



Infection Prevention and Control Roundtable with Acute Care Facilities in Chicago

01-27-23





Agenda



- Introductions: CDPH and Facility IPs
 - CDPH Program Overview
 - Survey Results
- Important Updates from CDPH
- Project First Line
- Epidemiology of MDROs in Chicago and MDRO Reporting
- Extended-Spectrum Beta-Lactamase *Shigella sonnei* Cluster in Chicago
- Respiratory Virus Updates
- Ongoing outbreaks of significance
- Open Forum for Questions and Comments



★ Our Team

- Medical Directors:
 - Dr. Do Young Kim
 - Dr. Stephanie Black
- Project Administrator: Shane Zelencik
- Project Manager: Maria Bovee
- Infection Preventionists:
 - Alison VanDine
 - Kim Goitia
 - Val Cela
- Public Health Administrators:
 - Rahma Shah
 - Maggie Li
- General number for our team: **312-744-1100**
- cdphhaiar@cityofchicago.org





Our Team, Our Services

Our team consists of Infection Prevention Specialists, Epidemiologists, a Project Manager, Project Administrator, and Medical Directors who can provide the following assistance:

- IP&C Guidance and training
- Infection Control Assessments and Responses (ICARs)
- Epidemiology Support
- IP&C Roundtable
- Our partnerships and site visits are meant to be educational, constructive, non-regulatory, and non-punitive.
 - We work with you to resolve any identified opportunities.
 - These services are not in response to citations or complaints.

Facility Introductions

Please
Introduce
yourself/
team and your
facility name



And

In the chat, please
share your name
and facility name



Results from Survey Sent to Acute Care Facilities

Maria Campos Bovee, MPH, CIC, FAPIC
Project Manager– Healthcare Program

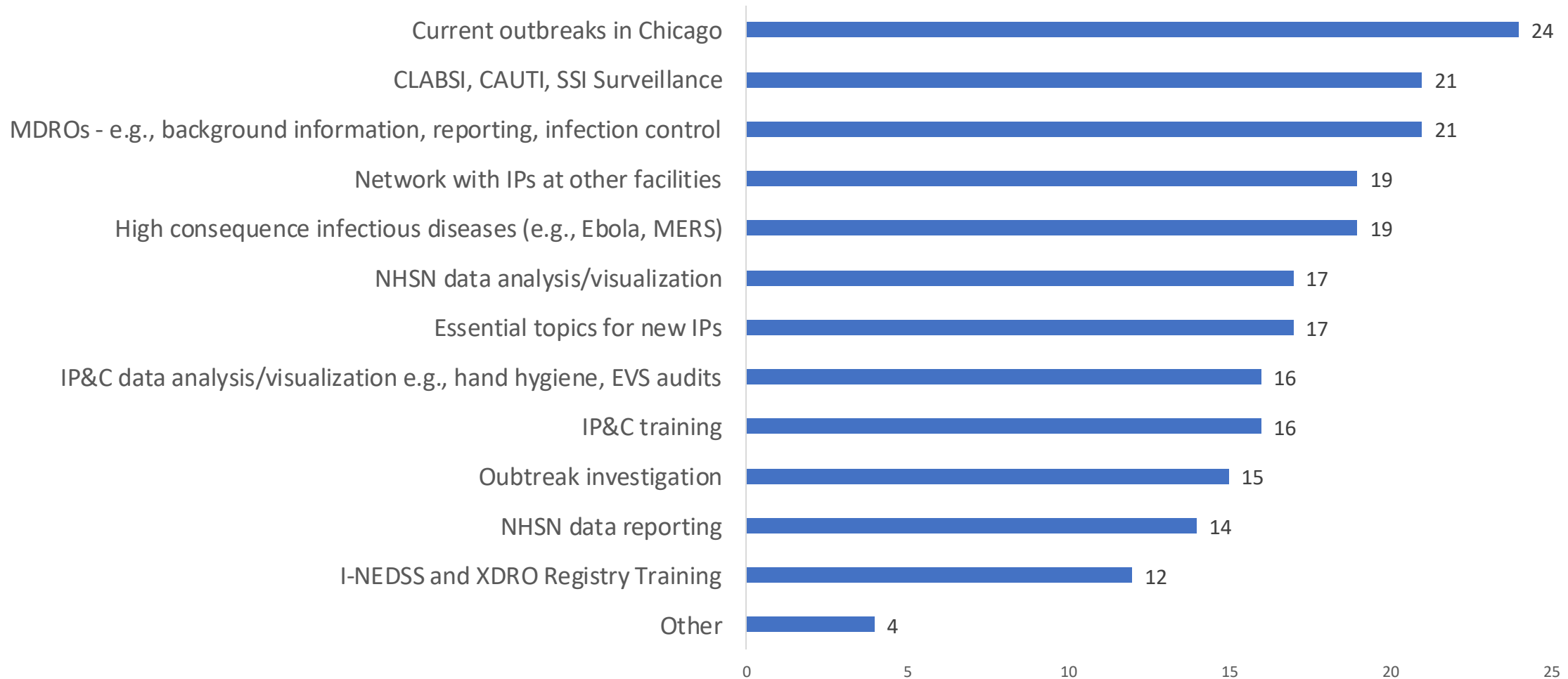


ACHOO Survey

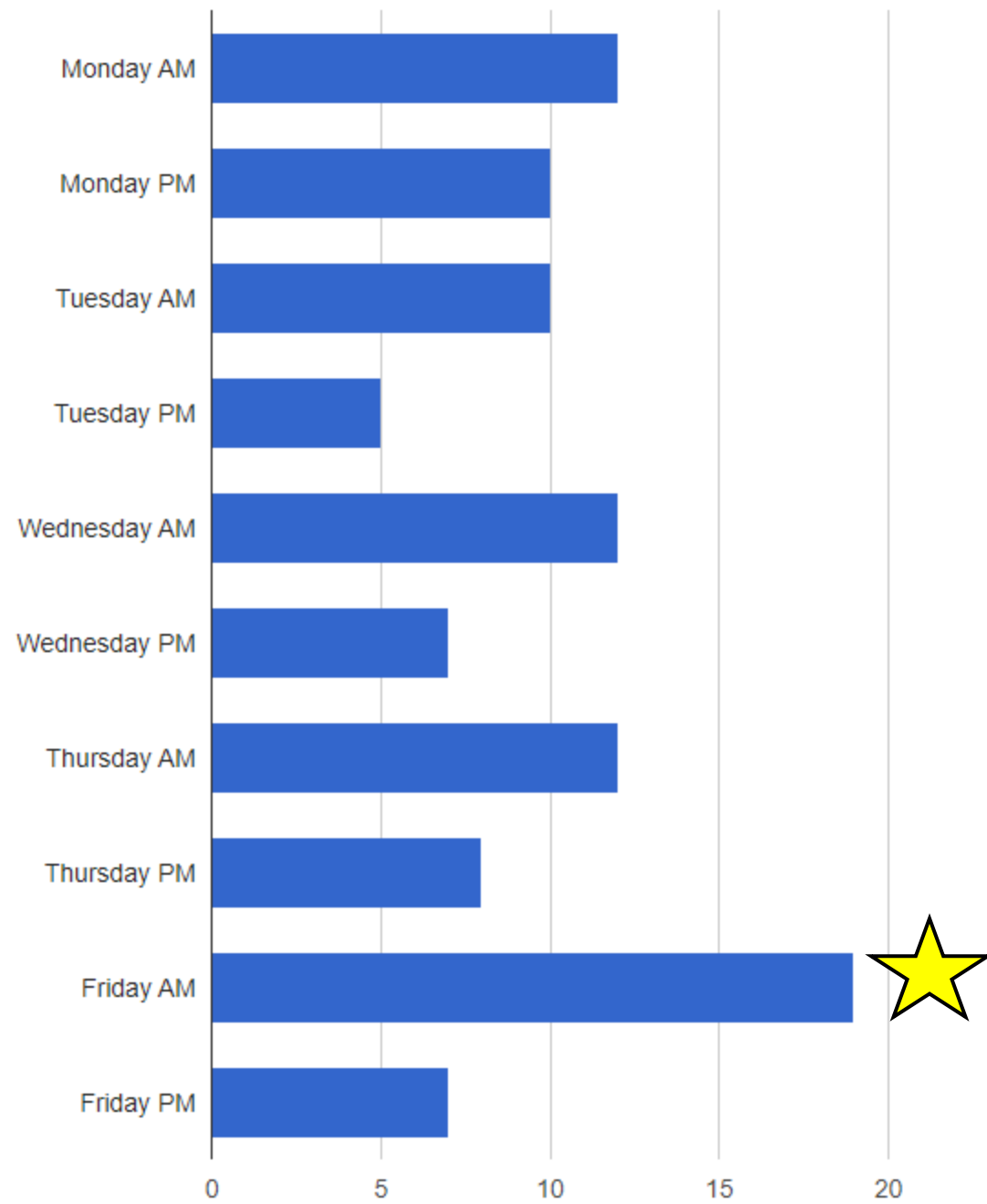
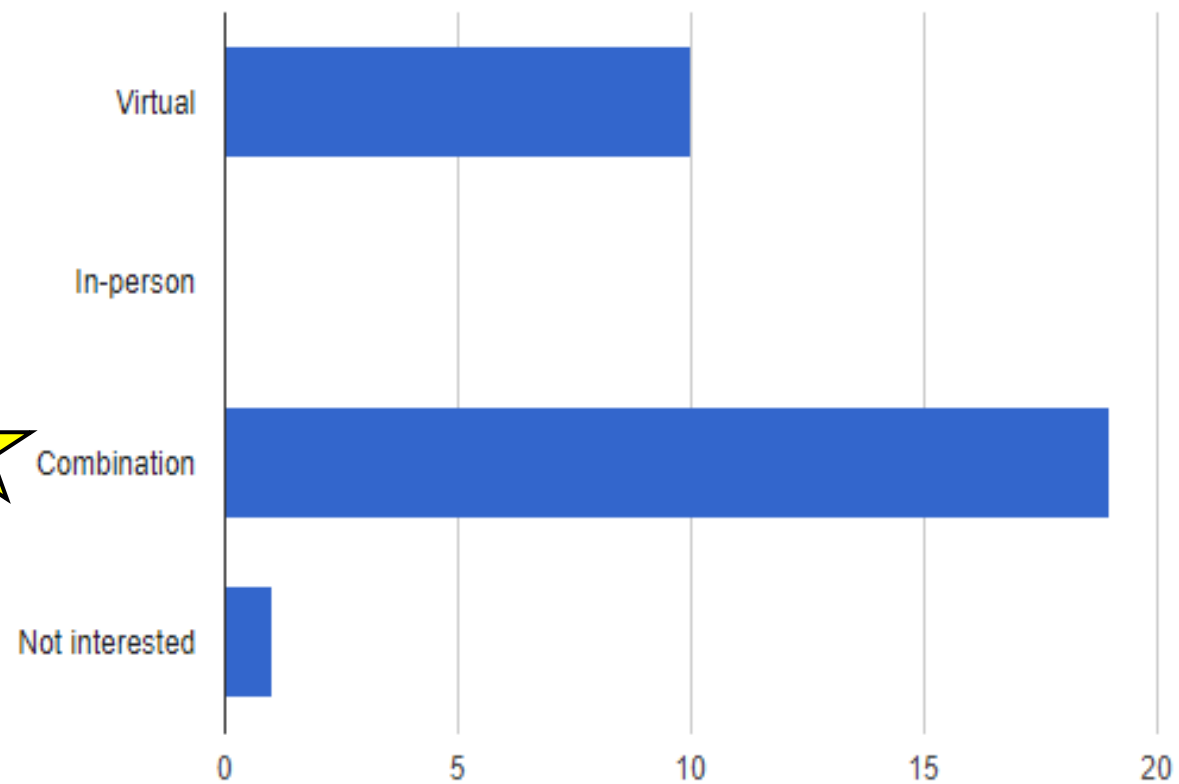
- On 11/29/2022, a survey went out via email to infection preventionists at healthcare facilities in Chicago
- The survey assessed needs and ideas for roundtable topics
- **30** individuals completed the survey representing **17** facilities/healthcare networks
- There is still time to fill out the survey: <https://redcap.link/dbpp2shz>



Which of the following topics are the most relevant to your facility?

