Background: Carbenapenem-resistant Enterobacteriaceae (CRE) are an emerging multidrug-resistant CRE. Early detection and control is imperative. A multi-disciplinary advisory committee was undertaken except for in the case of KPC isolate #1 where patients in the same ward were non-epidemically linked. This review was performed to better understand statewide CRE epidemiology and characteristics of CRE-positive patients.

Methods: Mandatory reporting of CRE in Oregon began in December 2011. We reviewed medical records of all patients with CRE-positive cultures reported to the Oregon Health Authority through March 2013. Patient demographics and risk factors for CRE were analyzed. Carbapenemase production was assessed via Modified Hodge Test (MHT) and PCR for Klebsiella pneumoniae carbapenemase (KPC) and New Delhi metallo-beta-lactamase (NDM).

Results: CRE were reported in 48 patients; median age was 66 (IQR 48, 76) and the majority were female (n=31; 63%). Most patients (n=31; 65%) were in acute care facilities (n=2; 4%). Culture site and results of carbapenemase testing are summarized in the Results section. PCR testing for NDM was negative in all tested isolates. The three patients harboring KPCs were not epidemiologically linked, and each had received recent healthcare outside Oregon.

• CRE cases are infrequently reported in Oregon
• Only 3 CP-CRE cases have been reported to date
• No epidemiological link between the CP-CRE cases was identified

Future Work: Continue statewide surveillance and analyze epidemiological and microbiological data to identify a more specific case definition targeting CP-CRE and risk factors for non-CRE. Develop criteria for colonization versus infection and associated mortality data. Complete a local point-prevalence study to more accurately measure prevalence of CRE.

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References: