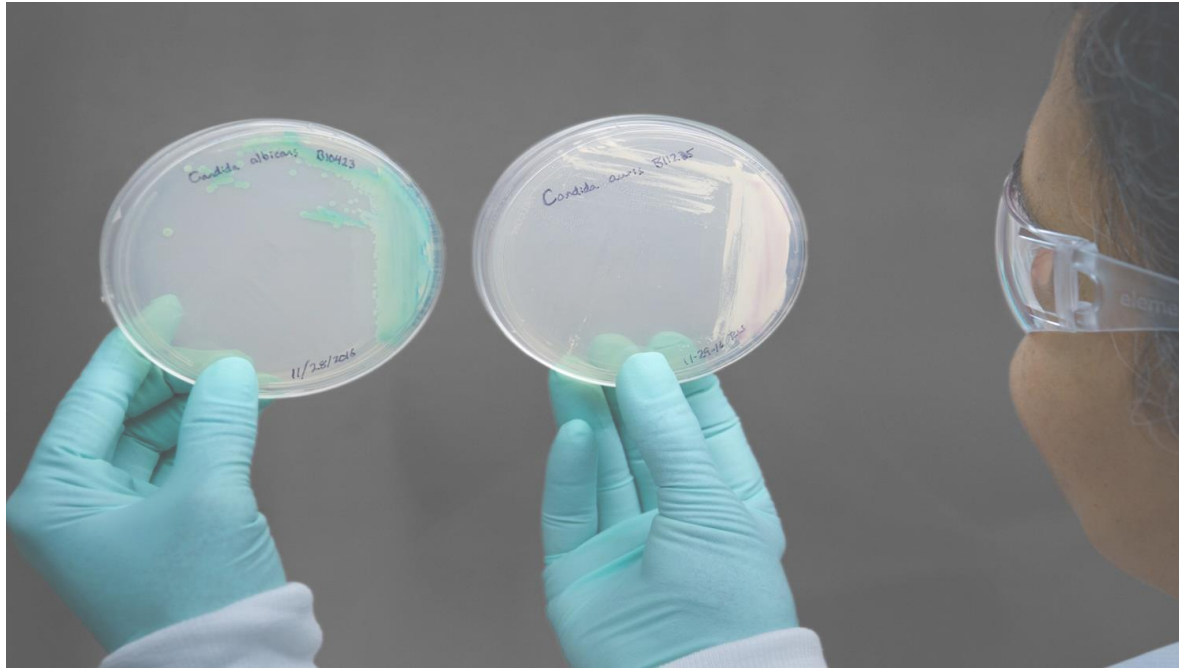


Containment of *Candida auris* Tabletop Exercise



Sponsored by



October 22th, 2019



Candida auris:
**Learn how you can stop
it from spreading.**

This drug-resistant fungus causes serious infections and spreads in healthcare facilities.

www.cdc.gov/fungal



Candida auris

Background and Regional Epi

"All the News
That's Fit to Print"

The New York Times

Late Edition

Today, sunshine mixing with some clouds, mild, high 64. Tonight, cloudy, periodic rain, low 53. Tomorrow, a brief shower or two, high 72. Details in Sports Sunday, Page 10.

VOL. CLXVIII . . No. 58,290

© 2019 The New York Times Company

NEW YORK, SUNDAY, APRIL 7, 2019

\$6.00



DADO CALDEIRA FOR THE NEW YORK TIMES

A scout discovered Maradoninha, 11, two years ago. His family moved 1,200 miles to enable him to get first-class training.

Fire Destroyed 10 Lives, but Not the Illusion

By TARIQ PANJA
and MANUELA ANDREONI

RIO DE JANEIRO — Even in death the haggling went on.

Christian Esmério was going to be the

Dreams of Soccer Riches Survive Brazil Disaster

tion worth?

"Dreams" uttered Rafael Stivel, who runs a for-profit talent scouting operation, and he let out a sigh. Mr. Stivel's group had posted a note on Facebook mourning three of its graduates who had died in the fire at Flamengo. Since then, the messages had

Fungus Immune to Drugs Quietly Sweeps the Globe

*Lethal Infection Adds Alarming Dimension
to Dangers of Overusing Medicines*

By MATT RICHTER and ANDREW JACOBS

Last May, an elderly man was admitted to the Brooklyn branch of Mount Sinai Hospital for abdominal surgery. A blood test revealed that he was infected with a newly discovered germ as deadly as it was mysterious. Doctors

a new example of one of the world's most intractable health threats: the rise of drug-resistant infections.

For decades, public health experts have warned that the overuse of antibiotics was reducing the effectiveness of drugs that have lengthened life spans by curing bacterial infections once commonly fatal. But lately, there has been an explosion of resistant fungi as well, adding a new and frightening dimension to a phenomenon that is undermining a pillar of modern medicine.

"It's an enormous problem," said Matthew Fisher, a professor of fungal epidemiology at Imperial College London, who was a co-author of a recent scientific review on the rise of resistant fungi.

swiftly isolated him in the intensive care unit.

The germ, a fungus called *Candida auris*, preys on people with weakened immune systems, and it is quietly spreading across the globe. Over the last five years, it has hit a neonatal unit in Venezuela, swept through a hospital in Spain, forced a prestigious British medical center to shut down its intensive care unit, and taken root in India, Pakistan and South Africa.

Recently *C. auris* reached New York, New Jersey and Illinois, leading the federal Centers for Disease Control and Prevention to add it to a list of germs deemed "urgent threats."

The man at Mount Sinai died after 90 days in the hospital, but *C. auris* did not. Tests showed it was everywhere in his room, so invasive that the hospital needed spe-



MELISSA GOLDEN FOR THE NEW YORK TIMES

A slide with inactive *Candida auris* taken from a patient.

DEADLY GERMS, LOST CURES

How a Chicago Woman Fell Victim to Candida Auris, a Drug-Resistant Fungus

The mysterious infection has appeared at hospitals around the world, but few institutions or families have discussed their experience.



Stephanie Spoor, center, with her husband, Gregory, left, during a bedside wedding ceremony of her son, Zack, to his new wife, Carley (right), at Northwestern Memorial Hospital in Chicago. Ms. Spoor died just a few days later. Spoor family photo

BREAKING NEWS

NEWS

Family of Chicago-area woman who died hopes officials will lift secrecy on *Candida auris* fungus



By ROBERT MCCOPPIN
CHICAGO TRIBUNE | APR 18, 2019



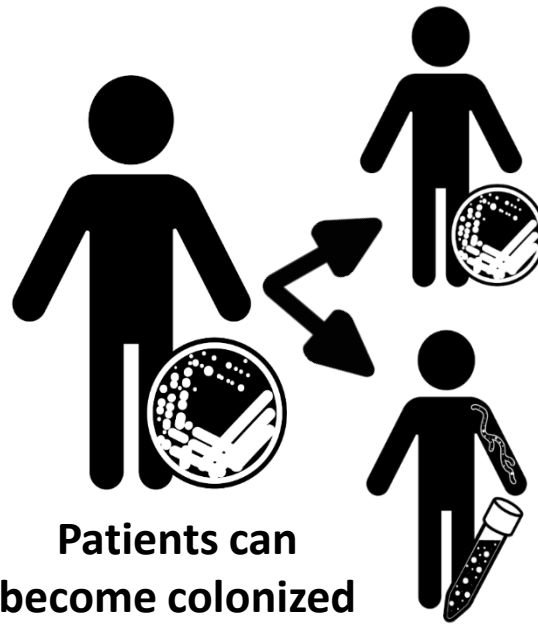
Stephanie Spoor (Family photo)

Stephanie Spoor lived with lupus for three decades. But after suffering heart failure and becoming infected with a recent outbreak of a deadly fungus, she survived less than two months.