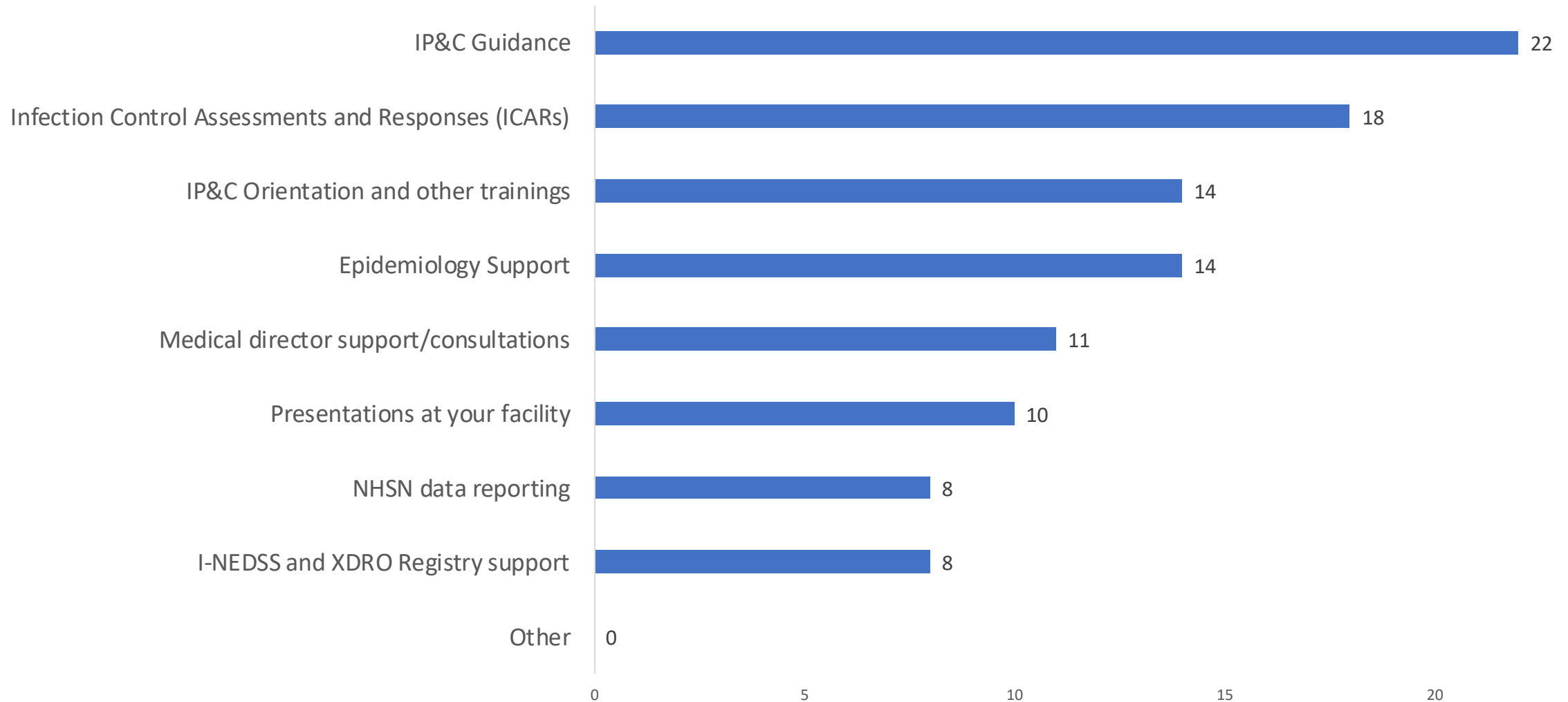


Roundtable Format and Da





How can the CDPH Healthcare Program best support your team?





Important Updates

- COVID-19 hospital data being reported to NHSN as of December 2022
 - <https://www.cdc.gov/nhsn/covid19/transition.html>
 - [For issues with submission contact NHSN@cdc.gov](mailto:NHSN@cdc.gov) with the subject “hospital COVID-19 compliance.”
 - Hospital-onset COVID-19 data
- NEW as of January 17: CDC released the first four modules of the new **Infection Control Assessment and Response (ICAR)** Tool for General IPC Across Settings.
<https://www.cdc.gov/hai/prevent/infection-control-assessment-tools.html>.
- Tool is intended to help assess IPC practices in acute care, long-term care, and outpatient settings
- The tool includes a series of modules that individuals performing the assessment may use depending on the focus of the assessment



Project Firstline

Alison VanDine, MPH

Infection Prevention Specialist I Project Firstline Lead

Healthcare Program

★ Project Firstline Overview

- Project Firstline is the Center for Disease Control's (CDC) National Training Collaborative for Healthcare Infection Control education
- Project Firstline (PFL) brings together more than 75 healthcare, academic, and public health partners to reach healthcare workers across the country
- PFL offers educational resources in a variety of formats to meet the diverse learning needs and preferences of the healthcare workforce

As of May 2022, Project Firstline and its collaborative partners have:



Developed **200+** educational products and training materials on healthcare infection control



Hosted **750+** educational events, reaching approximately **65,238** healthcare workers



Received **84 million+** views across the web and various digital platforms



Learn About Infection Control in Health Care



Access Infection Control Educational Materials



Infection Control and COVID-19



Explore Project Firstline Partnerships



Project Firstline Promotional Resources



Earn Continuing Education



Recursos en español

Connect with Project Firstline



[Twitter](#)



[Facebook](#)



[YouTube](#)



[Instagram](#)



★ Questions & Answers

- Please contact the **PFL-Chicago team** at projectfirstline@cityofchicago.org:
 - To meet our education specialists
 - To schedule an onsite training tailored to your facility
- For additional PFL-Chicago upcoming events, please visit the [CDPH HAN page](#):
 - CDPH offers webinars, newsletters, and more!
- Reference the CDC's [Project Firstline](#) for:
 - Infection Control **Educational Materials**
 - CDC Promotional Resources
 - Explore Project Firstline Partnerships
 - Translated resources and more!






Epidemiology of MDROs in Chicago & MDRO Reporting

Kelly Walblay, MPH

Senior Epidemiologist – Healthcare Program

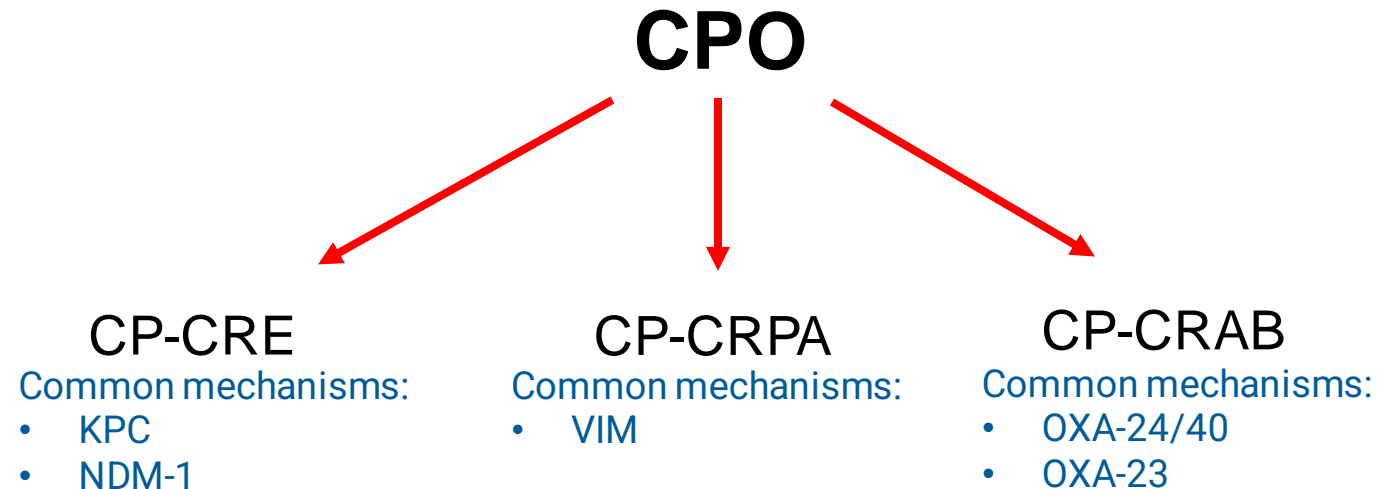


What is “MDRO”?

- Multi-drug resistant organism
- Typically includes the following:
 - Carbapenem-resistant Enterobacterales (CRE)
 - *Candida auris* (C. auris)
 - Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA)
 - Carbapenem-resistant *Acinetobacter baumannii* (CRAB)

