

# Containment of *Candida auris*, Other Multidrug-resistant Organisms (MDRO), and SARS-CoV-2

November 18, 2020

Presented via Webinar

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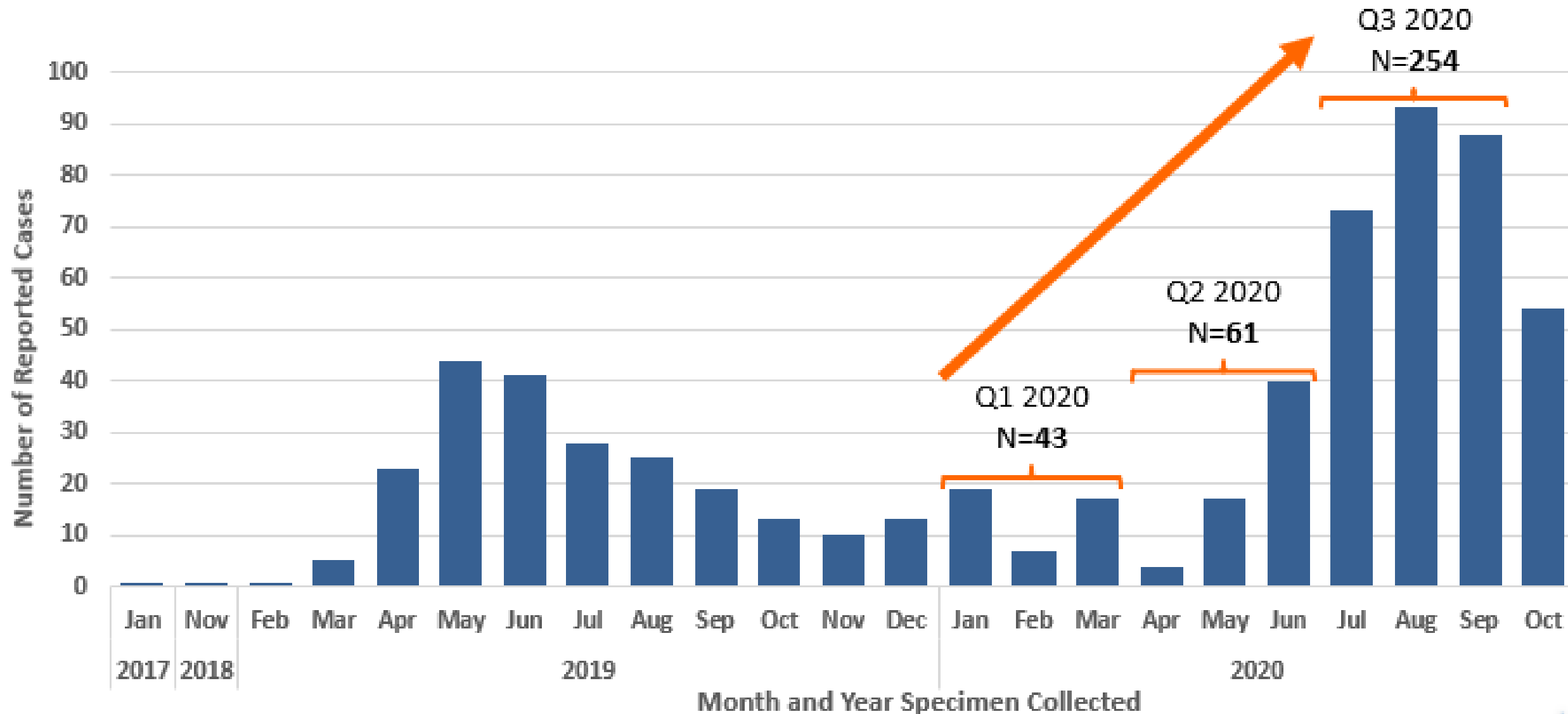
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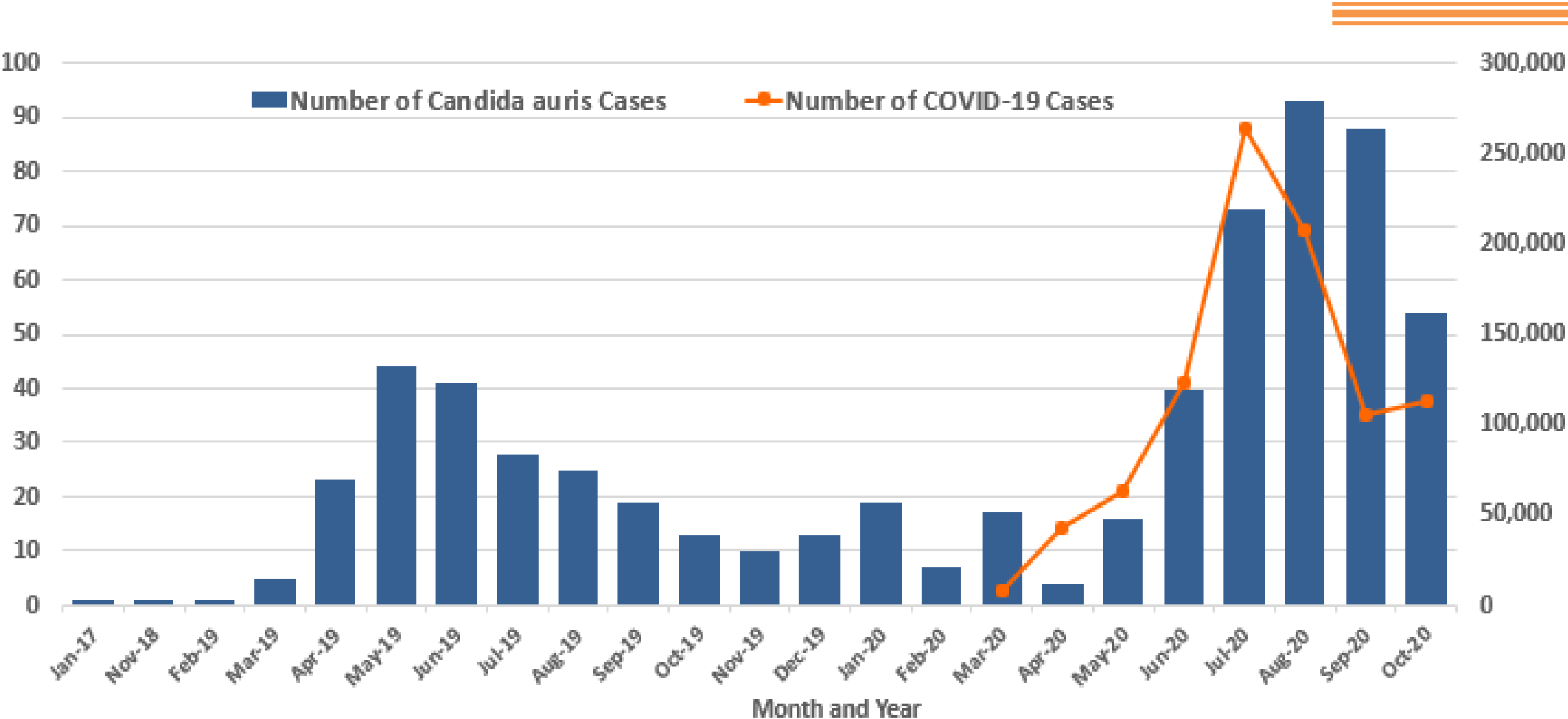
## Objectives