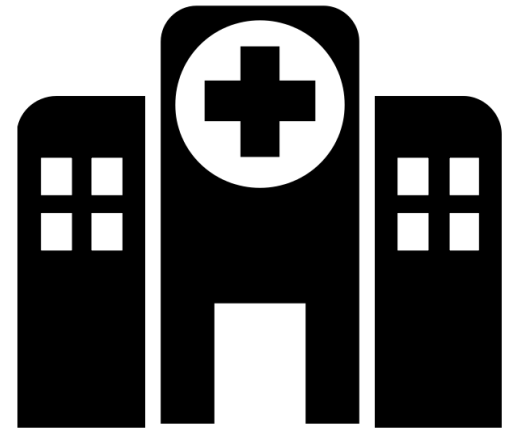
Why are we concerned about *Candida auris*?



Highly
drug-resistant

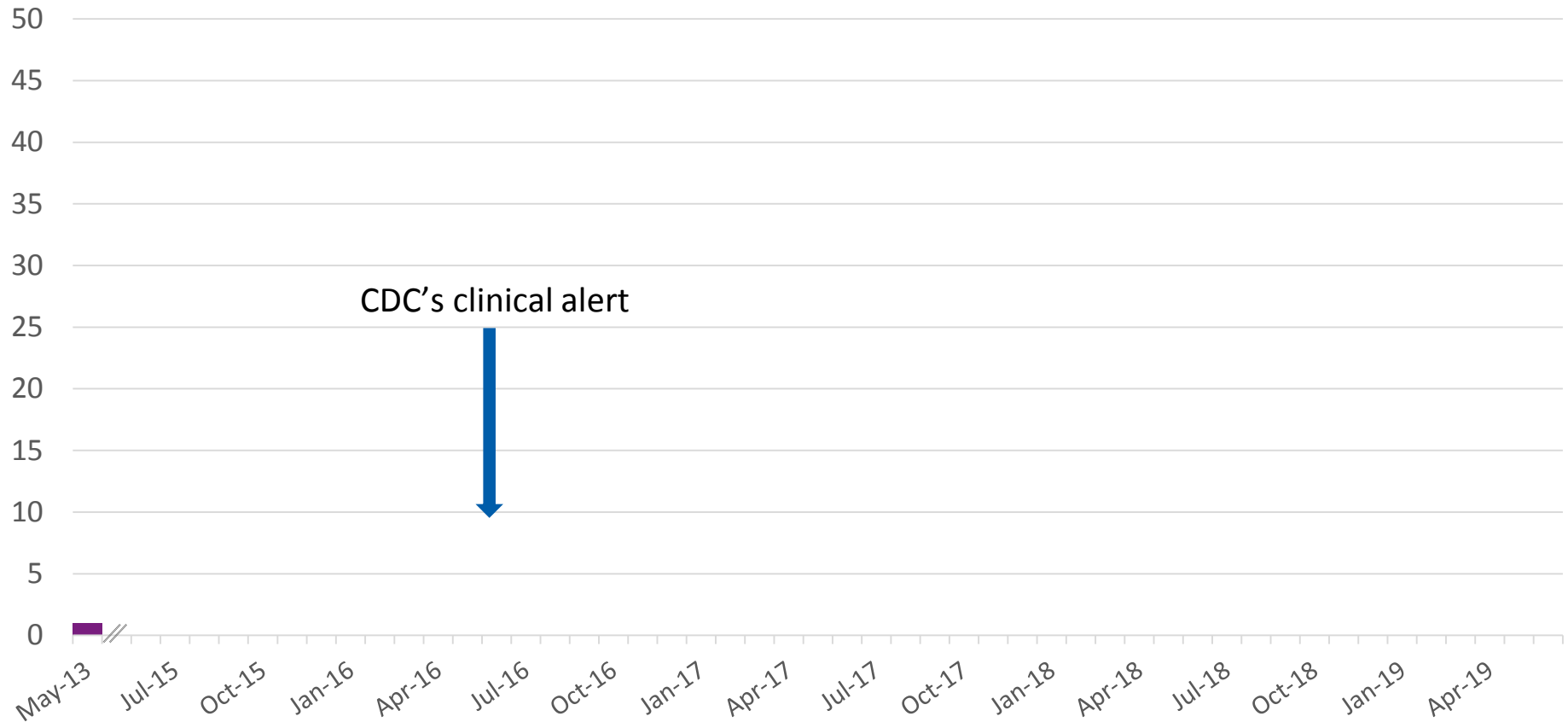


Patients can
become colonized
and develop
invasive infections

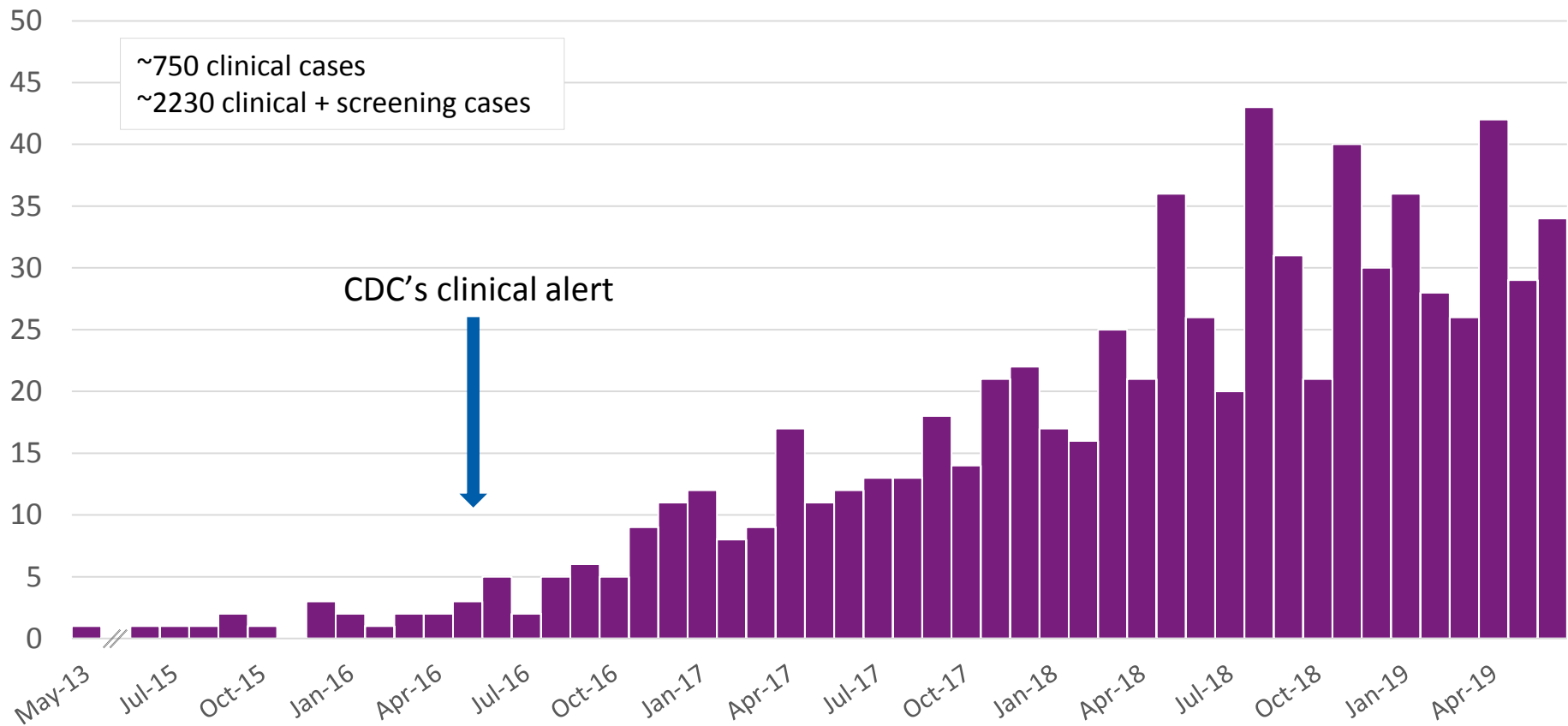


