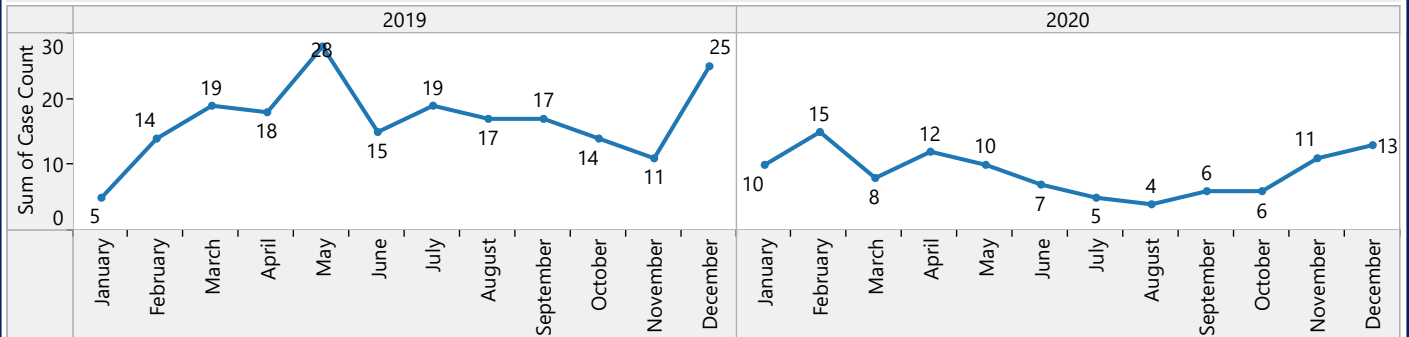


Virginia Department of Health

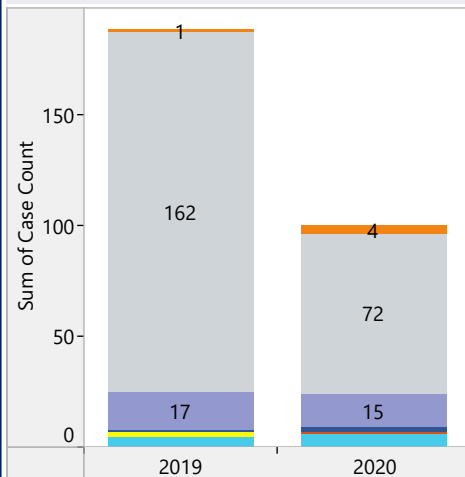
Carbapenemase-Producing Organisms Quarterly Report

Carbapenemase-producing organisms (CPOs) were added to the reportable disease list and conditions reportable by directors of laboratories on November 14, 2018. The HAI/AR Program produces quarterly case reports to inform prevention responses to help contain the spread of these highly-resistant organisms. For more details on the data and methods used in this report, please see the Additional Information tab.

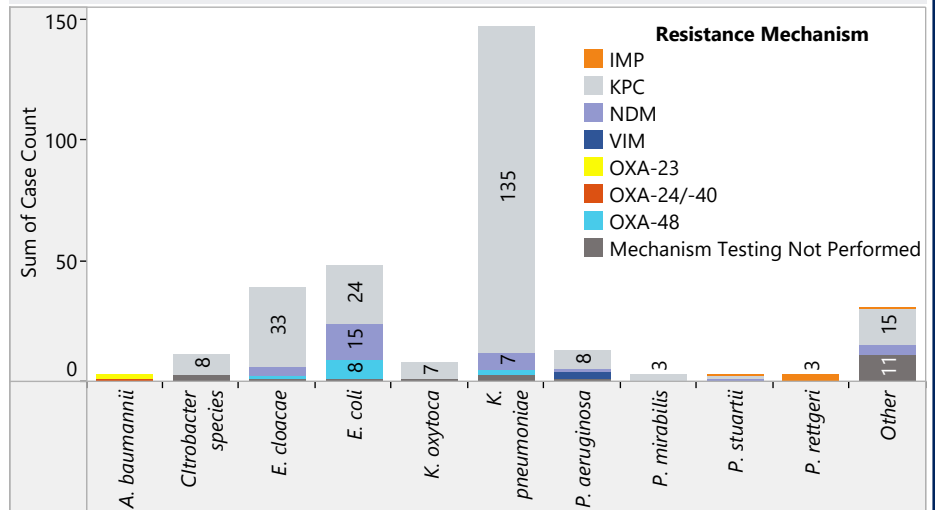
Number of CPO Cases by Month, 2019-2020 (n=309)



Number of CPO Cases by Resistance Mechanism, 2019-2020 (n=288)



Number of CPO Cases by Organism, 2019-2020 (n=309)

