# COVID-19 and HAI Updates and Q&A Webinars for Long-Term Care and Congregate Residential Settings

November 18th, 2022

# Housekeeping

- All attendees in listen-only mode
- Submit questions via Q&A pod to **All Panelists**
- Slides and recording will be made available later
- For continuing education credit, complete evaluation at https://redcap.dph.illinois.gov/surveys/?s=NP89EA9YAHH8A88H by December 2nd, 2022
  - Credit only available for the live session
  - Must be registered individually to receive credit

IDPH
Illinois Department of Public Health

# Agenda

- Upcoming Webinars
- Multidrug-Resistant Organisms (MDROs): Lab Results, Interpretation, and Response
- Open Q & A

**Slides and recording will be made available after the session.**

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# Upcoming Infection Prevention and Control Updates

## 1:00 pm - 2:00 pm

| Date | Infection Control Topic | Registration Link |
|---|---|---|
| TBD | To Be Determined | Look out for SIREN Notice! |

**Want to learn more about a specific infection control topic?**
**Put it in the Q&A or email Shannon.Calus@Hektoen.org**

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# Building an Infection Control Program: It's More than Just COVID-19

- **NIU Outreach Conference Centers**
  - 1120 E. Diehl Road, Naperville, IL 60563
  - November 29-30th, 2022
  - Collaboration with LeadingAge Illinois,
  - More information available here
- **Northfield Inn, Suites & Conference Center**
  - 3280 Northfield Dr, Springfield, IL 62702
  - January 18-19th, 2023
  - Collaboration with Illinois Healthcare Association
  - More information available here

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ILLINOIS DEPARTMENT OF PUBLIC HEALTH

# Multidrug-Resistant Organisms (MDROs): Lab Results, Interpretation, and Response

LTC webinar

November 18, 2022

# Session Objectives

By the end of the session, the audience will know how to

1. interpret laboratory results for multidrug-resistant organisms (MDROs),
2. query the XDRO registry,
3. apply infection prevention and control measures to prevent the transmission of MDROs,
4. describe characteristics to consider when cohorting for MDROs is necessary.

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# Disclosure

Mary Alice Lavin and Angela Tang have no relevant financial relationship(s) to disclose with ineligible companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.

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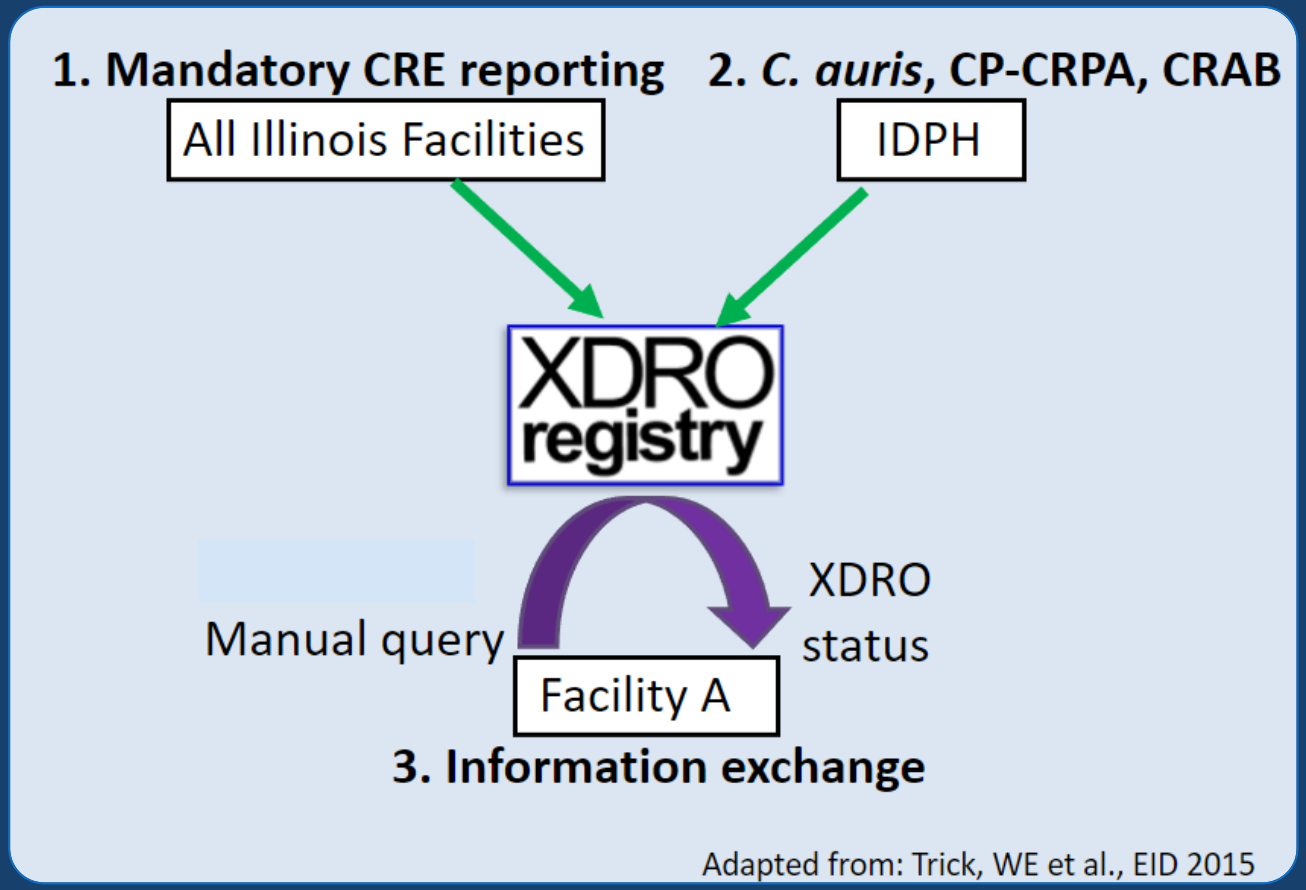
# Select Drug-Resistant Superbugs We Work On

| Acronym/abbreviation | Full Name |
|---|---|
| *C. auris* | *Candida auris* |
| CPO | Carbapenemase-producing organism |
| CRAB | Carbapenem-resistant *Acinetobacter baumannii* |
| CRE | Carbapenem-resistant Enterobacterales (formerly *Enterobacteriaceae*) |
| CRPA | Carbapenem-resistant *Pseudomonas aeruginosa* |
| MDRO | Multidrug-resistant organism |
| XDRO | Extensively drug-resistant organism |

# Extensively Drug-Resistant Organism (XDRO) Registry

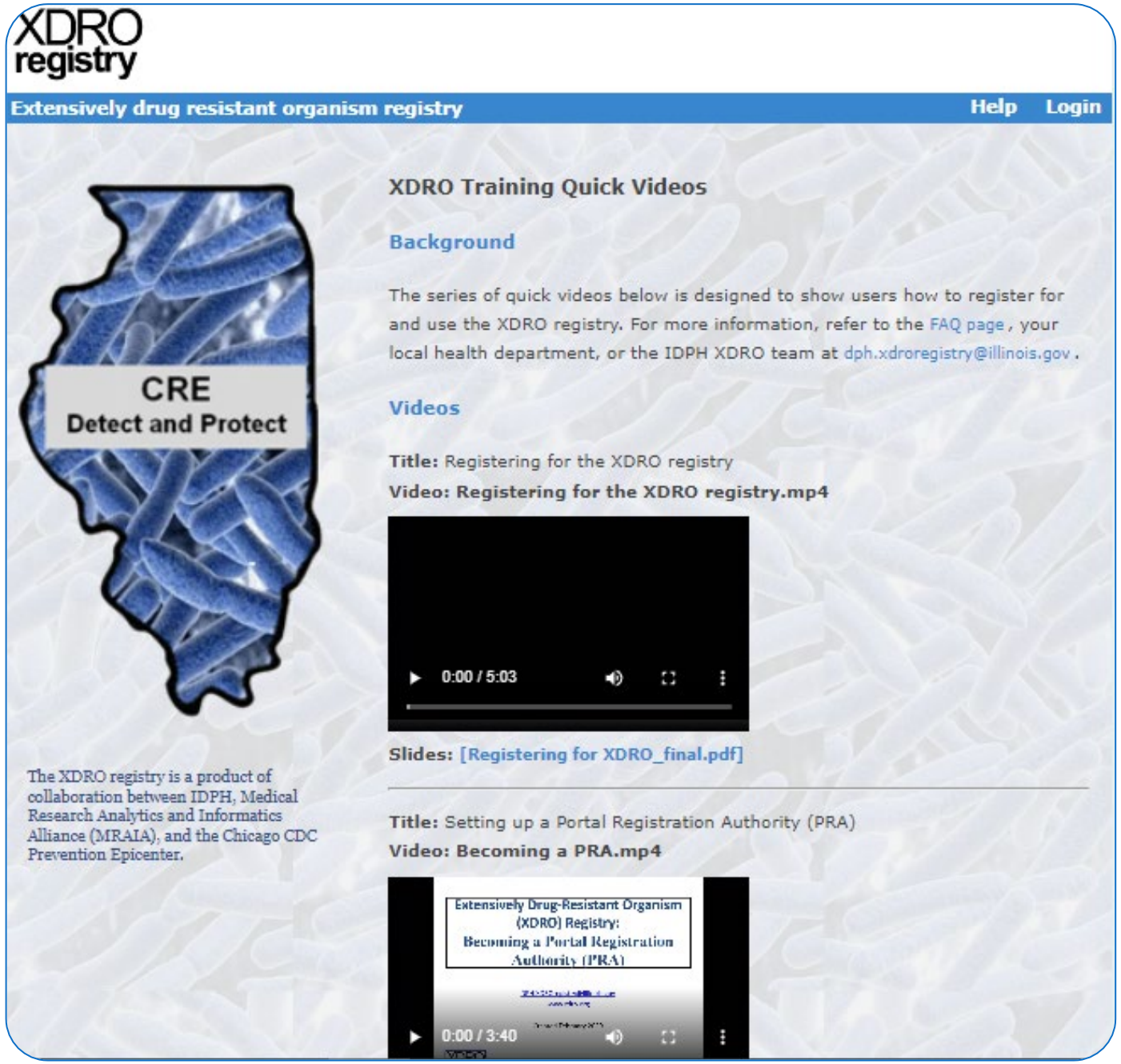
- Facilities, labs, and IDPH report XDROs into registry
- Facilities are strongly recommended to use the XDRO Registry for interfacility communication
  - Nursing homes should manually query every new admission

https://www.xdro.org/



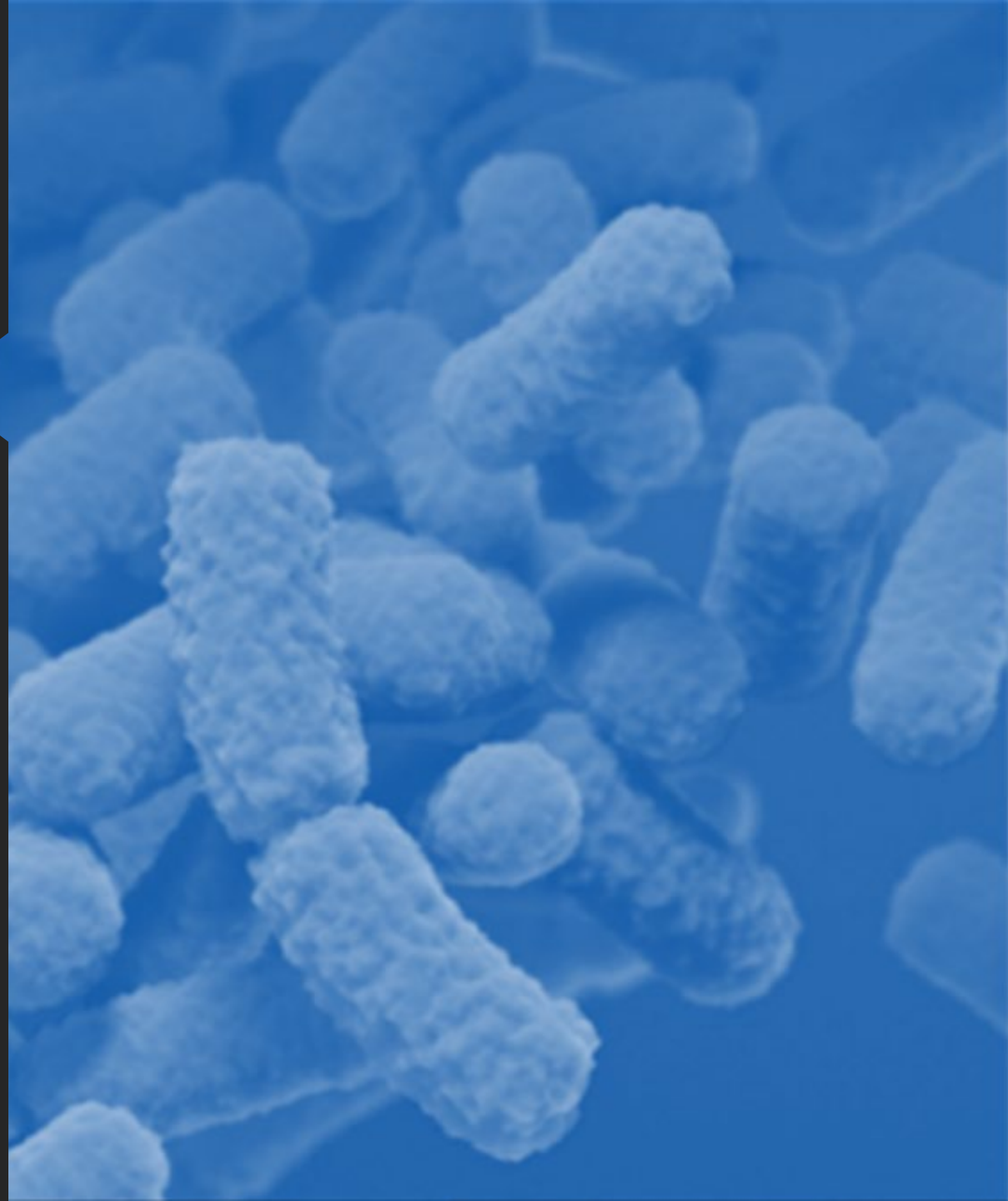
# XDRO Training Quick Videos

https://www.xdro.org/training-videos.html



# Carbapenem-Resistant Enterobacterales (CRE)

- **Reporting**: IL facilities and labs required to report 1st CRE event per patient per healthcare facility encounter
  - Report within 7 days of test finalization to XDRO registry
  - LTC facilities may arrange to have their labs report to XDRO on their behalf



# What's considered CRE in Illinois?

**Enterobacterales** with one of the following test results:

1. Molecular test (e.g., PCR) specific for carbapenemase

OR

2. Phenotypic test (e.g., Modified Hodge (MHT), modified carbapenem inactivation method (mCIM)) specific for carbapenemase production

OR

3. Susceptibility test for ***E. coli* and *Klebsiella*** species (except *K. aerogenes*) only:
   - non-susceptible (resistant or intermediate) to ONE of the carbapenems (doripenem, meropenem, or imipenem) AND
   - resistant to ALL third generation cephalosporins tested (ceftriaxone, cefotaxime, and ceftazidime).

# CRE Identification by Molecular Testing

**Enterobacterales** with one of the following test results:

1. Molecular test (e.g., PCR) specific for carbapenemase

---

**Enterobacterales** = Order of bacteria (e.g., *E. coli*, *Klebsiella* spp, *Enterobacter* spp)

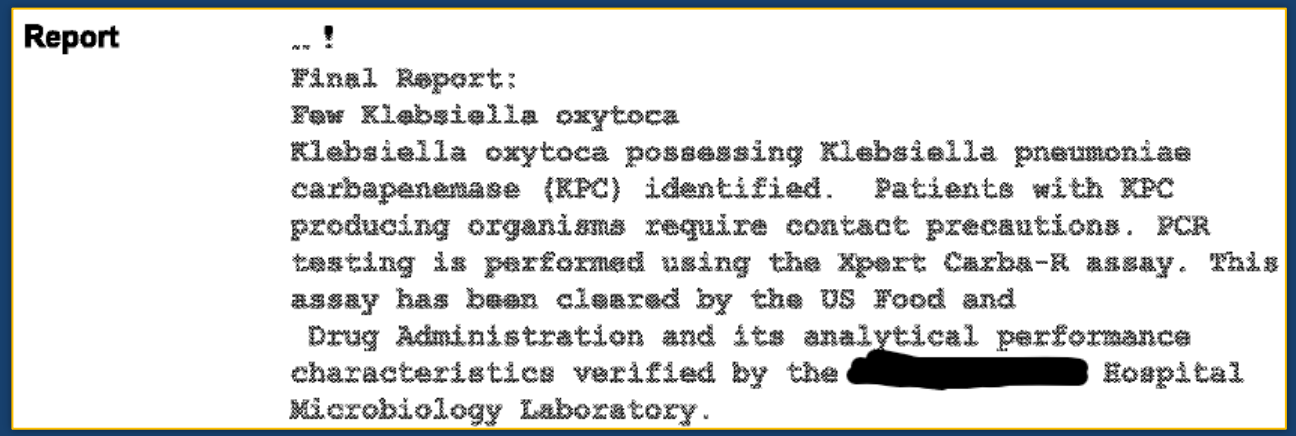
**Carbapenemase** = enzyme that breaks down carbapenem antibiotic so that it doesn't work

- There are 5 major carbapenemases that can cause this resistance:
  - KPC, NDM, OXA-48, VIM, IMP
- Also referred to as 'mechanism of resistance'

**Many clinical labs only conduct antibiotic susceptibility testing (AST) and not the confirmatory testing that can identify carbapenemase genes**

# CRE Identification by Molecular Testing

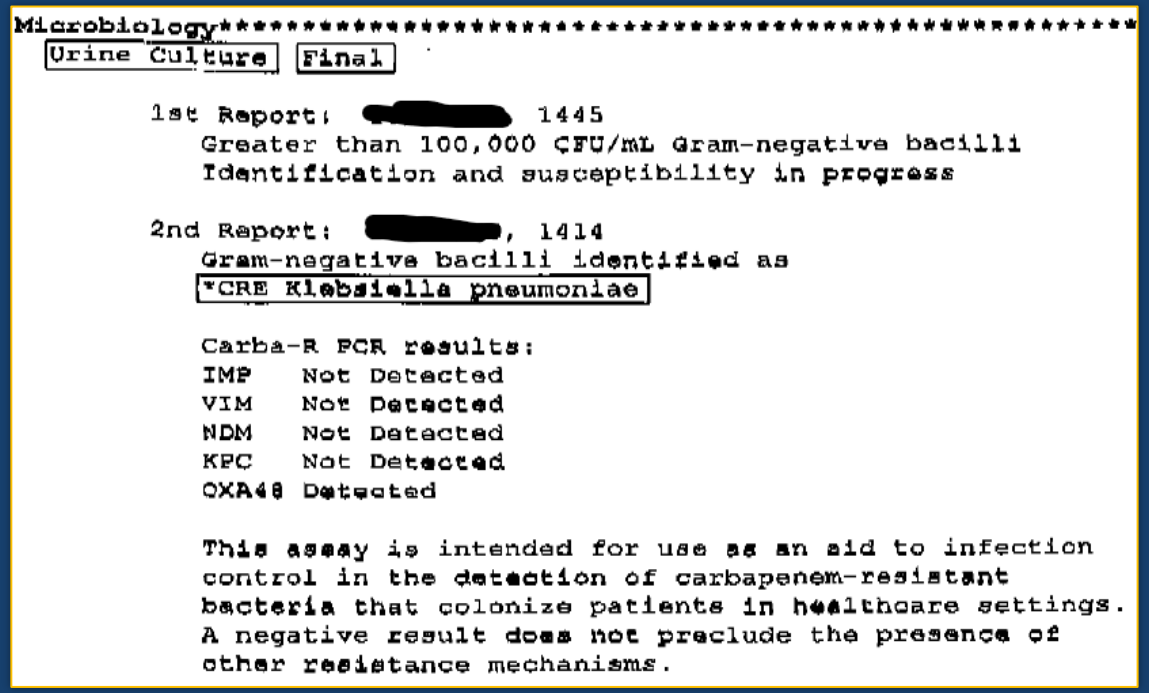
## Example 1



Report

..!
Final Report:
Few Klebsiella oxytoca
Klebsiella oxytoca possessing Klebsiella pneumoniae carbapenemase (KPC) identified. Patients with KPC producing organisms require contact precautions. PCR testing is performed using the Xpert Carba-R assay. This assay has been cleared by the US Food and Drug Administration and its analytical performance characteristics verified by the [redacted] Hospital Microbiology Laboratory.

## Example 2



Microbiology**********
Urine Culture | Final

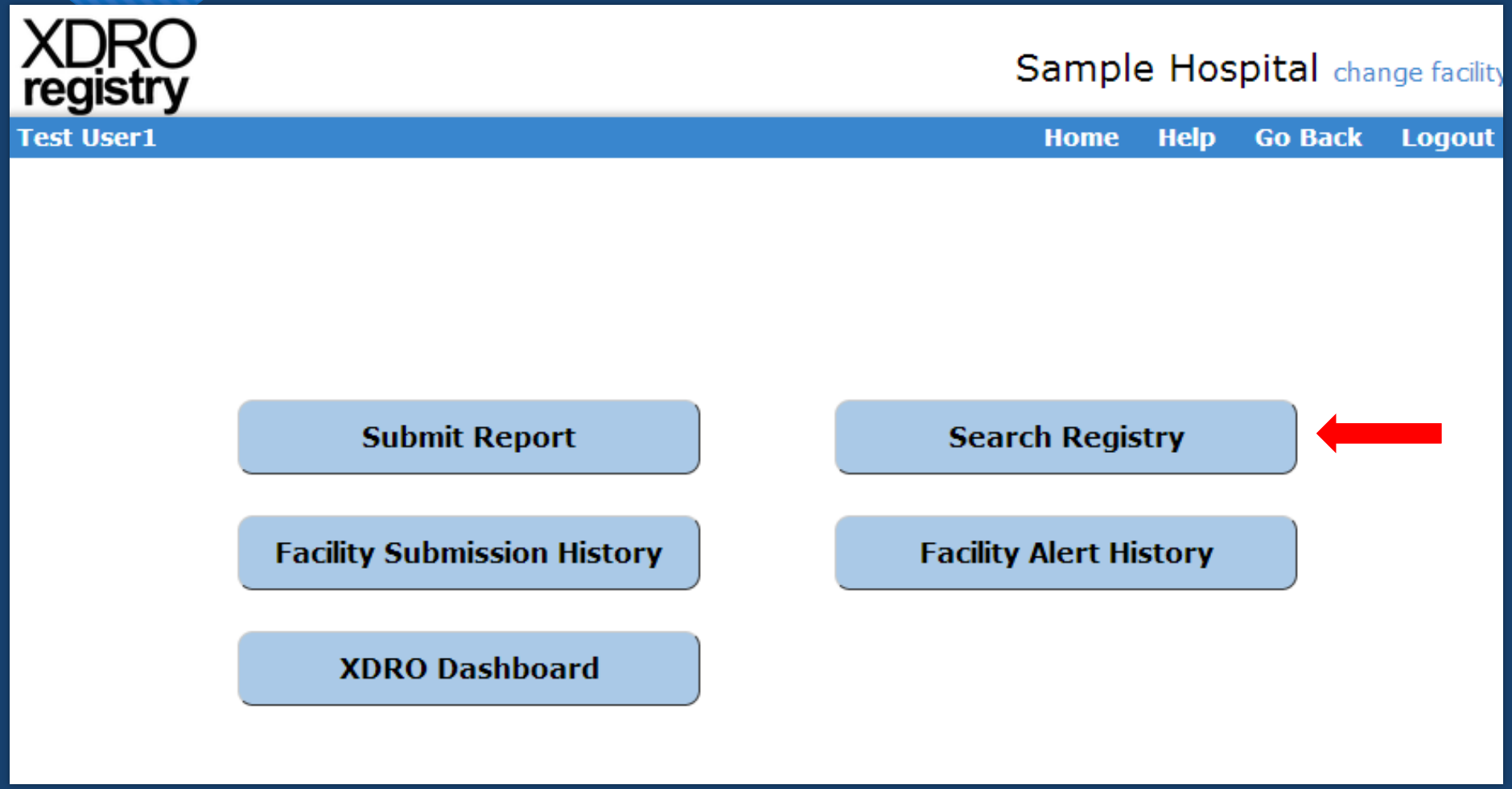
1st Report: [redacted] 1445
Greater than 100,000 CFU/mL Gram-negative bacilli
Identification and susceptibility in progress

2nd Report: [redacted], 1414
Gram-negative bacilli identified as
*CRE Klebsiella pneumoniae

Carba-R PCR results:
IMP Not Detected
VIM Not Detected
NDM Not Detected
KPC Not Detected
OXA48 Detected

This assay is intended for use as an aid to infection control in the detection of carbapenem-resistant bacteria that colonize patients in healthcare settings. A negative result does not preclude the presence of other resistance mechanisms.