Spreads in healthcare
settings

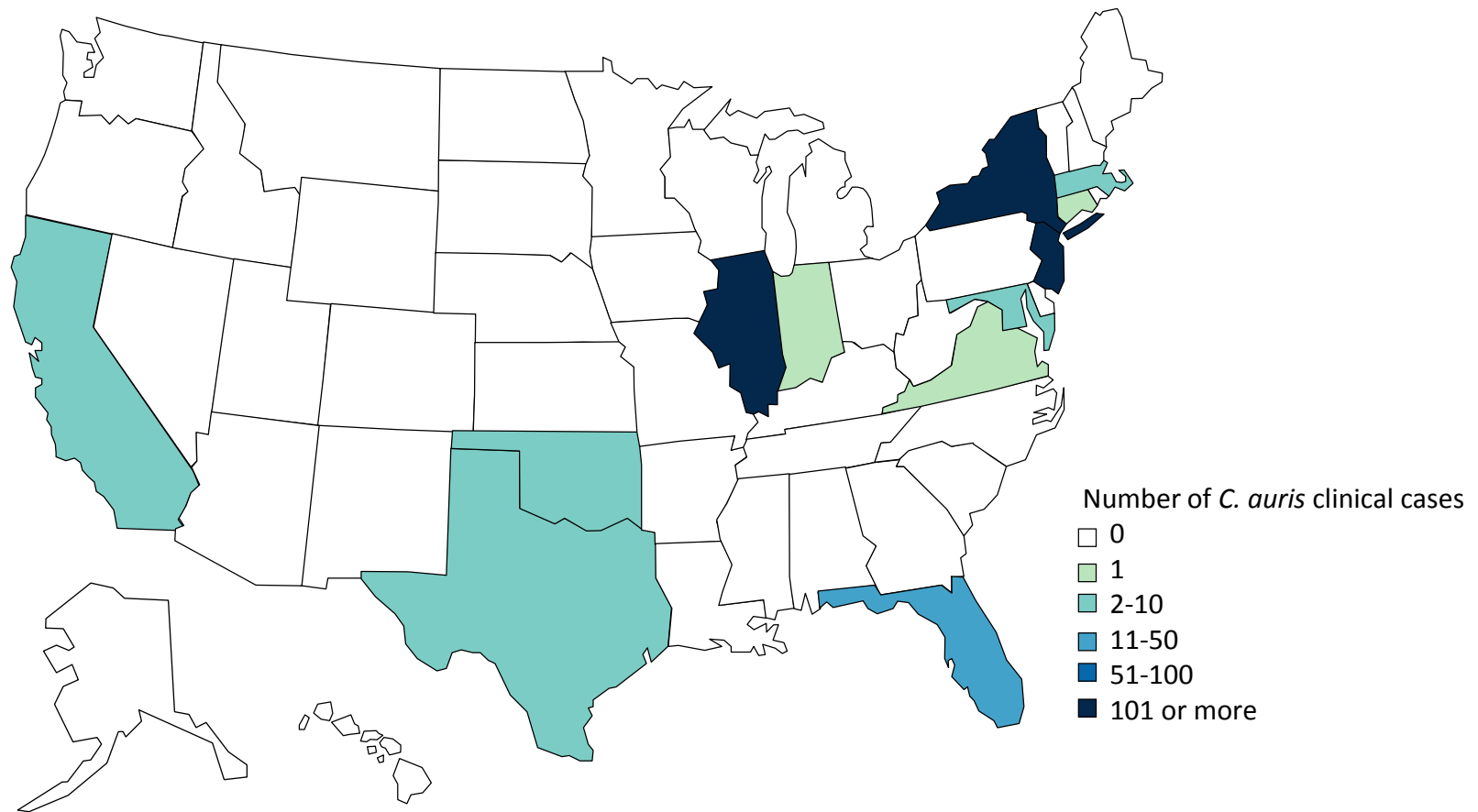
C. auris clinical cases, June 2016



C. auris clinical cases 2013–June 2019

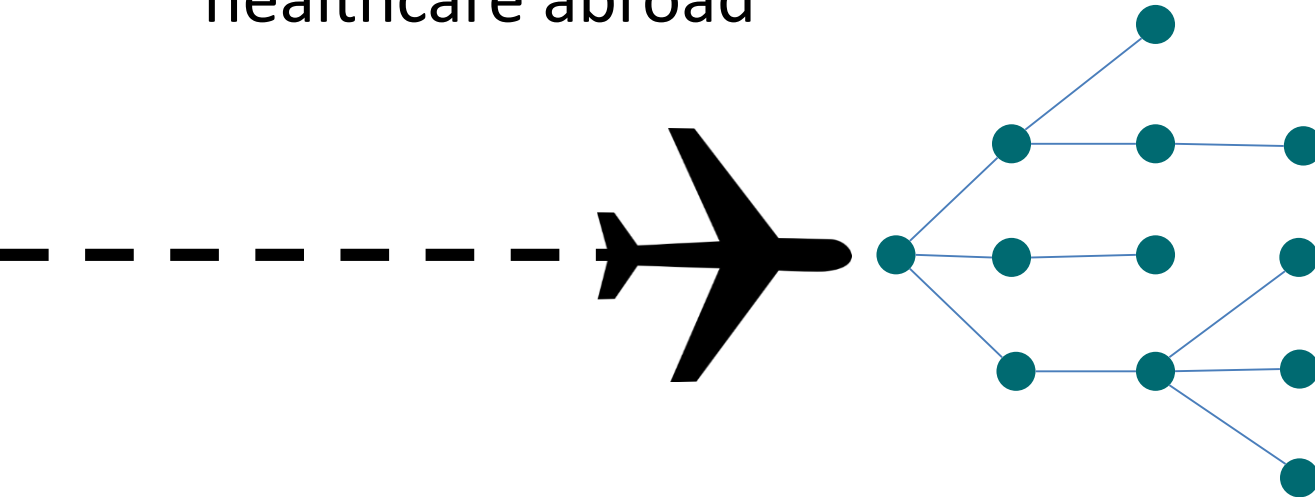


C. auris clinical cases — United States, 2013–June 2019