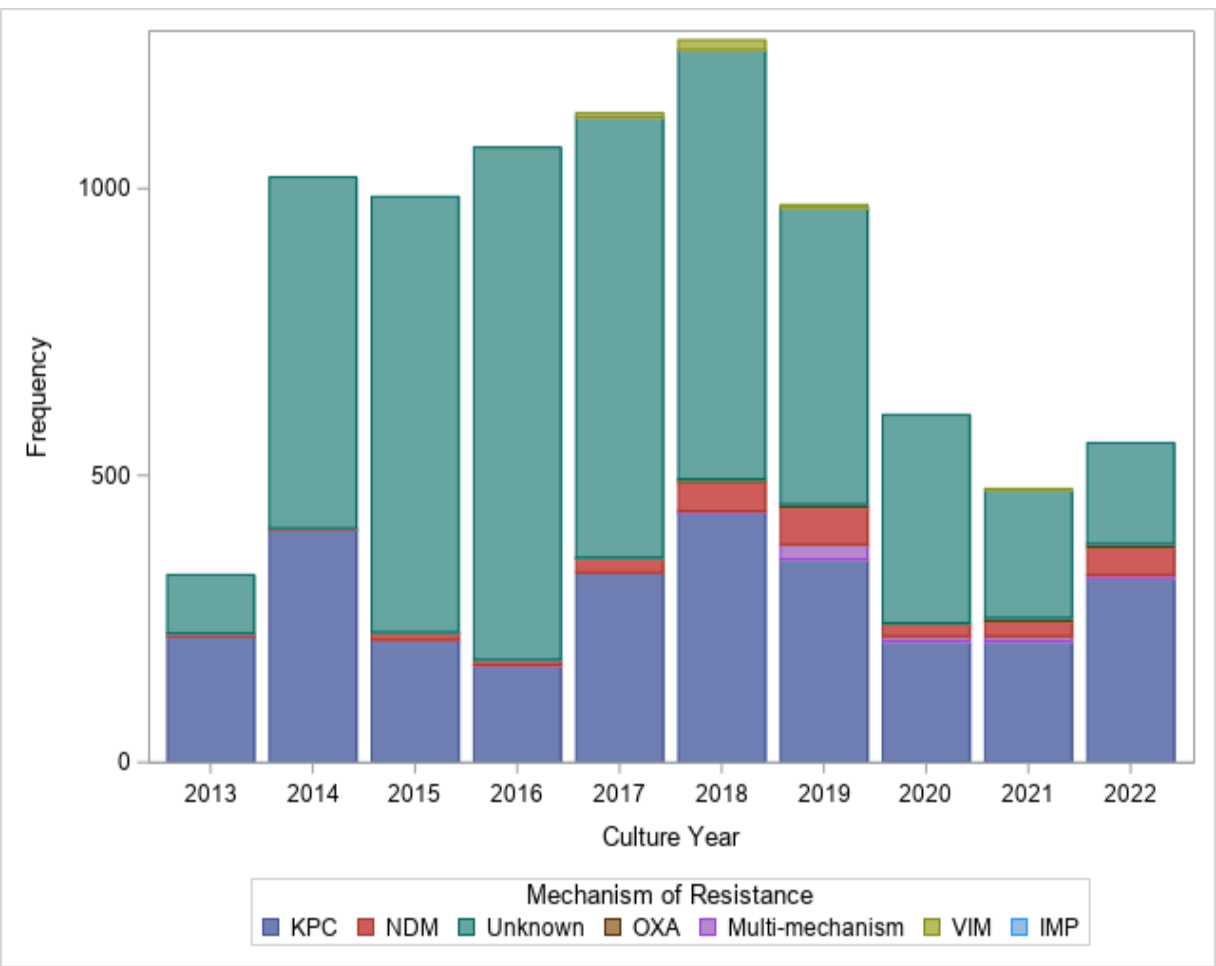
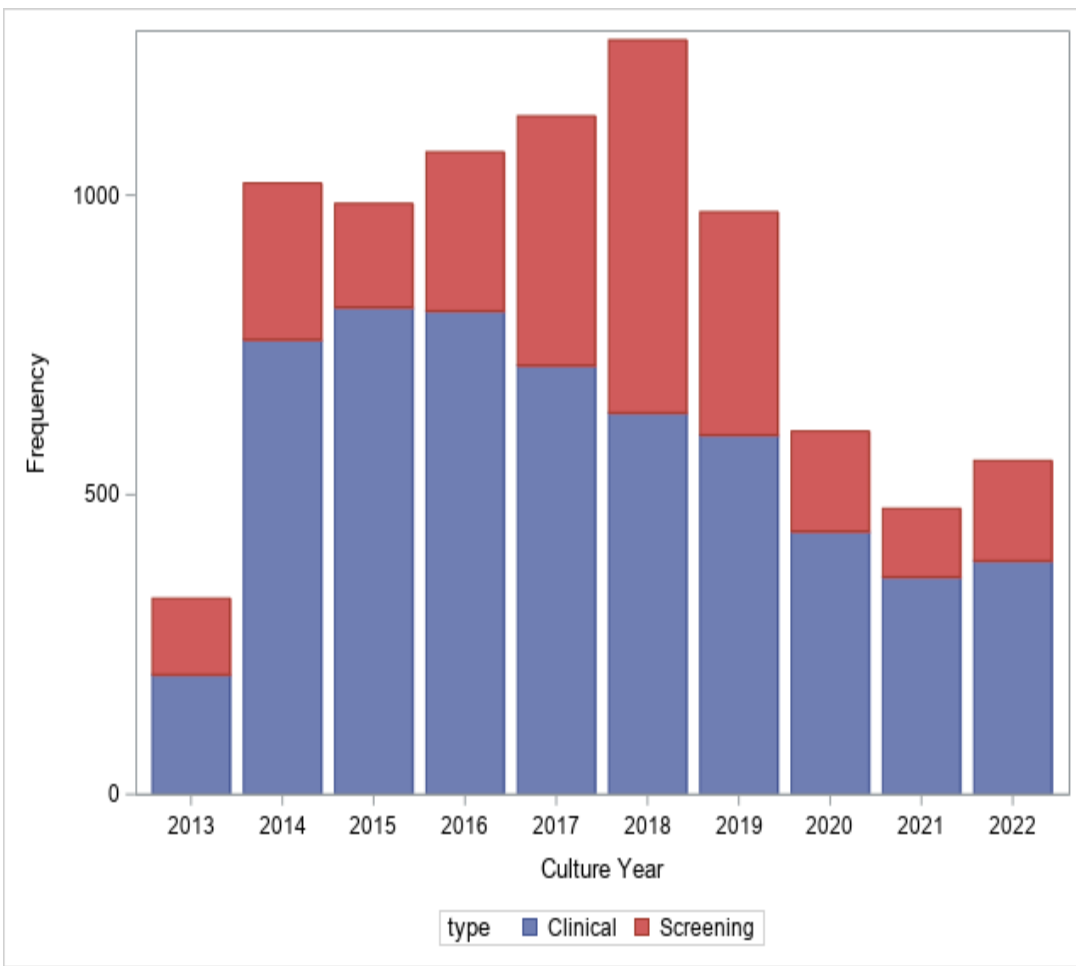
★ Carbapenemase-Producing Organisms (CPOs)

- **CRE, CRPA** and **CRAB** can produce carbapenemases
- In Chicago, we routinely track the following mechanisms of resistance:
 - KPC
 - NDM-1
 - VIM
 - IMP
 - OXA-28
 - OXA-24/40
 - OXA-23



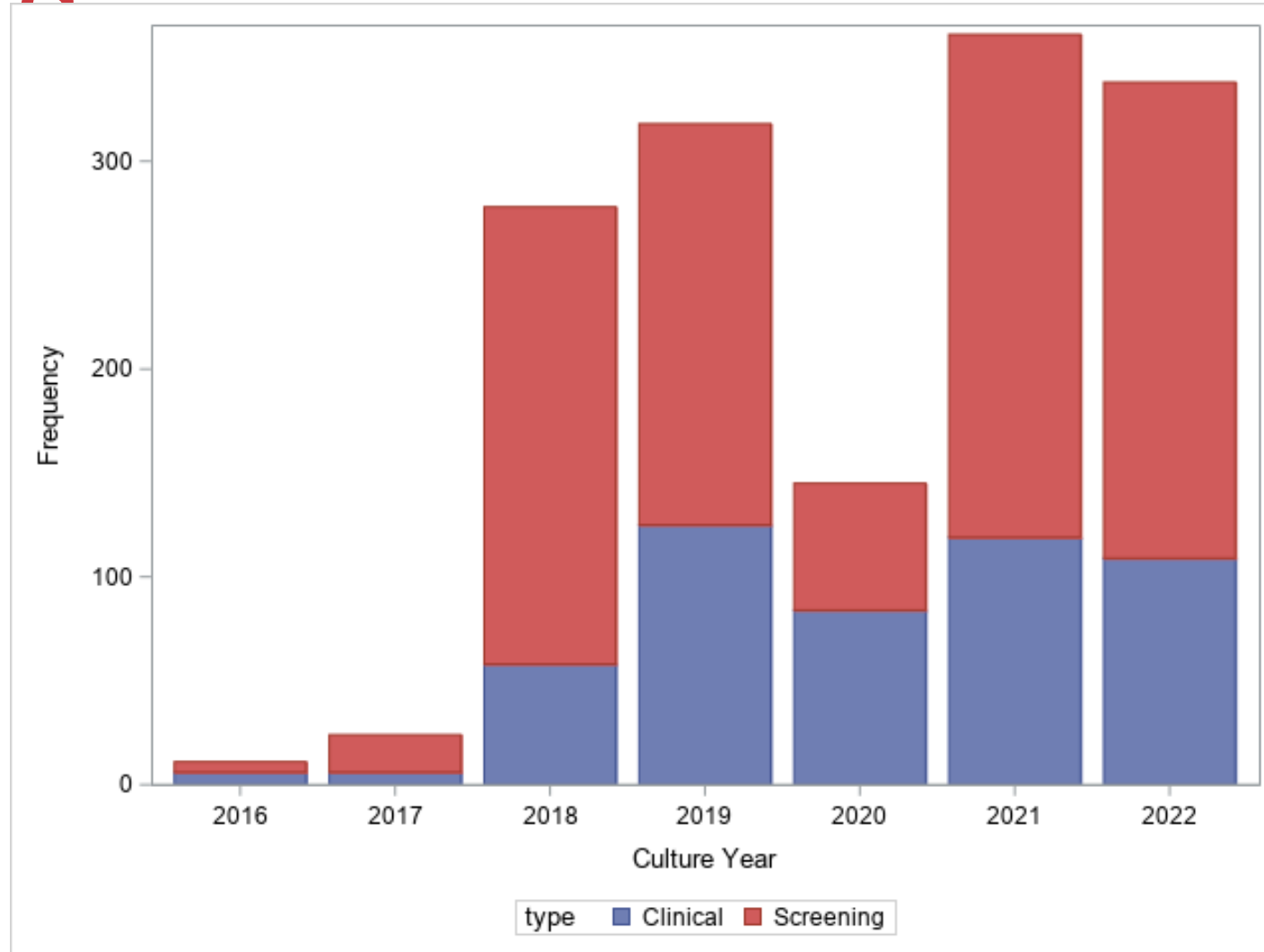


Epidemiology of Targeted MDROs in Chicago: CRE

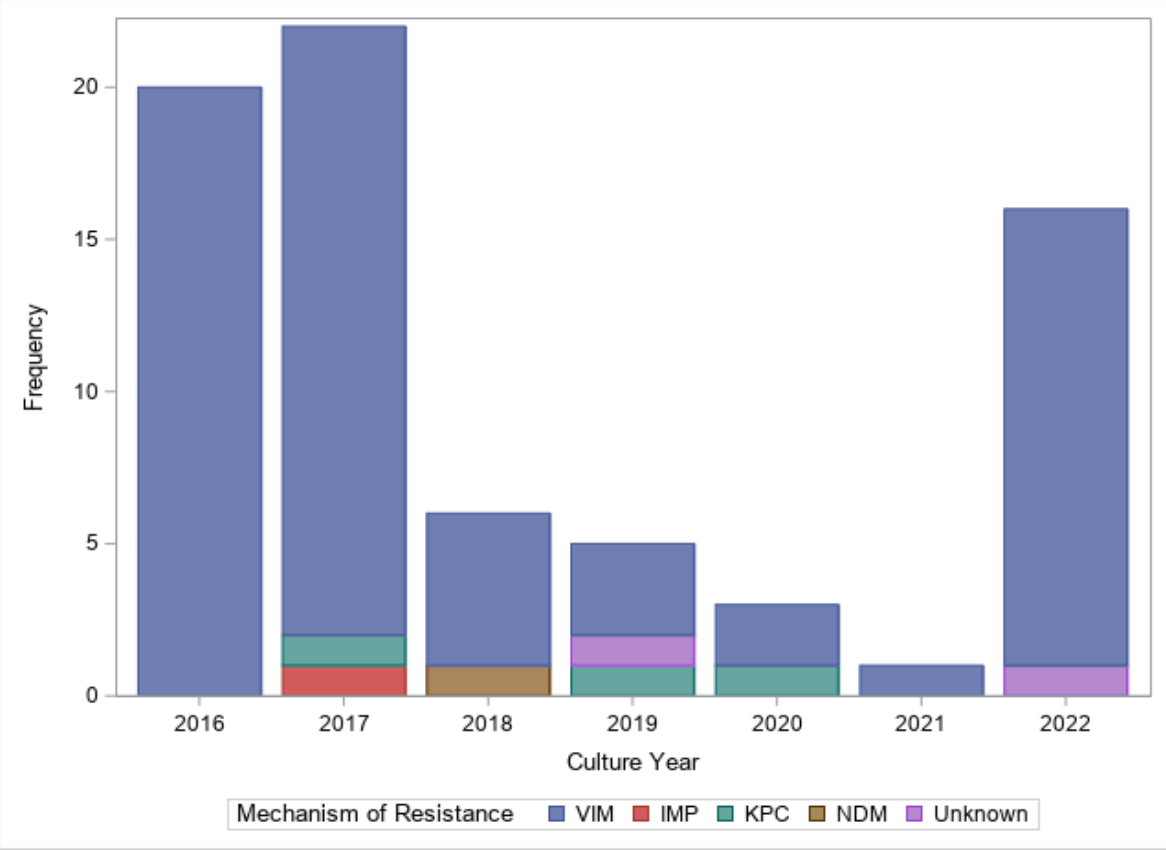
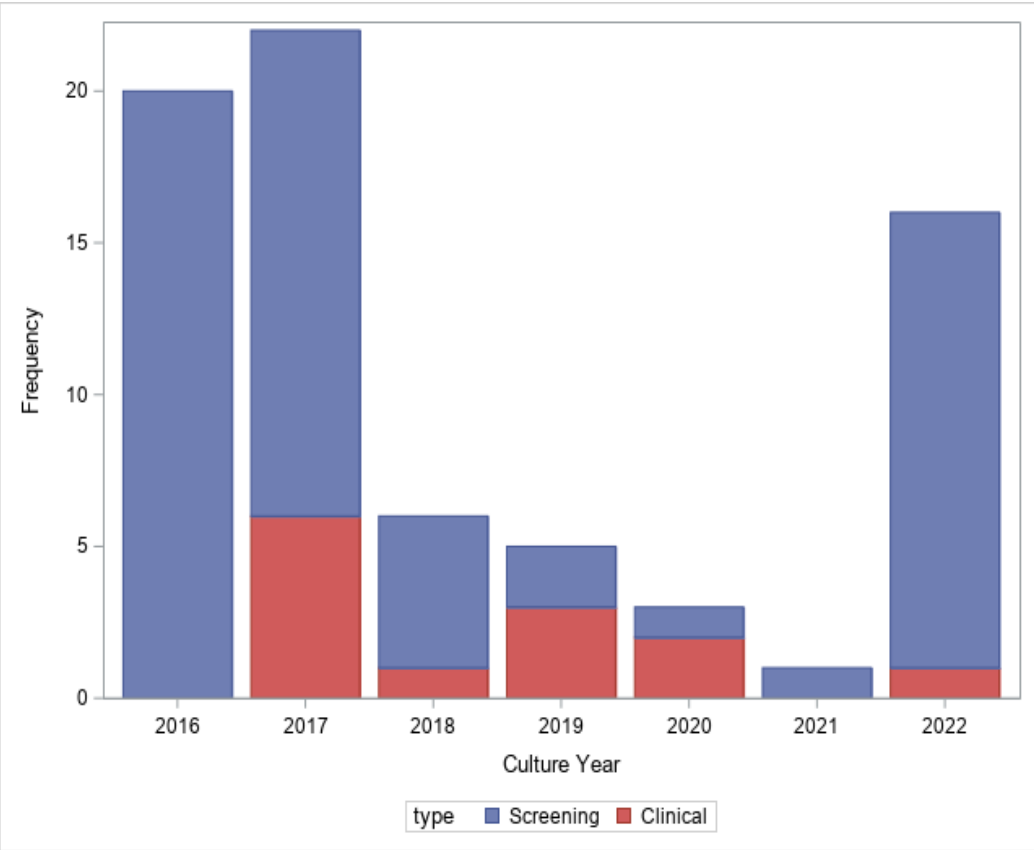


