

High prevalence of CRE in Washington, D.C. healthcare facilities

June 15 2017

Carbapenem-resistant Enterobacteriaceae (CRE), a family of highly pathogenic antibiotic-resistant organisms, are endemic across Washington, D.C. healthcare facilities, with 5.2% of inpatients testing positive for the bacteria, according to new research published online today in *Infection Control & Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America. This study, determining a regional baseline prevalence of the often-deadly superbug among inpatients, is part of a coordinated regional approach led by the D.C. Department of Health (DOH), D.C. Hospital Association (DCHA), and D.C. Department of Forensic Science-Public Health Lab (DFS-PHL).

"CRE is a significant clinical and public health concern, with a potential for widespread and rapid transmission within and between facilities. Our study demonstrates the strength of a collaborative approach within a city or region to determine the prevalence of multi-drug resistant organisms in healthcare facilities," said Roberta DeBiasi, MD, MS, a principal investigator of the study and division chief of infectious diseases at Children's National Medical Center.

As part of the Healthcare Antibiotic Resistance Prevalence - DC (HARP-DC) project, the three agencies partnered to conduct a multi-center study of CRE in D.C. Sixteen facilities voluntarily participated, including eight acute care hospitals, two long-term acute care hospitals, one inpatient rehabilitation facility, and five skilled nursing facilities. Each facility conducted bacterial colonization surveillance over a one-to-

three-day interval from January to April, 2016. The researchers used the Centers for Disease Control and Prevention CRE surveillance definition and tested all cultures at a single laboratory to ensure consistency.

Of 1,022 completed tests, 53 samples tested positive for CRE, which corresponds to a prevalence rate of 5.2 percent, confirming that CRE has become endemic in healthcare facilities in Washington, D.C. The median prevalence rate by facility was 2.7 percent, with one facility measuring as high as 29.4 percent of tested patients, indicating the potential for hyperendemicity. Male patients had a significantly higher prevalence of CRE compared to females (7.1 percent vs. 3.7 percent). Adults ages 20-39 (8 percent) also showed higher prevalence than any other age group.

Of the positive samples, 18 were determined to share genetic similarity with at least one other sample. This revealed the potential transmission of CRE within and between facilities. The ability to determine similarity of strain profiles from culture and molecular testing also enabled the researchers to detect an ongoing outbreak in one facility, further demonstrating the utility of these laboratory techniques for surveillance programs.

"The study represents a unique collaboration of cutting-edge science, public health concern, dedicated investigators, and selfless patient-volunteers who came together to successfully complete this investigation," said Glenn Wortmann, MD, a principal investigator of the study and section director of infectious diseases at MedStar Washington Hospital Center. "The results will hopefully guide future efforts to control the spread of multi-drug resistant bacteria."

Traditionally, [healthcare](#) facilities would actively work to reduce CRE only after an outbreak was identified; but colonization can be a predictor for future infections and outbreaks, so it is important for these facilities

to understand the total CRE burden. Additionally, past studies have estimated that a coordinated approach, such as HARP-DC, may result in up to a 74% cumulative reduction in CRE acquisition over a five-year period compared to independent facility-based interventions.

As a result of this study, [healthcare facilities](#) were able to establish a baseline prevalence of CRE in Washington, D.C., and demonstrate the ability to work together to identify and prevent future outbreaks of dangerous antibiotic-resistant organisms.

More information: Jacqueline Reuben et al, Healthcare Antibiotic Resistance Prevalence ? DC (HARP-DC): A Regional Prevalence Assessment of Carbapenem-Resistant Enterobacteriaceae (CRE) in Healthcare Facilities in Washington, District of Columbia, *Infection Control & Hospital Epidemiology* (2017). [DOI: 10.1017/ice.2017.110](https://doi.org/10.1017/ice.2017.110)

Provided by Society for Healthcare Epidemiology of America

Citation: High prevalence of CRE in Washington, D.C. healthcare facilities (2017, June 15) retrieved 26 April 2024 from <https://medicalxpress.com/news/2017-06-high-prevalence-cre-washington-dc.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--