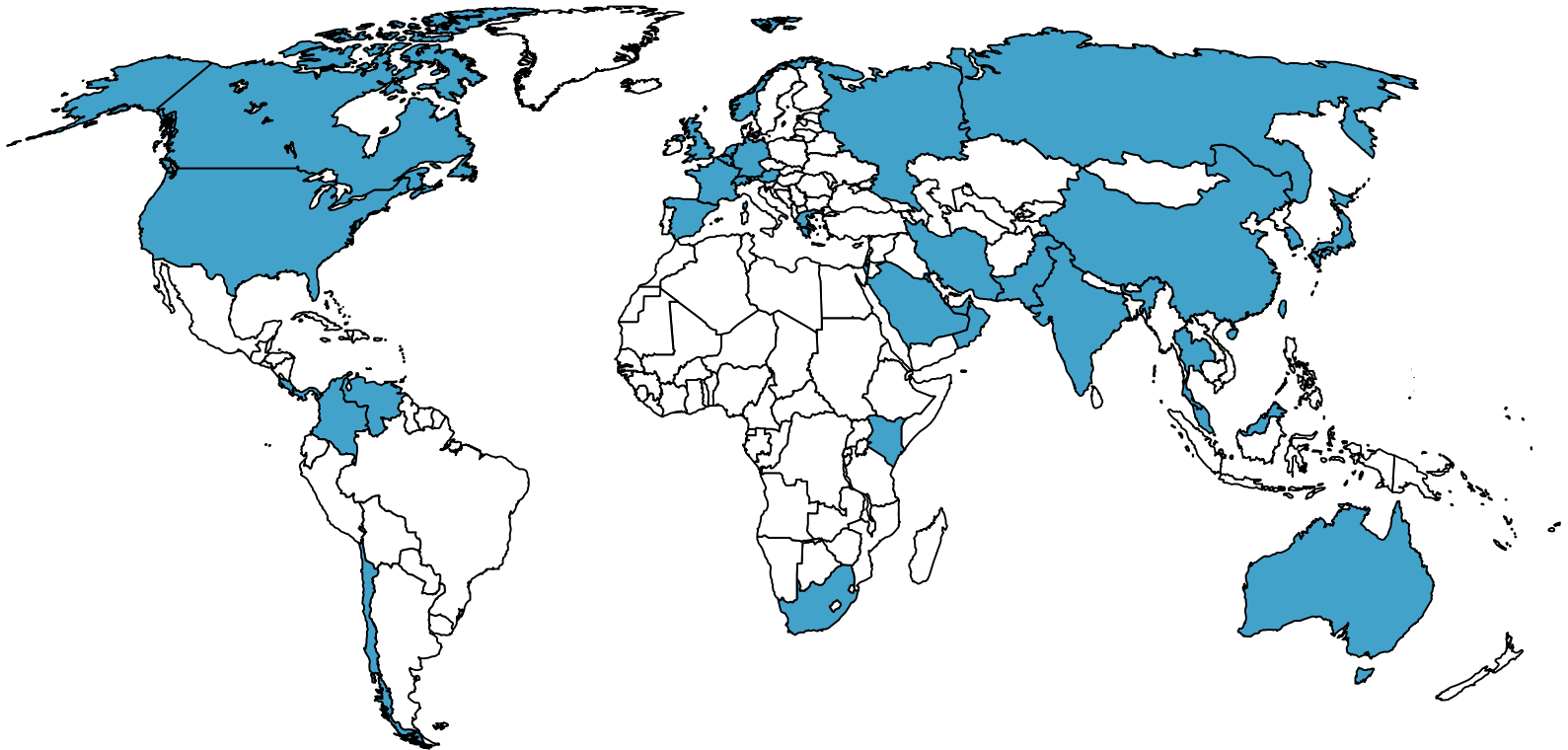


Spreads after introductions from abroad

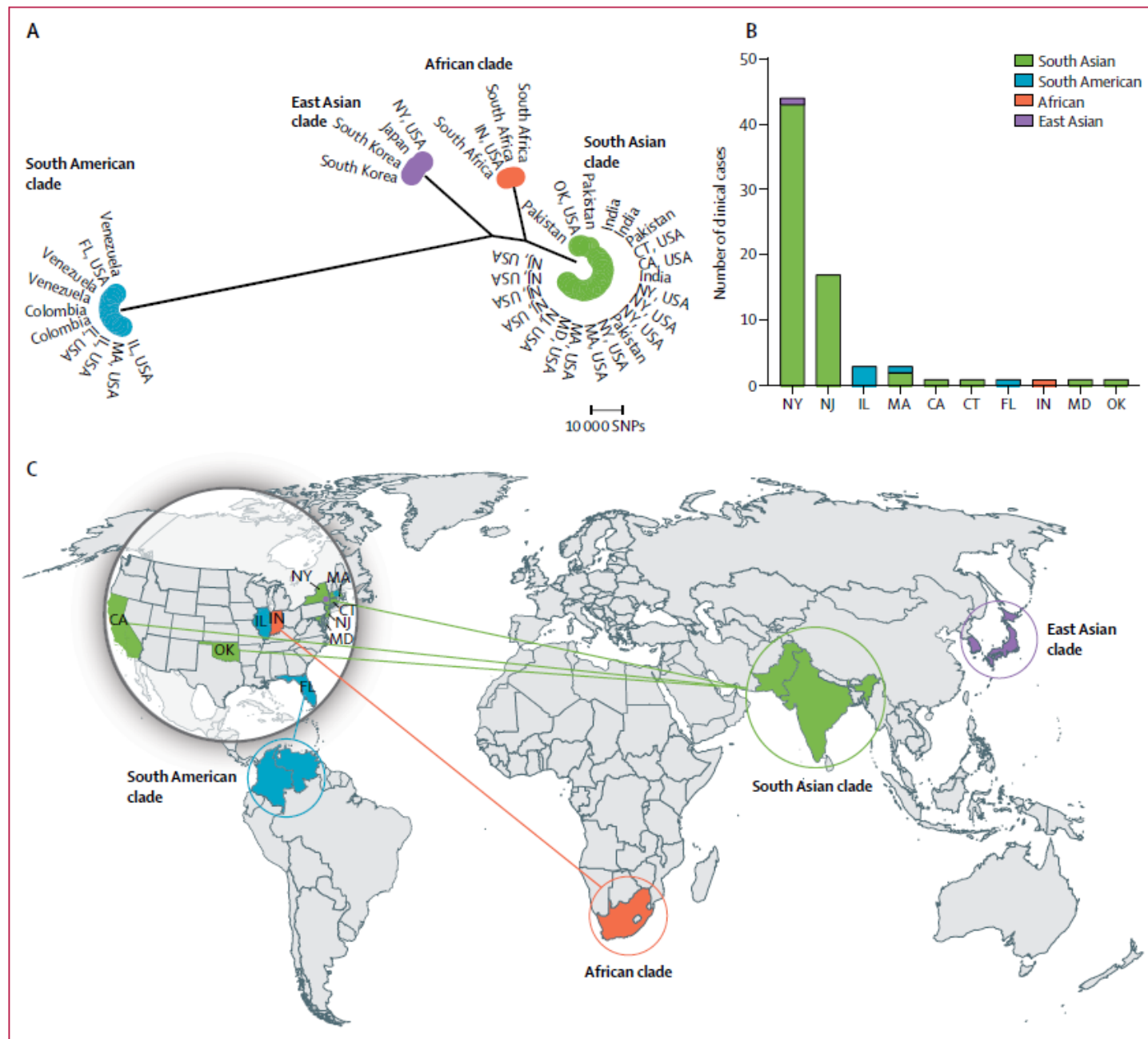
- Cases are a result of introductions from abroad followed by local transmission
- Majority of cases don't have direct links to healthcare abroad