Epidemiology of Targeted MDROs in Chicago:

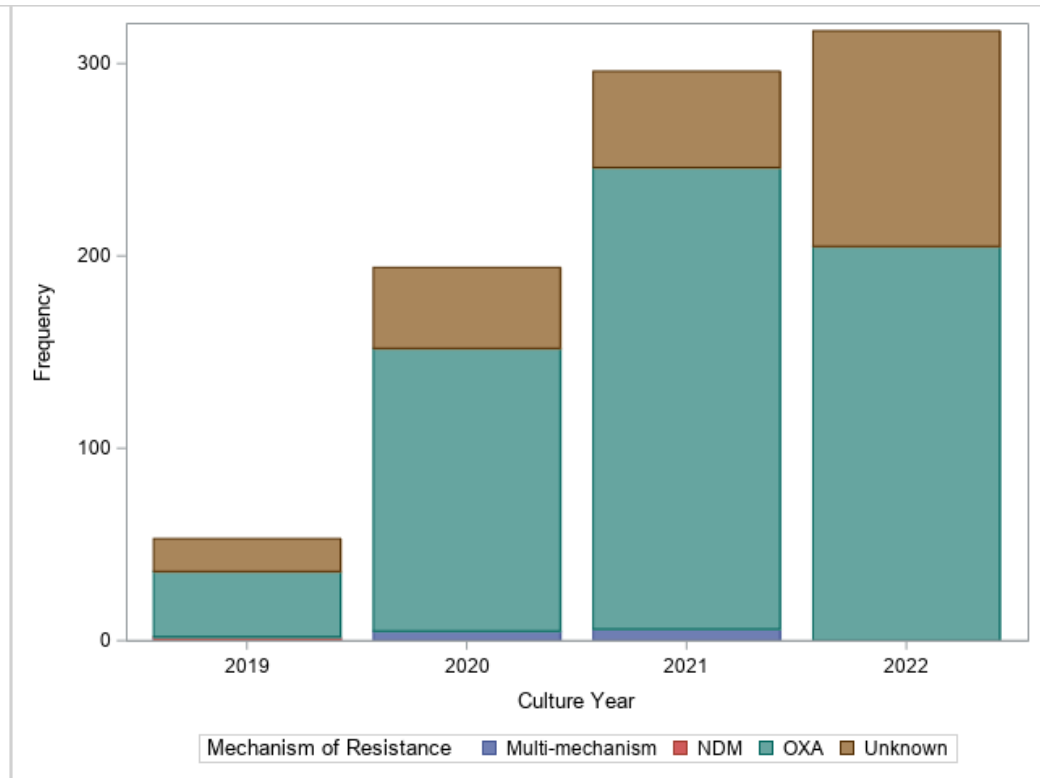
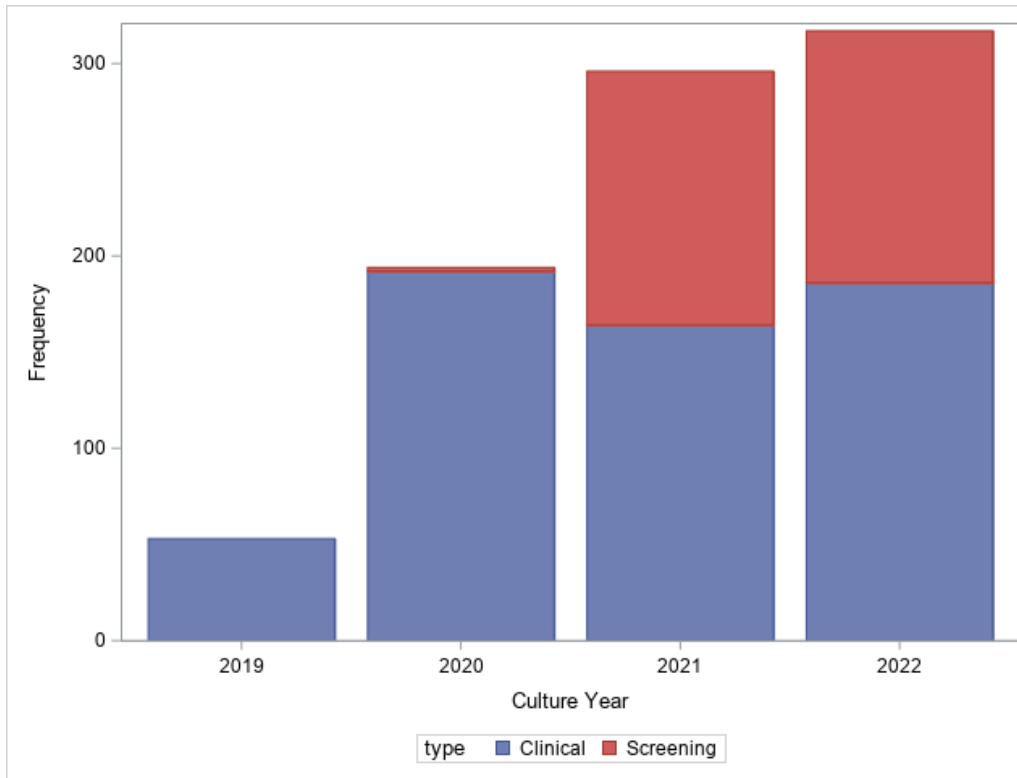
C. auris



Epidemiology of Targeted MDROs in Chicago: CRPA

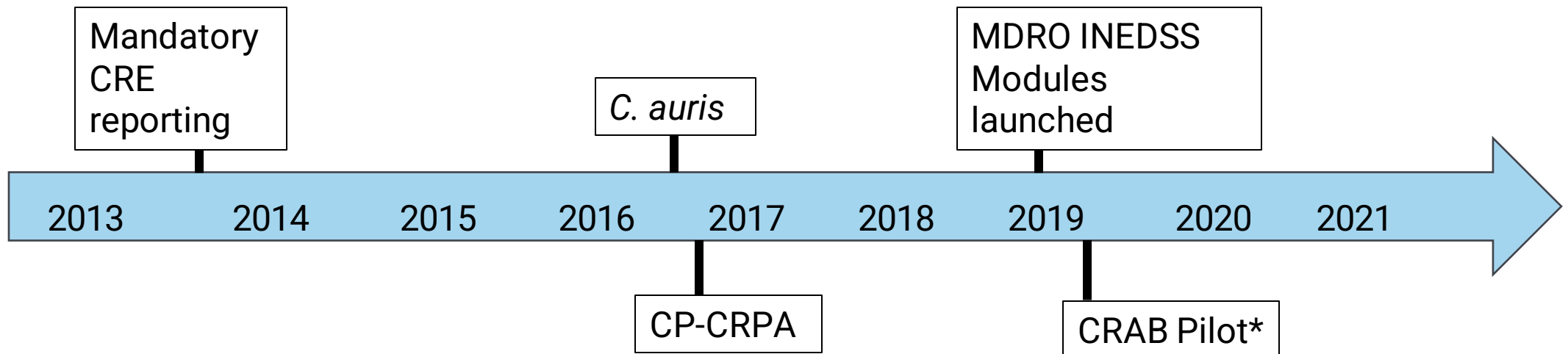


Epidemiology of Targeted MDROs in Chicago: CRAB



★ Reporting MDROs in Chicago

- MDROs are reported to the eXtensively Drug Resistant Organism (XDR0) Registry
 - Facilities report CRE
 - Public health reports *C. auris*, CP-CRPA and CRAB on behalf of facilities



*CRAB is not reportable, but select labs/facilities in IL participate in a pilot study for surveillance

★ XDRO Registry

- Functions of XDRO Registry
 1. MDRO surveillance
 2. Improve communication





Facilities must report the first CRE-positive per patient stay to XDRO

Reporting Rule

Starting November 1, 2013, the **first CRE-positive culture per patient stay** must be reported to the XDRO registry.

CRE definition

Enterobacteriales (e.g., E. coli, Klebsiella species, Enterobacter species, Proteus species, Citrobacter species, Serratia species, Morganella species, or Providentia species) with one of the following laboratory test results:

1. Molecular test (e.g., polymerase chain reaction [PCR]) specific for carbapenemase;
2. Phenotypic test (e.g., Modified Hodge) specific for carbapenemase production;
3. For **E. coli and Klebsiella** species only (excluding K. aerogenes): non-susceptible (intermediate or resistant) to ONE of the following carbapenems (doripenem, meropenem, or imipenem) AND resistant to ALL of the following third generation cephalosporins tested (ceftriaxone, cefotaxime, and ceftazidime). *Note: ignore ertapenem for this definition.*

Consult with your microbiology laboratory regarding which CRE tests are available. For some laboratories, only #3 will be available.



C. auris, CP-CRPA and CRAB can be reported to I-NEDSS

- I-NEDSS contains modules for each MDRO
- Report all *C. auris* cases to I-NEDSS
 - IDPH/CDPH will enter cases into XDRO on behalf of the facility
- **Although not yet reportable in IL**, can report CP-CRPA and CP-CRAB to I-NEDSS as well

What's Reportable & How in Illinois

Disease	Mandatory Reportable?	How?
Carbapenem-resistant <u>Enterobacterales</u>	Yes , since 2013. 77 IL <u>adm</u> code 690.1500-1540	Labs/facilities enter reports directly into XDRO registry. INEDSS used for non-KPC CRE investigations.
<i>Candida auris</i>	Yes , since 2016. 77 IL <u>adm</u> code 690.295, 'Unusual Case...'	Labs/facilities enter into INEDSS. IDPH enters into XDRO registry.
Carbapenemase-producing <i>Pseudomonas aeruginosa</i> (only if mechanism of resistance detected)	No . Most often identified through point prevalence surveys (PPS).	LHD notifies IDPH, IDPH enters into XDRO registry.
Carbapenem-resistant <i>Acinetobacter baumannii</i>	No . IDPH-led pilot surveillance since 2019. May also be identified through PPS's.	IDPH enters labs from pilot surveillance or PPS's into XDRO.



