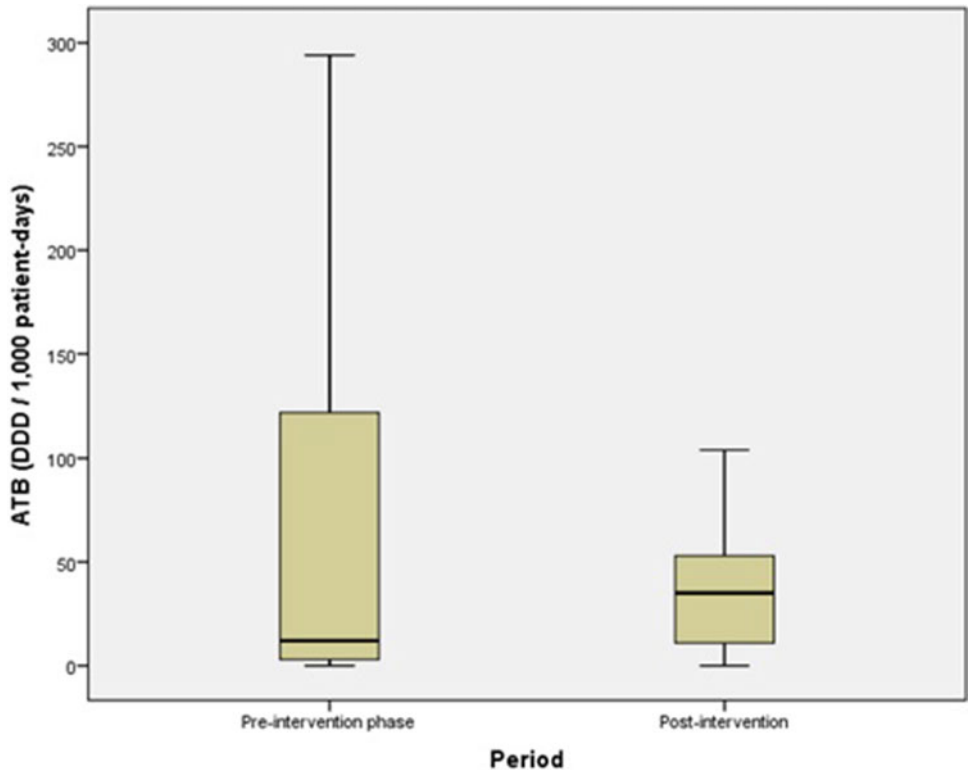

Fig. 1.