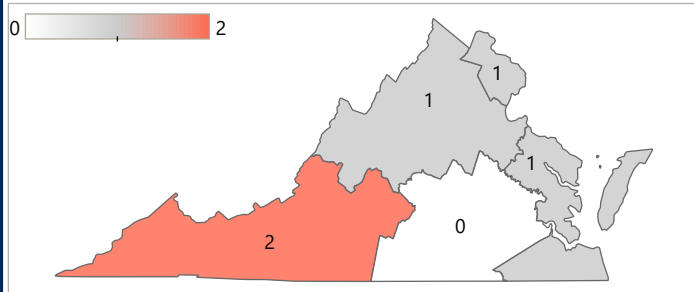


Report generated: 5/3/2021

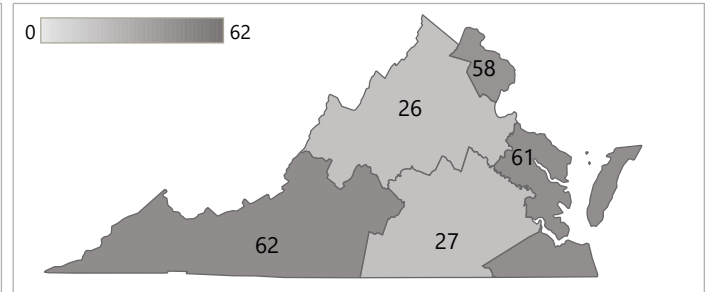
IMP = imipenemase metallo-beta-lactamase, KPC = Klebsiella pneumoniae carbapenemase, NDM = New Delhi metallo-beta-lactamase, OXA-23 = Oxacillinase 23-type carbapenemases, OXA-24/-40 = Oxacillinase 24/40-type carbapenemases, OXA-48 = Oxacillinase 48-type carbapenemases, VIM= Verona Integron-Mediated Metallo-β-lactamase..

Virginia Department of Health Carbapenemase-Producing Organisms (CPOs) Quarterly Report

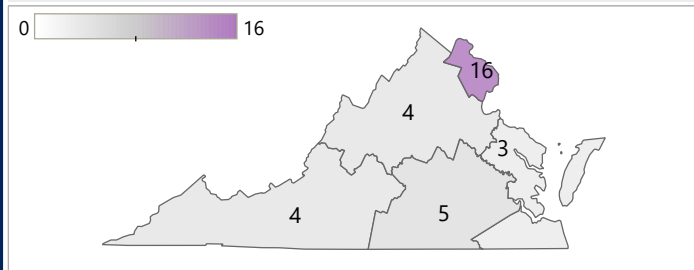
Number of CPO IMP Cases by VDH Health Planning Region, 2019-2020 (n=5)



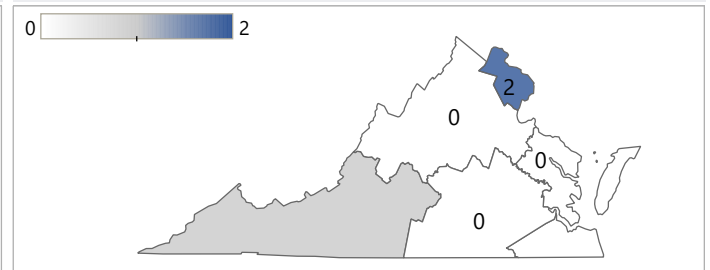
Number of CPO KPC Cases by VDH Health Planning Region, 2019-2020 (n=234)



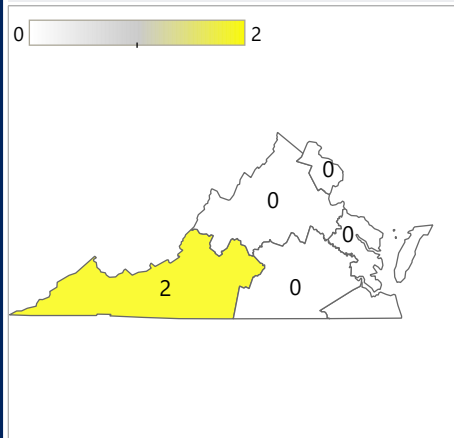
Number of CPO NDM Cases by VDH Health Planning Region, 2019-2020 (n=32)



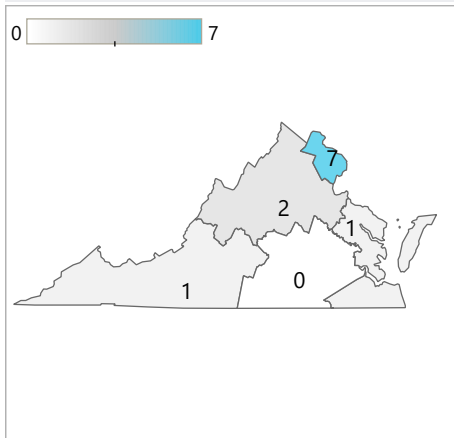
Number of CPO VIM Cases by VDH Health Planning Region, 2019-2020 (n=3)