- Provide updates on multidrug-resistant organism (MDRO) resurgence in the setting of COVID-19 in California
- Describe healthcare-associated MDRO
- Discuss basic infection control measures to contain MDRO and SARS-CoV-2 transmission in healthcare facilities

## *C. auris* Cases Reported in CA through October 31, 2020 (N=636)



# C. auris, COVID-19 Cases in CA through October 31, 2020 (N=636)



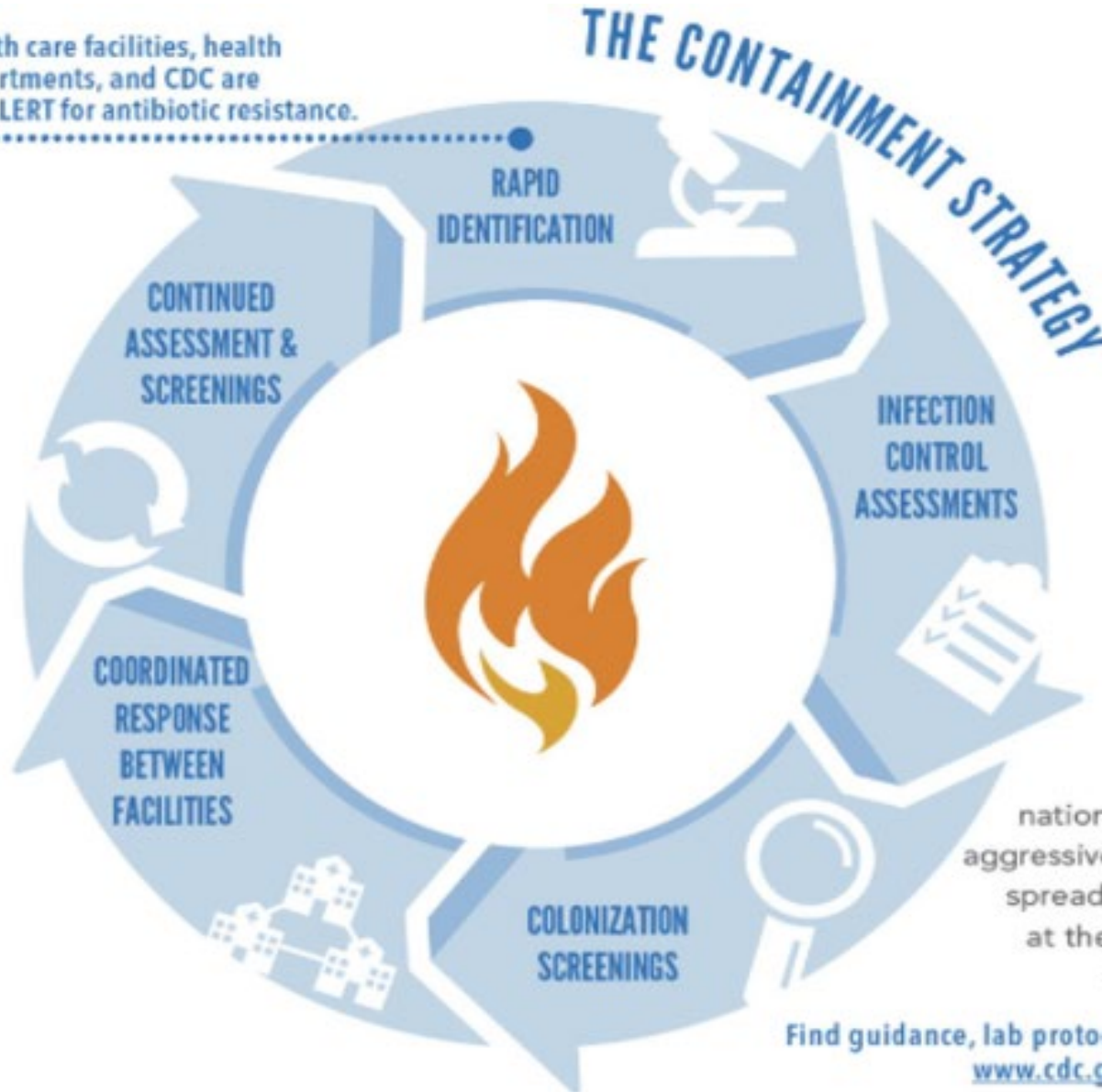
# COVID-19-related Challenges in Healthcare Settings

- Staffing, PPE, alcohol-based hand sanitizer (ABHS), cleaning & disinfectant supply shortages
- Disruptions in routine practices and processes, including infection control
- Healthcare personnel (HCP) safety concerns
- We understand!