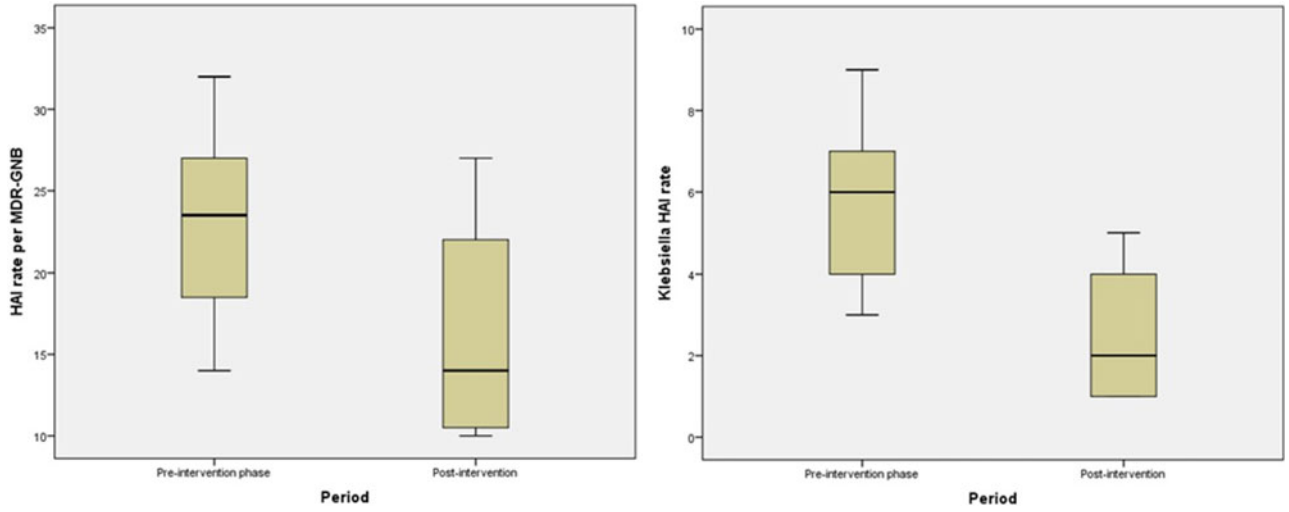

Fig. 2.

GNB infections in the ICU. The scarce arsenal available for the treatment of MDR-GNB and the high mortality rate justify the growing need for stewardship programs in Brazilian ICUs.

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Presentation Type:
Poster Presentation

Effect of Testing Methods on Incidence of *Clostridioides difficile* Infection Rates in Veterans' Affairs Medical Centers

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Background: Healthcare-associated *Clostridioides difficile* infection (CDI) rates have been decreasing in Department of Veterans' Affairs (VA) acute-care medical facilities since the CDI Prevention Initiative began in 2012. Assessment of rates, however, is complicated by changing surveillance definitions and diagnostics. Over the past 2 years, the VA has adopted the less stringent surveillance definitions of the NHSN for hospital-onset healthcare-facility–associated (HO-HCFA) CDI (onset on or after day 4 of hospitalization) than was originally used (>48 hours after admission).

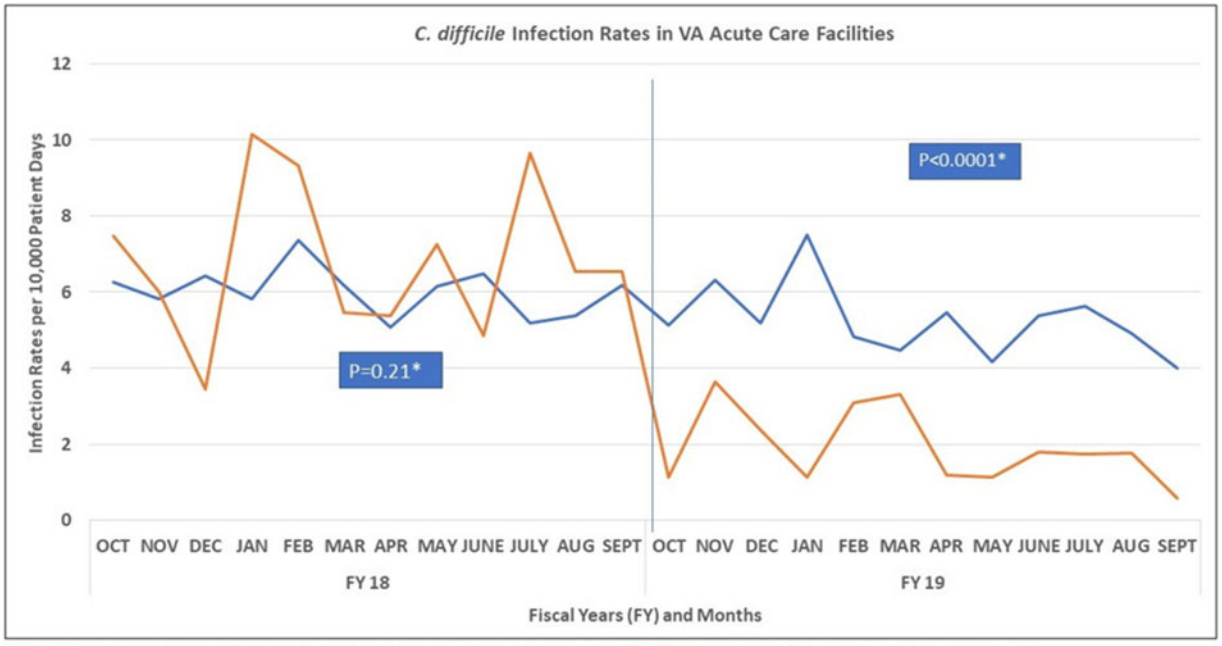

Fig. 1.