Case report forms may be requested for select MDROs

- In order for CDPH to collect epidemiologic data on certain MDROs, we ask facilities to complete case report forms (CRFs) as part of public health investigation and response
- CRFs contain info on demographics, invasive devices, type of care received, previous healthcare stays and medications
- **CDPH currently collects CRFs for the following:**
 - **Non-KPC CRE**
 - **CP-CRPA**
 - **Clinical *C. auris***
- CDPH will reach out to facilities when a CRF is needed
- CRFs can be submitted directly into I-NEDSS or through REDCap:
<https://redcap.link/MDROcasereportform>



Save the Date!

- CDPH is offering a XDRO/I-NEDSS training onsite at our Damen location:

1340 S Damen Ave, 4th Floor Chicago, IL 60608

January 31, 2023 @1-3pm

- *Please contact Kim Goitia at Kimberly.Goitia@cityofchicago.org if you are interested in attending the training.*
- *We will also be offering more trainings (monthly). Will send a save the date for future trainings.*



Extended-Spectrum Beta-Lactamase producing *Shigella sonnei* Cluster in Chicago July–October 2022

Emily Faherty, PhD
EIS Officer
Chicago Department of Public Health
1/27/2023

★ Drug-resistant *Shigella*



450,000 *Shigella* cases annually
77,000 drug resistant infections

Source: [Antibiotic Resistance Threats in the United States, 2019](#)

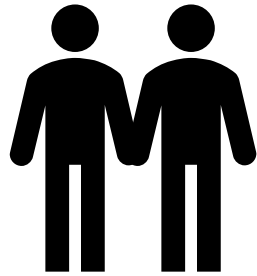
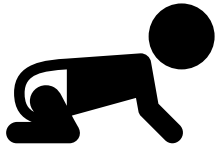
★ Shigellosis clinical presentation

- Incubation Period: 1-2 days
- Duration of illness: Usually 5-7 days



Sources: <https://www.cdc.gov/shigella/index.html>
<https://www.cdc.gov/shigella/symptoms.html>

★ Groups at highest risk for *Shigella* infection



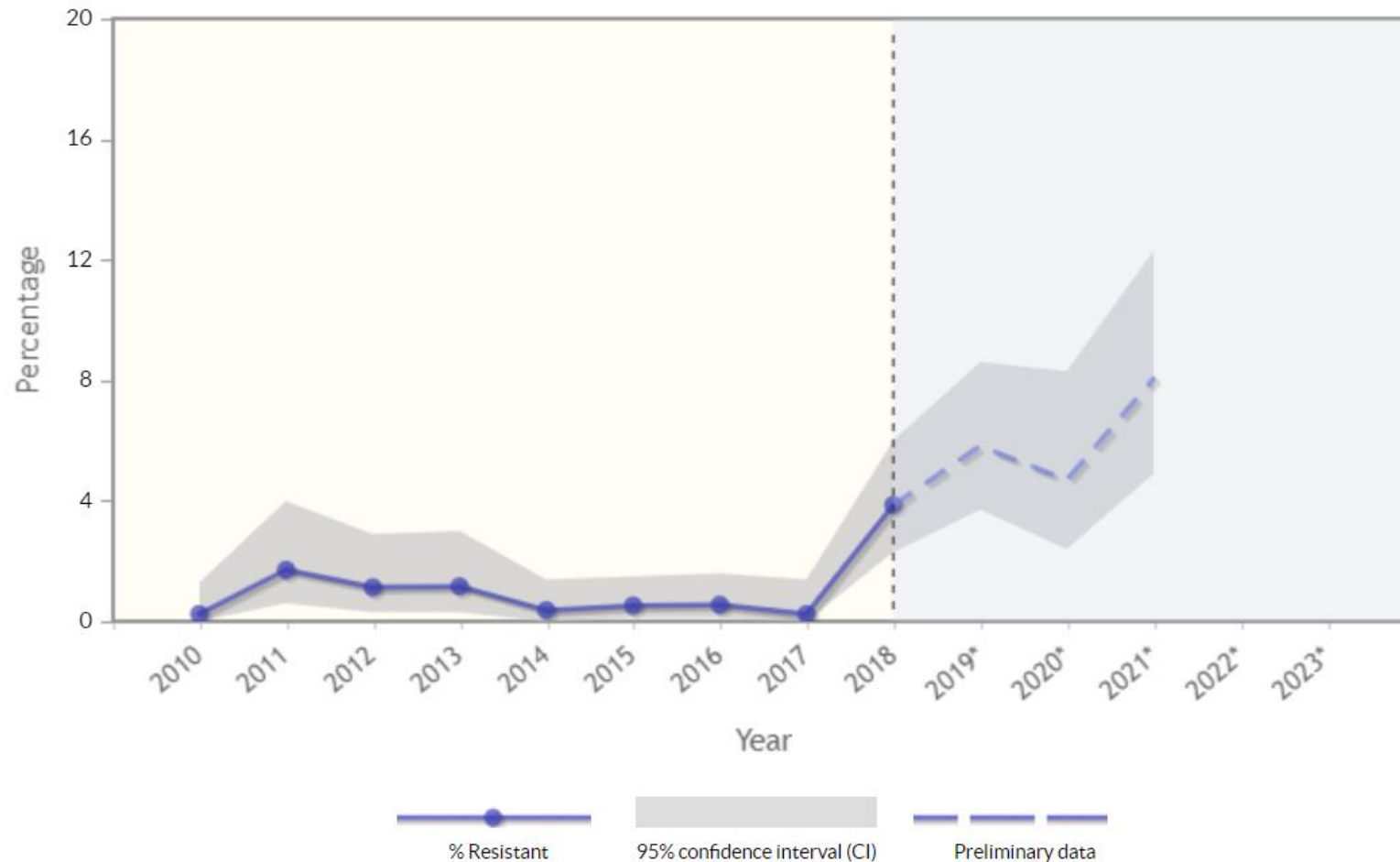
Source: <https://www.cdc.gov/shigella/infection-sources.html>

★ Antibiotic resistance in *Shigella* over time, 2009-2017



Source: [Antibiotic Resistance Threats in the United States, 2019](#)

Cephalosporin resistance in *Shigella* isolates, 2010-2021



Source: https://www.cdc.gov/foodsafety/outbreaks/tools/sedric-overview_original.html

Chicago Department of Public Health



Health Alert



City of Chicago
Lori Lightfoot, Mayor

www.chicagohan.org

Chicago Department of Public Health
Allison Arwady MD, MPH, Commissioner

Extended spectrum beta-lactamase (ESBL) *Shigella* cases identified in Chicago

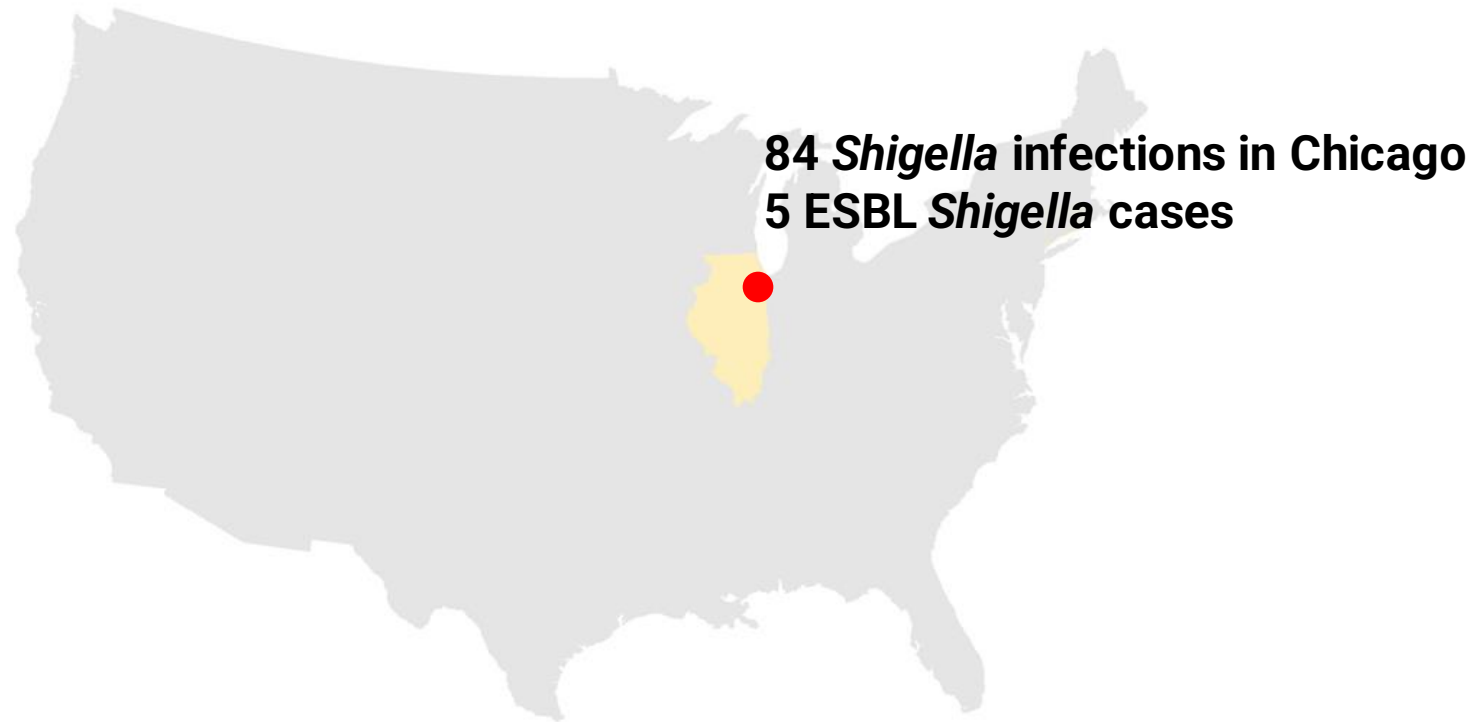
September 21, 2022

Key Messages and Action Steps

- Three ESBL *Shigella* isolates resistant to third generation cephalosporins have been identified among men who have sex with men (MSM) in the Chicago area and one out-of-state case was identified after travel to Chicago.
- Laboratories identifying *Shigella* by culture independent diagnostic testing methods (CIDT) should send specimens to the Illinois Department of Public Health (IDPH) for identification and molecular characterization.
- Laboratories conducting stool cultures that identify *Shigella* species should send isolates to the IDPH laboratory for further molecular characterization.
- Clinicians should be aware of this circulating drug-resistant strain of *Shigella* and 1) follow up with patients diagnosed with *Shigellosis* to ensure symptom resolution, 2) provide education to patients who may be at risk for acquiring infection and 3) ensure that antimicrobial susceptibility testing is performed on *Shigella* isolates, particularly in the case of treatment failure.