# What Can We Do?



Health care facilities, health departments, and CDC are ON ALERT for antibiotic resistance.



## Early detection, infection control and public health-coordinated responses needed to contain spread

Public health teams nationwide can launch early, aggressive responses to contain spread and protect people—at the first sign of antibiotic resistance, every time.

**CDC Containment Strategy Guidelines**  
([www.cdc.gov/HAI/Outbreaks/MDRO](http://www.cdc.gov/HAI/Outbreaks/MDRO))

Find guidance, lab protocols, and more resources:  
[www.cdc.gov/HAI/Outbreaks/MDRO](http://www.cdc.gov/HAI/Outbreaks/MDRO)



# Healthcare-associated MDRO\*: What We Know

	<i>C. auris</i>	<i>Acinetobacter</i>	Other MDRO (e.g., CRE)	<i>C. diff</i>
Causes outbreaks in healthcare settings	X	X	X	X
Leads to substantial morbidity and mortality	X	X	X	X
Risk factors include frequent or extended healthcare exposure, antimicrobial use	X	X	X	X
Patients can remain colonized for many months (no “clearance” recommendations)	X	X	X	X
Persistent in the healthcare environment	X	X	blank cell	X
Difficult to identify	X	blank cell	blank cell	blank cell

\*Including *Clostridioides difficile* (*C. diff*); *C. auris*=*Candida auris*; CRE = carbapenem-resistant Enterobacteriaceae



## Containment, Infection Control Measures

	<i>C. auris</i>	<i>Acinetobacter</i>	Other MDRO (e.g., CRE)	<i>C. diff</i>
Good hand hygiene – ABHS preferred	X	X	X	Soap & water
Contact precautions, single room if possible	X	X	X	X
Thorough environmental cleaning and disinfection	Use <a href="http://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants#candida-auris">C. auris/List K agent</a> (www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants#candida-auris)	X	X	Use <a href="http://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium">List K agent</a> (www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium)
Routine adherence monitoring	X	X	X	X
Cohorting of patients and healthcare personnel	X	X	X	X
Lab surveillance	X	X	X	X
Screening of high-risk contacts	X	X	X	Blank cell

\*Including *Clostridioides difficile* (*C. diff*); ABHS=alcohol-based hand sanitizer; *C. auris*=*Candida auris*; CRE=carbapenem-resistant Enterobacteriaceae





### Containment, Infection Control Measures

	<i>C. auris</i>	<i>Acinetobacter</i>	Other MDRO (e.g., CRE)	<i>C. diff</i>	SARS-CoV-2
Good hand hygiene – ABHS preferred	X	X	X	Soap & water	X
Contact precautions, single room if possible	X	X	X	X	+ respirator, eye protection
Thorough environmental cleaning and disinfection	Use <a href="http://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants#candida-auris">C. auris/List K agent</a> (www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants#candida-auris)	X	X	Use <a href="http://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium">List K agent</a> (www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium)	Use <a href="http://www.epa.gov/pesticide-registration/list-n-disinfectants-coronavirus-covid-19">List N agent</a> ( <i>C. auris</i> /List K agent OK) (www.epa.gov/pesticide-registration/list-n-disinfectants-coronavirus-covid-19)
Routine adherence monitoring	X	X	X	X	X
Cohorting of patients and healthcare personnel	X	X	X	X	X
Lab surveillance	X	X	X	X	X
Screening of high-risk contacts	X	X	X	blank cell	X

\*Including *Clostridioides difficile* (*C. diff*); ABHS=alcohol-based hand sanitizer; *C. auris*=*Candida auris*; CRE=carbapenem-resistant Enterobacteriaceae