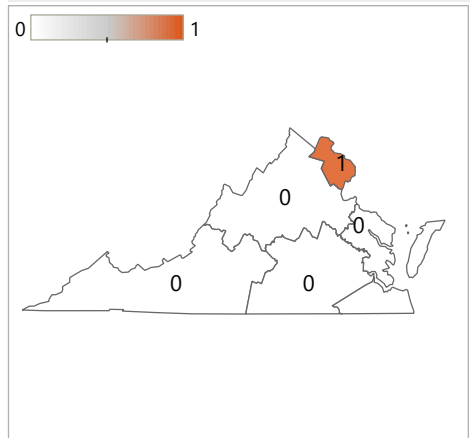
Number of CPO OXA-23 Cases by VDH Health Planning Region, 2019-2020 (n=2)



Number of CPO OXA-48 Cases by VDH Health Planning Region, 2019-2020 (n=11)



Number of CPO OXA-24/-40 Cases by VDH Health Planning Region, 2019-2020 (n=1)



Report generated: 5/3/2021

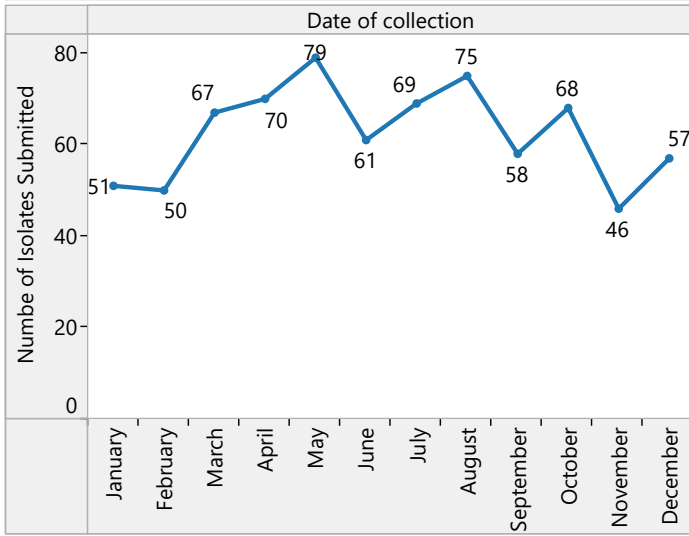
More information on VDH Health Planning Regions can be found here:

http://www.vdh.virginia.gov/content/uploads/sites/3/2016/03/Maps_2007Bsmall.pdf

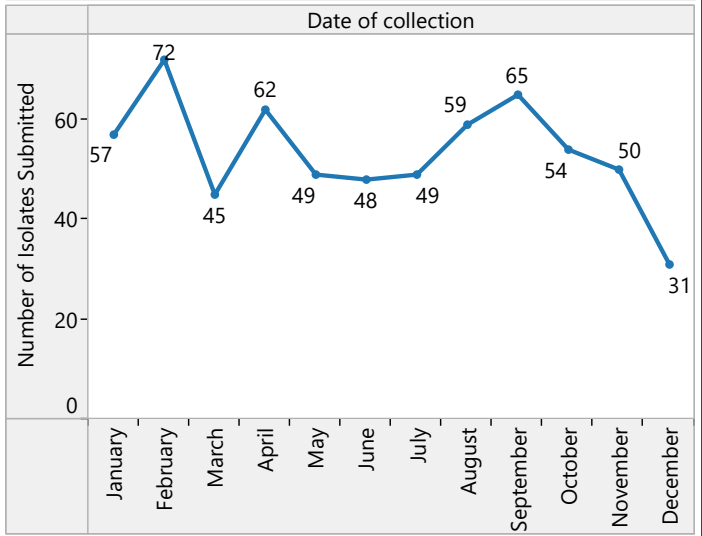
IMP = imipenemase metallo-beta-lactamase, KPC = Klebsiella pneumoniae carbapenemase, NDM = New Delhi metallo-beta-lactamase, OXA-23 = Oxacillinase 23-type carbapenemases, OXA-24/-40 = Oxacillinase 24/40-type carbapenemases, OXA-48 = Oxacillinase 48-type carbapenemases, VIM= Verona Integron-Mediated Metallo-β-lactamase