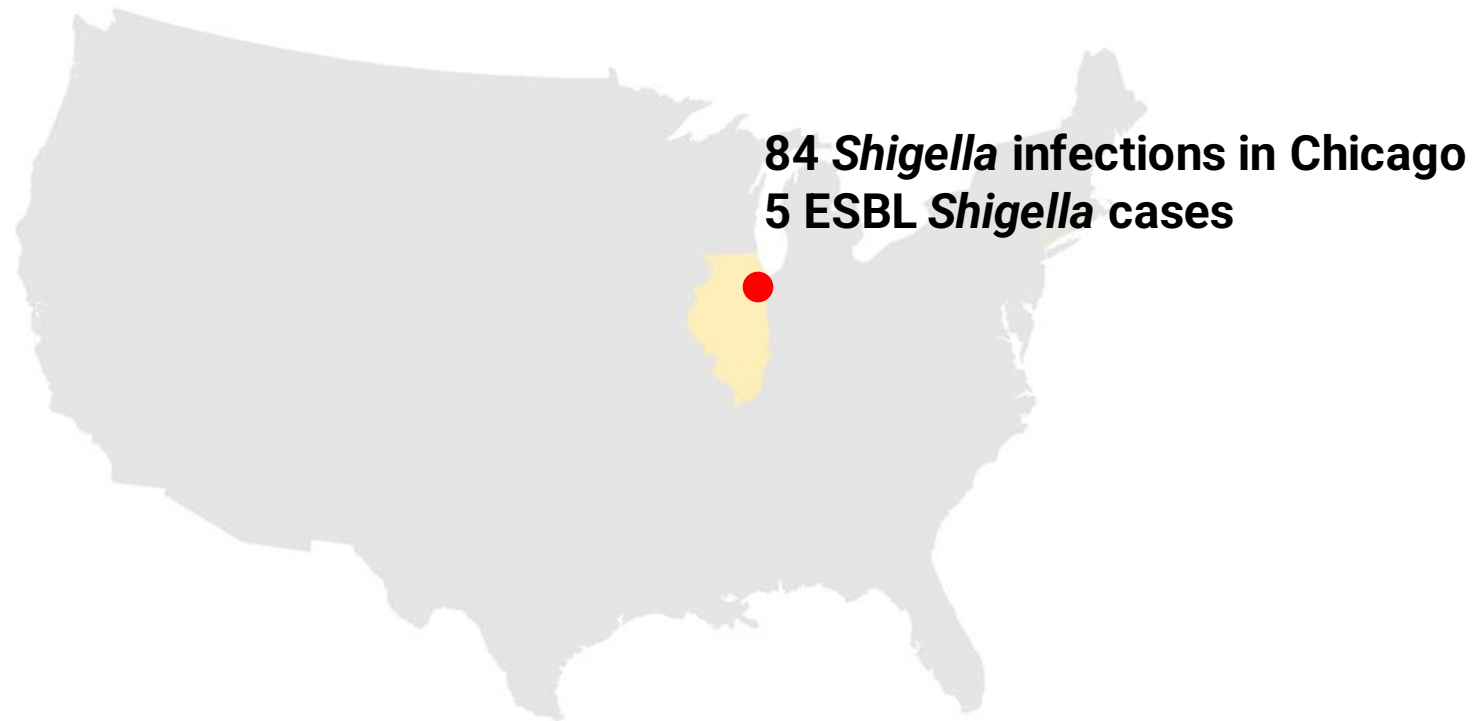
REPORTING/CONTACT INFORMATION: Report all cases of *Shigellosis* to CDPH through the Illinois Notifiable Electronic Disease Surveillance System (INEDSS) or by calling 312-743-9000, option number 6.

★ Case detection, Jul 1 – Oct 31, 2022



AST: 3/5 had identical susceptibility results

★ Case detection, Jul 1 – Oct 31, 2022



AST: 3/5 had identical susceptibility results



WGS: 5 had related susceptibility patterns and resistance genes

★ Case detection, Jul 1 – Oct 31, 2022

4 out of jurisdiction cases were part of the same cluster identified by WGS in SEDRIC

84 *Shigella* infections in Chicago
5 ESBL *Shigella* cases



AST: 3/5 had identical susceptibility results

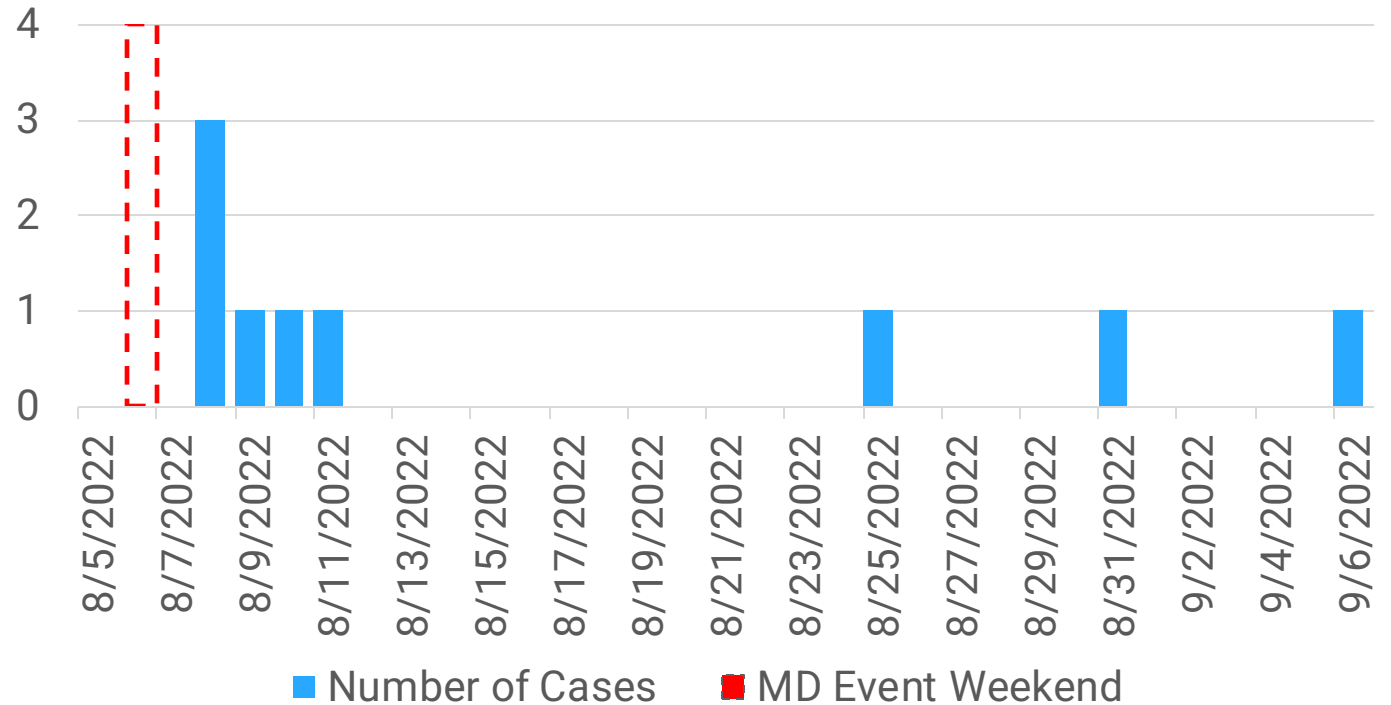


WGS: 5 had related susceptibility patterns and resistance genes

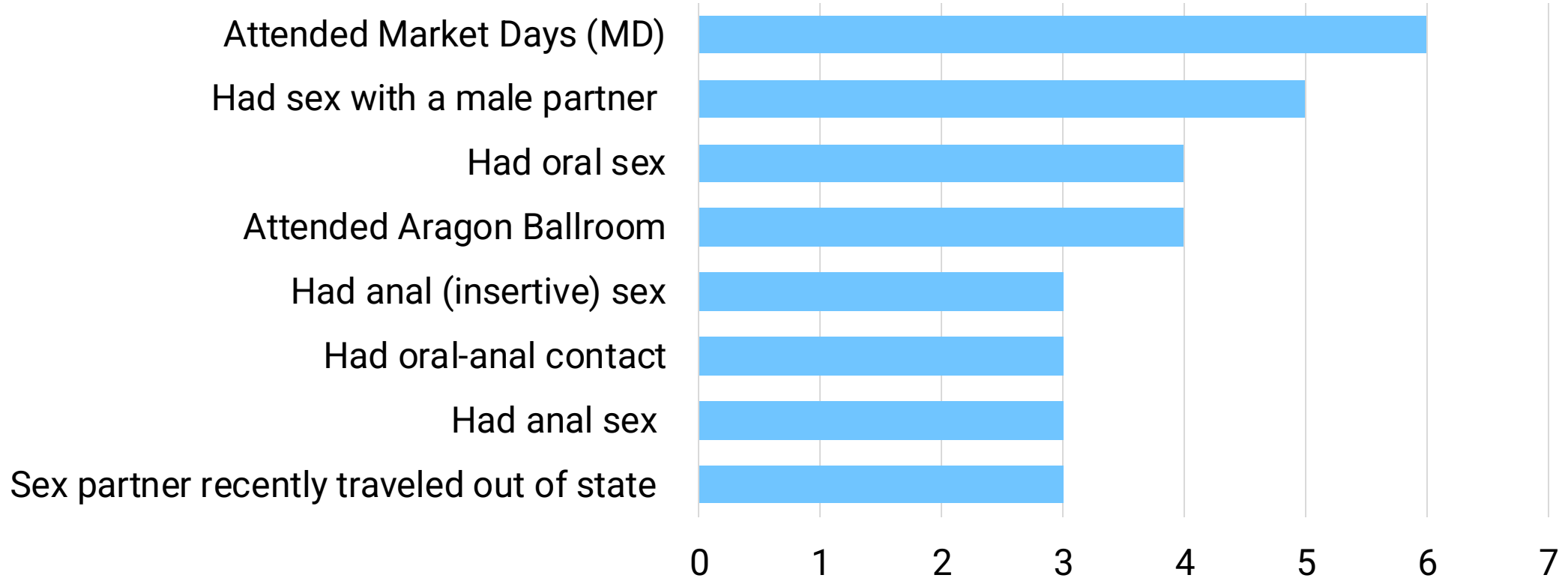
★ Demographic Characteristics

- Most patients were young (median: 32.9 years)
- Non-Hispanic or Latino White (8) and Hispanic or Latino (1)
- Men who have sex with men (8)
- 3 patients reported having heard of *Shigella* prior to becoming infected

Epidemic Curve by Symptom Onset



★ Most Common Exposures*



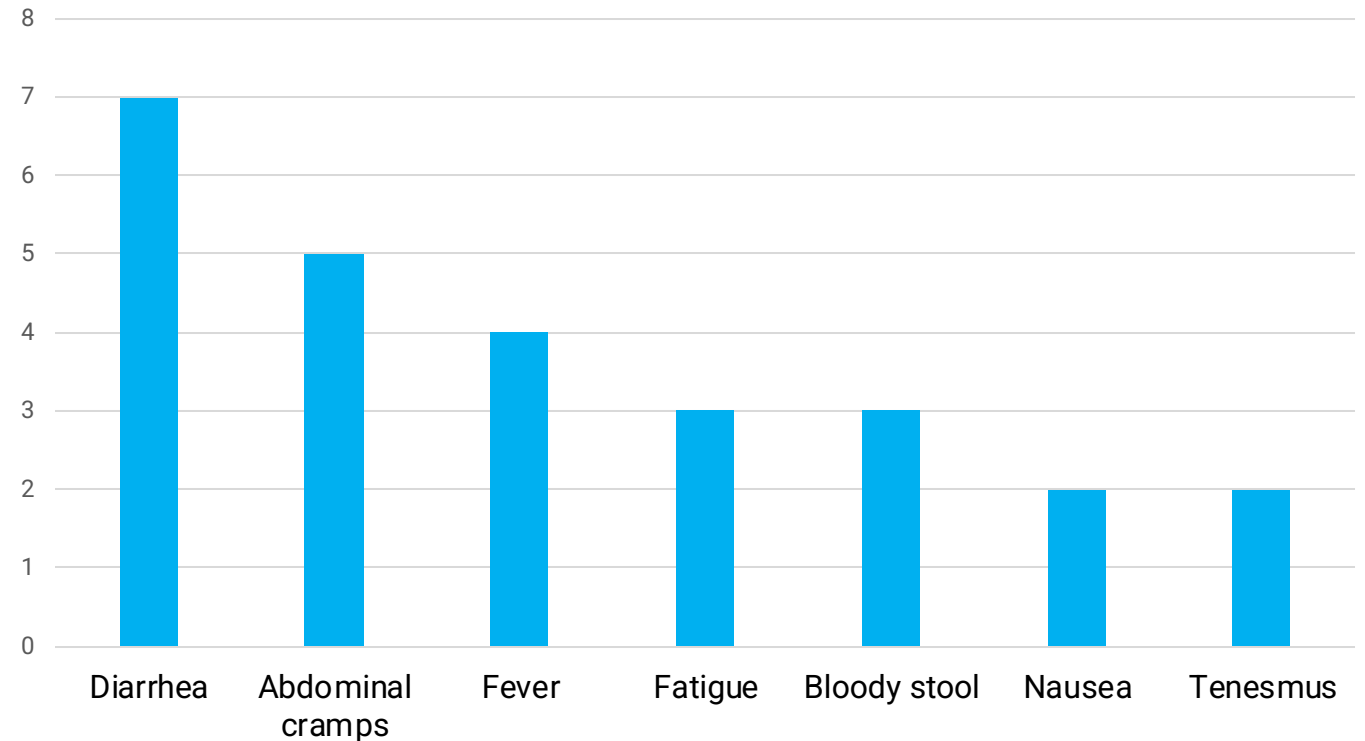
*Note: exposure details missing for 2 out of jurisdiction cases



