

factors among cases compared to noncases between January 2016 and August 2018. The rate of SSIs and 95% confidence intervals were estimated, and univariate logistic regressions were fitted to estimate unadjusted odds ratios (ORs) for the association between each of the predetermined preoperative, intraoperative, and postoperative factors and developing an SSI. **Results:** Overall, 139 patients underwent surgery involving CPB between January 1, 2016, and August 31, 2018. Preoperative bathing was infrequently documented (9% among cases vs 5% among noncases;  $P = .56$ ). Operating room observations identified frequent door openings and equipment crowding. Moreover, 11 patients (7.9%) developed a cardiac SSI, with 6 (14.3%) occurring in the first 8 months of 2018 ( $P = .067$ ). There were no predominant pathogens; 3 of 11 cases were associated with methicillin-susceptible *Staphylococcus aureus*. Also, 9 cases were classified as deep incisional or organ-space SSI. Each hour increase in total CPB duration was associated with a 63% increase in odds of developing an SSI (OR, 1.626; 95% CI, 1.041–2.539). Each additional day of intubation (OR, 2.400; 95% CI, 1.203–4.788) and peritoneal dialysis (OR, 1.767; 95% CI, 1.070–2.919) during the first 3 days postoperatively were also associated with increased SSI risk. Postoperative documentation of wound assessment occurred in 60% of patients, with no difference between cases and noncases (55% vs 67%;  $P = .42$ ).

**Conclusions:** Using a mixed-methods approach, preoperative bathing, increased operating room traffic, and postoperative care around wounds and invasive devices were identified as areas of improvement toward safer surgical care. Although no unique organism or process explained the increased rate, determining risk factors and areas of practice variability through stakeholder engagement provided insight into opportunities to prevent SSIs.

**Funding:** None

**Disclosures:** None

Doi:10.1017/ice.2020.796

#### Presentation Type:

Poster Presentation

#### Hand Hygiene Compliance in a University Hospital in West Bank, Palestine: An Observational Study 2017–2019

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Fig. 1.

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**Background:** Worldwide, medical staff adherence to hand hygiene (HH), the most cost-effective measure to decrease healthcare-associated infections (HAIs), is ~40%–60%. The infection control program (ICP) at An-Najah National University Hospital (NNUH), a tertiary-care referral teaching hospital located in Nablus, in northern Palestine, monitors HH compliance by direct observations using the WHO observation checklist. In this descriptive study, we investigated the prevalence of HH across the institution during 2017–2019. **Methods:** The WHO multimodal strategy to enhance HH in healthcare settings was implemented at NNUH, a tertiary-care referral hospital, in 2017. HH compliance has been measured during routine patient care by direct observation by ICP team and anonymously by other trained observers. Results are reported on monthly basis to the administration and medical team (nurses and doctors), and corrective plans to increase the compliance are discussed. Training is reinforced with ultraviolet light and fluorescent alcohol-based hand rub. Yearly, staff are engaged in HH Day activities (Figs. 1 and 2). Leadership support is constant by



Fig. 2.

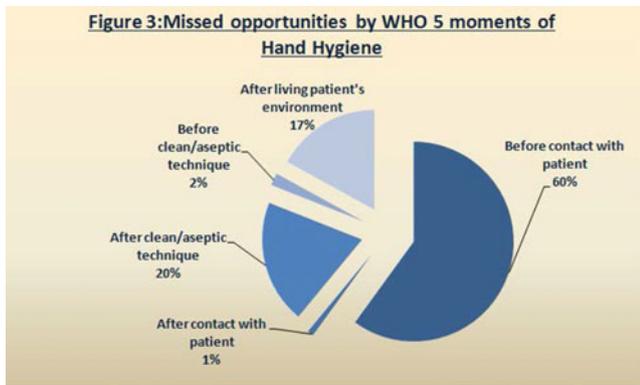


Fig. 3.

securing the annual budget for the HH program and the enforcement of HH policy across the setting. **Results:** NNUH, using the WHO Hand Hygiene Self-Assessment Framework, is currently in the advanced level (395 of 500) compared to 2017 (intermediate level, 292 of 500). Overall, HCW HH compliance increased from 44% (range, 31%–57%) in 2017 to 53% (range, 30%–72%) in 2018 and to 61% (range, 55%–66%) through October 2019. During the 3-year study period, Nursing compliance increased from 36% to 59% and to 64%, respectively, whereas the compliance for doctors increased from 42% to 56% and 58%, respectively. Regarding the missed opportunities, “before patient” was the most frequent cause for missed opportunity with a rate of 60% (Fig. 3). This missed opportunity was mainly related to the misuse of gloves (mainly among nurses), which requires an ad hoc intervention. **Conclusions:** Implementation of the WHO HH strategy is feasible and effective in low-income countries and leads to significant improvements in compliance. Periodic training, personnel engagement, and leadership are key factors of HH improvement in our setting.