# Q: How would I search for this report in the XDRO registry?



# How would I search for a report like this in the XDRO registry? (cont.)

## Search Patient

* Last name: bug

* Date of birth: 01 / 01 / 1919

First name:

Query

Showing results for bug, DOB 1/1/1919 (**FIRST NAME IGNORED**):

| RID | Name | Date of Birth | SSN | Organism | Culture Date | Last Transaction | Facility |
|---|---|---|---|---|---|---|---|
| 18455 | Bug, Super | 01/01/1919 | | *Klebsiella pneumoniae* | 10/15/2021 | submitted,03/15/2022 | Test Nursing Ho.. |
| 18821 | Bug, Super | 01/01/1919 | | *Klebsiella pneumoniae* | 10/15/2021 | deleted,04/06/2022 | Test Nursing Ho.. |
| 18823 | Bug, Super | 01/01/1919 | | *Klebsiella pneumoniae* | 10/15/2021 | submitted,03/17/2022 | Test Nursing Ho.. |
| 18854 | Bug, Super | 01/01/1919 | | *Acinetobacter baumannii* | 11/15/2021 | submitted,03/17/2022 | Test Nursing Ho.. |

Disclaimer: A match on name and date of birth only may not be 100% accurate. We recommend that you verify XDRO status with the patient or by contacting the facility that entered the result.

# Example CRE Result in XDRO Registry – Molecular Testing

XDRO registry

Test Nursing Home change facility

ANGELA TANG | Home | Citations | Help | Go Back | Logout

## XDRO Report - Test Nursing Home

### Patient information

**Patient name:** Bug, Super
**MRN:** 9999
**Admission date:** 10/15/2021
**Date of birth:** 01/01/1919
**SSN (last 4):**
**Gender:** male
**Race:**
**Ethnicity:**
**Address:** 123 Sesame St., Chicago, Cook, IL 60111

### XDRO culture information

**Organism:** *Klebsiella pneumoniae*
**Culture date:** 10/15/2021
**XDRO criterion:** Molecular test
**Specimen source:** Urine
**Mechanism of resistance:** KPC, NDM-1
**Comments:**

Submitted by Rachel Simon, 03/15/2022, Test Nursing Home

# CRE Identification by Phenotypic Testing

**Enterobacterales** with one of the following test results:

2. Phenotypic test (e.g., Modified Hodge (MHT), modified carbapenem inactivation method (mCIM)) specific for carbapenemase production

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## Phenotypic testing examples

- Modified carbapenem inactivation method (mCIM) – CDC recommended, IDPH/Wisconsin regional labs use
- Modified Hodge – previous widely used test
- Carba NP

# CRE Identification by Phenotypic Testing

## Example 1

| | |
|---|---|
| **Results:** | **Species Identification: KLEBSIELLA PNEUMONIAE**<br>**mCIM: Carbapenemase Activity Detected** |

## Example 2

| | |
|---|---|
| Bacterial Identification | **Identification confirmed as:** |
| | **Klebsiella pneumoniae** |
| | Comments:<br>Carbapenemase production detected using Modified Carbapenem Inactivation Method. |

# Example CRE Result in XDRO Registry – Phenotypic Testing

## XDRO Report - Test Nursing Home

### Patient information

**Patient name:** Bug, Super
**MRN:** 9999
**Admission date:** 10/25/2021
**Date of birth:** 01/01/1914
**SSN (last 4):**
**Gender:** male
**Race:**
**Ethnicity:**
**Address:** 123 Sesame St., Chicago, Cook, IL 60111

### XDRO culture information

**Organism:** *Klebsiella pneumoniae*
**Culture date:** 10/25/2021
**XDRO criterion:** Phenotypic test
**Specimen source:** Urine
**Mechanism of resistance:**
**Phenotypic test type(s):** Modified CIM (mCIM)
**Comments:**

Submitted by Rachel Simon, 03/15/2022, Test Nursing Home

# CRE Identification by Susceptibility Testing

| | What's included? | What's excluded? | Results |
|---|---|---|---|
| **Organisms** | - *E. coli*<br>- *Klebsiella* spp. | - *K. aerogenes* (formerly *Enterobacter aerogenes*)<br><br>- Any other genus (e.g., *Proteus, Enterobacter, Morganella*, etc) | -- |
| **Carbapenems** | - Doripenem<br>- Meropenem<br>- Imipenem | Ertapenem | Resistant or intermediate (May show up as **R** or **I** on lab report) |
| **3rd gen cephalosporins** | - Ceftriaxone<br>- Cefotaxime<br>- Ceftazidime | | Resistant (if tested) |

# CRE Identification by Susceptibility Testing

## Example 1 – meets IL definition

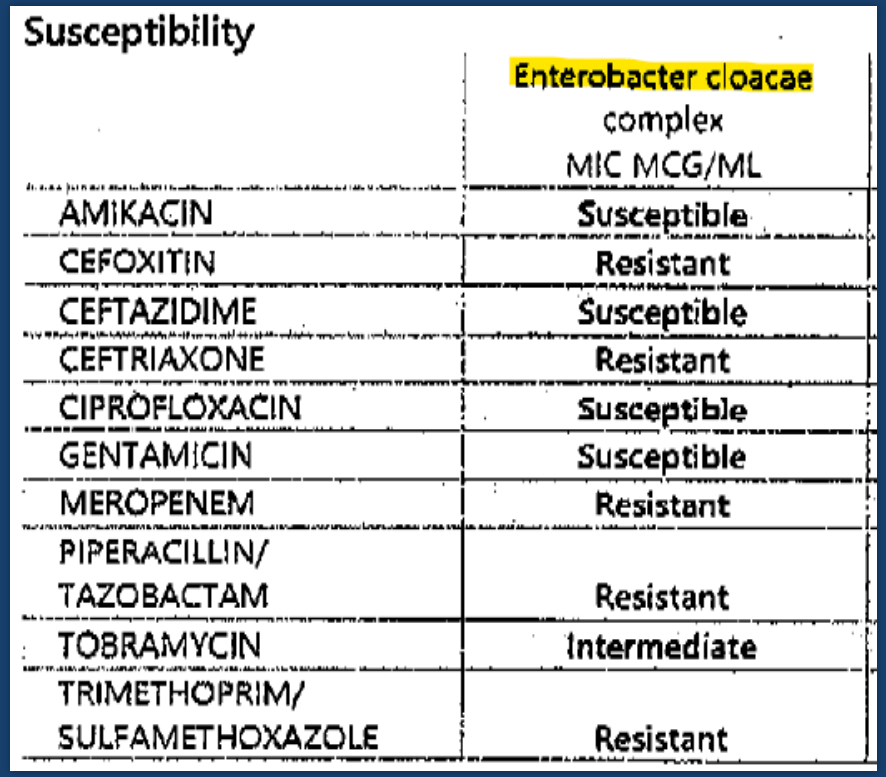
Susceptibility

| | Klebsiella pneumoniae Iso1 | | |
|---|---|---|---|
| | AR GRAM NEGATIVE SENSITITRE | | |
| Amikacin | >32 | mcg/mL | Resistant |
| Aztreonam | >16 | mcg/mL | Resistant |
| Cefepime | >16 | mcg/mL | Resistant |
| Cefotaxime | >32 | mcg/mL | Resistant |
| Ceftazidime | >16 | mcg/mL | Resistant |
| Ciprofloxacin | >2.0 | mcg/mL | Resistant |
| Colistin | <=0.25 | mcg/mL | Intermediate |
| Doripenem | >2.0 | mcg/mL | Resistant |
| Doxycycline | 8.0 | mcg/mL | Intermediate |
| Ertapenem | >4.0 | mcg/mL | Resistant |
| Gentamicin | >8.0 | mcg/mL | Resistant |
| Imipenem | >8.0 | mcg/mL | Resistant |
| Meropenem | >8.0 | mcg/mL | Resistant |

| | What's included? | What's excluded? | Results |
|---|---|---|---|
| **Organisms** | - *E. coli*<br>- *Klebsiella* spp. | - *K. aerogenes* (formerly *Enterobacter aerogenes*)<br>- Any other genus (e.g., *Proteus, Enterobacter, Morganella*, etc) | -- |
| **Carbapenems** | - Doripenem<br>- Meropenem<br>- Imipenem | Ertapenem | Resistant or intermediate (May show up as **R** or **I** on lab report) |
| **3rd gen cephalosporins** | - Ceftriaxone<br>- Cefotaxime<br>- Ceftazidime | | Resistant (if tested) |

# CRE Identification by Susceptibility Testing

## Example 2 – does NOT meet IL definition



| Susceptibility | Enterobacter cloacae complex MIC MCG/ML |
|---|---|
| AMIKACIN | Susceptible |
| CEFOXITIN | Resistant |
| CEFTAZIDIME | Susceptible |
| CEFTRIAXONE | Resistant |
| CIPROFLOXACIN | Susceptible |
| GENTAMICIN | Susceptible |
| MEROPENEM | Resistant |
| PIPERACILLIN/ TAZOBACTAM | Resistant |
| TOBRAMYCIN | Intermediate |
| TRIMETHOPRIM/ SULFAMETHOXAZOLE | Resistant |

| | What's included? | What's excluded? | Results |
|---|---|---|---|
| **Organisms** | - *E. coli*<br>- *Klebsiella* spp. | - *K. aerogenes* (formerly *Enterobacter aerogenes*)<br>- Any other genus (e.g., *Proteus, Enterobacter, Morganella*, etc) | -- |
| **Carbapenems** | - Doripenem<br>- Meropenem<br>- Imipenem | Ertapenem | Resistant or intermediate (May show up as **R** or **I** on lab report) |
| **3rd gen cephalosporins** | - Ceftriaxone<br>- Cefotaxime<br>- Ceftazidime | | Resistant (if tested) |

# Example CRE Result in XDRO Registry – Susceptibility Testing

## XDRO Report - Sample Hospital

### Patient information

**Patient name:** Only, Susceptibilities
**MRN:** 9999
**Admission date:** 08/01/2022
**Date of birth:** 01/01/1970
**SSN (last 4):**
**Gender:** male
**Race:**
**Ethnicity:**
**Address:** 12345 South Street, Xyz, Sangamon, IL 62761

### XDRO culture information

**Organism:** *Klebsiella pneumoniae*
**Culture date:** 08/01/2022
**XDRO criterion:** E. coli/Klebsiella resistance
**Specimen source:** Urine
**Mechanism of resistance:**
**Comments:**

Submitted by ANGELA TANG, 10/31/2022, Sample Hospital

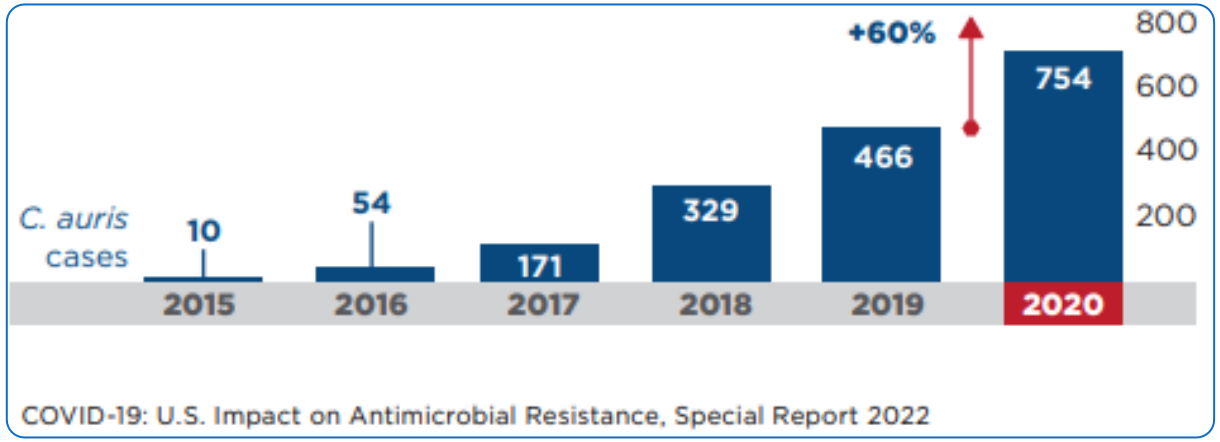
# *Candida auris*

Healthcare facilities and laboratories must notify their local health department (LHD) of any colonized or clinical cases of

- confirmed *C. auris* or
- *Candida* species that are common misidentifications for *C. auris* (e.g., *Candida haemulonii*)

within 7 days of identification.

- Report cases via INEDSS
  - Labs will often report test results
  - Facilities need to enter medical history and epidemiological data
  - SIREN issued March 2022 with INEDSS entry protocol




https://www.cdc.gov/drugresistance/pdf/covid19-impact-report-508.pdf

# *C. auris* Lab Result Example

**Fungal Characterization** (Final result)

ID: [redacted] Type/Src: Fungal Isolate/Blood

Fungal Identification

**Identification confirmed as:**

**Candida auris (A)**

*Results apply only to sample tested.*
***A***=*Abnormal;* ***AA***=*Panic;* ***H***=*High,* ***L***=*Low*

# Example *C. auris* Result in XDRO Registry

## XDRO Report - Sample Hospital

### Patient information

**Patient name:** Bug, Super
**MRN:** 9999
**Admission date:** 10/21/2021
**Date of birth:** 01/01/1914
**SSN (last 4):**
**Gender:** female
**Race:**
**Ethnicity:**
**Address:** 60 W Washington, Chicago, Cook, IL 60602

### XDRO culture information

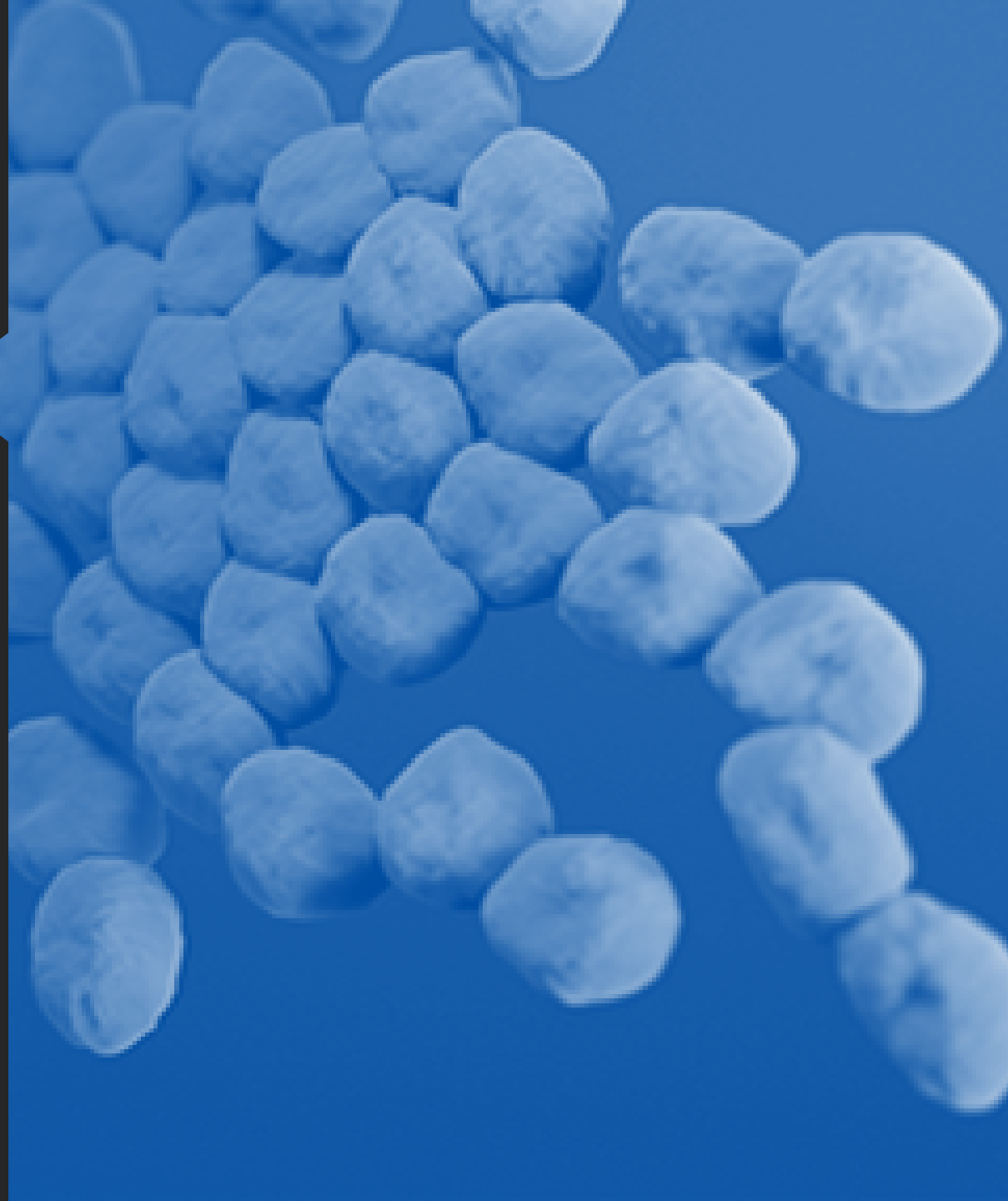
**Organism:** *Candida auris*
**Culture date:** 10/31/2021
**XDRO criterion:** N/A
**Specimen source:** Blood
**Mechanism of resistance:** N/A
**Comments:**

Submitted by Rachel Simon, 11/08/2021, Sample Hospital

# Carbapenem-Resistant *Acinetobacter baumannii* (CRAB)

- Can survive a long time on surfaces, contaminate the healthcare environment and equipment

- Unlike CRE, carbapenemases most often identified in CRAB are OXA-23, OXA-24/40, and OXA-58-like



# About CRAB Surveillance in Illinois

CRAB is NOT a mandatory reportable in IL yet. But it is a targeted MDRO for containment, and infection prevention and control measures are essential.

- Pilot surveillance began in 2019 with convenience sample of sentinel hospitals and reference laboratories submitting specimens
- **Pilot surveillance case definition:** *Acinetobacter baumannii* resistant to a carbapenem (imipenem, meropenem, or doripenem) or positive molecular test (e.g., PCR) specific for carbapenemase

**Most clinical and reference laboratories are likely doing AST only, not molecular testing for CRAB**

# CRAB Identification by Susceptibility Testing

Result 1 *
Carbapenem-resistant Acinetobacter baumanii
Heavy growth

** S = Susceptible; I = Intermediate; R = Resistant **
P = Positive; N = Negative
MICS are expressed in micrograms per mL

| Antibiotic | RSLT#1 | RSLT#2 | RSLT#3 |
|---|---|---|---|
| Ampicillin/Sulbactam | R =R | | |
| Cefepime | R>=64 | | |
| Cefotaxime | R>=64 | | |
| Ceftazidime | R>=64 | | |
| Ceftriaxone | R>=64 | | |
| Ciprofloxacin | R>=4 | | |
| Gentamicin | R>=16 | | |
| Imipenem | R>=16 | | |
| Levofloxacin | R>=8 | | |
| Meropenem | R>=16 | | |
| Piperacillin | R>=128 | | |
| Tetracycline | I =8 | | |
| Tobramycin | I =8 | | |
| Trimethoprim/Sulfa | R>=320 | | |

SPECIMEN SOURCE - Sputum

# Example CRAB Result in XDRO Registry – Susceptibility Testing

## XDRO Report - Sample Hospital

### Patient information

**Patient name:** Test, Admin
**MRN:** 456xyz
**Admission date:** 06/01/2019
**Date of birth:** 09/09/1909
**SSN (last 4):**
**Gender:** male
**Race:**
**Ethnicity:**
**Address:** 122 S Michigan, Chicago, Cook, IL 60603

### XDRO culture information

**Organism:** *Acinetobacter baumannii*
**Culture date:** 06/01/2019
**XDRO criterion:**
**Specimen source:** Blood
**Mechanism of resistance:**
**Comments:**

# CRAB Identification by Molecular Testing

**OXA-23, 24/40, 58-like** (Final result)

| ID: | Type/Src: Bacterial Isolate/Trachael Aspirate | |
|---|---|---|
| | **Result** | **Units** |
| **OXA-23-like Gene** | No OXA-23-like DNA detected. | |
| **OXA-24/40-like Gene** | **OXA-24/40-like DNA detected.** | **(A)** |
| **OXA-58-like Gene** | No OXA-58-like DNA detected. | |

# Example CRAB Result in XDRO Registry– Molecular Testing

## XDRO Report - Sample Hospital

### Patient information

**Patient name:** Test, Crab
**MRN:** 9999
**Admission date:** 07/31/2022
**Date of birth:** 01/01/1960
**SSN (last 4):**
**Gender:** female
**Race:**
**Ethnicity:**
**Address:** 12345 Abc Street, Xyz, Sangamon, IL

### XDRO culture information

**Organism:** *Acinetobacter baumannii*
**Culture date:** 08/01/2022
**Specimen source:** Urine
**Mechanism of resistance:** OXA
**Comments:** OXA 24/40

# Preventing and Controlling Multidrug-Resistant Organisms in Long Term Care Facilities

November 18, 2022

Mary Alice Lavin

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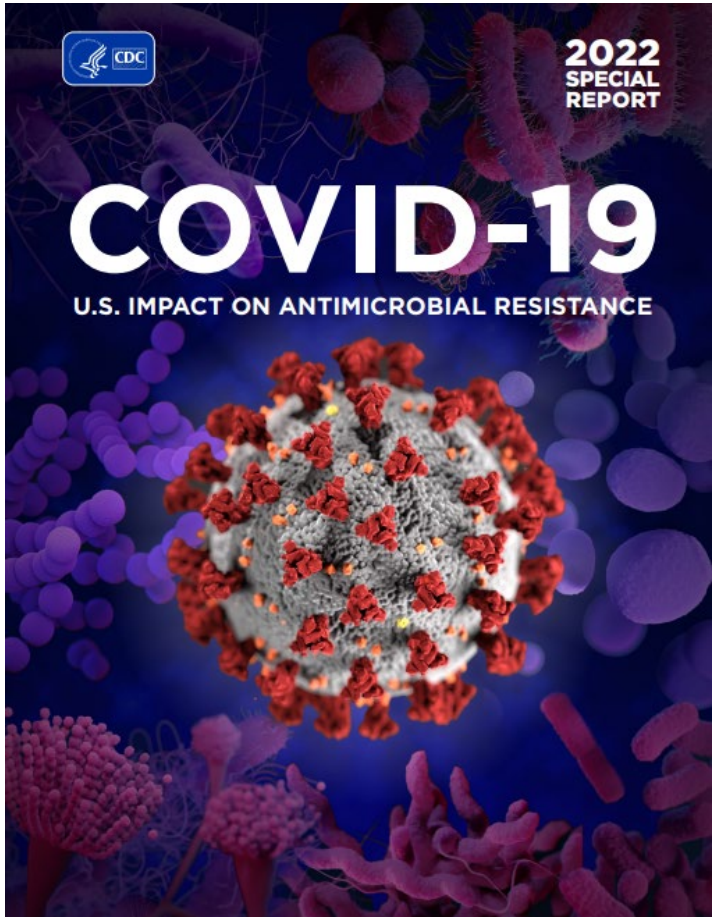
# Scope of the Problem

- Centers for Disease Control and Prevention (CDC) Data
  - ➢2012 – 2017[1]
    - 27% drop in hospital antimicrobial resistant infections
    - 30% decrease in antimicrobial resistant related deaths
  - ➢2019[1]
    - Close to 3 million Americans acquire an antimicrobial resistant or *Clostridioides difficile* infection each year.
    - More than 35,000 die each year.
  - ➢2022[2]
    - The COVID-19 pandemic has exacerbated the threat.
- Antimicrobial resistance is a leading cause of death globally.[2,3]

[1] https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf
[2] https://www.cdc.gov/drugresistance/pdf/covid19-impact-report-508.pdf
[3] https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2902724-0




[2022 SPECIAL REPORT: COVID-19 U.S. Impact on Antimicrobial Resistance (cdc.gov)]


[Antibiotic Resistance Threats in the United States, 2019 (cdc.gov)]

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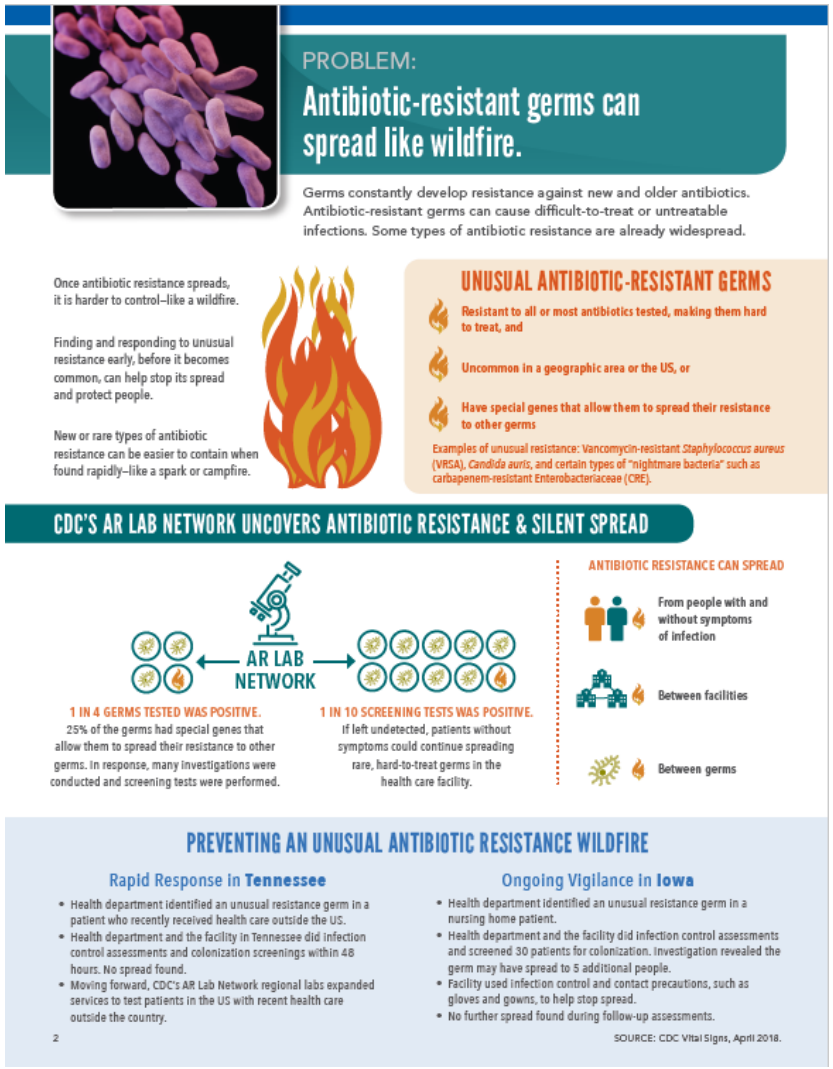
# “An ounce of prevention is worth a pound of cure.”