# Infection Control Basics: Hand Hygiene

- Use ABHS over soap and water (unless visibly soiled hands/*C. diff*)
- Place ABHS dispensers in as many patient/resident care locations as possible
- More than just gel-in/gel-out; remember the **5 moments**
- Gloves are **NOT** a substitute for HH; perform HH before donning PPE, after doffing
- Perform adherence monitoring



[WHO 5 Moments for Hand Hygiene](http://www.who.int/infection-prevention/campaigns/clean-hands/5moments/en/)

([www.who.int/infection-prevention/campaigns/clean-hands/5moments/en/](http://www.who.int/infection-prevention/campaigns/clean-hands/5moments/en/))

## Infection Control Basics: PPE

- If no shortages, do not practice extended use or reuse of gowns\* and gloves
- Everyone should adhere, including physicians and ancillary staff
- Double-gowning and -gloving are **NOT** recommended
- Don/Doff WITH hand hygiene
- Keep signage simple and consistent

\*[Strategies for Optimizing the Supply of Isolation Gowns](http://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/isolation-gowns.html)  
([www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/isolation-gowns.html](http://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/isolation-gowns.html))



The graphic is a yellow rectangular sign with a red octagonal 'STOP' sign at the top left and right. The text 'CONTACT PRECAUTIONS' is in large black letters, and 'EVERYONE MUST:' is in red. Below this, there are four rows of icons and text:

- Hand hygiene:** An icon of a hand being washed with a blue bottle of 'Alcohol' hand sanitizer. Text: 'Clean their hands, including before entering and when leaving the room.'
- Gloves:** An icon of a pair of blue gloves. Text: 'Put on gloves before room entry. Discard gloves before room exit.'
- Gown:** An icon of a blue gown. Text: 'Put on gown before room entry. Discard gown before room exit. Do not wear the same gown and gloves for the care of more than one person.'
- Equipment:** An icon of a stethoscope. Text: 'Use dedicated or disposable equipment. Clean and disinfect reusable equipment before use on another person.'

At the bottom right, there is the CDC logo and the text: 'U.S. Department of Health and Human Services Centers for Disease Control and Prevention'. On the left side, there is a vertical copyright notice: '© 2019 CDC'.

[CDC Contact Precautions Signage](#) (PDF)

([www.cdc.gov/infectioncontrol/pdf/contact-precautions-sign-P.pdf](http://www.cdc.gov/infectioncontrol/pdf/contact-precautions-sign-P.pdf))

# Infection Control Basics: Transmission-based Precautions

- Standard precautions +
- Keep it simple, clear signage
- By known organism
- Everyone should adhere, including physicians and ancillary staff
- Perform adherence monitoring

## Cohorting patients

- By known organism, regardless of specimen source, infection or colonization



- **Contact**
  - *C. auris*, Carbapenem-resistant Enterobacteriaceae (CRE), *Pseudomonas*, *Acinetobacter*, MRSA, VRE