**Funding:** None

**Disclosures:** None

Doi:10.1017/ice.2020.797

#### Presentation Type:

Poster Presentation

#### Hand Hygiene In and Out: Compliance and Sustainability Are Possible: 90/90 Program in a Mexican Tertiary-Care Center

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**Background:** The American British Cowdray Medical Center I.A.P., also known as “ABC Medical Center,” is a highly specialized hospital and private assistance institution located in Mexico City. The ABC Medical Center implemented hand hygiene policies since around 2009, when Mexico committed to patient security. However, hand hygiene compliance remained low. **Methods:** The objective of the “Hand Hygiene 90/90” program was to increase hand hygiene compliance through an integral strategy including a multidisciplinary team with leaders from different areas (nursing, physicians, human resources, quality, and educators). It was named “90/90” because it aimed to accomplish a 90% hand hygiene compliance among all health providers and hospital staff in 90 days (October 1–December 29) upon entering and exiting patient rooms (ie, In & Out). The “Hand Hygiene 90/90” program led by the epidemiology area consisted of 5 specific components: management, supplies, education, monitoring, and social marketing (Fig. 1). For a period of 90 days, several permanent actions were implemented; they had a positive influence on the expected outcome (Fig. 2). **Results:** The starting point at the ABC Medical Center upon launching the program was 70% compliance. With the “Hand Hygiene 90/90” program, the first steady change was observed at the end of November 2012 (ie, the sixth measurement point). An 88% compliance was achieved, all compliance was >50% from this point on. The highest compliance was achieved among health providers (doctors and nurses), followed by administrative staff. At the end of December 2012, 91% compliance was achieved by all health providers and hospital staff. Sustainability has been possible over the years through ongoing hand hygiene campaigns. In the 5 years following the implementation of the program, hand hygiene compliance remained mostly below the 90% standard (Fig. 3). **Conclusions:** An intervention for continuous improvement and hand hygiene compliance using the

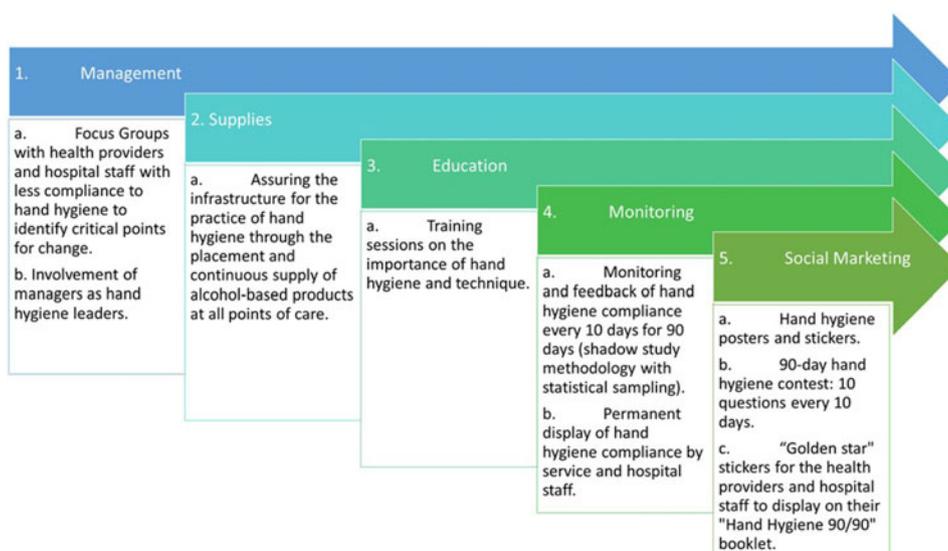


Fig. 1.