## Benjamin Franklin



PROBLEM:

**Antibiotic-resistant germs can spread like wildfire.**

Germs constantly develop resistance against new and older antibiotics. Antibiotic-resistant germs can cause difficult-to-treat or untreatable infections. Some types of antibiotic resistance are already widespread.

Once antibiotic resistance spreads, it is harder to control–like a wildfire.

Finding and responding to unusual resistance early, before it becomes common, can help stop its spread and protect people.

New or rare types of antibiotic resistance can be easier to contain when found rapidly–like a spark or campfire.

### UNUSUAL ANTIBIOTIC-RESISTANT GERMS

- Resistant to all or most antibiotics tested, making them hard to treat, and
- Uncommon in a geographic area or the US, or
- Have special genes that allow them to spread their resistance to other germs

Examples of unusual resistance: Vancomycin-resistant *Staphylococcus aureus* (VRSA), *Candida auris*, and certain types of “nightmare bacteria” such as carbapenem-resistant Enterobacteriaceae (CRE).

### CDC'S AR LAB NETWORK UNCOVERS ANTIBIOTIC RESISTANCE & SILENT SPREAD

AR LAB NETWORK

**1 IN 4 GERMS TESTED WAS POSITIVE.**
25% of the germs had special genes that allow them to spread their resistance to other germs. In response, many investigations were conducted and screening tests were performed.

**1 IN 10 SCREENING TESTS WAS POSITIVE.**
If left undetected, patients without symptoms could continue spreading rare, hard-to-treat germs in the health care facility.

ANTIBIOTIC RESISTANCE CAN SPREAD

- From people with and without symptoms of infection
- Between facilities
- Between germs

### PREVENTING AN UNUSUAL ANTIBIOTIC RESISTANCE WILDFIRE

**Rapid Response in Tennessee**

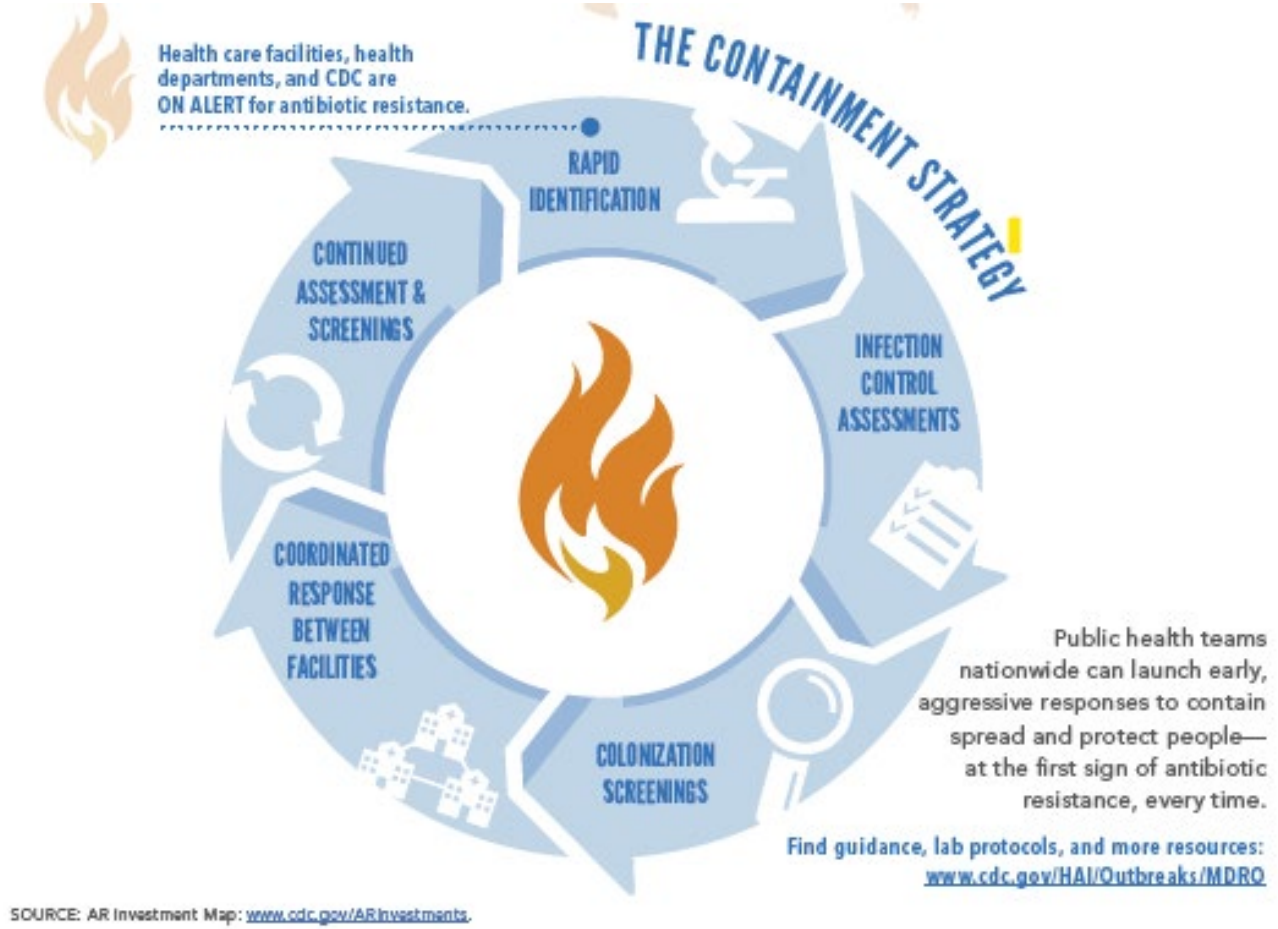
- Health department identified an unusual resistance germ in a patient who recently received health care outside the US.
- Health department and the facility in Tennessee did infection control assessments and colonization screenings within 48 hours. No spread found.
- Moving forward, CDC's AR Lab Network regional labs expanded services to test patients in the US with recent health care outside the country.

**Ongoing Vigilance in Iowa**

- Health department identified an unusual resistance germ in a nursing home patient.
- Health department and the facility did infection control assessments and screened 30 patients for colonization. Investigation revealed the germ may have spread to 5 additional people.
- Facility used infection control and contact precautions, such as gloves and gowns, to help stop spread.
- No further spread found during follow-up assessments.

SOURCE: CDC Vital Signs, April 2018.

2




https://www.cdc.gov/vitalsigns/pdf/2018-04-vitalsigns.pdf

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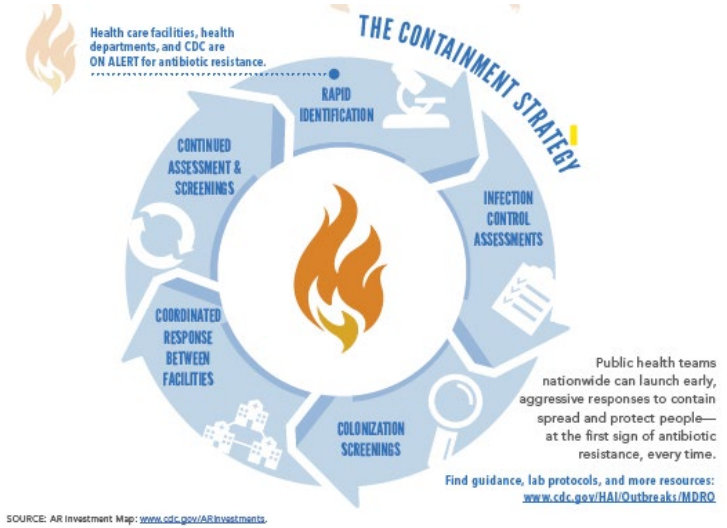
# What Does the Response Look Like?

- Rapid identification of organisms of concern
- Infection Control Assessment and Response (ICAR) evaluations
- Point Prevalence Screenings (PPS)
- Coordination and communication
- Continued assessment and mitigation

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# Who Can Support the Response?

- Local Health Department
  - Cohorting assistance
  - Assist with PPS
  - Review PPS data
- Illinois Department of Public Health (IDPH) Epi Team
  - Assist with training and coordination of PPS
- IDPH Infection Preventionists
  - Assist with PPS
  - Outbreak investigation and support including ICAR evaluations
- Hektoen Infection Prevention Consultants
  - ICAR evaluations
  - Programs and policies
    - Hand hygiene
    - Environmental cleaning and disinfection
- Regional Antibiotic Resistance Lab
  - Free PPS supplies and screening
- Facilities
  - Active participation

# Point Prevalence Screening

- A PPS may be prompted by the introduction of a new pathogen or novel mechanism of resistance in a geographic region or facility.
- A PPS aims to identify all individuals at a given point of time that have a specific organism or condition.
  - It is conducted to establish a baseline in a facility that can be used to inform the mitigation measures needed and guide the success of containment efforts.
- Prevalence rates include all individuals with a specific organism or condition.
  - "Point prevalence refers to the prevalence measured at a particular point in time. It is the proportion of persons with a particular disease or attribute on a particular date.
  - Period prevalence refers to prevalence measured over an interval of time. It is the proportion of persons with a particular disease or attribute at any time during the interval."[1]

[1] https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section2.html

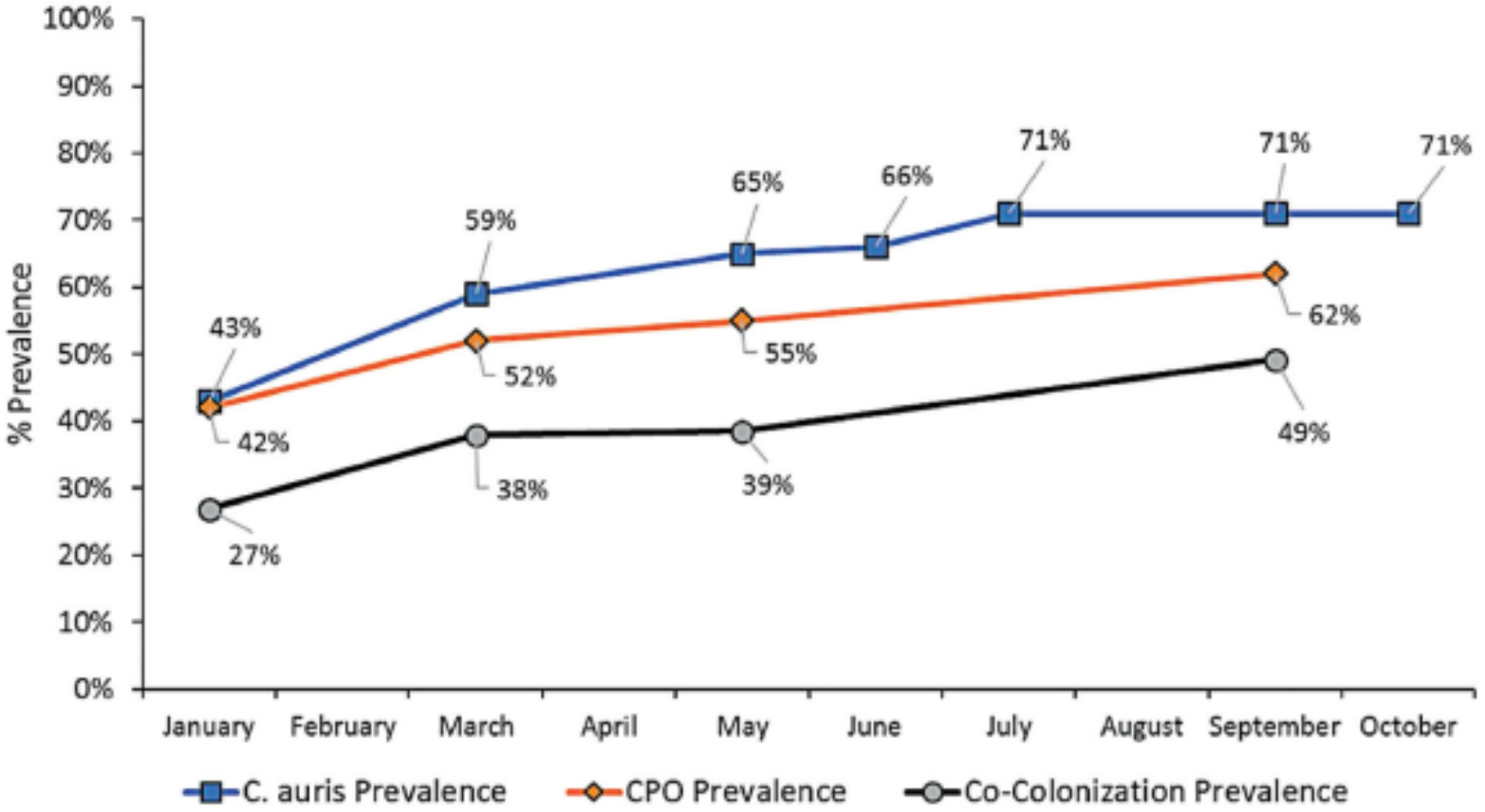


**Figure 3.**
vSNF-A ventilator-capable unit *Candida auris* and CPO prevalence, January to October 2018. Abbreviations: CPO, carbapenemase-producing organism; vSNF, ventilator-capable skilled nursing facility.

https://pubmed.ncbi.nlm.nih.gov/32291441/

# Cohorting Maps


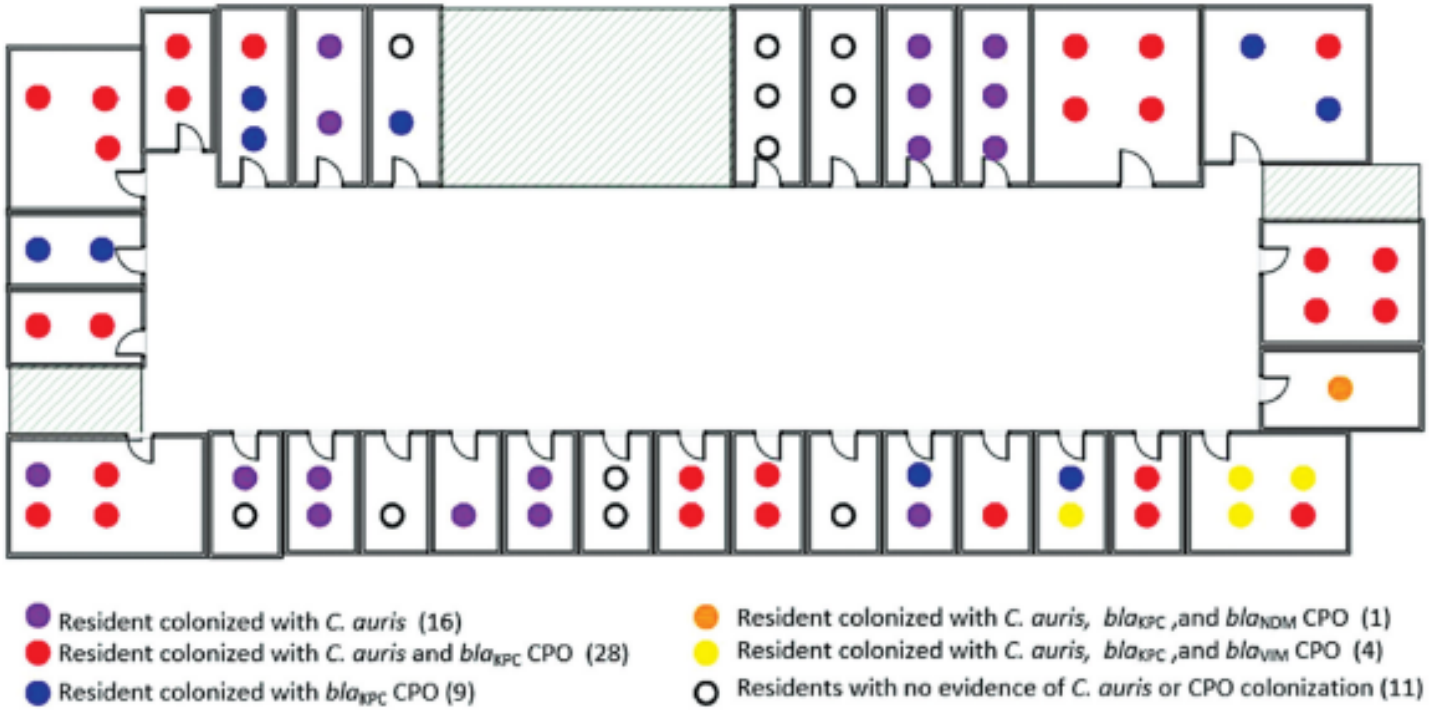


**Figure 4.**
Resident *Candida auris* (*C. auris*) and CPO colonization status and room assignment: vSNF-A ventilator-capable unit, October 2018. *C. auris* prevalence, 71% (49 out of 69); CPO prevalence, 61% (42 out of 69). Abbreviations: CPO, carbapenemase-producing organism; vSNF, ventilator-capable skilled nursing facility.

https://pubmed.ncbi.nlm.nih.gov/32291441/

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# Cohorting Considerations and Challenges

- Residents may consent to screening for *Candida auris* but not carbapenem producing organisms
- Roommate combinations
  - Multiple organism and mechanism combinations
  - Gender along with organism and mechanism combinations
  - Social/interpersonal concerns
  - Acuity/ventilated resident
- Limited private rooms
  - Triple and quadruple rooms
  - Jack and Jill bathrooms
- Facilitating moves
  - Housekeeping support for terminal cleaning
  - Resident belongings
  - Buffer zones

# Cohorting Considerations and Challenges

- Update the maps after each PPS
  - Delay between PPS and results
- Hierarchy of cohorting
  - Private room
    - *Clostridioides difficile*
    - Novel mechanisms of resistance
  - Multi-bed rooms
    - All occupants infected or colonized with *Candida auris*
    - *Candida auris* and carbapenem resistant Enterobacteriaceae (CRE) co-colonization based on CRE mechanism

# Infection Prevention and Control Basics

- Standard Precautions
- Transmission Based Precautions
  - Contact Precautions
  - Enhanced Barrier Precautions
- Hand hygiene
- Surface cleaning and disinfection
- Communication

# STANDARD PRECAUTIONS

USE WITH ALL RESIDENTS

***A group of infection prevention practices that apply to all patients***, regardless of suspected or confirmed infection status, in any setting in which healthcare is delivered.

Standard Precautions are based on the principle that all blood, body fluids, secretions and excretions (except sweat) may contain transmissible infectious agents.

- Hand hygiene
- Use of personal protective equipment (e.g., gown, gloves, masks, eyewear)
- Respiratory hygiene / cough etiquette
- Sharps safety (engineering and work practice controls)
- Safe injection practices (i.e., aseptic technique for parenteral medications)
- Sterile instruments and devices
- Clean and disinfected environmental surfaces

Slide courtesy of Karen Trimberger.

# CONTACT PRECAUTIONS

Perform hand hygiene before entering and upon exit of room

Wear gown and gloves every time you enter the room

***The goal is to prevent the transfer of multidrug-resistant organisms to staff hands and clothing.***


Slide courtesy of Karen Trimberger

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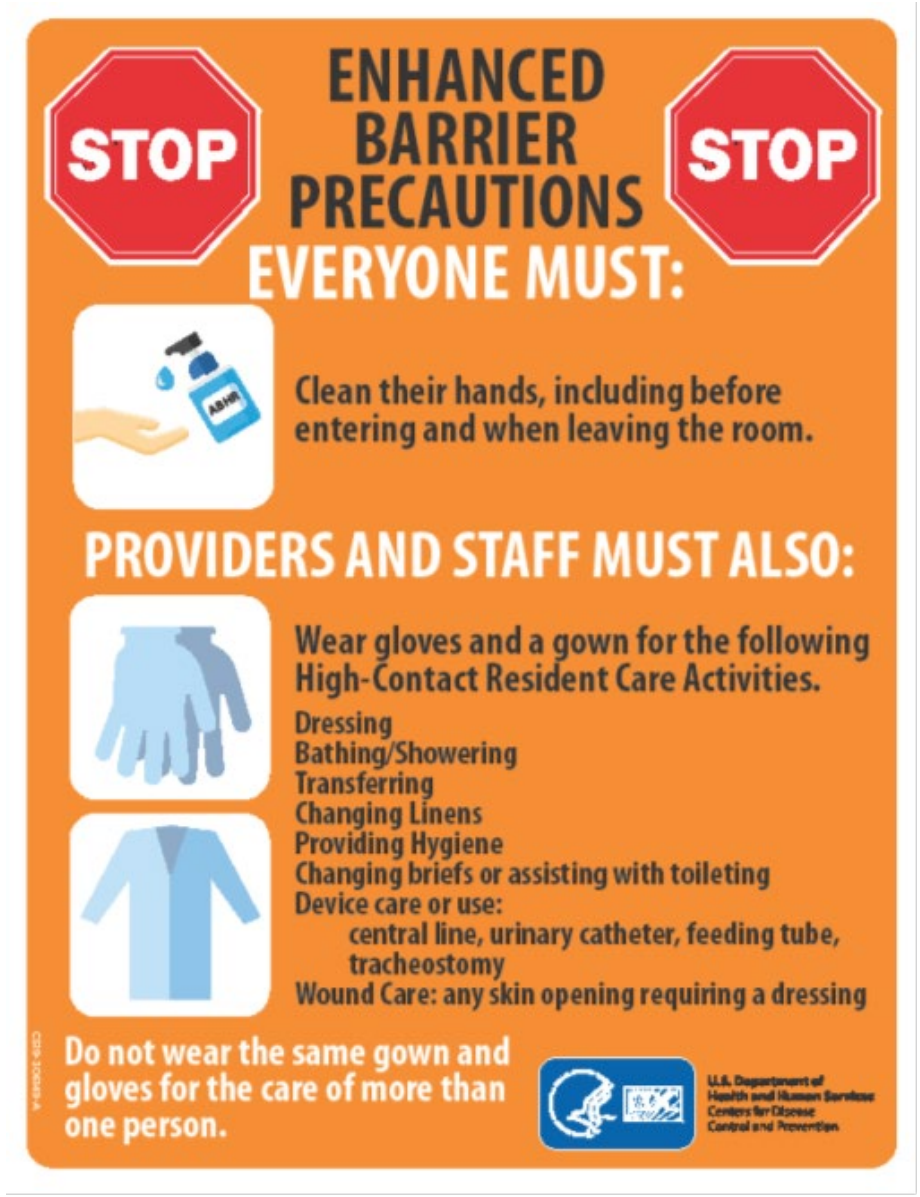
# ENHANCED BARRIER PRECAUTIONS

## Enhanced Barrier Precautions

- Use of gown and gloves during high-contact resident care activities
- No private room required
- Residents can participate in group activities
- Intended to be used for resident's entire length of stay




Slide courtesy of Karen Trimberger.