C. auris cases reported in >35 countries



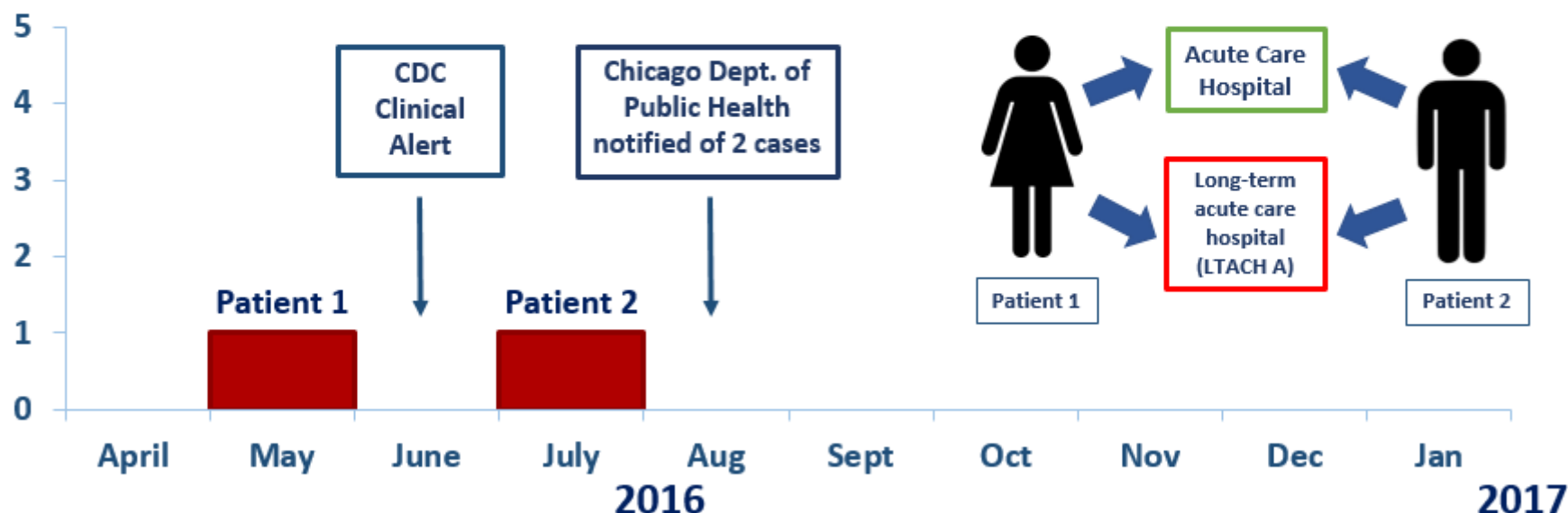
Multiple Lineages



First Two Cases of *C. auris* in Chicago

Investigation of the First Seven Reported Cases of *Candida auris*, a Globally Emerging Invasive, Multidrug-Resistant Fungus – United States, May 2013 – August 2016

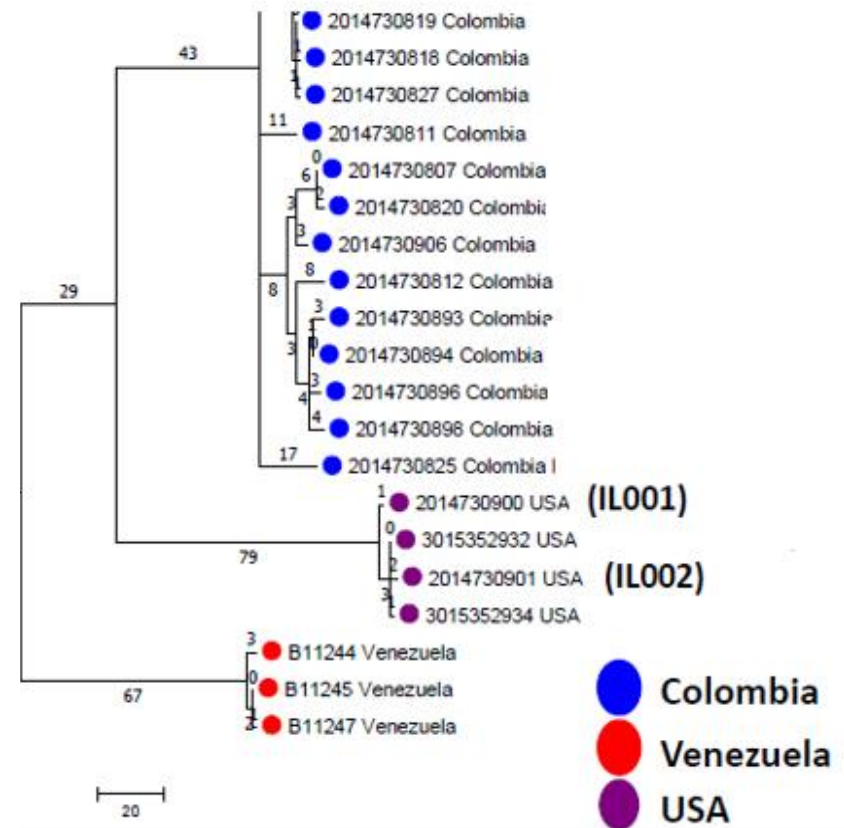
Snigdha Vallabhaneni, MD¹; Alex Kallen, MD²; Sharon Tsay, MD^{1,2}; Nancy Chow, PhD¹; Rory Welsh, PhD¹; Janna Kerins, VMD^{2,4}; Sarah K. Kemble, MD⁴; Massimo Pacilli, MS⁴; Stephanie R. Black, MD⁴; Emily Landon, MD⁵; Jessica Ridgway, MD⁵; Tara N. Palmore, MD⁴; Adrian Zelzany, PhD⁴; Eleanor H. Adams, MD⁷; Monica Quinn, MS⁷; Sudha Chaturvedi, PhD⁷; Jane Greenko, MPH⁷; Rafael Fernandez, MPH⁷; Karen Southwick, MD⁷; E. Yoko Furuya, MD⁸; David P. Calfee, MD⁹; Camille Hamula, PhD¹⁰; Gopi Patel, MD¹⁰; Patricia Barrett, MSD¹¹; Patricia Lafaro¹²; Elizabeth L. Berkow, PhD¹; Heather Moulton-Meissner, PhD¹; Judith Noble-Wang, PhD²; Ryan P. Fagan, MD²; Brendan R. Jackson, MD¹; Shawn R. Lockhart, PhD¹; Anastasia P. Litvintseva, PhD¹; Tom M. Chiller, MD¹