- **Contact + Enteric/Spore**
  - *C. difficile*, Norovirus



- **Droplet**
  - Influenza



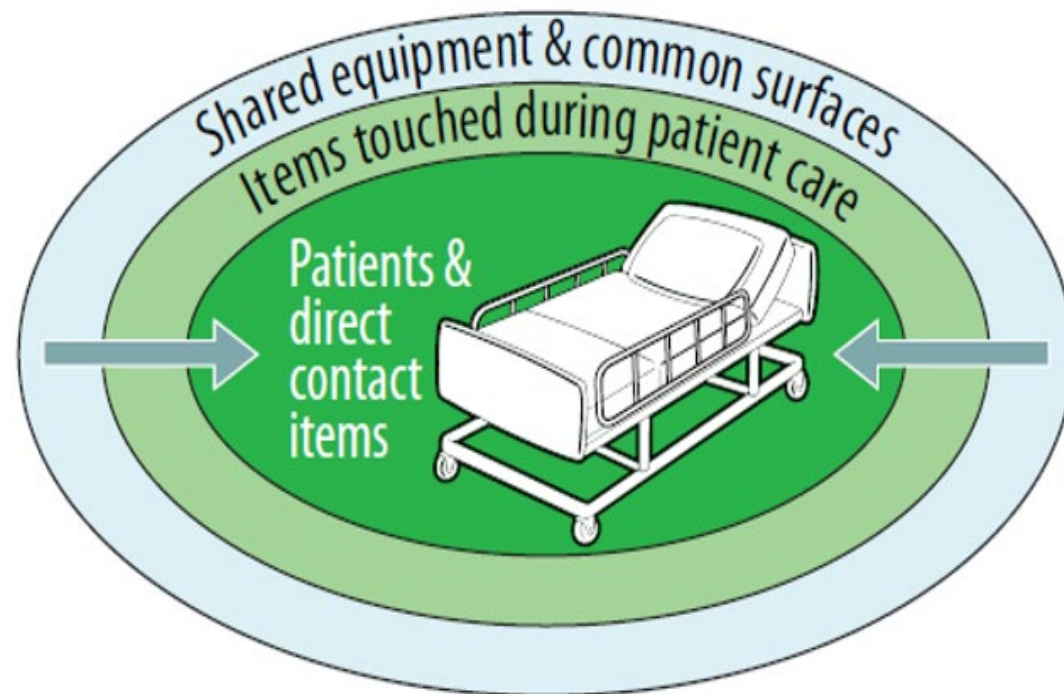
- **Airborne**
  - Tuberculosis, Measles, Varicella



- **Contact + Respirator + Eye Protection**
  - COVID-19

# Infection Control Basics: Environmental Cleaning

- High-touch surfaces, clean to dirty
- Read labels: know contact time
- Who cleans what: nursing vs EVS
- Adhesives, peeling and cracking surfaces
- Observe and monitor with fluorescent marker, ATP
- Training, re-training
- For *C. auris*, use [EPA-registered disinfectant](https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants#candida-auris)  
([www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants#candida-auris](https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants#candida-auris))  
effective against *C. auris*; consider for prevention



[CDC Environmental Cleaning Procedures](https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html)

([www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html](https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html))

## HEALTHCARE-ASSOCIATED INFECTIONS PROGRAM

# Communication

- Key to preventing inter-facility transmission!
- Actively seek MDRO status of all admissions
- Flag medical record for future admissions
- Educate patients and family
- Establish a system between IP, nurse & case manager to ensure clear communication
- Use inter-facility transfer form

[Interfacility Transfer Communications Guide](http://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/InterfacilityCommunication.aspx)




([www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/InterfacilityCommunication.aspx](http://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/InterfacilityCommunication.aspx))

### HEALTHCARE FACILITY TRANSFER FORM (ABBREVIATED)

Use this form for all transfers to an admitting healthcare facility.

Patient Name (Last, First):		
Date of Birth:	MRN:	Transfer Date:
Receiving Facility Name:		
Sending Facility Name:		
Contact Name:	Contact Phone:	

#### ISOLATION PRECAUTIONS

Patient currently on isolation precautions? <input type="checkbox"/> Yes <input type="checkbox"/> No		Personal Protective equipment (PPE) to consider at receiving facility:	
If yes, check all that apply: <input type="checkbox"/> Contact precautions <input type="checkbox"/> Droplet precautions <input type="checkbox"/> Airborne precautions			
		<input type="checkbox"/> Gloves	<input type="checkbox"/> Gowns
			