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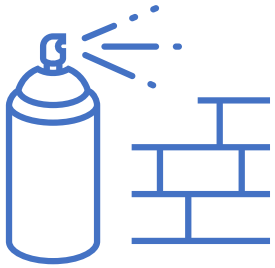
# Hand Hygiene – In, Out, and In Between

- Before and after entering a resident room
- Before and after donning personal protective equipment
- When moving from a dirty task to a clean task
- Between residents in the same room

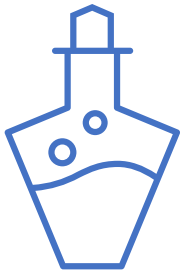
Thank you for cleaning your hands.


By cleaning **In**, cleaning **Out**, and cleaning **Between** residents you contribute to resident safety.

# Surface Cleaning and Disinfection



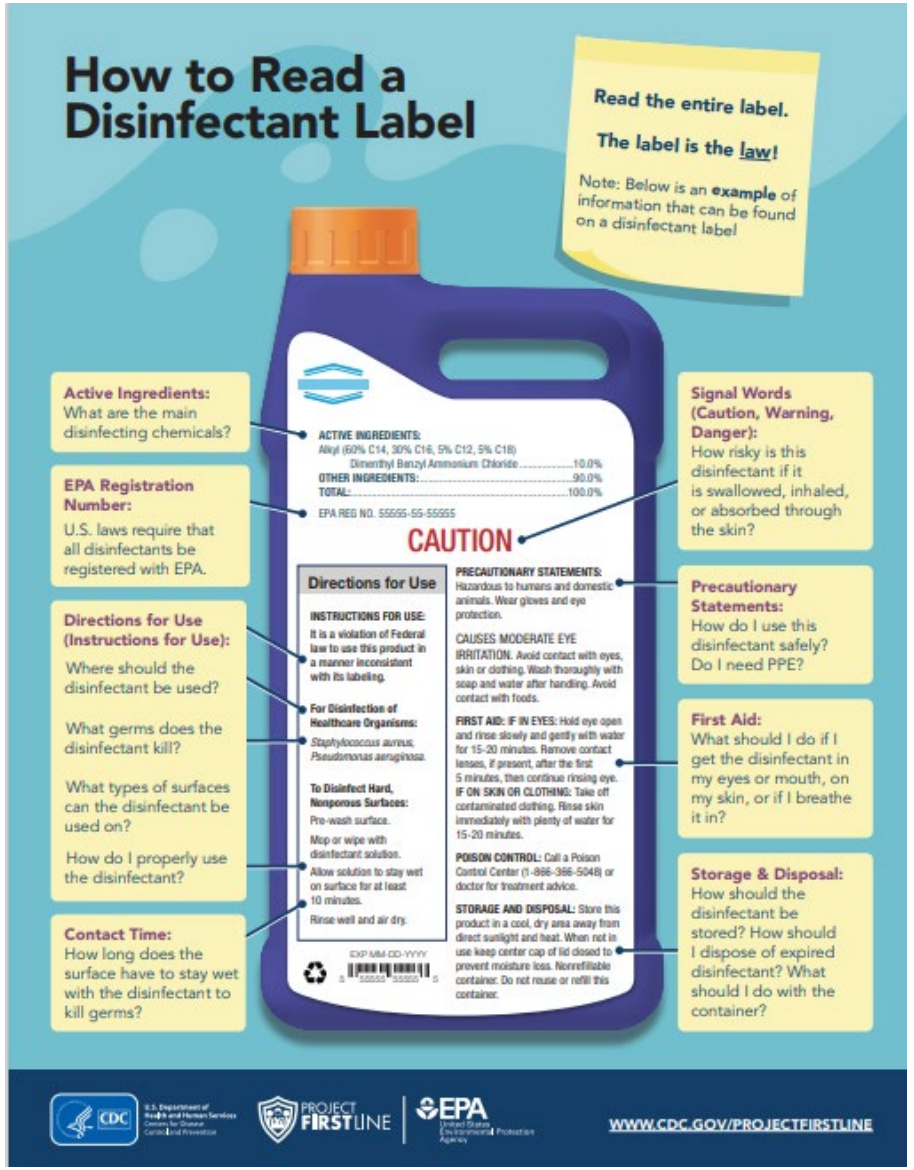
The right product



The right dilution

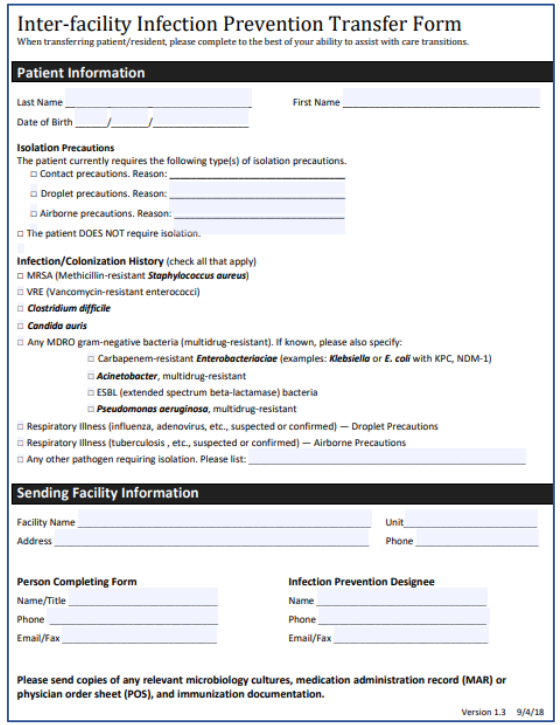
The right contact time

Follow the instructions for use.




https://www.cdc.gov/hai/pdfs/HowToReadALabel-Infographic-508.pdf

# Communication



**Inter-facility Infection Prevention Transfer Form**

When transferring patient/resident, please complete to the best of your ability to assist with care transitions.

**Patient Information**

Last Name _____ First Name _____

Date of Birth ____/____/____

**Isolation Precautions**

The patient currently requires the following type(s) of isolation precautions.

- ☐ Contact precautions. Reason: _____
- ☐ Droplet precautions. Reason: _____
- ☐ Airborne precautions. Reason: _____
- ☐ The patient DOES NOT require isolation.

**Infection/Colonization History** (check all that apply)

- ☐ MRSA (Methicillin-resistant ***Staphylococcus aureus***)
- ☐ VRE (Vancomycin-resistant enterococci)
- ☐ ***Clostridium difficile***
- ☐ ***Candida auris***
- ☐ Any MDRO gram-negative bacteria (multidrug-resistant). If known, please also specify:
  - ☐ Carbapenem-resistant ***Enterobacteriaciae*** (examples: ***Klebsiella*** or ***E. coli*** with KPC, NDM-1)
  - ☐ ***Acinetobacter***, multidrug-resistant
  - ☐ ESBL (extended spectrum beta-lactamase) bacteria
  - ☐ ***Pseudomonas aeruginosa***, multidrug-resistant
- ☐ Respiratory Illness (influenza, adenovirus, etc., suspected or confirmed) — Droplet Precautions
- ☐ Respiratory Illness (tuberculosis , etc., suspected or confirmed) — Airborne Precautions
- ☐ Any other pathogen requiring isolation. Please list: _____

**Sending Facility Information**

Facility Name _____ Unit _____

Address _____ Phone _____

**Person Completing Form**

Name/Title _____

Phone _____

Email/Fax _____

**Infection Prevention Designee**

Name _____

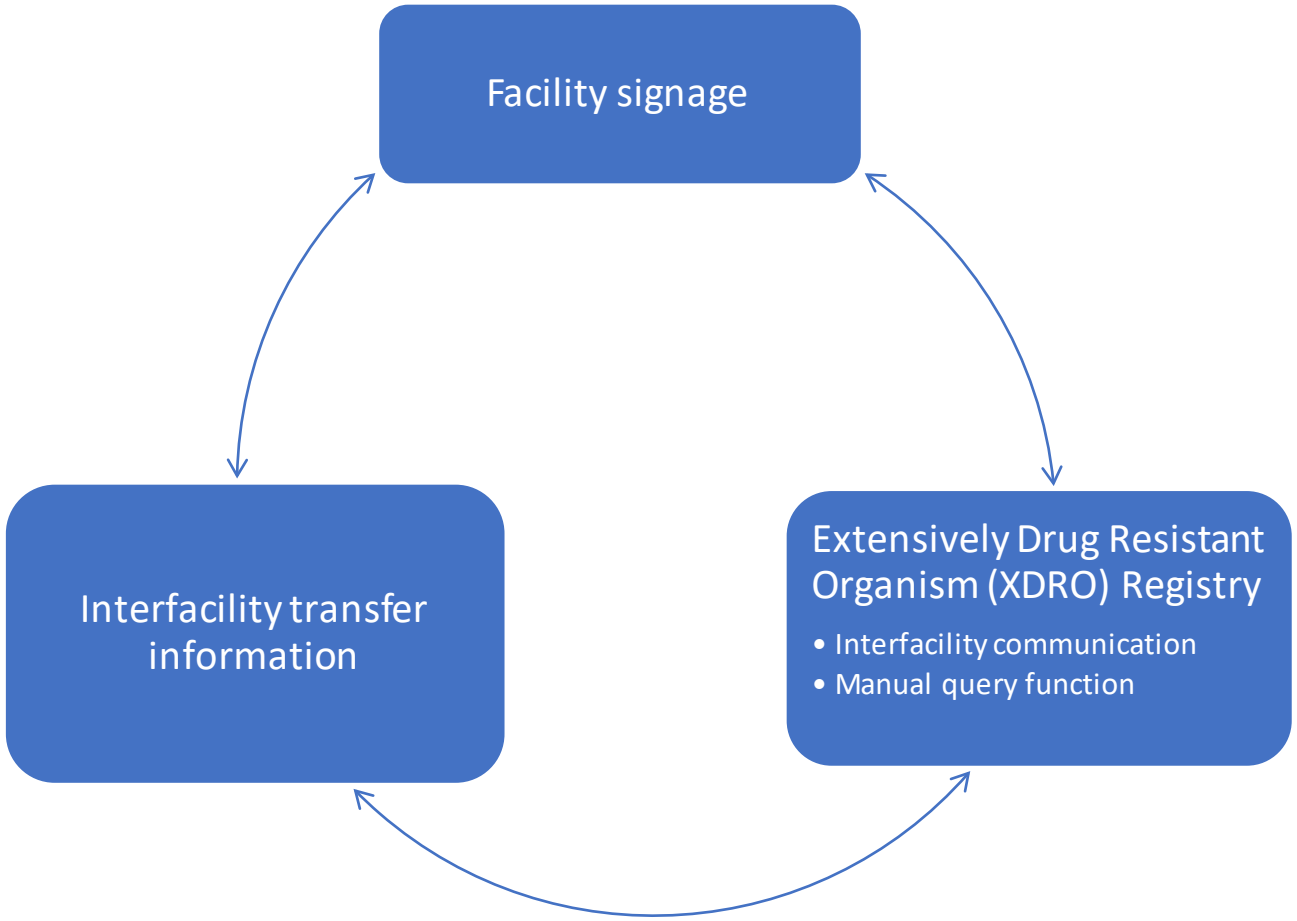
Phone _____

Email/Fax _____

**Please send copies of any relevant microbiology cultures, medication administration record (MAR) or physician order sheet (POS), and immunization documentation.**

Version 1.3 9/4/18

[Inter-facility Patient Transfer Form (chicagohan.org)]




XDRO registry

https://www.xdro.org/

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# Summary

- Antimicrobial resistance is a growing problem.
- Containment is a team effort.
- Point prevalence surveys can inform the burden of MDROs.
- Mitigation measures include basic infection prevention and control practices.
- Cohorting may be necessary.

# Appendix

# Resources Appendix

## Centers for Disease Control and Prevention


Centers for Disease Control and Prevention. 2022 Special Report COVID-19. U.S. Impact on Antimicrobial Resistance. Available at: https://www.cdc.gov/drugresistance/pdf/covid19-impact-report-508.pdf Accessed October 28, 2022.

Centers for Disease Control and Prevention . Antimicrobial Resistance. 2019 AR Threats Report. Available at: https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf Accessed October 28, 2022.

Centers for Disease Control and Prevention. A Complex Web: Everything is Connected Healthcare Facilities. Available at:: Title - CDC Fights Antibiotic Resistance (AR) in Healthcare Accessed October 31, 2022

Centers for Disease Control and Prevention. Vital Signs. Containing Unusual Resistance. April 2018. Available at: https://www.cdc.gov/vitalsigns/pdf/2018-04-vitalsigns.pdf Accessed October 31, 2022.

Centers for Disease Control and Prevention. Project FirstLine. How to Read a Disinfectant Label. Available at: https://www.cdc.gov/hai/pdfs/HowToReadALabel-Infographic-508.pdfp Accessed October 31, 2022.

Centers for Disease Control and Prevention. Division of Scientific Education and Professional Development. Lesson 3: Measures of Risk. Available at: Principles of Epidemiology | Lesson 3 - Section 2 (cdc.gov) Accessed November 5, 2022.

Centers for Disease Control and Prevention. Infection Control. Standard Precautions. Available at: https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html Accessed November 5, 2022.

Centers for Disease Control and Prevention. Infection Control. Transmission-Based Precautions. Available at: https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html Accessed November 5, 2022.

Centers for Disease Control and Prevention. Healthcare-Associated Infections (HAIs). Implementation of Personal Protective Equipment in Nursing Homes to Prevent Spread of MDROs. Available at: https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html Accessed November 5, 2022.

# Resources Appendix

## Illinois Department of Public Health

Webex webinar recording: Hand Hygiene and Performance Measures. Recording link:
https://illinois.webex.com/illinois/lsr.php?RCID=d935f65d455f5ae38340269b805304bc

Webex webinar recording: Transmission Based Precautions, Personal Protective Equipment, and Resident Placement. Recording link:
https://illinois.webex.com/illinois/lsr.php?RCID=970f7df86d46fa7d42fde547e5a5995c

Webex webinar recording: LTC Enhanced Barrier Precautions –09232022 Recording link:
https://illinois.webex.com/illinois/lsr.php?RCID=947bcef17f36574d3a8d8acee86d8e58

## Other

Pacilli M, Kerins JL, Clegg WJ, Walblay KA, Adil H, Kemble SK, et al. Regional Emergence of Candida auris in Chicago and Lessons Learned from Intensive Follow-up a 1 Ventilator-Capable Skilled Nursing Facility. Available at: Regional Emergence of Candida auris in Chicago and Lessons Learned From Intensive Follow-up at 1 Ventilator-Capable Skilled Nursing Facility (nih.gov) Accessed November 1, 2022.

Chicago Department of Public Health. Inter-Facility Infection Control Transfer Form. Available at: https://www.chicagohan.org/inter-facility-infection-control-transfer-form Accessed November 7, 2022.

Murray CJ, Ikuta KS, Sharara F, Swetschinski L, Aguilar, GR, Gray, A, et al. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. Available at: https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2902724-0 Accessed November 1, 2022.

# Navigating the EPA Website for Disinfectants

**April 8, 2022**

IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

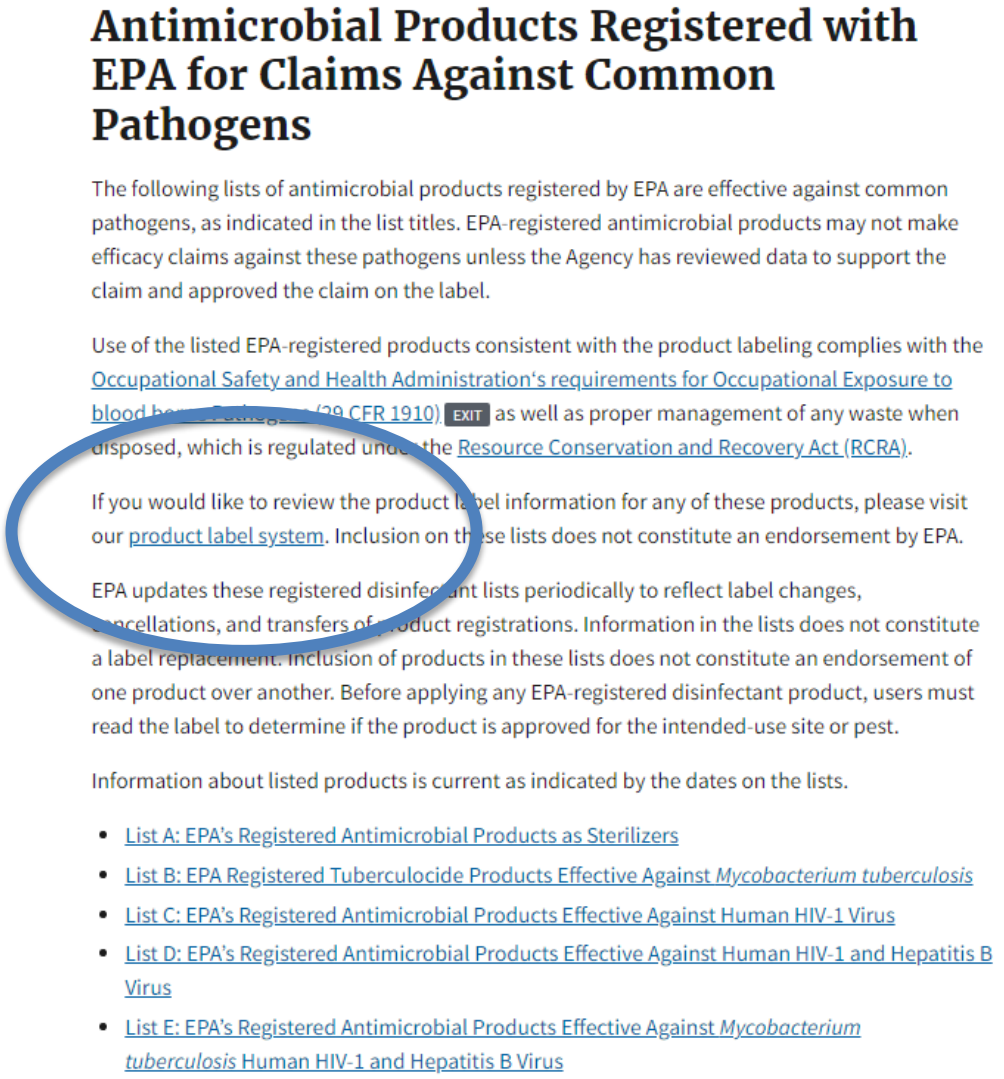
# Navigating the EPA Website

- There are a couple of ways to navigate to the information needed to determine if a disinfectant is EPA registered.
- The main EPA page can be found here: https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants
  - Consider bookmarking the site for easy access in the future.
- This page provides all the lists by organism claim.

- List A: EPA's Registered Antimicrobial Products as Sterilizers
- List B: EPA Registered Tuberculocide Products Effective Against *Mycobacterium tuberculosis*
- List C: EPA's Registered Antimicrobial Products Effective Against Human HIV-1 Virus
- List D: EPA's Registered Antimicrobial Products Effective Against Human HIV-1 and Hepatitis B Virus
- List E: EPA's Registered Antimicrobial Products Effective Against *Mycobacterium tuberculosis* Human HIV-1 and Hepatitis B Virus
- List F: EPA's Registered Antimicrobial Products Effective Against Hepatitis C Virus
- List G: EPA's Registered Antimicrobial Products Effective Against Norovirus
- List H: EPA's Registered Antimicrobial Products Effective Against Methicillian Resistant Staphyloccus aureus (MRSA) and/or Vancomycin Resistant Enterococcus faecalis or faecium (VRE)
- List J: EPA's Registered Antimicrobial Products for Medical Waste Treatment
- List K: EPA's Registered Antimicrobial Products Effective Against Clostridium Difficile Spores
- List L: EPA's Registered Antimicrobial Products That Meet the CDC Criteria for Use Against the Ebola Virus
- List M: Registered Antimicrobial Products with Label Claims for Avian Influenza
- List N: Disinfectants for Use Against SARS-CoV-2
- List O: Disinfectants for Use Against Rabbit Hemorrhagic Disease Virus (RHDV2)
- List P: Antimicrobial Products Registered with EPA for Claims Against Candida Auris

# Navigating the EPA Website

- On the same main EPA page : https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants a search can also be performed using the specific EPA registration number under the product label system
  - This is the most direct way to find the information on a specific product
- The product label system is found just above the lists



## Antimicrobial Products Registered with EPA for Claims Against Common Pathogens

The following lists of antimicrobial products registered by EPA are effective against common pathogens, as indicated in the list titles. EPA-registered antimicrobial products may not make efficacy claims against these pathogens unless the Agency has reviewed data to support the claim and approved the claim on the label.

Use of the listed EPA-registered products consistent with the product labeling complies with the Occupational Safety and Health Administration's requirements for Occupational Exposure to blood [illegible] (29 CFR 1910) EXIT as well as proper management of any waste when disposed, which is regulated under the Resource Conservation and Recovery Act (RCRA).

If you would like to review the product label information for any of these products, please visit our product label system. Inclusion on these lists does not constitute an endorsement by EPA.

EPA updates these registered disinfectant lists periodically to reflect label changes, cancellations, and transfers of product registrations. Information in the lists does not constitute a label replacement. Inclusion of products in these lists does not constitute an endorsement of one product over another. Before applying any EPA-registered disinfectant product, users must read the label to determine if the product is approved for the intended-use site or pest.