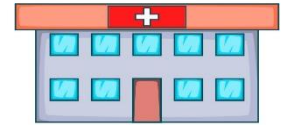
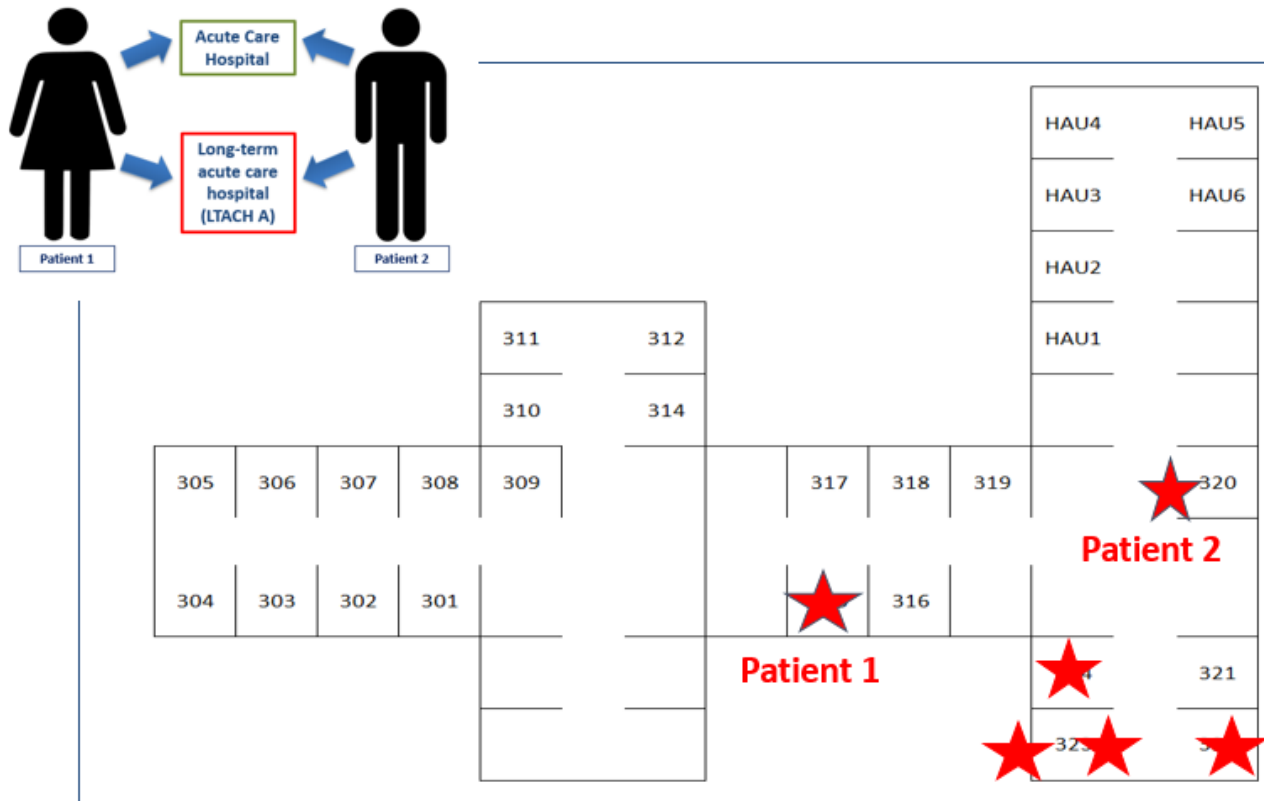
Clinical *C. auris*
isolates

C. auris Isolates, IL Patients 1 & 2

Drug	MIC ($\mu\text{g/mL}$)	Interpretation
<u>Anidulafungin</u>	0.12	S
Micafungin	0.06	S
<u>Caspofungin</u>	0.03	S
5-flucytosine	0.12	S
<u>Posaconazole</u>	0.03	S
<u>Voriconazole</u>	0.015	S
<u>Itraconazole</u>	0.06	S
Fluconazole	2.0	S
Amphotericin	1.0	S

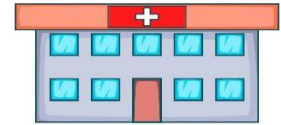
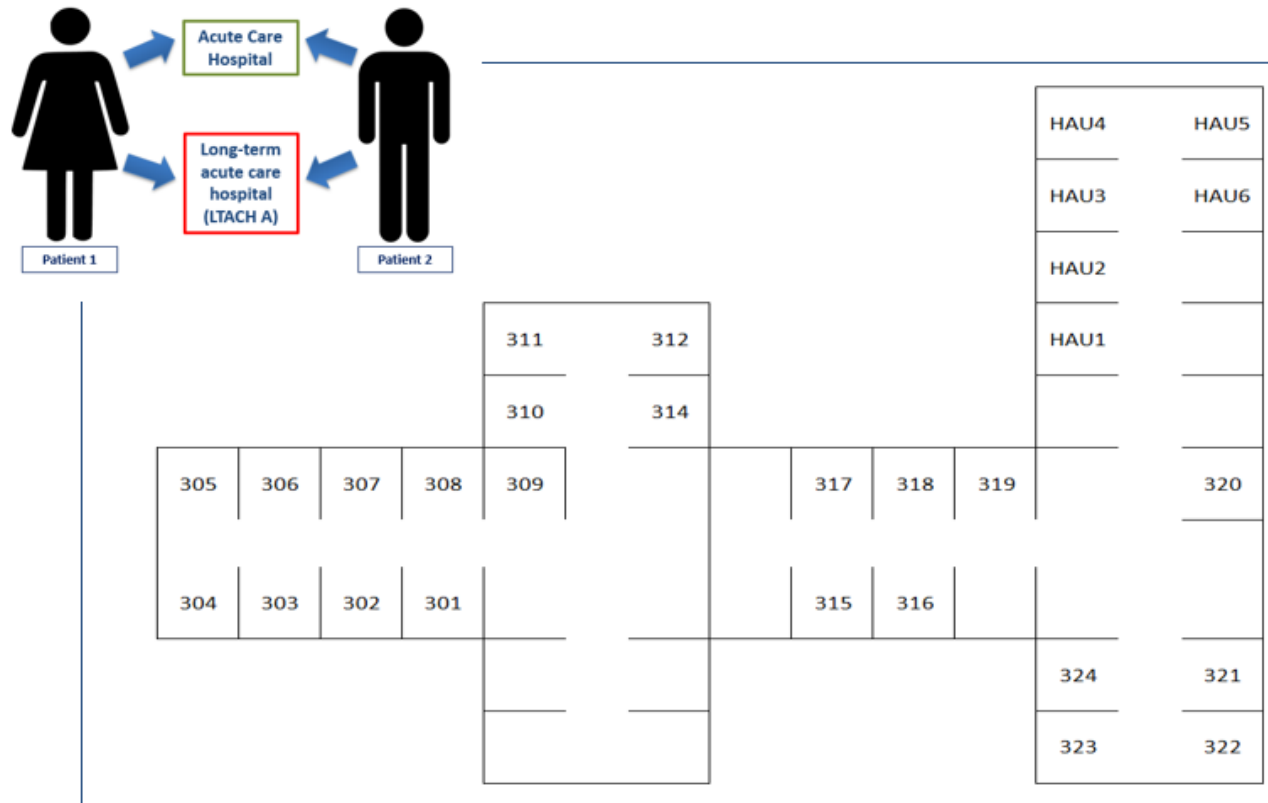


Epidemiologic Investigation of *C. auris* IL1 & IL2



- Point prevalence survey at Hospital A: No new *C. auris* cases
- Point prevalence survey LTACH A: 4 new cases
- Environmental contamination identified on window ledge, mattress
- Contact isolation, list K disinfecting agents, hand hygiene and general infection prevention education