Number of CRE and CRPA Isolates Received at DCLS, 2019-2020

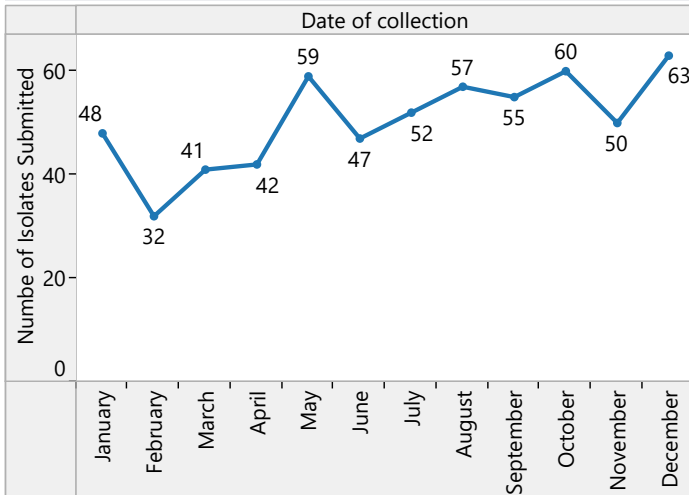
CRE Isolates, 2019 (n=751)



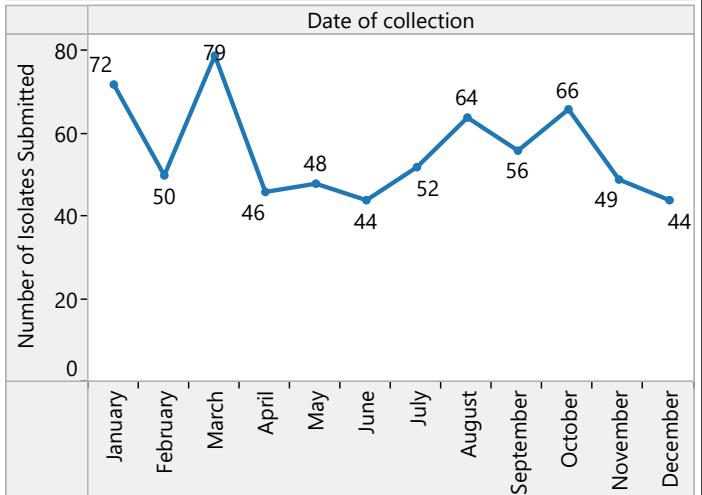
CRE Isolates, 2020 (n=641)



CRPA Isolates, 2019 (n=606)



CRPA Isolates, 2020 (n=670)



Report generated: 4/12/2021

CRE= Carbapenem-resistant Enterobacteriaceae, CRPA=Carbapenem Resistant Pseudomonas aeruginosa

**Virginia Department of Health
Carbapenemase-Producing Organisms Quarterly Report
Additional Information**

1. What are CROs?

Organisms that have developed resistance to carbapenems are known as carbapenem-resistant organisms (CRO). Carbapenems are a class of broad-spectrum antibiotics reserved to treat serious multidrug-resistant infections. The CDC considers CROs an urgent threat in the United States.

2. What are CPOs?

CRO are classified into two categories based on their ability to produce carbapenemases. Organisms that contain a carbapenemase are known as carbapenemase-producing organisms (CPOs). Carbapenemases are enzymes that break apart the carbapenem antibiotic, rendering it inactive and useless to treat infections. Carbapenemases are often located on mobile genetic elements (e.g., plasmids) enhancing wider spread and transmission to other patients.

3. What is the case definition of CPO?

CPOs are defined as organisms for which the isolate is:

Positive for carbapenemase production by a phenotypic method (e.g., mCIM, Carba NP)

-OR-

Positive for a known carbapenemase resistance mechanism by a recognized test (e.g., PCR, X-pert CarbaR).

Cases are counted once in the 12-month period from the first (original) date of specimen collection for a patient with the same organism and the same carbapenemase resistance mechanism. One patient can have multiple cases if the patient has a CPO caused by a different organism and a different carbapenemase mechanism.

4. Where do the data come from?

Facilities and/or laboratories report cases to their local health department. Local epidemiologists respond to cases by collecting data, providing infection prevention recommendations, and conducting a contact investigation. Laboratory and case information is entered in the Virginia Electronic Disease Surveillance System (VEDSS). The VDH Antimicrobial Resistance Epidemiologist queries VEDSS to develop these reports. Cases are assigned to a month based on the date the investigation was started at the local health department. Local Health Department investigator is assigned (in most cases) by the location of the healthcare facility where the patient was seen. Healthcare facilities can include acute care, long-term care, and outpatient facilities.

5. What is included in this report?

This report includes all confirmed clinical cases identified in Virginia facilities. This report includes both Virginia and non-Virginia residents. This report does not include cases identified through colonization screenings.