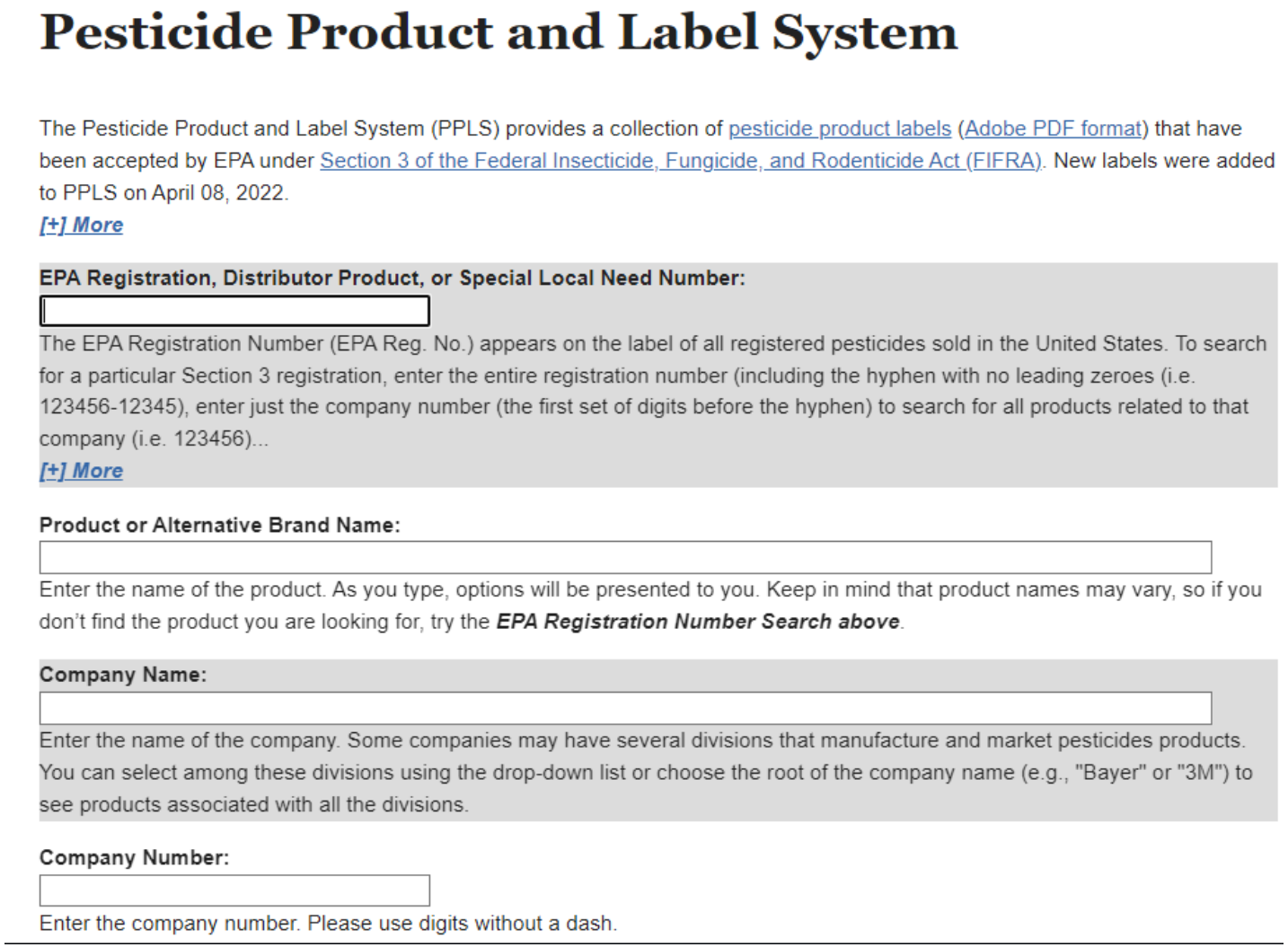
Information about listed products is current as indicated by the dates on the lists.

- List A: EPA's Registered Antimicrobial Products as Sterilizers
- List B: EPA Registered Tuberculocide Products Effective Against *Mycobacterium tuberculosis*
- List C: EPA's Registered Antimicrobial Products Effective Against Human HIV-1 Virus
- List D: EPA's Registered Antimicrobial Products Effective Against Human HIV-1 and Hepatitis B Virus
- List E: EPA's Registered Antimicrobial Products Effective Against *Mycobacterium tuberculosis* Human HIV-1 and Hepatitis B Virus

IDPH Illinois Department of Public Health

# Navigating the EPA Website

- To use the product label system, some additional information is needed
- The best method is to use the EPA registration number
  - The product name can be challenging sometimes
- Products used in healthcare must be EPA registered



## Pesticide Product and Label System

The Pesticide Product and Label System (PPLS) provides a collection of pesticide product labels (Adobe PDF format) that have been accepted by EPA under Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). New labels were added to PPLS on April 08, 2022.

*[+] More*

**EPA Registration, Distributor Product, or Special Local Need Number:**

The EPA Registration Number (EPA Reg. No.) appears on the label of all registered pesticides sold in the United States. To search for a particular Section 3 registration, enter the entire registration number (including the hyphen with no leading zeroes (i.e. 123456-12345), enter just the company number (the first set of digits before the hyphen) to search for all products related to that company (i.e. 123456)...

*[+] More*

**Product or Alternative Brand Name:**

Enter the name of the product. As you type, options will be presented to you. Keep in mind that product names may vary, so if you don't find the product you are looking for, try the ***EPA Registration Number Search above***.

**Company Name:**

Enter the name of the company. Some companies may have several divisions that manufacture and market pesticides products. You can select among these divisions using the drop-down list or choose the root of the company name (e.g., "Bayer" or "3M") to see products associated with all the divisions.

**Company Number:**

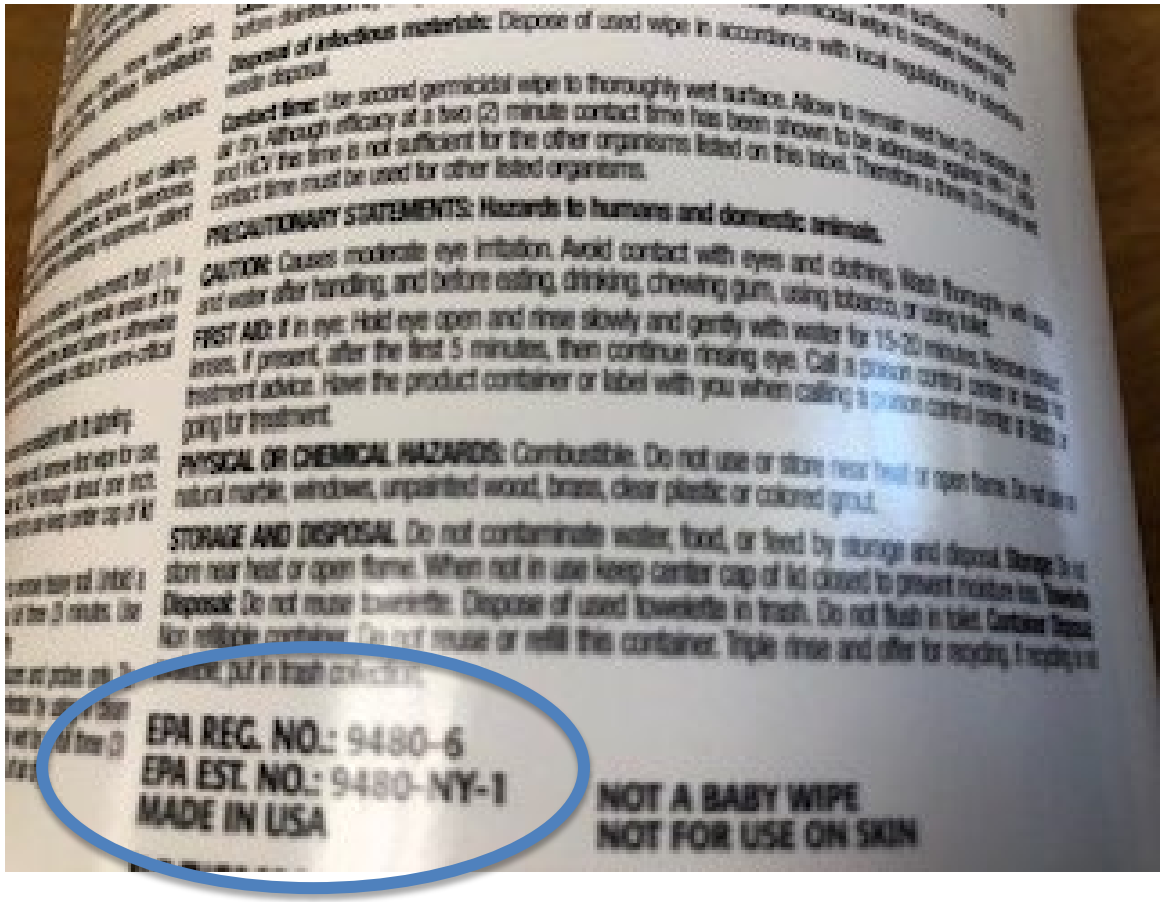
Enter the company number. Please use digits without a dash.

https://ordspub.epa.gov/ords/pesticides/f?p=PPLS:1

IDPH Illinois Department of Public Health

# Where Can the EPA Registration Number be Found?

- The product should have an EPA registration number on the label if it is registered with the EPA.

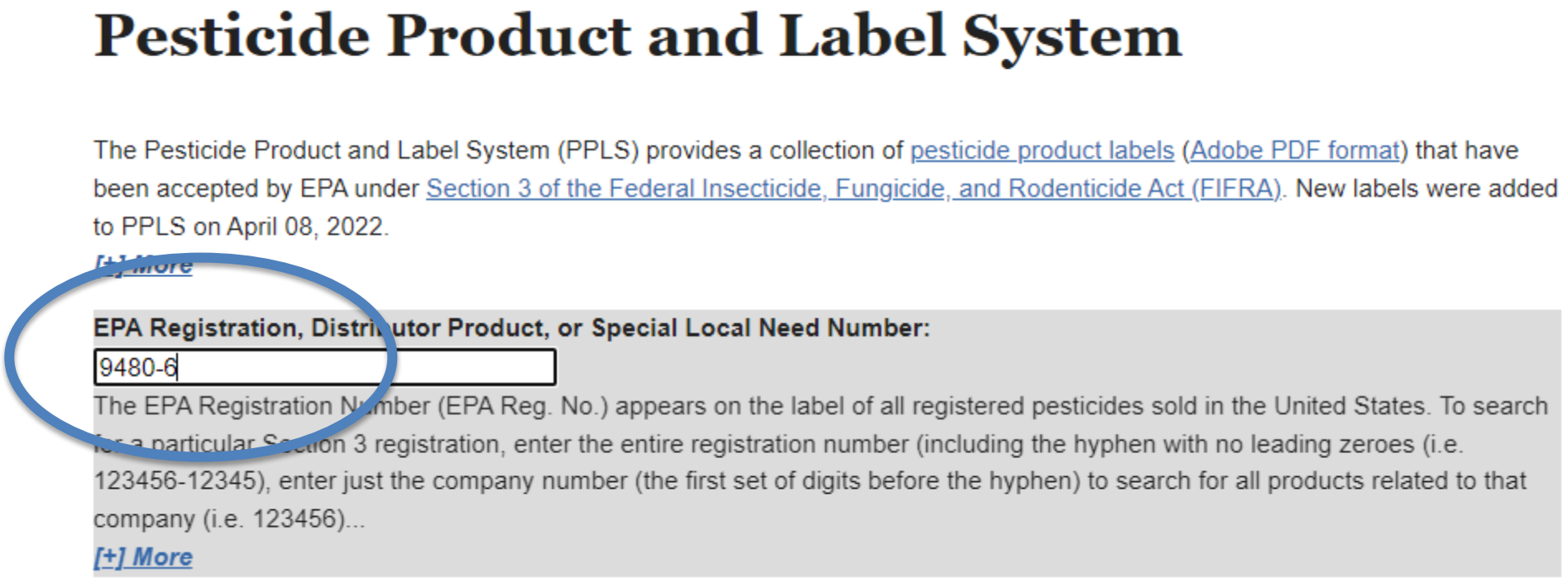



NOTE: This is for demonstration only and not an endorsement of this product.

IDPH
Illinois Department of Public Health

# Using the EPA Product Label System

- Using the EPA registration number 9480-6 as an example only, type the EPA number found on the product in the EPA registration box

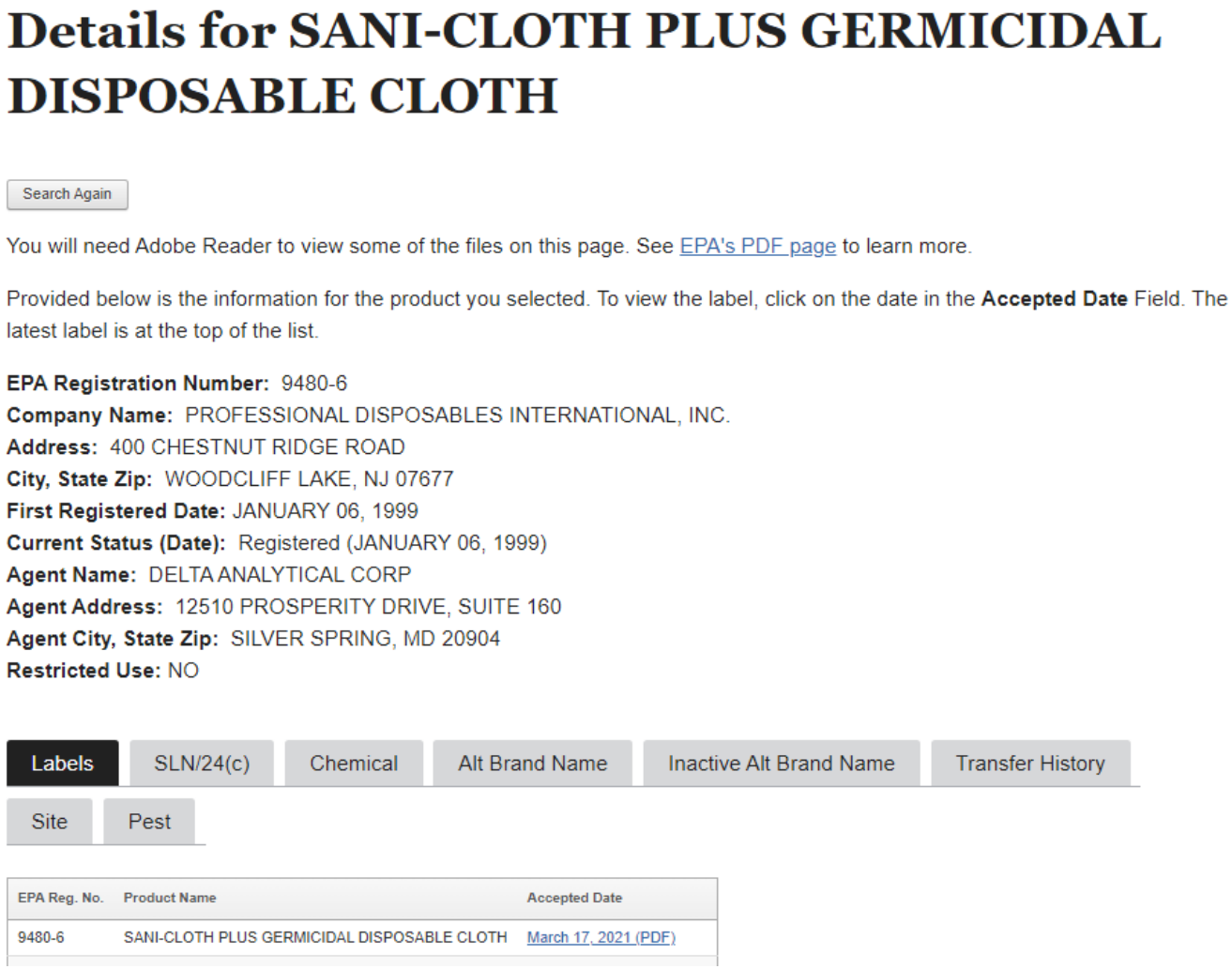



NOTE: This is for demonstration only and not an endorsement of this product.

IDPH Illinois Department of Public Health

# Using the EPA Product Label System

- It brings up the details for this particular product
- There are several things to unpack on this page



## Details for SANI-CLOTH PLUS GERMICIDAL DISPOSABLE CLOTH

Search Again

You will need Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

Provided below is the information for the product you selected. To view the label, click on the date in the **Accepted Date** Field. The latest label is at the top of the list.

**EPA Registration Number:** 9480-6
**Company Name:** PROFESSIONAL DISPOSABLES INTERNATIONAL, INC.
**Address:** 400 CHESTNUT RIDGE ROAD
**City, State Zip:** WOODCLIFF LAKE, NJ 07677
**First Registered Date:** JANUARY 06, 1999
**Current Status (Date):** Registered (JANUARY 06, 1999)
**Agent Name:** DELTA ANALYTICAL CORP
**Agent Address:** 12510 PROSPERITY DRIVE, SUITE 160
**Agent City, State Zip:** SILVER SPRING, MD 20904
**Restricted Use:** NO

Labels | SLN/24(c) | Chemical | Alt Brand Name | Inactive Alt Brand Name | Transfer History | Site | Pest

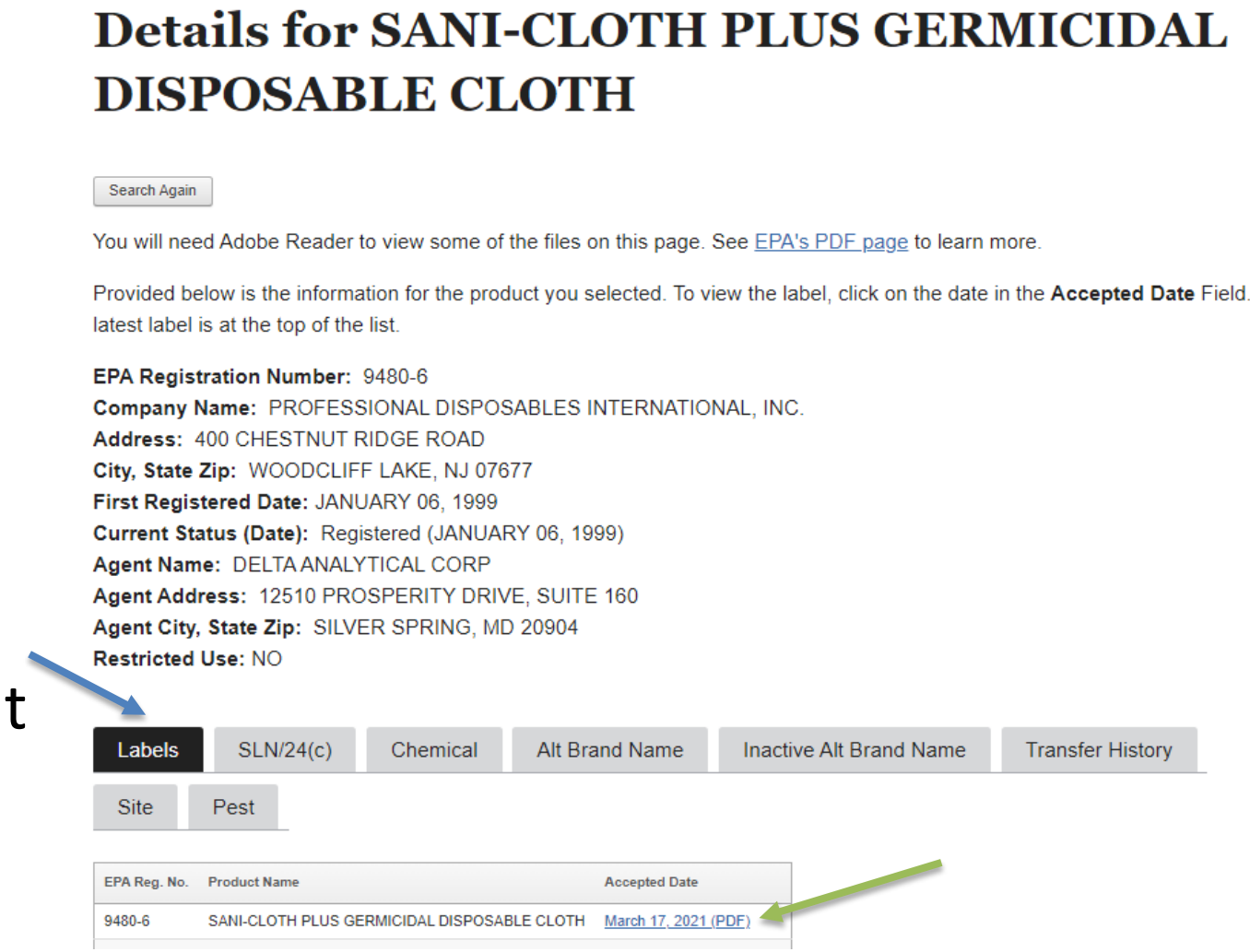
| EPA Reg. No. | Product Name | Accepted Date |
|---|---|---|
| 9480-6 | SANI-CLOTH PLUS GERMICIDAL DISPOSABLE CLOTH | March 17, 2021 (PDF) |

NOTE: This is for demonstration only and not an endorsement of this product.

IDPH Illinois Department of Public Health

# Using the EPA Product Label System

- It opens with the labels tab highlighted (blue arrow)
- The detailed label information can be accessed by clicking on the hyperlink in the table at the bottom (green arow)
  - The most recent label will be at the top of the table

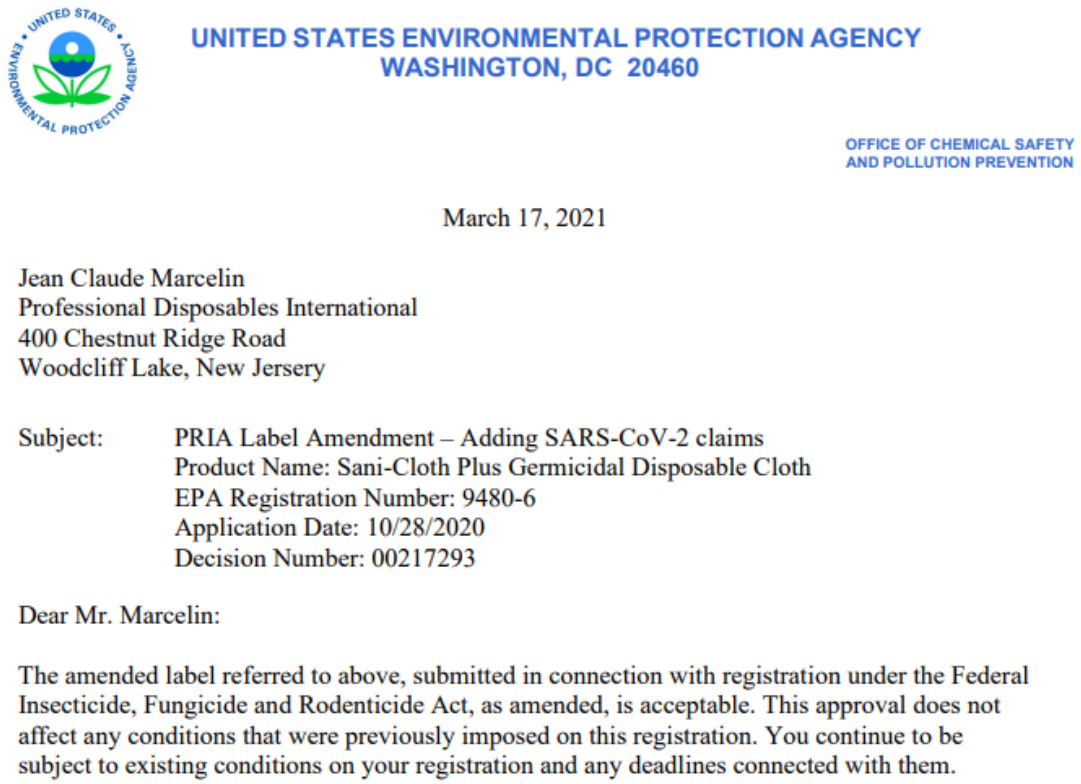



NOTE: This is for demonstration only and not an endorsement of this product.