★ Clinical Characteristics

- 3 patients went to the ER
- 2 patients were hospitalized
- 1 patient had prior shigellosis, MPOX coinfection, and coinfection with a different strain of non-ESBL *Shigella*

Most Commonly Reported Symptoms*



*Note: symptom details missing for 2 out of jurisdiction cases



Treatment

- 6 patients received antibiotic treatment
- No prior antibiotics in the last month
- No treatment failure, only 1 case of concurrent *Shigella* infections

Antibiotics Prescribed

Ceftriaxone and Ciprofloxacin	Doxycycline	Azithromycin
Ciprofloxacin	Trimethoprim/sulfamethoxazole	Unknown





CDPH Response

- HAN Alert call for cases, recommending AST for all shigellosis cases.
 - Conducted survey of potential exposures among cases
 - Examining WGS profiles for antibiotic resistance since August 1
- **Ongoing:** Working with Syndemics Bureau and clinical/CBO partners to raise awareness among MSM social networks.
 - MSM already facing stigma, disproportionate STI risks





Conclusions

- The first cluster of ESBL shigellosis among MSM in Chicago after a LGBTQ festival, including 9 local and out-of-state patients.
- Cases are part of a larger multistate cluster, travel-related cases and part of a larger national trend in antibiotic resistance
- Timely reporting is critical
- AST to inform antibiotic prescribing
- Read HAN alerts for further updates





Conclusions

- The first cluster of ESBL shigellosis among MSM in Chicago after a LGBTQ festival, including 6 local and out-of-state patients.
- Timely reporting is critical
- AST for rational antibiotic prescribing
- Read HAN alerts for further updates

THANK YOU!

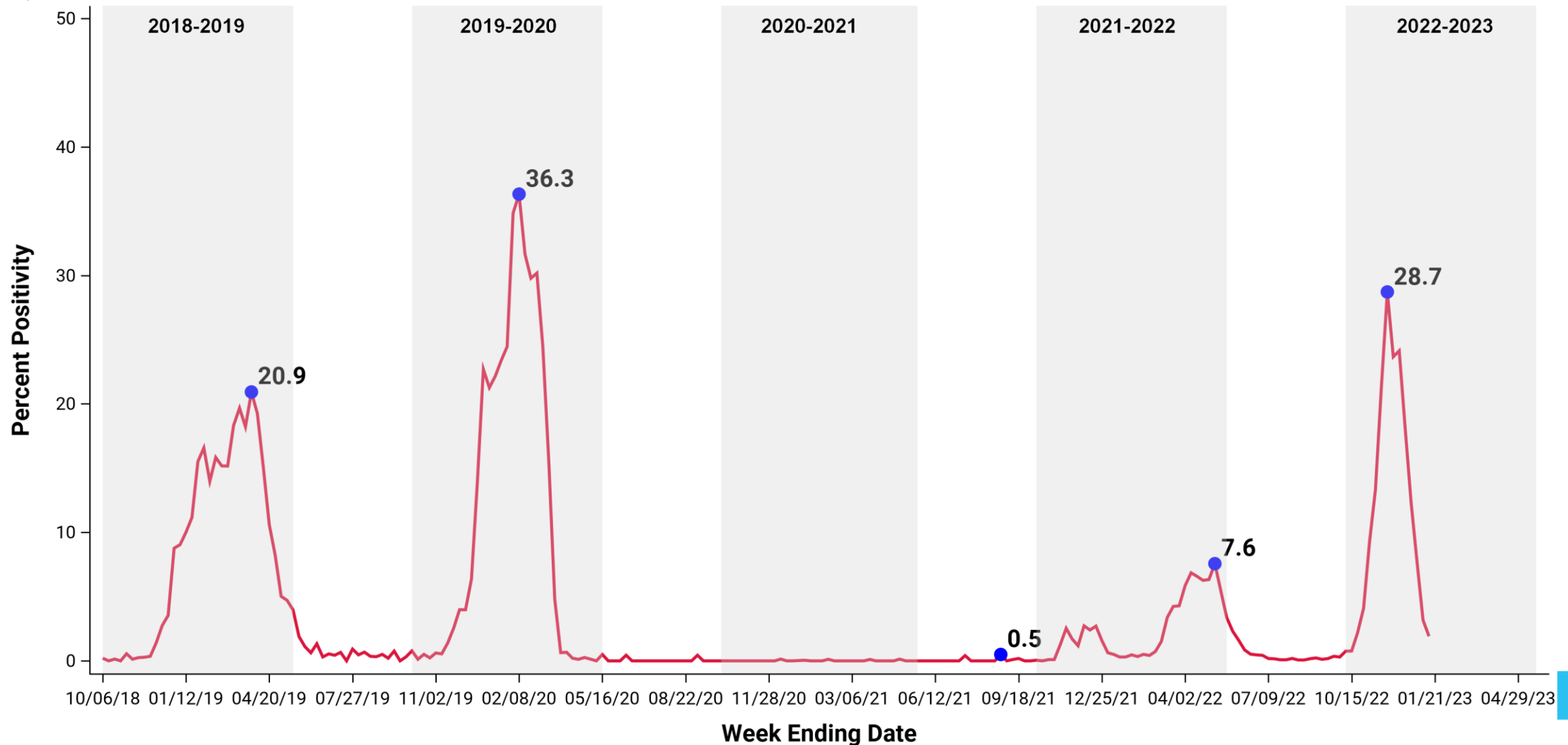


Respiratory Virus Update

**Slides provided by Chicago Department of Public Health
Vaccine-Preventable Disease Surveillance Unit**

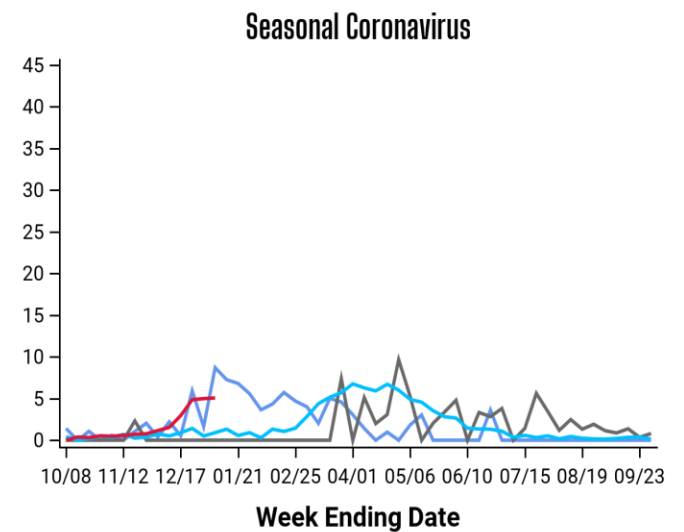
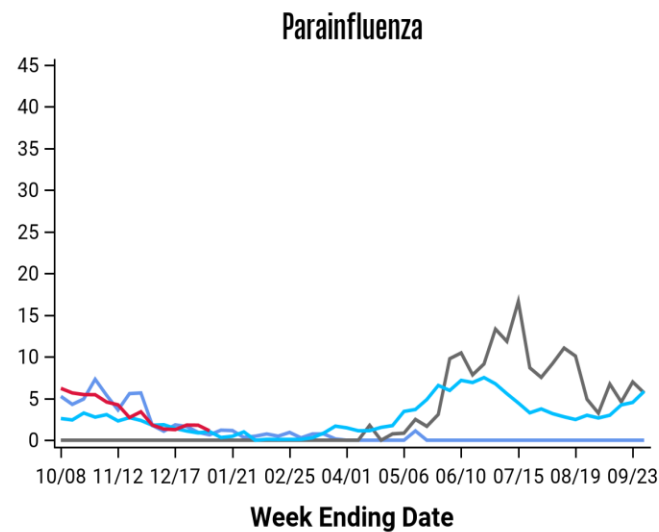
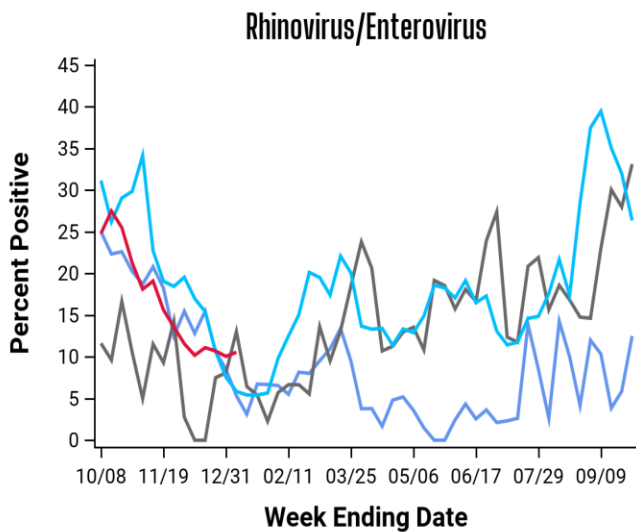
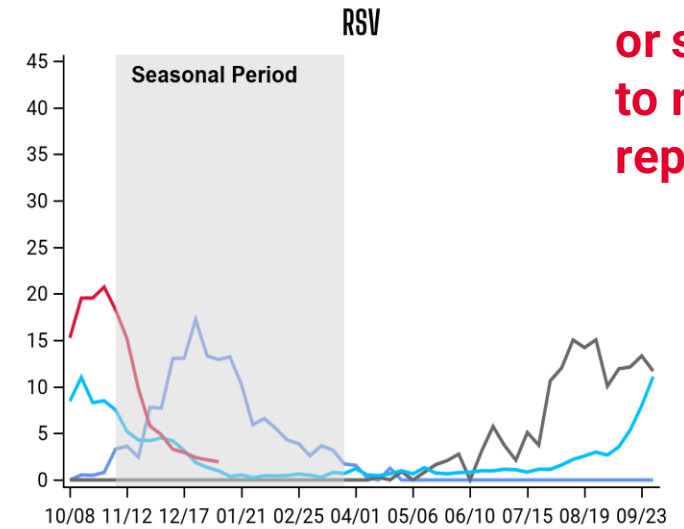
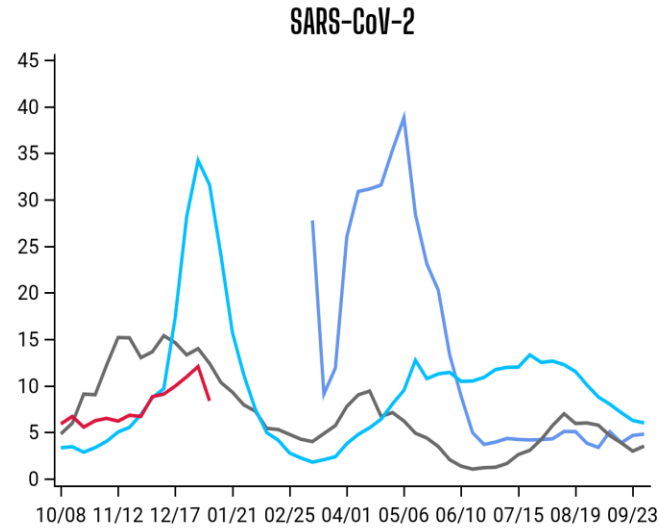
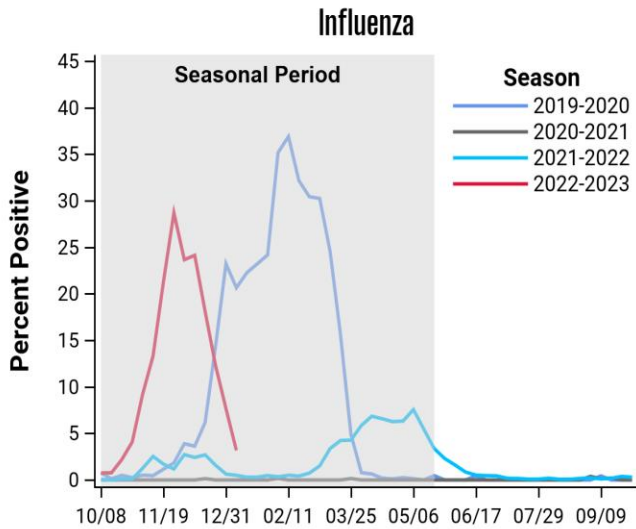
Influenza Virus Laboratory Positivity - Chicago