			<input type="checkbox"/> Masks

#### ORGANISMS

Patient has multidrug-resistant organism (MDRO) or other lab results for which the patient should be in isolation? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, specify organism(s) and include specimen source and collection date.		
Organism	Source	Date
<input type="checkbox"/> <i>C.difficile</i>		
<input type="checkbox"/> Carbapenem-resistant <i>Enterobacteriaceae</i> (CRE) (e.g., <i>Klebsiella</i> , <i>Enterobacter</i> or <i>E.coli</i> )		
<input type="checkbox"/> Extended-spectrum beta lactam-resistant (ESBL) (e.g., <i>E.coli</i> , <i>Klebsiella</i> )		
<input type="checkbox"/> MDR gram negatives (e.g., <i>Acinetobacter</i> , <i>Pseudomonas</i> )		
<input type="checkbox"/> Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)		
<input type="checkbox"/> Vancomycin-resistant <i>Enterococcus</i> (VRE)		
<input type="checkbox"/> Other, specify: (e.g., lice, scabies, disseminated shingles ( <i>Herpes zoster</i> ), norovirus, influenza, tuberculosis)		

Include copy of **lab results** with organism I.D. and antimicrobial susceptibilities.

## Key Messages

- MDRO transmission in healthcare facilities remains a challenge
- Implementation and reinforcement of basic infection control practices can:
  - Improve patient AND healthcare personnel health and safety
  - Reduce transmission of MDRO AND SARS-CoV-2
- Public health resources are available to support MDRO testing and containment

- [CDPH \*C. auris\* Quicksheet](#) (PDF)  
([www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/C%20auris%20Quicksheet\\_Interim\\_070720\\_ADA.pdf](http://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/C%20auris%20Quicksheet_Interim_070720_ADA.pdf))
- [CDPH CRE Quicksheet](#) (PDF)  
([https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CRE\\_QuicksheetOct2019.pdf#search=CRE%5FQuicksheetOct2019%2Epdf](https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CRE_QuicksheetOct2019.pdf#search=CRE%5FQuicksheetOct2019%2Epdf))
- [CDPH Carbapenem-resistant \*Pseudomonas and Acinetobacter\* Quicksheet](#) (PDF)  
([www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CRO\\_Quicksheet\\_Oct2020.pdf](http://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CRO_Quicksheet_Oct2020.pdf))
- [CDPH Antimicrobial Resistance Resources](#)  
([www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/AntimicrobialResistanceLandingPage.aspx](http://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/AntimicrobialResistanceLandingPage.aspx))
- [CDPH Enhanced Standard Precautions](#) (PDF)  
([www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/Enhanced-Standard-Precautions.pdf](http://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/Enhanced-Standard-Precautions.pdf))
- [CDPH Adherence Monitoring Tools](#)  
([www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/MonitoringAdherenceToHCPracticesThatPreventInfection.aspx](http://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/MonitoringAdherenceToHCPracticesThatPreventInfection.aspx))
- [LACDPH Skilled Nursing Facilities](#)  
([publichealth.lacounty.gov/acd/ncorona2019/healthfacilities/snf/prevention/](http://publichealth.lacounty.gov/acd/ncorona2019/healthfacilities/snf/prevention/))
- [AR Lab Network Testing Resources](#)  
([www.cdc.gov/drugresistance/laboratories/AR-lab-network-testing-details.html](http://www.cdc.gov/drugresistance/laboratories/AR-lab-network-testing-details.html))
- [CDC \*C. auris\* Identification](#)  
([www.cdc.gov/fungal/candida-auris/identification.html](http://www.cdc.gov/fungal/candida-auris/identification.html))
- [CDC Disinfectants Effective against \*C. auris\*](#)  
([www.cdc.gov/fungal/candida-auris/c-auris-infection-control.html#disinfection](http://www.cdc.gov/fungal/candida-auris/c-auris-infection-control.html#disinfection))



# Acknowledgements

## Local Public Health Partners

- Orange County Health Care Agency
- Los Angeles County Department of Public Health

## Centers for Disease Control and Prevention

# Antibiotic Awareness Week

## CDPH Antimicrobial Stewardship Program Honor Roll

([www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Honor\\_Roll.aspx](http://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Honor_Roll.aspx))



**Thank you!**

**Questions?**

For more information,  
contact

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