Methods. The validation process consisted of external (EV) and internal (IV) validation phases. For the 10 hospitals that were selected based on their HAIR rate, among the 193 participating hospitals between July 2016 and June 2017, both EV and IV were performed. For the EV, the validation team reviewed 295 medical records of 60 patients with reported HAIs, including 20 urinary tract infections (UTIs), 27 bloodstream infections (BSIs), 13 cases of pseudomembranous colitis (PNEU), and 255 patients with no reported HAI during 1-day visits conducted in November and December 2017. The reviewer’s diagnosis of HAI was regarded as the reference standard. IV was conducted by the staff of each hospital and evaluated whether UTI or BSI were present. Primary IV was performed on 279 patients who were subject to EV. Secondary IV was performed on 203 patients in another 11 selected participating hospitals that did not report HAIs to KONIS during the 1-year study period.

Results. In the EV, the diagnosis of UTI in the participating hospitals had a sensitivity of 72.0% and specificity of 99.3%. The sensitivity of BSI and PNEU was 63.2% and 70.6%, respectively, and specificity was 98.8% and 99.6%. The agreement (kappa) between the EV and primary IV was significant, with k = 0.754 for UTI and k = 0.674 for BSI. The results of the secondary IV showed that the hospitals that had no reports of HAI had few hospital beds and performed few blood or urine culture tests. In the secondary IV, eight UTIs and three BSIs were newly diagnosed in three hospitals, respectively. The reasons for not reporting the HAIs were presumed to be a lack of understanding of the surveillance standards and fear of the disadvantages of disclosing the HAIs.

Conclusion. This study shows the need for continuous validation and continuous training of surveillance personnel to maintain the accuracy of surveillance data. We also confirmed that IV can be used as an alternative monitoring method to examine validity and accuracy.

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2479. Trends and Regional Differences in Extended Spectrum β-lactamase (ESBL)-producing Enterobacteriaceae (ESBL-E) in Catholic Hospitals: 2012–2017
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Background. We estimated a 40% increase in the rate of CO-ESBLs among hospital-onset (HO) patients from 2012 to 2017, but there were no increases in bloodstream infections (BSIs) and respiratory tract infections (RTIs). The overall prevalence of CRE isolates was 26.4% in 2012 to 28.7% in 2017 (P = 0.0001), while HO rates did not change significantly over time (P = 0.39, Figure 1). We found significant regional differences in the rate of ESBL (P < 0.0001) across US census divisions in 2017 (Figure 2). Estimated rates for 2017 varied 5-fold from 15.3 ESBLs per 10,000 discharges in the Northwest Central to 82.4 ESBLs in the Mid-Atlantic.

Conclusion. We estimated a 40% increase in the rate of CO-ESBLs among hospital-onset cases between 2012 and 2017, but no increase in BSIs or RTIs. ESBL rates varied greatly by region of the country and are estimated as much as 5x higher in some areas. A better understanding of factors contributing to community transmission and regional variation is necessary in order to inform ESBL prevention efforts.