days (OR, 1.51; 95% CI, 1.21–1.89). SSI risk factors for patients following gynecological surgery included age (OR, 1.03; 95% CI, 1.02–1.05), contaminated wound (OR, 3.44; 95% CI, 1.56–7.57), dirty wound (OR, 3.61; 95% CI, 1.44–9.05), vertical abdominal incision (OR, 2.49; 95% CI, 1.65–3.77), and duration of surgery >180 minutes (OR, 2.02; 95% CI, 1.24–3.29). *Staphylococcus aureus* was the most commonly identified SSI pathogen following cesarean section (49.56%), and *Escherichia coli* was isolated in 44.93% of SSIs among patients undergoing gynecological surgery. **Conclusions:** SSI interventions should target this high-risk group. Based on microbiology culture and susceptibility results isolated from SSI cases, novel antibiotic therapies are needed to treat SSIs.

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**Implementing a quality-improvement approach to surgical-site infection prevention in the Philippines**

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**Objectives:** We aimed to reduce surgical site infections in Camarines Norte Provincial Hospital, Philippines, (1) by establishing SSI surveillance in the surgical departments, (2) by implementing quality improvement processes, and (3) by developing and implementing an SSI prevention care bundle.

**Methods:** In partnership with Americares, SSI surveillance based on CDC criteria was instituted for all surgeries, excluding orthopedic surgeries. Staff were trained in applying quality-improvement methodology, infection prevention and control, and SSI prevention. A care bundle based on the WHO evidence-based interventions for SSI prevention was designed. Interventions included preoperative bathing, surgical hand preparation, intraoperative surgical-site preparation using 2% chlorhexidine isopropanol solution, and postoperative wound management. The model for improvement methodology was used to implement these changes for 12 months from May 2020 to May 2021. **Results:** In total, 718 surgeries were followed for SSI surveillance, with an average of 58 surgical patients per month in 2020, which increased to 90 patients per month in 2021. In 2020, the SSI incidence rate was 1.76%, and this rate increased 38.64% to 2.44% in 2021. A statistically significant increase in knowledge of 5.29 points (95% CI, 4.91–5.67) among 150 participants undergoing SSI training between pretest (+6.46) and posttest (+ 11.76) was achieved. SSI care-bundle checklists were used for 80% of eligible surgical patients by 2021. Compliance with the SSI care-bundle checklist increased from 0 to 87.69% (n = 718) by October 2021, subsequently decreasing by 2.75% by December 2021. **Conclusions:** A quality-improvement process embedded in routine surgical care can be a building block for reducing