

ORAL ABSTRACTS

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**115. Comparison of Emerging Infections Program (EIP) and National Healthcare Safety Network (NHSN) Datasets for Surveillance of Methicillin-Resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile* Infection (CDI)**

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**Session:** 35. Advancing Public Reporting and Surveillance of Healthcare-associated Infections

Thursday, October 9, 2014: 10:30 AM

**Background.** NHSN tracks healthcare-associated infections at the facility level; EIP is active, population- and laboratory-based surveillance for selected pathogens. Both NHSN and EIP conduct laboratory-based MRSA and CDI surveillance. Connecticut (CT) compared cases in NHSN vs. EIP for MRSA, and New Mexico (NM) for CDI.

**Methods.** NM EIP CDI data and NHSN CDI LabID Events were queried for all

positive tests at one facility January 1 - June 30, 2013 and compared. In CT, both MRSA EIP bloodstream infection (BSI) cases and NHSN MRSA bacteremia LabID Events are reported statewide; reports from the same period were queried and compared.

**Results.** In NM, 39% of 164 CDI cases were in both databases. All but three cases absent in one database were entered correctly, and met the inclusion criteria for only one database. NM EIP surveillance includes inpatient and outpatient CDI among residents of Bernalillo County, while NHSN includes inpatient CDI regardless of county of residence, leading to a large discrepancy between the databases. All CDI cases present in NHSN but not EIP were out of catchment. Most CDI cases present in EIP but not NHSN (82%) were outpatients. In CT, 68% of 419 MRSA cases were in both databases, 32% discrepant. EIP surveillance includes inpatient and outpatient MRSA bacteremia among CT residents, while NHSN includes inpatient MRSA bacteremia regardless of state of residence. These surveillance protocol differences accounted for 43% of discrepant cases, mostly cultured in the emergency room or as outpatients. Different definitions of recurrent cases accounted for 25% of discrepant cases. The remaining 31% of discrepant cases were due to NHSN underreporting (70% failure to report and 30% misinterpretation of NHSN reporting requirements), vs. <1% EIP underreporting.

**Conclusion.** Differences in populations under surveillance, methodology, and definitions created discrepancies between the two datasets and challenges using one to validate the other. Validation did reveal systematic errors in surveillance useful for quality improvement if the datasets cover similar geographical areas. This comparison quantifies discrepancies due to differences in surveillance protocols, useful for determining whether facility-based surveillance can be an effective alternative to population-based surveillance.

**Disclosures.** All authors: No reported disclosures.