New diagnostic testing methods have been developed, but variabilities in the reliability of testing methods for the diagnosis of CDI in patients have been detected, thus not yielding a gold standard test. As a result, some facilities use nucleic acid amplification testing (NAAT) for CDI diagnosis and reporting whereas others use a 2-step process of NAAT followed by a toxin enzyme immunoassay (EIA) test, with the latter determining positivity for reporting (as allowed by the NHSN). We reviewed CDI rates at facilities performing one-step and two-step testing to determine whether the testing protocol may be influencing CDI rate reporting. **Methods:** Data on HO-HCFA CDI rates entered monthly in fiscal year (FY) 2018 (October 2017 through September 2018) and FY2019 (October 2018 through September 2019) by each acute-care facility into the VA Inpatient Evaluation Center (IPEC) database were analyzed. HO-HCFA CDI rates in facilities that used NAAT in FY2018 and switched to in the 2-step NAAT plus EIA in FY2019 were compared to rates in facilities used NAAT alone for both FY2018 and FY2019. Statistical regression analysis was performed. **Results:** From FY 2018 through FY2019, 70 facilities performed NAAT for the entire 2-year period. Overall, 7 facilities performed NAAT for FY 2018 and then switched to NAAT + EIA in FY2019. We detected no significant decrease in HO-HCFA CDI rates in FY 2018 when both groups were using NAAT ($P = 0.21$) (Fig. 1). However, in FY2019, there was a significant decrease in HO-HCFA CDI rates for those facilities that performed the 2-step testing versus those facilities that continued to use strictly NAAT alone ($P < .0001$). **Conclusions:** HO-HCFA CDI rates decreased for those VA acute-care facilities that switched to 2-step testing, and this finding highlights implications for assessing rates over time. Given the variable reliability of the toxin test, individual patient consideration for therapeutic decisions is reasonable.

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Poster Presentation

Effect of Water Chlorination on Development and Persistence of Biofilm in Shower Heads

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Background: A cluster of sternal surgical site infections caused by *Pseudomonas aeruginosa* led to sampling of shower heads in patient rooms. Multiple subtypes of *Pseudomonas aeruginosa* were found and were genetically diverse from the patient isolates. Visible biofilm was found in showerheads in the cardiothoracic ward. Ways of minimizing formation and persistence of biofilm in the shower heads were sought. **Methods:** A low-dose chlorination dosing system was introduced in September 2018 to the circulating warm-water system supplying the building block where the cardiac surgery ward is situated. Of the 145 showers in that block, 70 shower heads were sampled and the shower heads were replaced. Of these, 35 were sampled at 3 months and 35 were tested at 6 months (biofilm prevention group). Of the remaining 70 shower heads, 35 were tested at 3 months and 35 at 6 months (biofilm removal group). Heterotrophic colony count (HCC) in CFU/mL was chosen as the outcome measure. Analysis was conducted in accordance with AS 4276.3.2 (2003). The microbial growth data followed a log-normal distribution due to the exponential growth of bacteria. The natural log of the data was therefore calculated, and results from each period were compared using analysis of variance (ANOVA). Free chlorine residual levels were controlled using a combination of feed-forward and oxidation reduction potential (ORP) feedback control, and levels were retested and adjusted during the review period using N,N-diethyl-p-phenylenediamine (DPD) chemistry. **Results:** Mean and median levels of log HCC data are shown in Fig. 1. We detected a statistically significant