Containment of *Candida auris* and other Multidrug-resistant Organisms (MDRO) in the Context of COVID-19

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Objectives

• Describe emerging MDRO of concern in California, including *Candida auris*

• Understand principles of MDRO containment in individual healthcare facilities as well as regional healthcare facility networks

• Discuss how COVID-19 mitigation strategies might be contributing to the spread of *C. auris* and other MDRO

• Provide recommendations for limiting emergence and transmission of *C. auris* and other MDRO
Emerging Healthcare-Associated MDRO

- Few treatment options, higher morbidity and mortality
- Highly transmissible within and between healthcare facilities
- Early and aggressive facility and public-health containment efforts can limit spread
  - Efforts currently hampered by the COVID-19 pandemic
California Health Alerts

Health Advisory: Resurgence of *Candida auris* in Healthcare Facilities in the Setting of COVID-19
August 2020

Orange County *Candida auris* Update
August 05, 2020

LAC DPH Health Advisory: Resurgence of *Candida auris* in Los Angeles County
July 17, 2020
C. auris Cases Reported in CA through August 30, 2020 (N=466)
C. auris, COVID-19 Cases in CA through August 30, 2020 (N=466)
Early detection, infection control and public health-coordinated responses needed to contain spread
C. auris causes outbreaks in health care settings

Highly drug-resistant

Patients can become colonized and develop invasive infections

Candida spp. from non-invasive/non-sterile sources (e.g., urine, respiratory, wound) are not typically identified to the species level.
C. auris causes outbreaks in health care settings
Risk Factors for *C. auris*

- Tracheostomies
- Ventilator-dependent
- Colonized with other multidrug-resistant organisms
- Recently received antibiotics and antifungals
- Overnight hospitalization outside U.S.
- Long-term acute care (LTAC) hospital or ventilator-equipped skilled nursing facility (vSNF) stay
Factors associated with colonization with *C. auris* after controlling for confounders*:

*Each characteristic was assessed with its own multivariable model, with potential confounders selected using DAGs and *a priori* information.

Slide courtesy of John Rossow, CDC Epidemic Intelligence Service
C. auris in acute care hospitals

- Outbreaks in hospital ICU
  - UK 2015-2016: 50 cases; 22 developed infections
  - UK 2015-2017: 70 cases; 7 invasive infections (reusable axillary temperature probes)
  - Colombia 2015-2016 (4 hospitals): 40 candidemia cases (12 in NICU)

Sources:
In August 2018, a lab serving majority of California’s long-term acute care facilities began determining species of *Candida* on **all** yeast isolated from urine specimens.

In February 2019, *C. auris* identified in a urine culture from a patient at a long-term acute care hospital in Orange County
Public health launched a rapid, county-wide *C. auris* containment response in **all** high-risk facilities

14 vSNF + 3 LTACH

Conduct case finding through point prevalence surveys at high-risk healthcare facilities

Assess and make recommendations to improve infection prevention practices
Point prevalence surveys (PPS) help to determine the burden of *C. auris* colonization in facilities and risk of transmission.

**Axilla-Groin Swab**
- Composite swab
- R/L axilla and R/L groin
- Polymerase chain reaction (PCR)
Repeated PPS help assess for ongoing transmission
Prevent further spread through infection prevention

• Contact precautions
• Availability of hand sanitizer
• Hand hygiene practices
• Environmental cleaning practices
C. auris Cases in Orange County February 2019 – April 2020

Month and Year Specimen Collected

Number of Reported Cases

- Other
- ACH
- SNF
- Other vsnF
- vsnF A
- LTACH C
- LTACH B
- LTACH A

2019

Feb 6
Mar 3
Apr 14
May 1
Jun 38
Jul 25
Aug 10
Sep 15
Oct 1
Nov 2
Dec 3
Jan 3
Feb 3
Mar 9
Apr 1

2020

Feb 1
Mar 1
Apr 1

C. auris Cases in CA by County through August 30, 2020 (N=466)
C. auris Cases in CA by County through August 30, 2020 (N=466)
Other MDRO Transmission

• Since March 2020, we have identified other MDRO clusters/outbreaks
  – KPC-producing CRE in vSNF, ACH, LTACH
  – NDM+OXA-23-producing *Acinetobacter* in ACH
  – Other MDR-*Acinetobacter* in vSNF and ACH
C. auris, COVID-19 Cases in CA through August 30, 2020 (N=466)
C. auris and Other MDRO Spread in the Setting of COVID-19

- COVID-19 might be contributing to C. auris and other MDRO spread in high-risk healthcare facilities
  - Personal protective equipment (PPE) shortages and conservation strategies, especially extended use and reuse of gowns, and HCP wearing gowns in clean areas (e.g., nurses’ station, break room)
  - Cohorting and room placement on the basis of COVID-19 status alone (i.e., without considering C. auris or other MDRO status)
Recommendations for *C. auris* and Other MDRO Containment in the Setting of COVID-19

- Cohort patients by COVID-19 AND *C. auris* or other MDRO status, wherever possible

- During PPE supply shortage only – crisis conservation strategies
  - Extended use of gowns ONLY when patients are known to have the same *C. auris* or other MDRO AND COVID-19 status, and when housed in the same room; remove gown upon exiting room
  - Reserve gown use only for high-contact care activities

- Use an EPA-registered hospital-grade disinfectant effective against *C. auris* as well as COVID-19
Strategies to Facilitate Early Detection and Containment of *C. auris* and Other MDRO

- Identify all *Candida* isolates from normally sterile sites to the species level; for *Candida* isolated from non-sterile sites, perform species-level identification of isolates from individuals at highest risk for *C. auris*

- Report all cases of *C. auris*, carbapenemase-producing organisms, or other highly-resistant organisms to your local public health department and the CDPH HAI Program

- *C. auris* and carbapenemase testing available via public health labs
Strategies to Facilitate Early Detection and Containment of *C. auris* and Other MDRO

- Assess *C. auris* and other MDRO status for all patients and residents upon admission, by reviewing medical records and screening high-risk individuals
  - Place on pre-emptive Contact precautions individuals at highest risk of *C. auris* or other MDRO while awaiting screening results
  - *C. auris* and carbapenemase-producing bacteria screening resources available at no cost through CDC AR Lab

- Ensure communication of *C. auris*/MDRO status upon transfer
  - Work with facilities you commonly share patients with to develop a system
  - Include labs and any documentation (i.e., inter-facility transfer form)
Strategies to Limit *C. auris* and Other MDRO Emergence, Transmission, Increasing Resistance, and Invasive Infections

• Antimicrobial stewardship
  – Broad-spectrum antimicrobials (e.g., meropenem)
  – Antifungal treatment not recommended for *C. auris* isolated from noninvasive sites (respiratory, urine and skin colonization) without evidence of infection
  – Echinocandin resistance can emerge rapidly in *C. auris*

• Management of medical devices
  – Central venous catheter and urinary catheter insertion and maintenance practices
Key Messages

• Early and aggressive facility and public-health detection and containment efforts can limit emergence and spread of *C. auris* and other MDRO

• *C. auris* resurgence and concurrent outbreaks with COVID-19 present unique challenges, and will require focused attention to contain *C. auris* again

• Public health resources are available to support MDRO testing and containment
Resources

- **CDPH C. auris Quicksheet** (PDF): (www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/C%20auris%20Quicksheet_Interim_070720_ADA.pdf)


- **CDPH Antimicrobial Resistance Resources** (www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/AntimicrobialResistanceLandingPage.aspx)

- **CDPH Testing Resources** (www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/CA_ARLN.aspx)

- **CDC C. auris Identification** (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)
Contact Us

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