IDPH Illinois Department of Public Health

# Using the EPA Product Label System

- Selecting the accepted date hyperlink in the label table opens up what looks to be just a letter
- The subject lists the topic that the manufacturer is requesting approval for
  - In this example it was a SARS-CoV-2 claim



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

March 17, 2021

Jean Claude Marcelin
Professional Disposables International
400 Chestnut Ridge Road
Woodcliff Lake, New Jersery

Subject: PRIA Label Amendment – Adding SARS-CoV-2 claims
Product Name: Sani-Cloth Plus Germicidal Disposable Cloth
EPA Registration Number: 9480-6
Application Date: 10/28/2020
Decision Number: 00217293

Dear Mr. Marcelin:

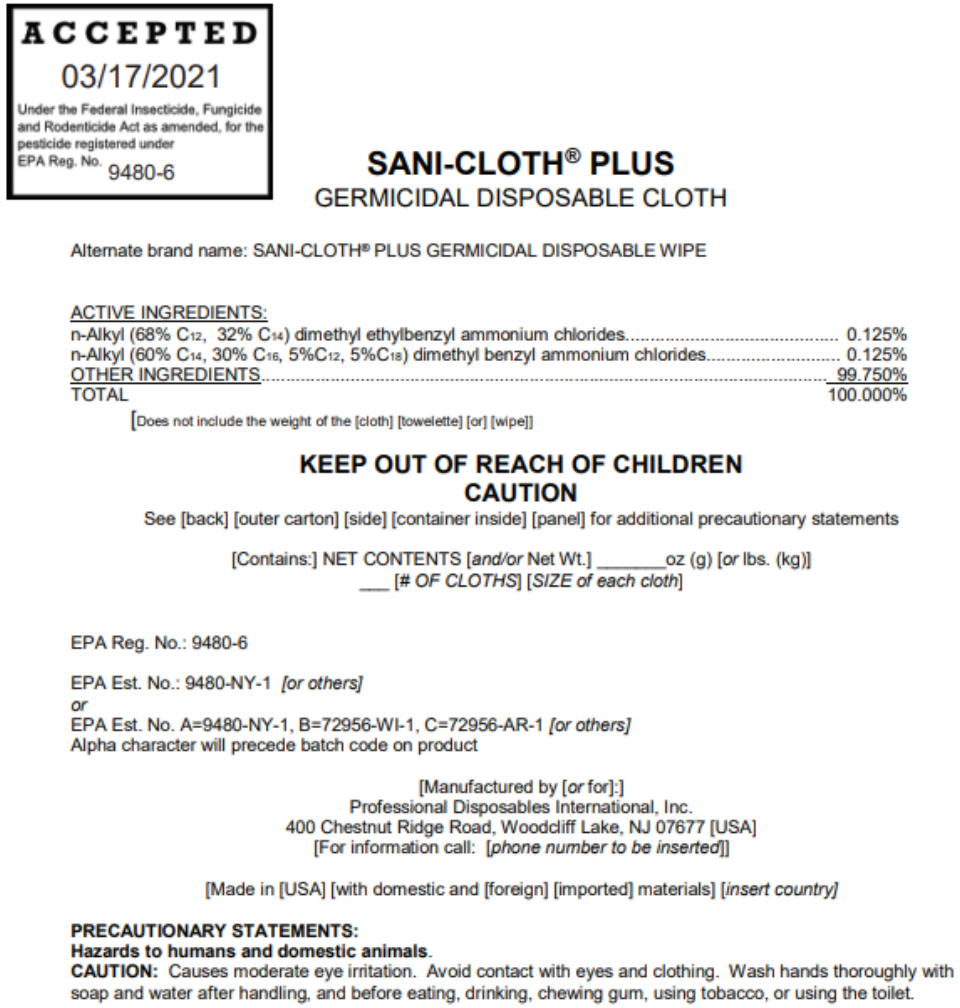
The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

NOTE: This is for demonstration only and not an endorsement of this product.

IDPH Illinois Department of Public Health

# Using the EPA Product Label System

- Scroll past the letter to find the most recent approval date for the product
  - In this example it was accepted on 3/17/21 with a SARS-CoV-2 claim



ACCEPTED
03/17/2021
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 9480-6

**SANI-CLOTH® PLUS**
GERMICIDAL DISPOSABLE CLOTH

Alternate brand name: SANI-CLOTH® PLUS GERMICIDAL DISPOSABLE WIPE

ACTIVE INGREDIENTS:
n-Alkyl (68% $C_{12}$, 32% $C_{14}$) dimethyl ethylbenzyl ammonium chlorides..... 0.125%
n-Alkyl (60% $C_{14}$, 30% $C_{16}$, 5%$C_{12}$, 5%$C_{18}$) dimethyl benzyl ammonium chlorides..... 0.125%
OTHER INGREDIENTS..... 99.750%
TOTAL 100.000%

[Does not include the weight of the [cloth] [towelette] [or] [wipe]]

**KEEP OUT OF REACH OF CHILDREN**
**CAUTION**
See [back] [outer carton] [side] [container inside] [panel] for additional precautionary statements

[Contains:] NET CONTENTS [*and/or* Net Wt.] _____oz (g) [*or* lbs. (kg)]
___ [*# OF CLOTHS*] [*SIZE of each cloth*]

EPA Reg. No.: 9480-6

EPA Est. No.: 9480-NY-1 *[or others]*
*or*
EPA Est. No. A=9480-NY-1, B=72956-WI-1, C=72956-AR-1 *[or others]*
Alpha character will precede batch code on product

[Manufactured by [*or* for]:]
Professional Disposables International, Inc.
400 Chestnut Ridge Road, Woodcliff Lake, NJ 07677 [USA]
[For information call: [*phone number to be inserted*]]

[Made in [USA] [with domestic and [foreign] [imported] materials] [*insert country]*

**PRECAUTIONARY STATEMENTS:**
**Hazards to humans and domestic animals.**
**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes and clothing. Wash hands thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet.

NOTE: This is for demonstration only and not an endorsement of this product.

IDPH
Illinois Department of Public Health

# Using the EPA Product Label System

- Scroll further, to find the pathogens the product is effective against
  - Note that although there are specific contact times listed for certain pathogens, the longest contact time must be utilized since all the pathogens present are unknown

**Bacteria [(3 Minute Contact)] [Time)]**
*Campylobacter jejuni* [ATCC 29428]
*Escherichia coli* (*E. coli*) [ATCC 11229]
*Escherichia coli* O157:H7 [ATCC 35150]
*Pseudomonas aeruginosa* [ATCC 15442]
*Salmonella enterica* [ATCC 10708]
*Staphylococcus aureus* [ATCC 6538]

**Multi-Drug Resistant Bacteria [(3 Minute Contact)] [Time)]**
Methicillin Resistant *Staphylococcus aureus* (MRSA) [ATCC 33592]
Vancomycin Resistant *Enterococcus faecalis* (VRE) [ATCC 51299] [in 3 minutes]

**Viruses* [(3 Minute Contact)] [Time)]**
*Herpes Simplex virus Type 2 [ATCC VR-734]
*Influenza A virus /Hong Kong [ATCC VR-544]
*Influenza A (H1N1) virus [ATCC VR-98] [Strain A/Malaya/302/54]
*Respiratory Syncytial Virus [RSV] (Strain Long) [ATCC VR-26]
*Severe Acute Respiratory Syndrome-Related Coronavirus 2 (SARS-CoV-2) [(COVID-19 Virus)] [USA-WA1/2020]

**Bloodborne Pathogens [(2 Minute Contact)] [Time)]]**
*Hepatitis B virus (HBV) -Duck HBV†
*Hepatitis C virus (Human) (HCV) -Bovine Diarrhea Virus†
*HIV-1 (AIDS virus) †

**Pathogenic Fungi [(3 Minute Contact Time)]**
*Trichophyton interdigitale* [ATCC 9533]
*Candida albicans* [ATCC 10231]

NOTE: This is for demonstration only and not an endorsement of this product.

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# Using the EPA Product Label System

- Continue to scroll for additional information
  - In this example there are 21 pages of information
- Here is the documentation that the product is approved for use in healthcare settings

**Areas of Use:**
**Hospital and Healthcare Settings**[£] : May be used on hard, nonporous surfaces located in: Ambulances, Ambulatory Surgical Centers (ASC), Anesthesia, CAT Labs, CCU, Central Supply, Clinics, Dental Offices, Dialysis Clinics, Doctors Offices, Donation Centers[blood][plasma][semen][milk][apheresis], Emergency Medical Settings, Emergency Rooms, E.R., Emergency Vehicles, Eye Surgical Centers, Healthcare Settings, Healthcare Facilities, Home Healthcare, Hospices, Hospitals, ICU, Isolation Areas, Laboratory, Laundry rooms, Neonatal Intensive Care Units (NICU), Newborn nursery, Nursing homes, Operating Rooms (OR), Ophthalmic Offices, Orthopedics, Out-Patient Surgical Centers (OPSC), Patient Care Areas, Pediatrics, Pediatric Intensive Care Units (PICU), Physical therapy, Physician's offices, Radiology, Recovery Rooms, Rehabilitation, Respiratory therapy, Surgery, Surgical Centers, Transport vehicles and X-Ray.
*and/or*
**Critical Care Areas:** CCU, Emergency Rooms, E.R., ICU, Neonatal Intensive Care Units (NICU), Operating Rooms, Pediatric Intensive Care Units (PICU) and Surgery.
*and*
**Hospital, Healthcare, and Critical Care Use Sites**: May be used on hard nonporous surfaces of: ambulance equipment surfaces; bed railings; cabinets; carts; chairs; counters; dental chairs; dental countertops; dental unit instrument trays; endodontic equipment such as apex locators; exam tables; gurneys; infant incubators [interior and exterior surfaces of]; infant warmers [interior and exterior surfaces of]; isolettes; IV poles; laboratory equipment and surfaces; loupes; operating room tables and lights; operatory light switches; oxygen hoods; physical therapy (PT) equipment surfaces; slit lamps; spine back boards; stethoscopes; stretchers; stools; tables; telephones; toilet seats; and hard nonporous outside surfaces of: amalgamators and dental curing lights; anesthesia machines and respiratory therapy equipment; apheresis machines, diagnostic equipment, dialysis machines; patient monitoring equipment, patient support and delivery equipment, pulp testers and motors; toilets; and ultrasound transducers and probes.

**Grocery Stores *or* Shopping Centers *or* Supermarkets *or* Delicatessens:** Disinfects grocery cart handles and grocery cart child seats. Disinfects shopping cart handles and child seats. Cleans grocery carts *or* shopping carts.

**Nursery *or* Daycare Centers:** Bassinets [interior and exterior surfaces of], changing tables, cribs, diaper changing stations, diaper pails, infant/child care equipment surfaces, trash cans, toys and other hard, nonporous surfaces listed on this label.

NOTE: This is for demonstration only and not an endorsement of this product.

# Using the EPA Product Label System

- Directions for use are also included and may be more detailed than what is found on the actual product label

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
[See directions for use on the container inside] [Consult equipment manufacturers' instructions prior to use.]
[Please be sure to [check] [*OR* consult] [equipment][manufacturers][instructions for use][IFU(s)][before][*OR* prior]
[to] use.] [[For surfaces,] Test wipe on small inconspicuous area before use.]

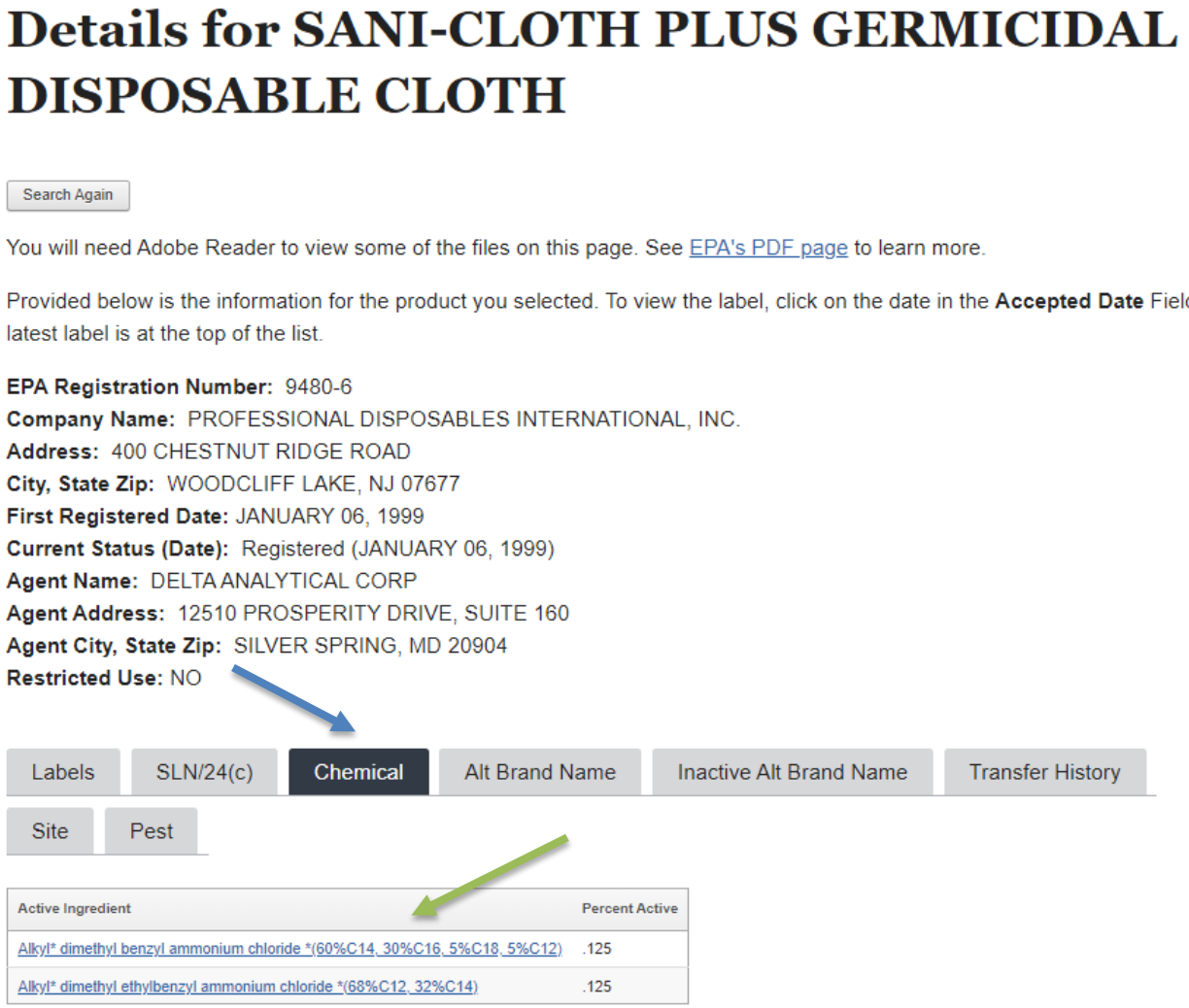
**TO [CLEAN] [AND] [,] DISINFECT [AND DEODORIZE] HARD, NONPOROUS SURFACES:** If present, use a wipe to remove [visible filth] [and] [or] [visible] [soil loads] prior to disinfecting. Unfold [a] [clean] wipe and thoroughly wet surface. Allow surface to remain visibly wet for contact time(s) listed on the label. [*OR* for three (3) minute[s]]. [Use [additional] [enough] wipe(s) [, if needed,] to ensure [continuous] [wet contact time(s) listed on the label] [three (3) minute[s] wet contact time.]] [Repeated use of the product may be required to ensure that the surface remains visibly wet [for contact time(s) listed on the label] [for three (3) minute[s]]. Let air dry. A potable water rinse is required for food contact surfaces. *[If label includes cleaning claims for grease, soap scum, grime, dirt, messes, soil, add the following as the first sentence:* A precleaning step is required for [grease], [soap scum], [grime], [dirt], [messes], [soil]].

NOTE: This is for demonstration only and not an endorsement of this product.

IDPH Illinois Department of Public Health

# Using the EPA Product Label System

- At the main page additional information can be accessed via the other tabs such as chemical (blue arow)
- The chemical tab provides the active ingredients in the table at the bottom (green arow)

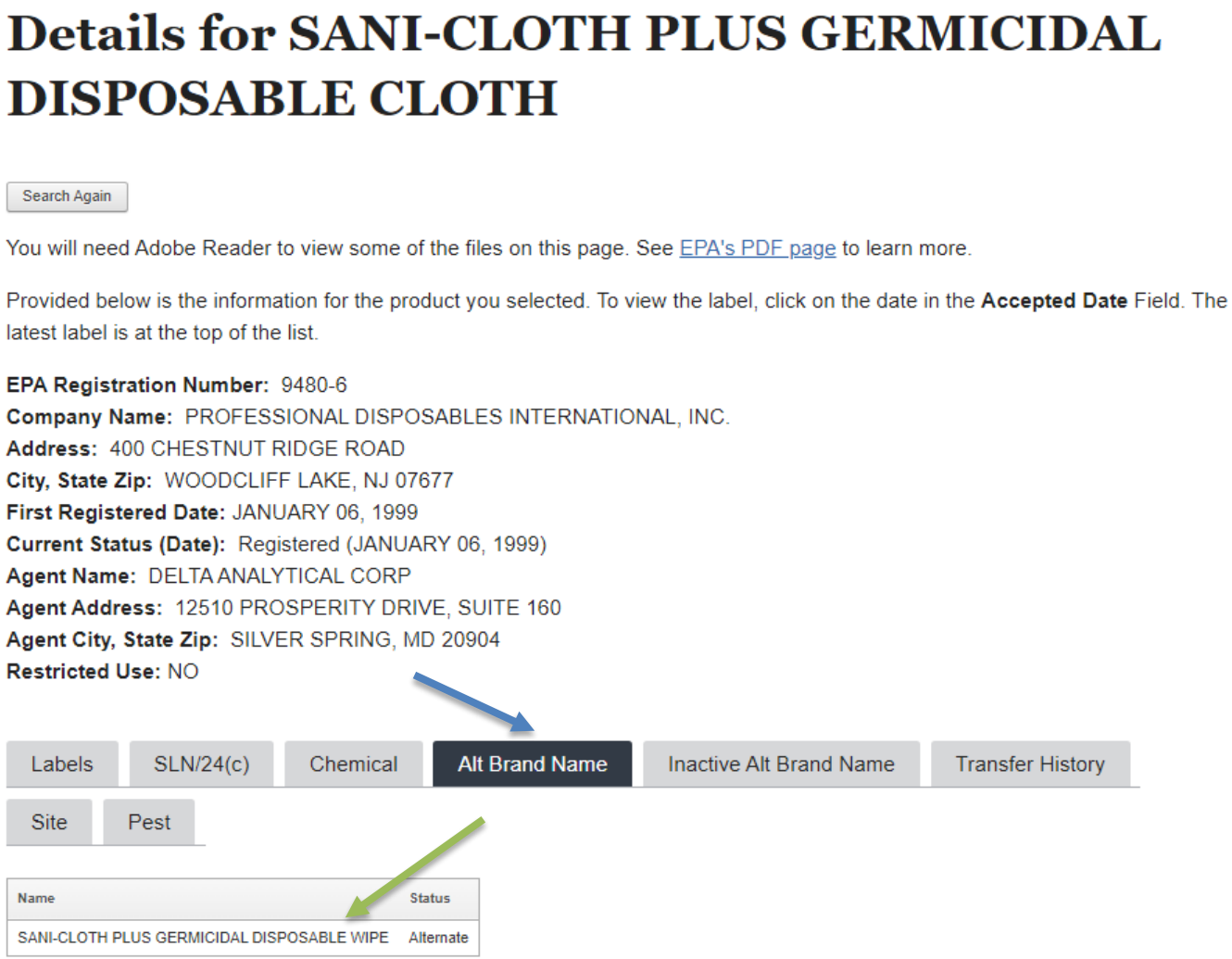



NOTE: This is for demonstration only and not an endorsement of this product.

IDPH Illinois Department of Public Health

# Using the EPA Product Label System

- The other tab that can prove useful is the alternate brand name (blue arow)
- The same EPA registration number can be used for a product with a slightly different name
- Under the alternate brand name tab, this product is also marketed as SANI-CLOTH PLUS GERMICIDAL DISPOSABLE WIPE (green arow)
  - Note at the top of the page that the product is referred to as SANI-CLOTH PLUS GERMICIDAL DISPOSABLE **CLOTH**
  - While the alternate name is very similar in this example, the alternate name can be very different with some products



**Details for SANI-CLOTH PLUS GERMICIDAL DISPOSABLE CLOTH**

Search Again

You will need Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

Provided below is the information for the product you selected. To view the label, click on the date in the **Accepted Date** Field. The latest label is at the top of the list.

**EPA Registration Number:** 9480-6
**Company Name:** PROFESSIONAL DISPOSABLES INTERNATIONAL, INC.
**Address:** 400 CHESTNUT RIDGE ROAD
**City, State Zip:** WOODCLIFF LAKE, NJ 07677
**First Registered Date:** JANUARY 06, 1999
**Current Status (Date):** Registered (JANUARY 06, 1999)
**Agent Name:** DELTA ANALYTICAL CORP
**Agent Address:** 12510 PROSPERITY DRIVE, SUITE 160
**Agent City, State Zip:** SILVER SPRING, MD 20904
**Restricted Use:** NO

Labels | SLN/24(c) | Chemical | Alt Brand Name | Inactive Alt Brand Name | Transfer History | Site | Pest

| Name | Status |
|---|---|
| SANI-CLOTH PLUS GERMICIDAL DISPOSABLE WIPE | Alternate |

NOTE: This is for demonstration only and not an endorsement of this product.

IDPH Illinois Department of Public Health

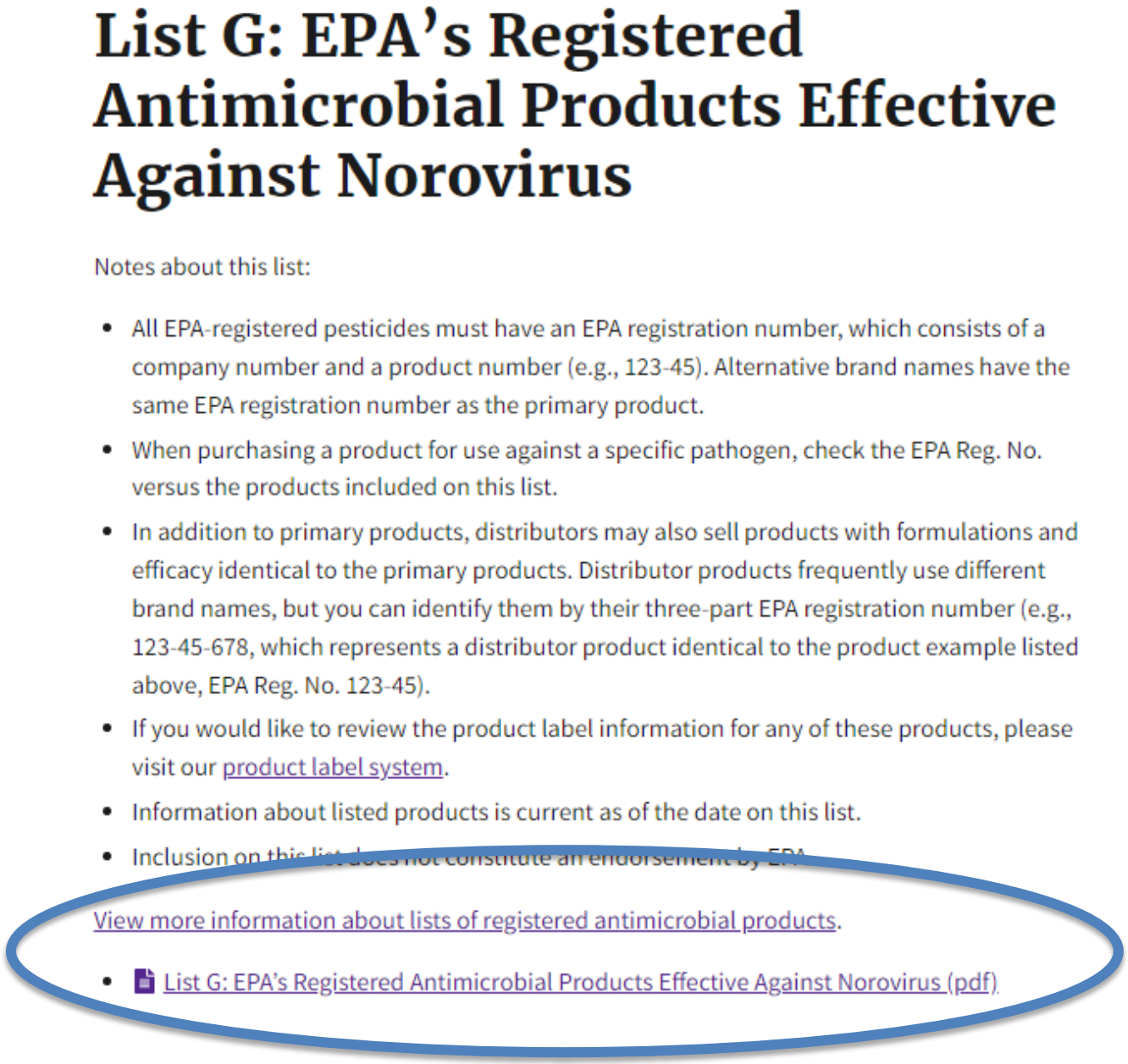
# Navigating the EPA Website

- If a specific product name or EPA registration number is not available and a product with a specific claim is needed, the lists on the main EPA page: https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants will provide the information
- For instance, when looking for a product with a specific Norovirus claim, select List G

- List A: EPA's Registered Antimicrobial Products as Sterilizers
- List B: EPA Registered Tuberculocide Products Effective Against *Mycobacterium tuberculosis*
- List C: EPA's Registered Antimicrobial Products Effective Against Human HIV-1 Virus
- List D: EPA's Registered Antimicrobial Products Effective Against Human HIV-1 and Hepatitis B Virus
- List E: EPA's Registered Antimicrobial Products Effective Against *Mycobacterium tuberculosis* Human HIV-1 and Hepatitis B Virus
- List F: EPA's Registered Antimicrobial Products Effective Against Hepatitis C Virus
- List G: EPA's Registered Antimicrobial Products Effective Against Norovirus
- List H: EPA's Registered Antimicrobial Products Effective Against Methicillian Resistant Staphyloccus aureus (MRSA) and/or Vancomycin Resistant Enterococcus faecalis or faecium (VRE)
- List J: EPA's Registered Antimicrobial Products for Medical Waste Treatment
- List K: EPA's Registered Antimicrobial Products Effective Against Clostridium Difficile Spores
- List L: EPA's Registered Antimicrobial Products That Meet the CDC Criteria for Use Against the Ebola Virus
- List M: Registered Antimicrobial Products with Label Claims for Avian Influenza
- List N: Disinfectants for Use Against SARS-CoV-2
- List O: Disinfectants for Use Against Rabbit Hemorrhagic Disease Virus (RHDV2)
- List P: Antimicrobial Products Registered with EPA for Claims Against Candida Auris

# List G Example

- A PDF link to the List G list is available.