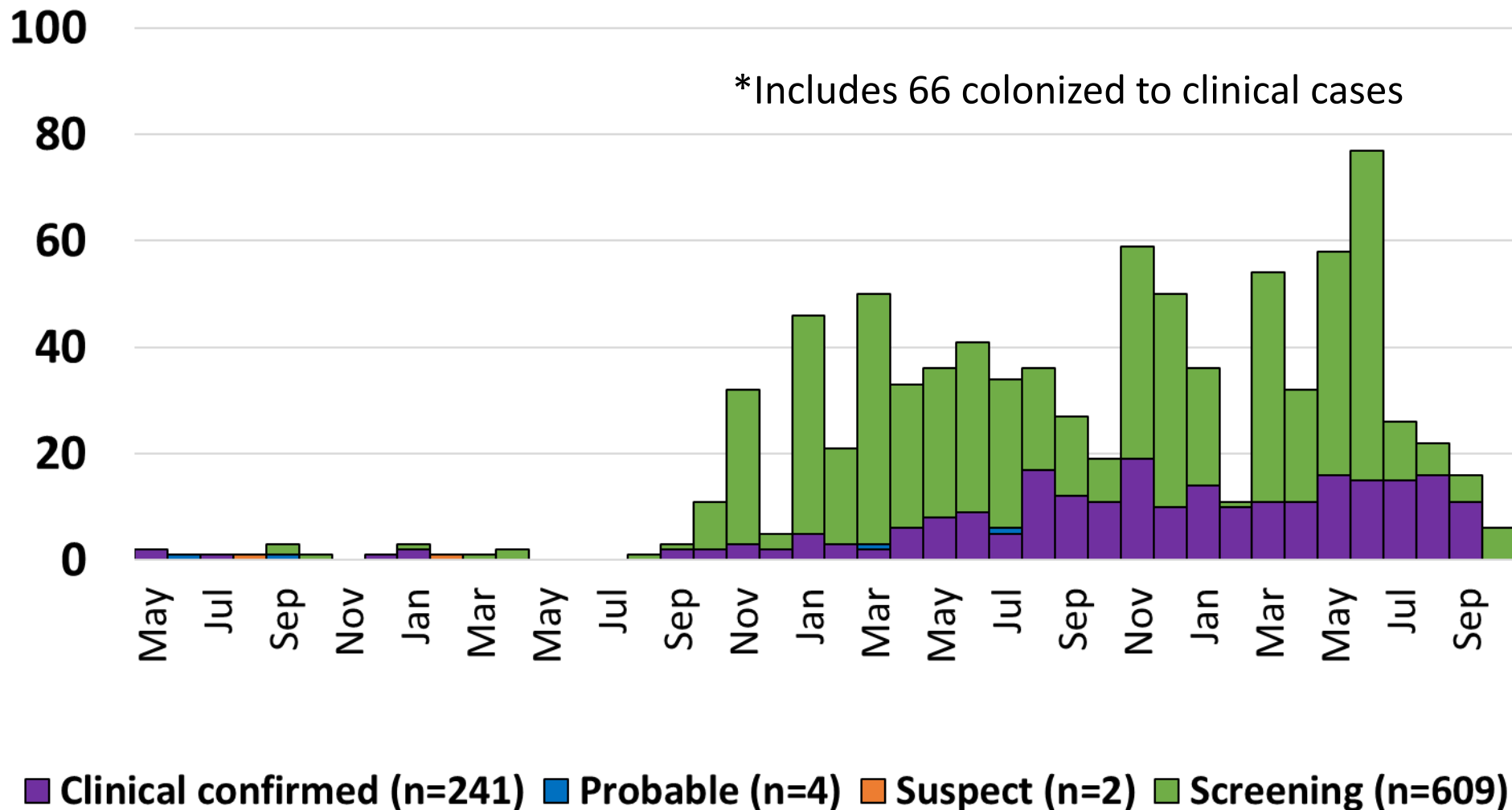
Epidemiologic Investigation of *C. auris* IL1 & IL2



- Point prevalence survey at Hospital A: No new *C. auris* cases
- Point prevalence survey LTACH A: 1 new case
- Environmental contamination identified on window ledge, mattress
- Contact isolation, list K disinfecting agents, hand hygiene and general infection prevention education
- **Two negative point prevalence surveys (April, July 2017) at LTACH A**

Illinois *C. auris* cases (n=856) by culture date, as of 10/8/19*

*Includes 66 colonized to clinical cases



Illinois *C. auris* clinical cases (N=247) by specimen type, as of 10/8/19

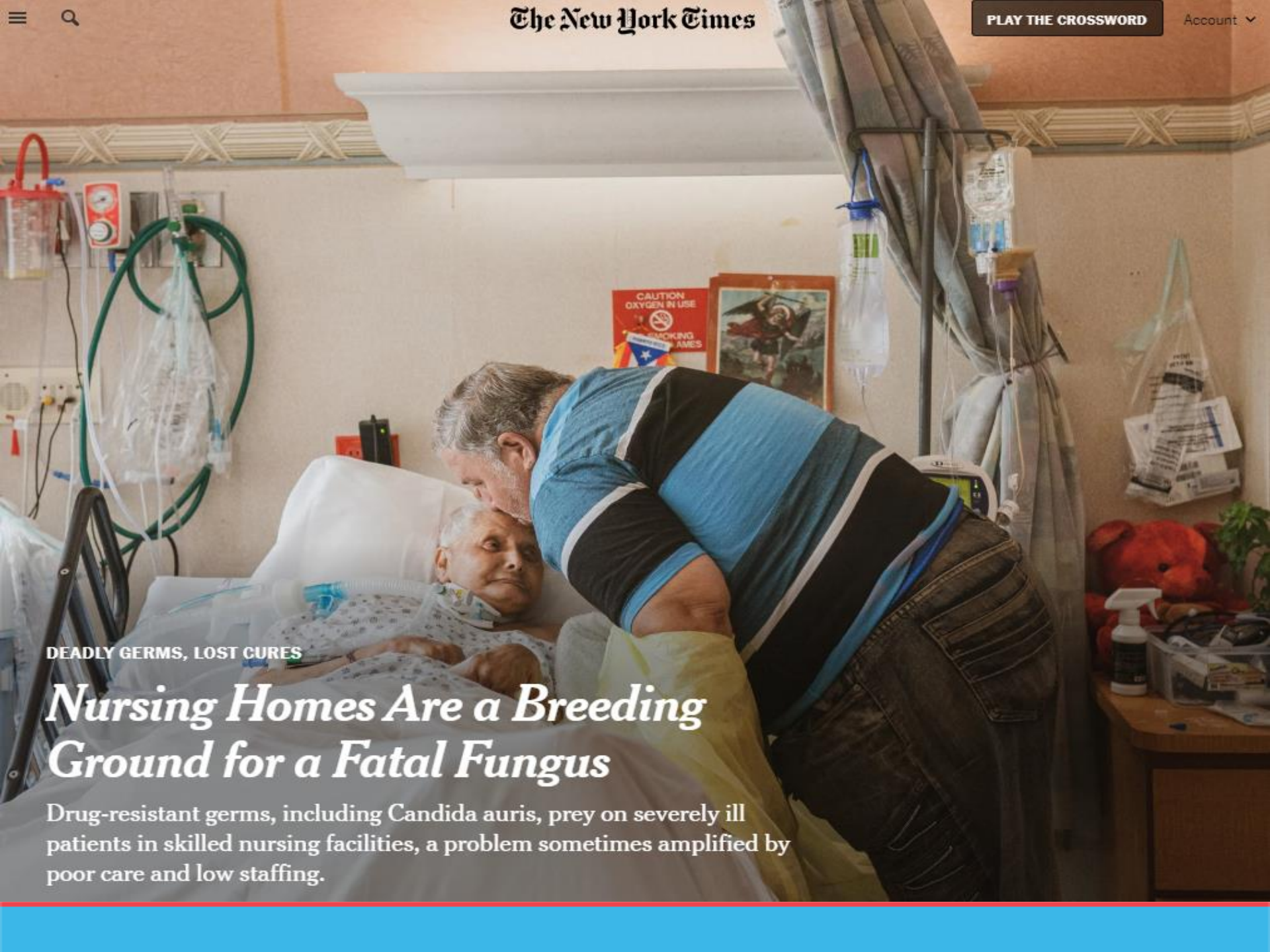
	n (%)
Blood	78 (32%)
Urine	81 (33%)
Wound	24 (10%)
Sputum	14 (6%)
Bronchial Wash	9 (4%)
Trach. aspirate	10 (4%)
Tissue	10 (4%)
Other	21 (9%)