Influenza Lab Positivity



Respiratory Virus Laboratory Positivity - Chicago

See weekly HAN alerts or sign up to receive report





Predominant Circulating Influenza Viruses – U.S. and antigenic characterization

- **The predominant circulating influenza virus is influenza A (H3N2).**
- CDC antigenically characterizes influenza viruses each flu season to monitor for changes in circulating viruses and to compare how similar these viruses are to those included in vaccines.
 - CDC has genetically characterized 1,366 influenza viruses since October 2, 2022.
- The majority of influenza viruses tested are in the same genetic subclade as and antigenically
- similar to the influenza viruses included in this season's influenza vaccine.
 - **So far, a good match to the vaccine.**
- **All viruses collected and evaluated this season have been susceptible to the influenza antivirals** oseltamivir, peramivir, zanamivir, and baloxavir.

CHICAGO | COVID-19 Summary

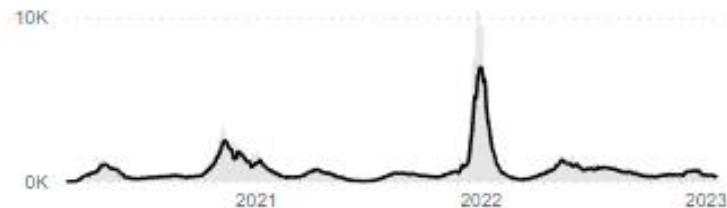
Data current as of Jan 24, 2023.
Data are updated Wednesdays at 5:30 p.m., except for City holidays.
All data are provisional and subject to change.

SUMMARY CASES CASES BY ZIP TESTS VACCINES VACCINES BY ZIP

[Learn how to use this dashboard.](#)

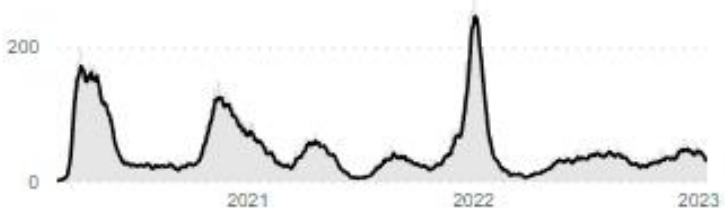
LABORATORY-CONFIRMED CASES

326 ▼ 390 (-16%) 748,995 12.0
Current daily avg Prior week Cumulative Daily rate per 100,000



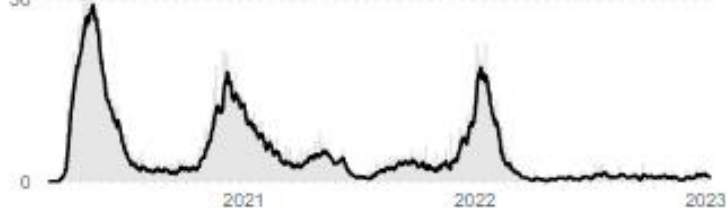
HOSPITALIZATIONS

31 ▼ 43 (-28%) 50,418 1.1
Current daily avg Prior week Cumulative Daily rate per 100,000



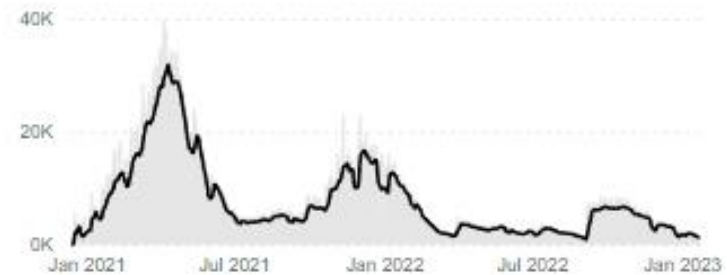
DEATHS

1.00 ▼ 2.14 (-53%) 8,034 0.0
Current daily avg Prior week Cumulative Daily rate per 100,000



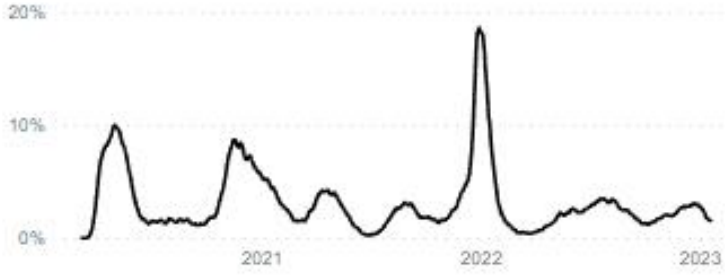
VACCINATIONS ADMINISTERED

1,302 ▼ 5,738,118 70.7% 80.2%
Current daily avg Cumulative Completed series At least one dose



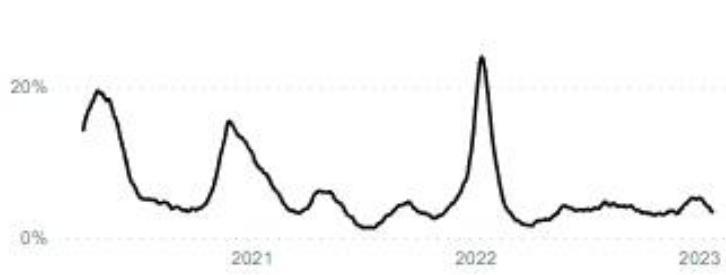
EMERGENCY ROOM VISITS

1.5% ▼ 1.8%
Current daily avg Prior Week



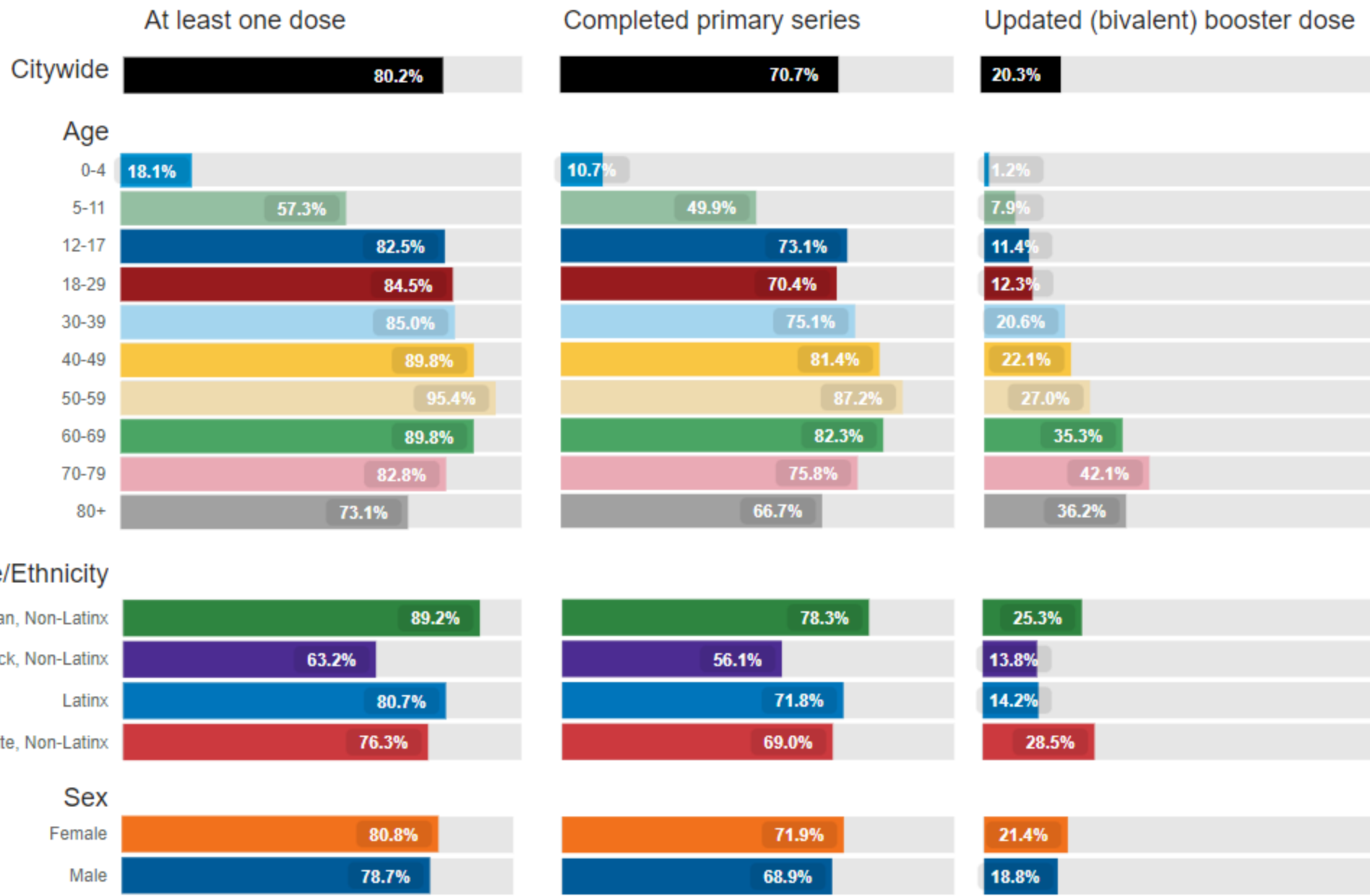
HOSPITAL BEDS IN USE

3.4% ▼ 4.1%
Current daily avg Prior Week



Vaccine coverage as of: 1/22/2023

COVID-19 Vaccinations by Demographic Group



Ongoing outbreaks of significance

Maria Campos Bovee, MPH, CIC, FAPIC

Project Manager– Healthcare Program



Ongoing outbreaks of significance

- **Invasive Group A Strep Infections in Peds:** Increase in cases 2022–2023. Worldwide increase including IL (not in Chicago residents at present). Timely reporting in I-NEDSS is key for public health interventions: <https://www.cdc.gov/groupastrep/igas-infections-investigation.html>.
- **Monkeypox:** Overall incidence of new cases of monkeypox in the United States is declining. 30,061 cases in the US (23 deaths). **In Chicago we have 0-3 cases a week.** We encourage providers to remain on the lookout for change and encourage vaccination as part of standard care. <https://www.cdc.gov/poxvirus/monkeypox/response/2022/us-map.html>
- **COVID-19:** As of January 23rd, dashboard will be updated weekly rather than daily <https://www.chicago.gov/city/en/sites/covid-19/home/covid-dashboard.html>
- **Ebola outbreak:** WHO declared it over on 1/11/23



Open Forum for Questions and Comments

- Our general number is 312-744-1100
- cdphhaiar@cityofchicago.org





Thank You for participating!

Next RoundTable: 2/24/2023