## List G: EPA's Registered Antimicrobial Products Effective Against Norovirus

Notes about this list:

- All EPA-registered pesticides must have an EPA registration number, which consists of a company number and a product number (e.g., 123-45). Alternative brand names have the same EPA registration number as the primary product.
- When purchasing a product for use against a specific pathogen, check the EPA Reg. No. versus the products included on this list.
- In addition to primary products, distributors may also sell products with formulations and efficacy identical to the primary products. Distributor products frequently use different brand names, but you can identify them by their three-part EPA registration number (e.g., 123-45-678, which represents a distributor product identical to the product example listed above, EPA Reg. No. 123-45).
- If you would like to review the product label information for any of these products, please visit our product label system.
- Information about listed products is current as of the date on this list.
- Inclusion on this list does not constitute an endorsement by EPA

View more information about lists of registered antimicrobial products.

- List G: EPA's Registered Antimicrobial Products Effective Against Norovirus (pdf)

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# List G Example

- The PDF lists the EPA Registration number and the product name for all products on List G
- While this list identifies all the products that have been approved by the EPA as effective against Norovirus, it does not provide the specifics on the product
  - To access the specifics, utilize the EPA registration number in the product label system function

NOTE: This is for demonstration only and not an endorsement of this product.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

**List G: EPA's Registered Antimicrobial Products Effective Against Norovirus**

**Date: 12/02/2021**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

| List G: EPA's Registered Antimicrobial Products Effective Against Norovirus | |
|---|---|
| **EPA REGISTRATION NUMBER** | **PRIMARY PRODUCT NAME** |
| 10324-115 | MAQUAT 750-M |
| 10324-117 | MAQUAT 710-M |
| 10324-177 | MAQUAT 705-M |
| 10324-198 | MAQUAT 702.5-M |
| 10324-214 | MAGUARD 5626 |
| 10324-58 | MAQUAT 128 |
| 10324-59 | MAQUAT 64 |
| 10324-81 | MAQUAT 7.5-M |
| 10324-93 | MAQUAT 64 PD |
| 10325-105 | MAQUAT 128 PD |
| 11346-2 | Clorox HL |
| 11346-3 | Clorox HW |
| 11346-4 | Clorox QS |
| 11346-6 | Clorox HS |
| 1677-202 | 66 HEAVY DUTY ALKALINE BATHROOM CLEANER AND DISINFECTANT |
| 1677-204 | 65 DISINFECTING HEAVY DUTY ACID BATHROOM CLEANER |
| 1677-209 | OCTAVE FS |

# Summary

- Disinfectants must be EPA registered for use in healthcare facilities
- Facilities likely will need more than one disinfectant product to meet all cleaning and disinfection needs
- Ready to use products are the most convenient
- In general, utilize the product that kills the largest number of organisms or has the greatest kill claim data
- Always follow the instructions for use
- If more than one contact time is listed, the longest must be used since the organisms present can not be determined
  - For that reason, products with shorter contact times can improve compliance with use
    - A product with the longest contact time of three minutes would be preferred over a product with the longest contact time of five minutes

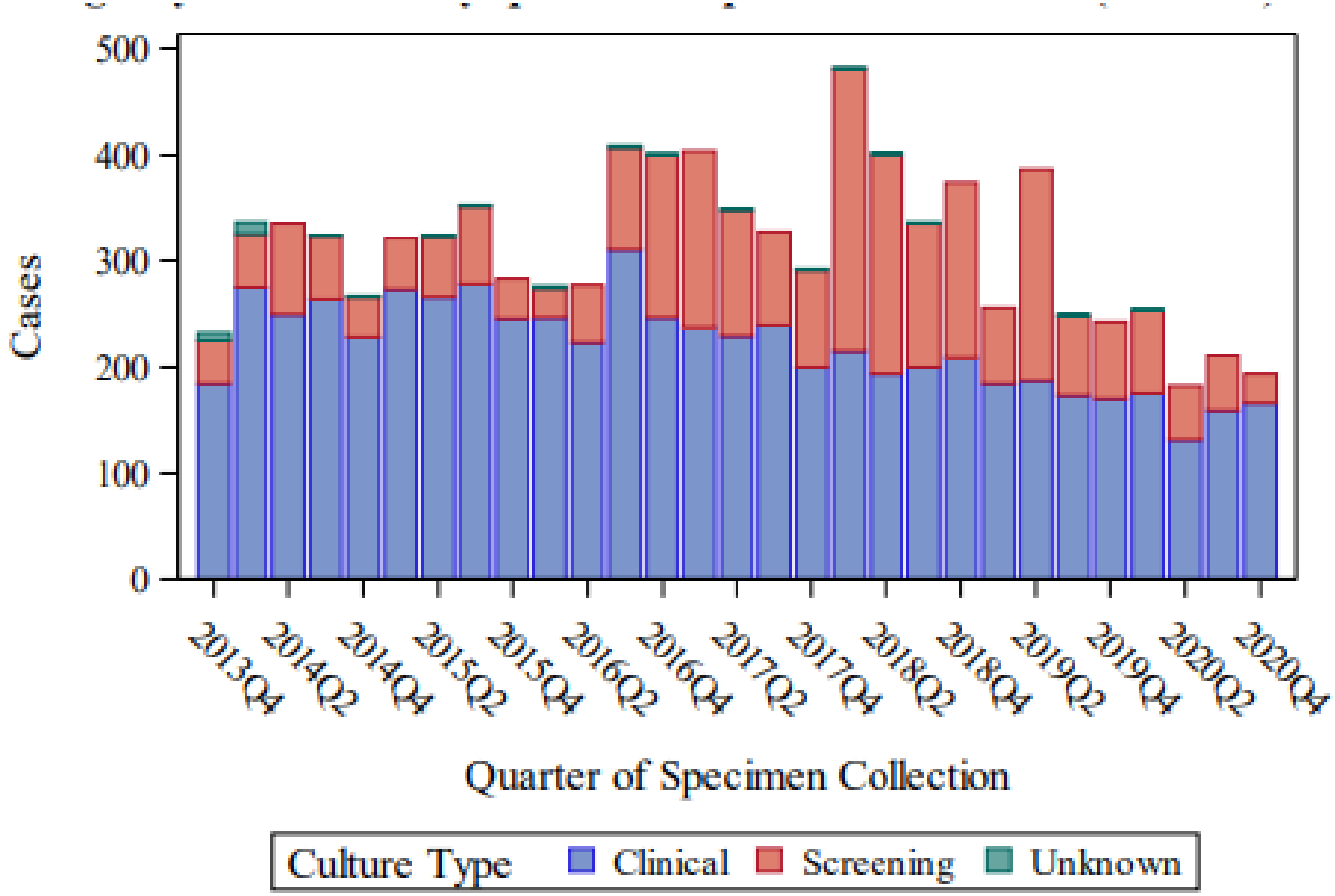
IDPH Illinois Department of Public Health

# What's reportable & how in Illinois

| MDRO | Mandatory Reportable? | How? |
|---|---|---|
| Carbapenem-resistant Enterobacterales | **Yes**, since 2013.<br>77 IL adm code 690.1500-1540 | Labs/facilities enter directly into XDRO registry. LTC facilities may have labs enter on their behalf |
| *Candida auris* | **Yes**, since 2016.<br>77 IL adm code 690.565, 'outbreaks of public health significance' | Labs/facilities enter into INEDSS. IDPH enters into XDRO registry |
| Carbapenem-resistant *Acinetobacter baumannii* | **No**.<br>IDPH-led pilot surveillance since 2019 | IDPH enters labs from pilot surveillance or point prevalence surveys (PPS's) into XDRO |
| Carbapenemase-producing *Pseudomonas aeruginosa* *(only if mechanism of resistance detected)* | **No**.<br>Most often identified through PPS. | LHD notifies IDPH,<br>IDPH enters into XDRO registry |

# CRE epidemiology in IL

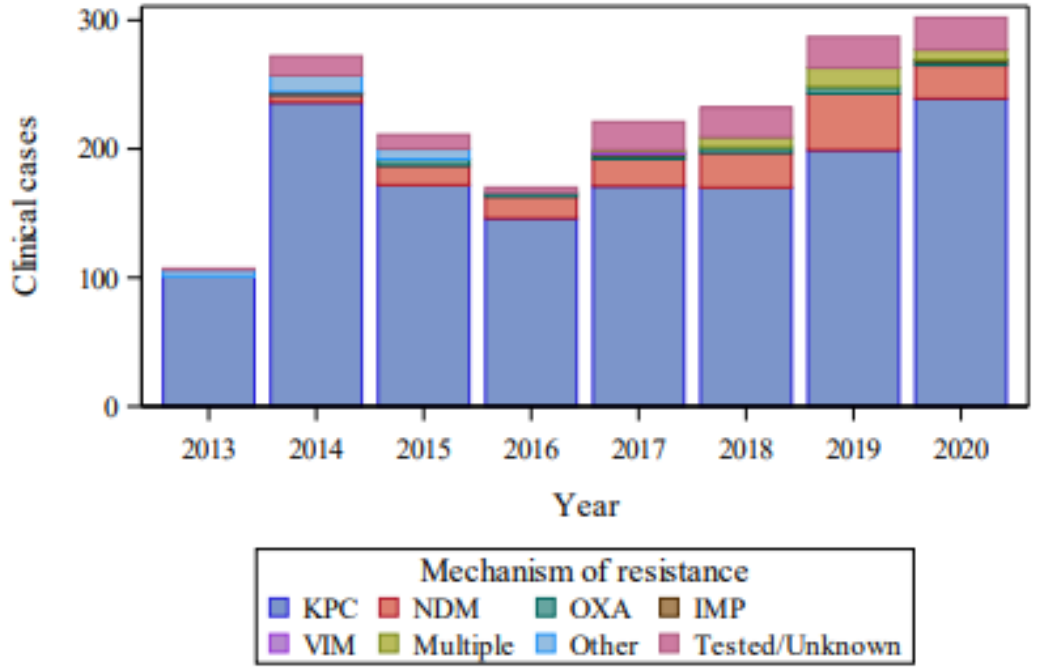
**Figure 1.** CRE cases[1] reported to the Illinois XDRO registry by date of earliest specimen collection, 11/1/2013-12/31/2020




http://www.healthcarereportcard.illinois.gov/contents/view/State_Reports_of_Current_Interest

# CRE epidemiology in IL (cont)

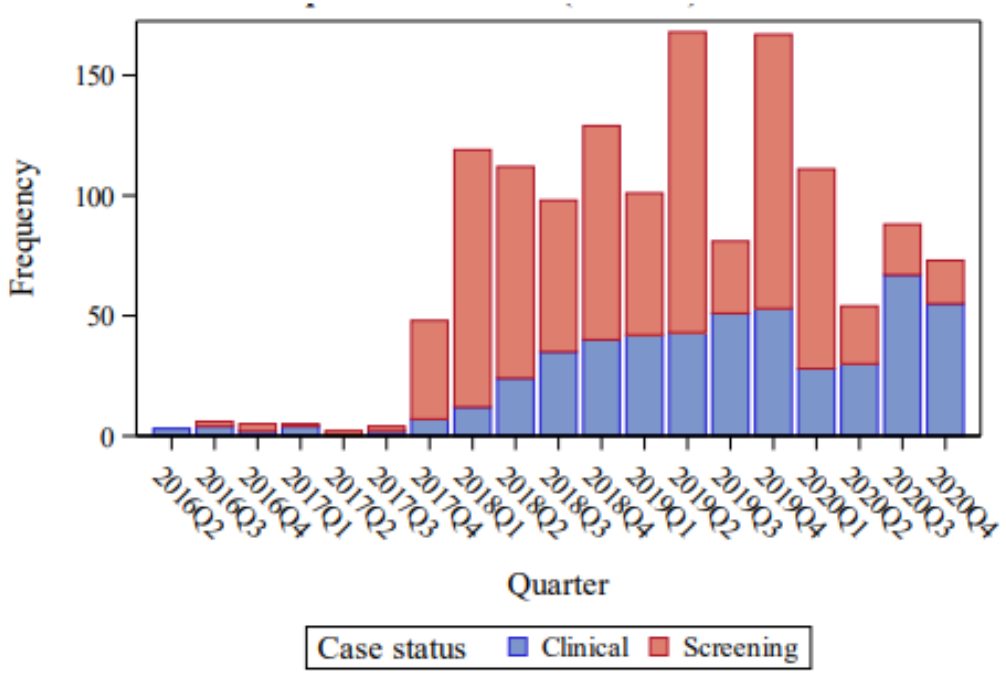
**Figure 3. Frequencies of mechanism of resistance identified among incident clinical CRE cases with mechanism testing performed, by year of culture (N=1,802)**




- Among clinical cases with a known mechanism, the most common was KPC (1,434/1,802, 80%).
- After the XDRO registry began allowing the reporting of multiple mechanisms beginning in 2017, cases with multiple mechanisms identified increased from one in 2017 to 15 in 2019.
  - The most common mechanism combination identified was KPC and NDM-1, accounting for 69% (22/32) of cases with multiple mechanisms.

# *C. auris* in IL

**Figure 1.** *C. auris* cases[1] reported to the Illinois XDRO registry by date of earliest specimen collection, 1/1/2016-12/31/2020

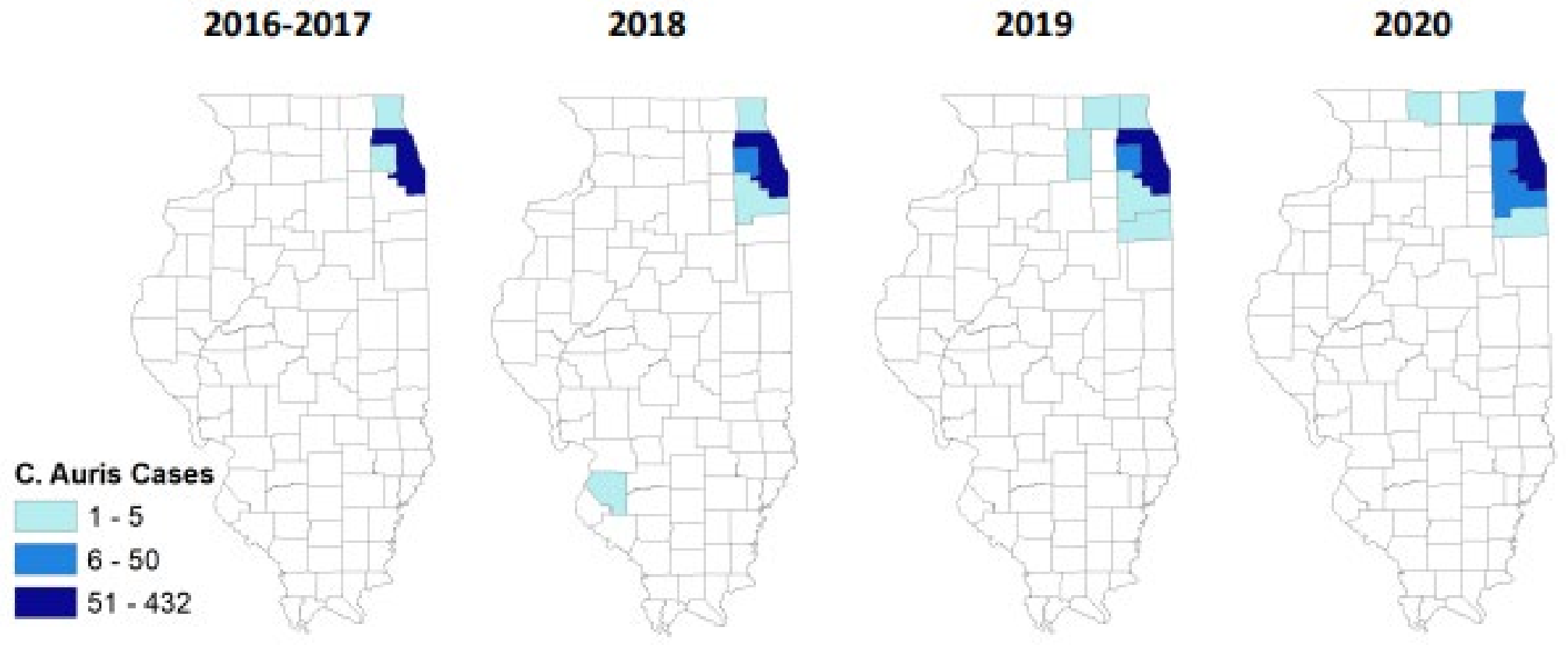



- A total of 1,334 cases of *C. auris* were reported to the XDRO registry between January 1, 2016 and December 31, 2020.
- Of reported cases, 846 (63%) were screening cases and 488 (37%) were clinical cases.

[1] Cases include 99 (7%) colonized to clinical cases.

# *C. auris* clinical cases by IL county

**Figure 5.** *C. auris* by county of facility where specimen was obtained, 2016-2020



# *C. auris* resistance in IL

**Table 1. Antifungal resistance, 2016-2020 (N = 416)**

| Resistance | N (%) |
|---|---|
| **Fluconazole only** | 45 (10.8%) |
| **Amphotericin B only** | 1 (0.2%) |
| **Fluconazole & Amphotericin B** | 1 (0.2%) |
| **Micafungin, Caspofungin, Fluconazole** | 1 (0.2%) |
| **Micafungin, Anidulafungin, Caspofungin** | 1 (0.2%) |
| **Total** | **49 (11.8%)** |

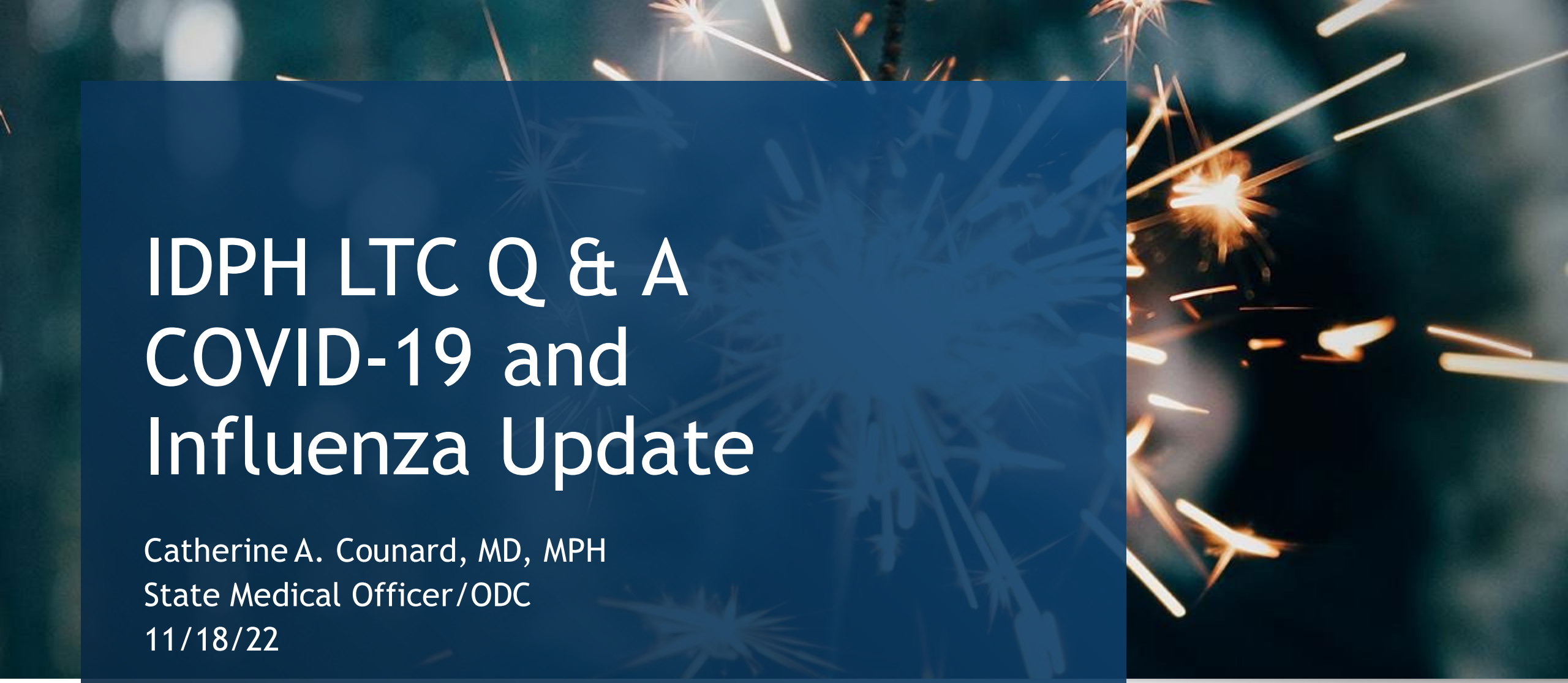
Data source: CDC and ARLN antifungal susceptibility testing

- Most (365/416, 88%) patients with antifungal susceptibility results did not display any resistance.
- This low prevalence of resistance differs significantly from national surveillance data indicating 90% of isolates in the U.S. displayed resistance to at least one antifungal, but is consistent with past findings that Illinois *C. auris* isolates primarily belong to a different clade from those in other states [8].

# CRAB cases in IL, pilot surveillance

**Table 1. Mechanism of resistance among clinical CRAB cases[2], 2019-2020.**

| | Year of Specimen Collection | | |
|---|---|---|---|
| **Mechanism of Resistance** | 2019 (N = 114) | 2020 (N = 295) | Total (N = 409) |
| *OXA-24/40* | 73 (64%) | 228 (77%) | 301 (74%) |
| *OXA-23* | 1 (1%) | 1 (0.3%) | 2 (1%) |
| *NDM-1, OXA-23* | 2 (2%) | 1 (0.3%) | 3 (1%) |
| *None detected* | 7 (6%) | 17 (6%) | 24 (7%) |
| *No mechanism testing performed* | 31 (27%) | 48 (16%) | 79 (19%) |

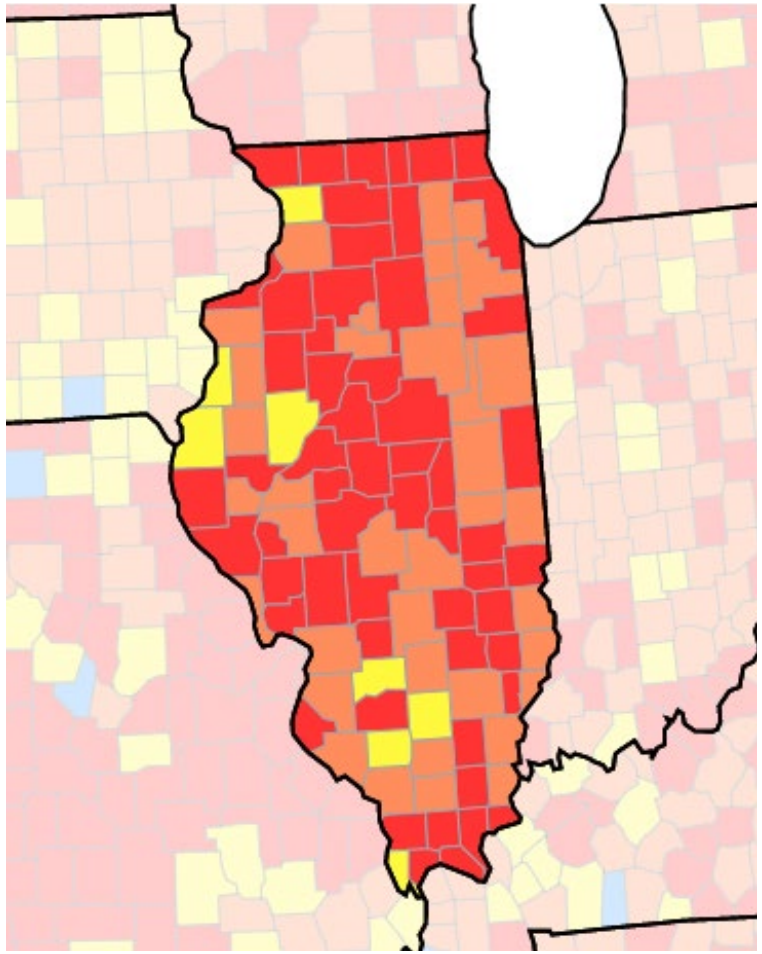


# IDPH LTC Q & A COVID-19 and Influenza Update

Catherine A. Counard, MD, MPH
State Medical Officer/ODC
11/18/22

# COVID-19 Data and Vaccination Update

# CDC Community Transmission

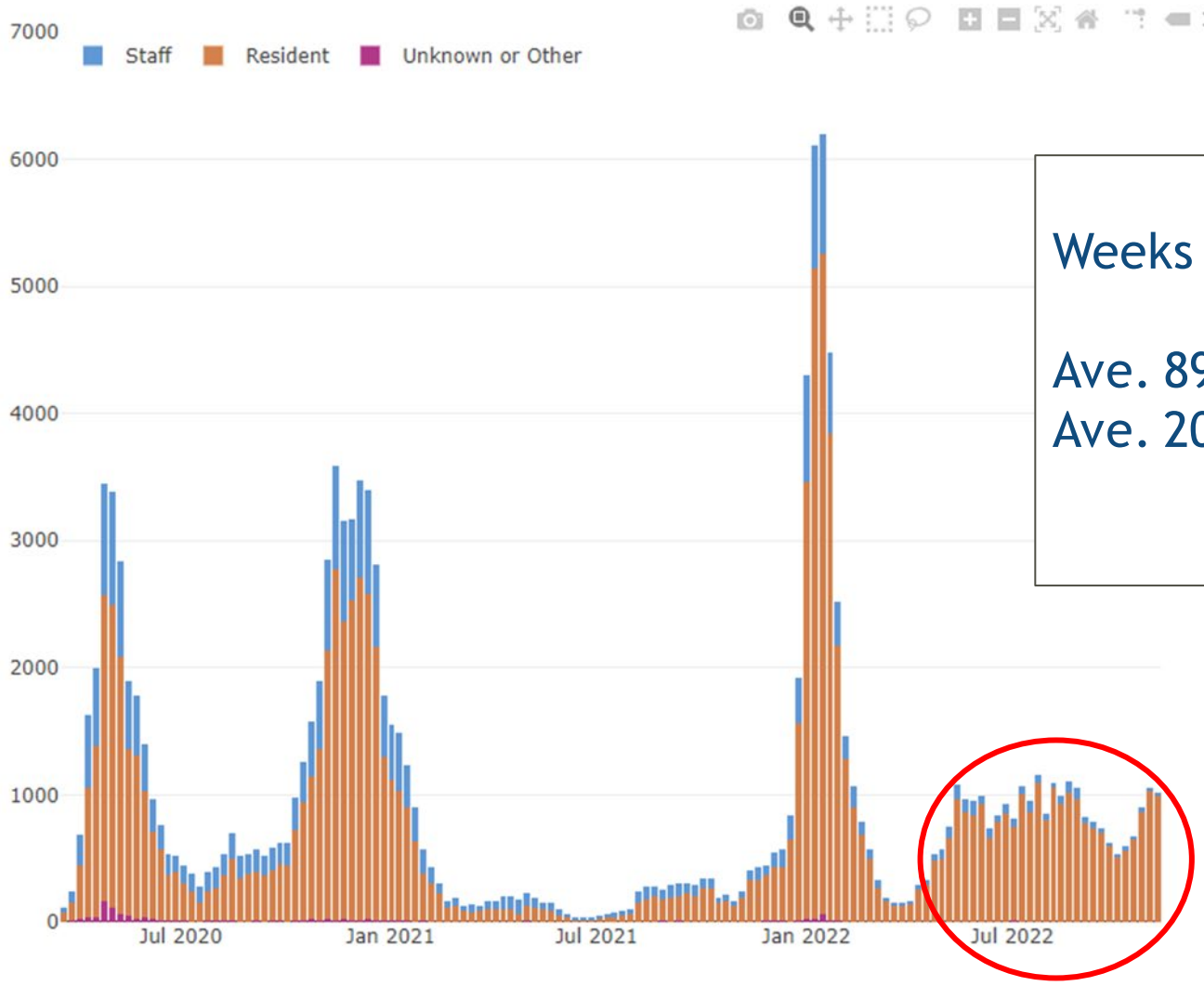


- Many counties remain in substantial or high transmission.
- Increases the risk of COVID-19 being introduced to LTC facilities.
- Following infection prevention guidance will prevent introduction of the virus into facilities, and limit spread within facilities.
- COVID-19 vaccines and treatments remain the strongest lines of defense from severe illness, hospitalization, and death.

https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=Missouri&data-type=Risk

High Substantial Moderate Low No Data

# LTC Facility COVID-19 Cases




Weeks ending 7/2/2022 – 11/5/2022

Ave. 890 COVID-19 LTC cases each week
Ave. 20 COVID-19 LTC deaths each week

IDPH
Illinois Department of Public Health

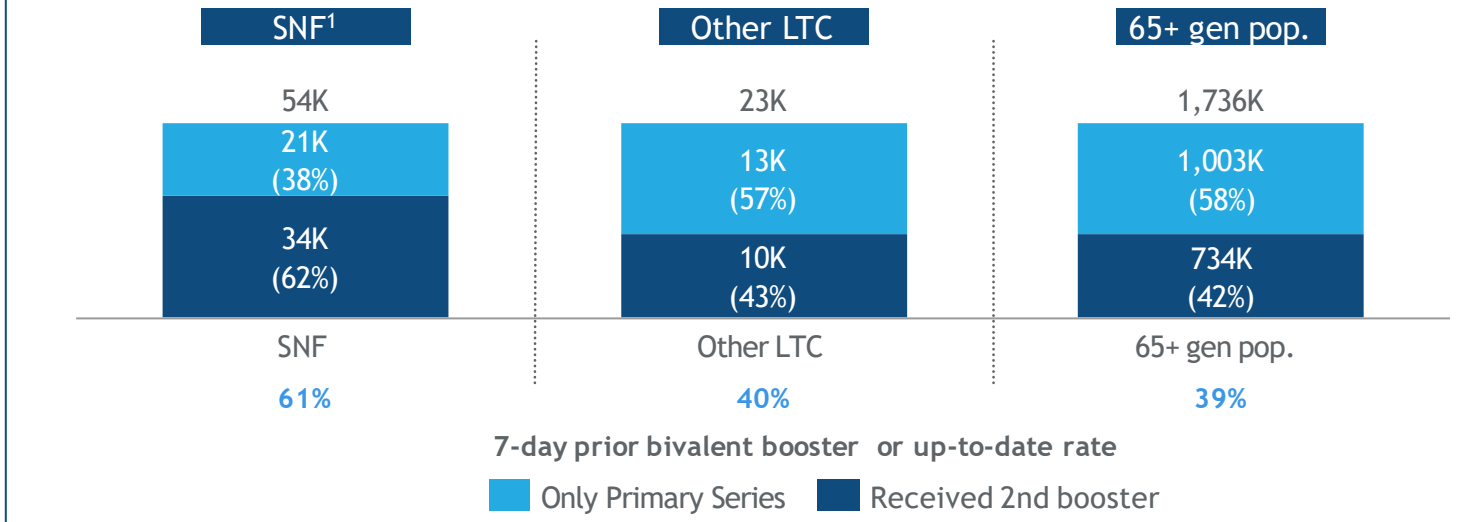
**34% of LTCFs** report zero COVID-19 bivalent booster doses or have not reported in the last month

Facilities are required to report weekly to NHSN (CMS-certified) or IDPH Smartsheet

## Reporting by facility type (Oct. 17 - Nov. 16)

| Facility type | LTCs not reporting | LTCs with 0 doses reported | LTCs with ≥1 dose reported | **Total LTC facilities** |
|---|---|---|---|---|
| SNF[1] | 5 | 47 | 644 | 696 |
| Other LTC | 251 | 208 | 363 | 822 |
| **Total** | **256** | **255** | **1,007** | **1,518** |

## Bivalent booster or up-to-date progress out of primary series **only at LTCFs reporting**




1. SNF Facilities do not report bivalent booster, as such numbers reported are for residents Up-to-date
Source: NHSN, Self-reported data in IDPH smartsheet survey form, IDVA, IDHS I-CARE

LTC COVID Vaccine Provider Resource List, updated 10.21.22

| LTC Provider | Geographic areas served | Contact Information |
|---|---|---|
| CareOne Rx | Regions 1, 2, 3, 4, 7, 8, 9, 10, 11 | E: vaccine@careonerx.com |
| CIMPAR | State-wide | COVID19-vaccines@cimpar.com |
| Costco | Northern IL; can only serve senior living and assisted living | Call Local Pharmacy |
| Critical Care RX, LLC | **All of Illinois, all regions.**<br>*N most home: South Beloit, IL*<br>*E most home: Danville, IL*<br>*S most home: Marion, IL*<br>*W most home: Barry, IL* | P: 309-690-7790<br>F: 866-385-4948<br>Cassidy Domagalla, Pharm.D.<br>cdomagalla@criticalcarerx.com |
| Forum Extended Care Services | 100-mile radius around Chicago | E: vaccination@forumpharmacy.com<br>Appointment request form |
| Extended Living Pharmacy - Forsynth | All regions; currently prioritizing existing customers | E: dbartholomew@extendedpharmacy.com |
| Extended Pharmacy - Peoria | All regions; currently prioritizing existing customers | E: dbartholomew@extendedpharmacy.com |
| HealthDirect Pharmacy - Chatham | Indiana border to Missouri border and I-80 to I-70 | E: beckyhale@hdrxservices.com |
| HealthDirect Pharmacy - Marion | All of Southern Illinois from bottom of the state to Alton and to the East | E: jenniferhawthorne@hdrxservices.com |
| Jewel-Osco | North to Wisconsin, south to Bourbonnais, west to Dekalb | Rachel Russell<br>Rachel.coppinger@jewelosco.com<br>224-290-4100 |
| KodoCare | Northern Illinois, from Kankakee to the IL state-line and from Elgin to Morris | E: pharmacy@kodocare.com<br>P: 815-727-4722 |
| MAC Rx, LLC | Chicagoland, Central IL, Southern IL, Western IL | Kristine Mroz (224) 220-2700 ext. 146 |
| Oregon Healthcare Pharmacy Services, Inc | NW Illinois, 100-mile radius of Oregon, IL. North along WI border, West along Iowa border, South to I-80, East to Indiana Border | P: 815-732-1422<br>vaccinesupport@oregonhealthcarepharmacy.com |
| PharmScript of IL | All regions | E: Vaccinesupport@pharmscript.com |
| PrimeCare LTC | Chicago, Zion, Peoria, Chicago Heights & Evanston | E: covidvax@primecareltc.com<br>P: 630-209-0918 |
| RXperts | 75-mile radius around Chicago area | E: vaccines@rxpertschicago.com<br>Clinic request form |
| Symbria Rx | Chicago's western suburbs | E: covidvaccine@symbria.com |
| United Rx - Hillside | North to Waukegan, South to Streator, NW to Rockford, West to East Moline and East to Indiana border. | Survey request form |
| United Rx - Carbondale | NW to Alton, East to Carmi, South to Anna, NE to Lawrenceville | Survey request form |

- Updated list of LTC care pharmacies showing regions of the state covered is available if needed.
- Please get the COVID-19 bivalent booster and influenza vaccinations administered to staff and residents ASAP
- Reach out to your local health department or IDPH if you need assistance with arranging COVID-19 bivalent booster clinics

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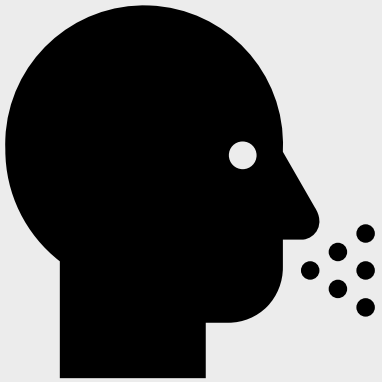
# Resources for promoting COVID-19 Vaccinations


https://wecandothis.hhs.gov/resource/covid-19-vaccine-booster-shot-resources

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/resource-center.html

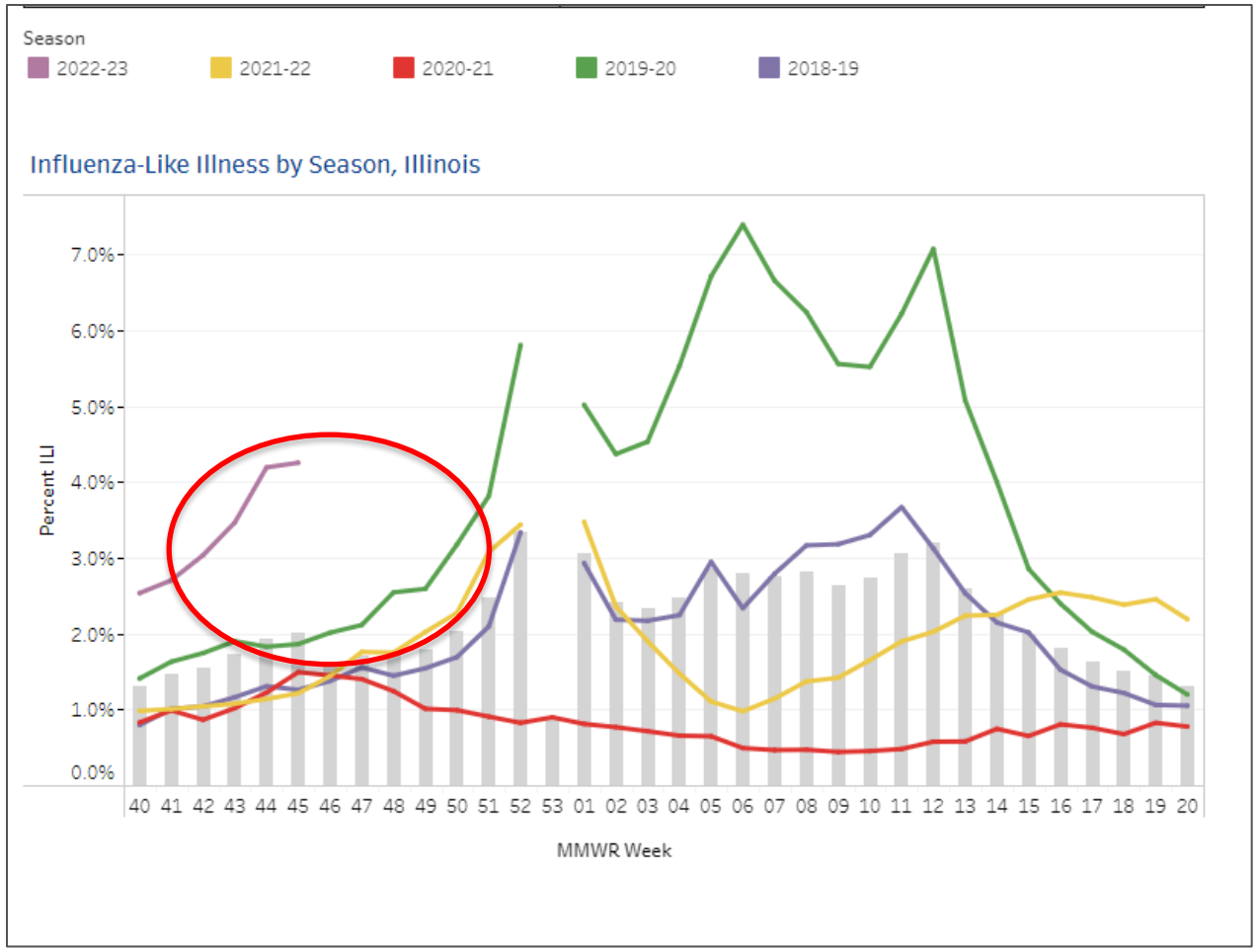
https://www.immunize.org/covid-19/

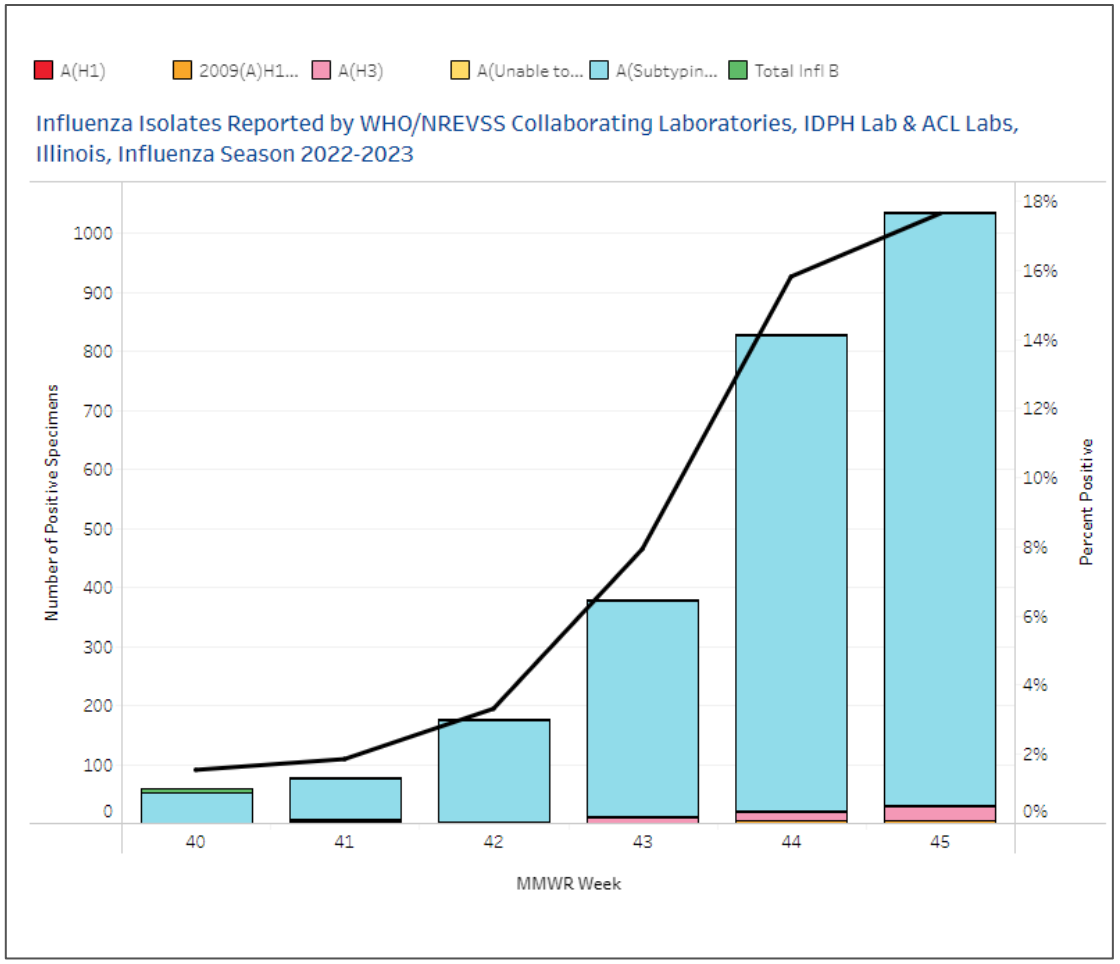


# Influenza Update

# 2022-2023 Flu Activity Report

https://dph.illinois.gov/topics-services/diseases-and-conditions/influenza/influenza-surveillance/report.html




ILI "Influenza like Illness" is defined as fever ≥ 100°F with a cough and/or sore throat. Source: Illinois Sentinel Influenza Surveillance.

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|---|---|
| TO: | Illinois Long Term Care Facilities and Assisted Living Facilities, Local Health Departments, Local Health Department Administrators, Illinois Department of Public Health Long Term Care Regional Contacts |
| FROM: | Becky Dragoo, MSN, RN, Deputy Director of Office of Health Care Regulation<br>Dr. Arti Barnes, MD, MPH, Medical Director/Chief Medical Officer |
| RE: | Guidelines for the Prevention and Control of Influenza Outbreaks in Illinois Long Term Care Facilities |
| DATE: | October 18, 2021 |

# Influenza Vaccine Recommendations 2022-2023

- Annual influenza vaccination is recommended for all persons aged 6 months and older who do not have contraindications
- All influenza vaccines for 2022-2023 are quadrivalent (4 antigens)
  - Influenza A(H3N2), Influenza A(H1N1)pdm09, Influenza B/Victoria lineage, and Influenza B/Yamagata lineage viruses
- On June 22, 2022, the Advisory Committee on Immunization Practices **(ACIP) recommended influenza vaccination of persons aged ≥65 years with "higher dose and adjuvanted" vaccines:**
  - **High-dose (4x antigen concentration), Adjuvanted, or Recombinant (3x antigen concentration) influenza Vaccine**
  - If not available, then standard-dose vaccine is recommended

Source: CDC COCA Call 11/15/22: https://emergency.cdc.gov/coca/ppt/2022/111522_slides.pdf

# Key Considerations

- Ensure that residents and staff are vaccinated against influenza
  - Preference for higher dose vaccinations in elderly
- Test all individuals with flu symptoms
  - Preference for molecular assays (e.g.RT-PCR) as rapid tests are less sensitive and may miss cases
- If a laboratory –confirmed case is identified
  - Standard/droplet precautions
  - Active surveillance for additional cases
- Implement antiviral treatment

Interim Guidance for Influenza Outbreak Management in Long-Term Care and Post-Acute Care Facilities
https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm

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# Influenza antiviral treatment and chemoprophylaxis

- All long-term care facility residents who have confirmed or suspected influenza should receive antiviral treatment immediately.
- Initiation of antiviral treatment should not wait for laboratory confirmation of influenza.
- Antiviral medications have been shown to be most effective if administered within 48 hours after symptom onset; however, these medications can still help if given to the very ill after 48 hours.
- Pre-approved medication orders, or plans to obtain physicians' orders on short notice, should be in place to ensure that treatment can be started as soon as possible.

# Influenza chemoprophylaxis

- When at least 2 patients are ill within 72 hours of each other and at least one resident has laboratory-confirmed influenza, the facility should promptly initiate antiviral chemoprophylaxis with oral oseltamivir to all non-ill residents living on the same unit as the resident with laboratory-confirmed influenza (outbreak affected units), regardless of whether they received influenza vaccination during the current season.
- CDC recommends antiviral chemoprophylaxis for a minimum of 2 weeks and continuing for at least 7 days after the last known laboratory-confirmed influenza case was identified on affected units.
- For more detailed information about the use of antiviral medication to control influenza, visit CDC's website: Influenza Antiviral Medications: Summary for Clinicians | CDC

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# Thank you for working every day on the frontlines to protect and support the LTC residents and staff!

# Open Q&A

Submit questions via Q&A pod to **All Panelists**

**Please do not resubmit a single question multiple times**

**Slides and recording will be made available after the session.**

# Reminders

- For continuing education credit, please fill out the following evaluation by December 2nd, 2022:
  - For continuing education credit, complete evaluation at https://redcap.dph.illinois.gov/surveys/?s=NP89EA9YAHH8A88H

- SIREN Registration
  - To receive situational awareness from IDPH, please use this link to guide you to the correct registration instructions for your public health related classification: http://www.dph.illinois.gov/siren

- NHSN Assistance:
  - Contact Telligen: **nursinghome@telligen.com**