Point Prevalence Surveys, August 2019

Illinois Facility type	57 Facilities	139 Surveys	Median* Prevalence (range)
Acute care hospitals	16	19	0% (0 – 14%)
Long-term acute care hospitals	7	35	23% (6 – 50%)
vSNF	17	67	35% (0 - 83%)
Skilled nursing facilities	17	18	0% (0 – 8%)

* Most recent prevalence is used to calculate median among individual facilities.

* Prevalence is calculate as the number of colonized residents identified during PPS and those previously known infected or colonized residents per the total unit census.

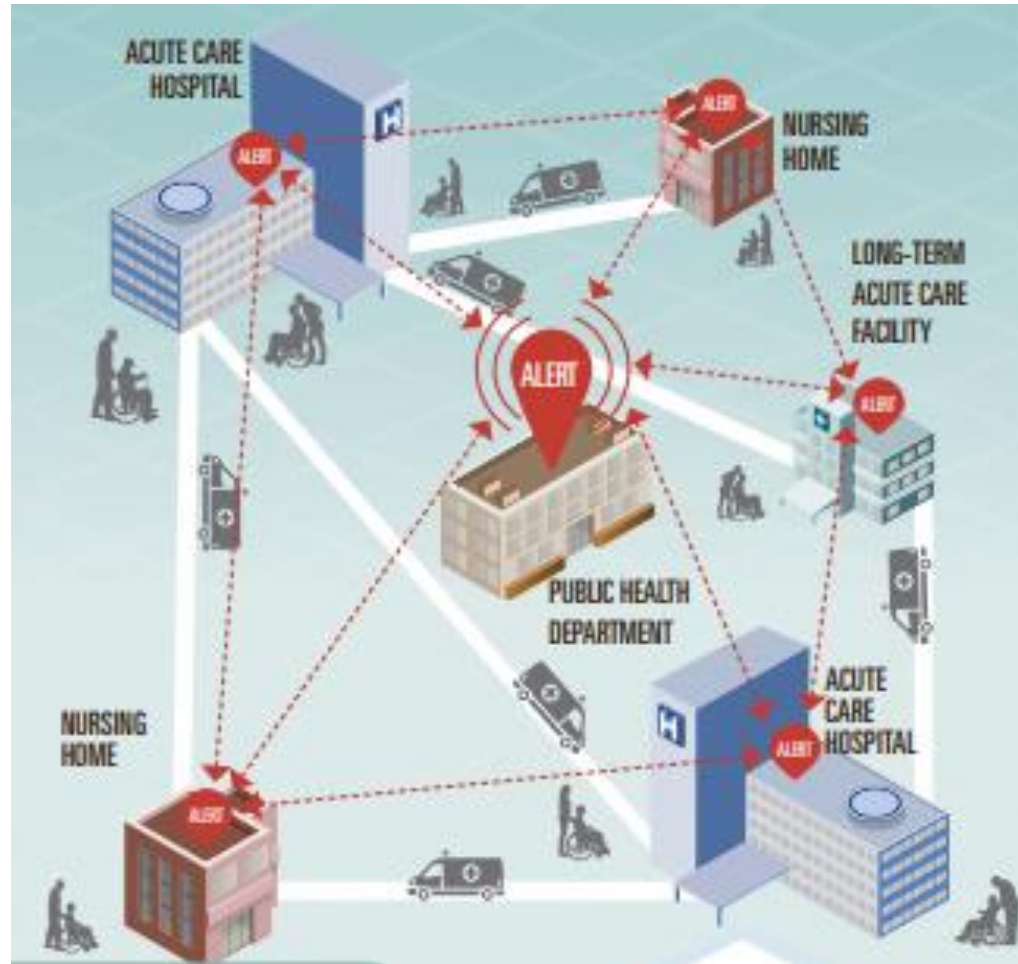


DEADLY GERMS, LOST CURES

Nursing Homes Are a Breeding Ground for a Fatal Fungus

Drug-resistant germs, including *Candida auris*, prey on severely ill patients in skilled nursing facilities, a problem sometimes amplified by poor care and low staffing.

Same Patient, Different Setting



Goals of the *C. auris* Exercise

1

Make a response plan for *C. auris* cases

Define plans for identification and investigation of a suspected or confirmed case of *C. auris*.

2

Build Awareness of Resources

Leverage resources for containment and response to novel emerging threats like *C. auris*

3

Increase collaboration

Build lab, clinical and infection control capacity to successfully contain spread of *C.auris*

Ground Rules

Limit multitasking | Stay open to new ideas | Have fun | Challenge long-held beliefs

Facilitator may request permission to interrupt | Share your unique perspective

Group Discussion

1

Identify your area of expertise

- Laboratory
- Clinical treatment
- Infection Prevention
- Public Health Response

2

Reassort into groups of

At least one representative from each discipline should be present in each group

3

Identify roles:

Each group should identify:

- One person to complete worksheet
- One spokesperson

Ground Rules

Moderator will coordinate breakout sessions and group discussion

Worksheets will be collected at the end of the exercise

Part 1: Identification of *C. auris*

A clinical laboratorian identifies a possible case of *C. auris*

Part 1: Identification



You Learn That...

September 9, 2019

A clinical laboratorian identifies *Candida haemulonii* from the bloodstream. Blood cultures were drawn on September 6, 2019. She recently read a state-wide laboratory alert about *C. auris* and wants to know if she should be concerned about *C. auris* and wants to know what (if anything) she needs to do next.

Part 1: Identification - Debrief



Group Discussion

1. Should she be concerned about *C. auris*?
2. What additional information would you want to know?
3. What fungal identification is used at your institution?
4. If the specimen source had been urine, how likely would your lab be to identify *C. haemulonii*/*C. auris*?
5. What should you advise her to do?
6. What should you do next?

Part 1: Summary – Report Out

***C. auris* detection has been challenging**

- But, its getting better!
 - Awareness of the organism
 - Improved access to MALDI-TOF
 - Ability to confirm at reference and public health labs




Lab methods Updates

- FDA approvals
 - VITEK MS MALDI
 - Bruker Biotyper MALDI
 - GenMark ePlex BCID-FP panel blood culture test
- VITEK 2 8.01 update
- rt-PCR



PH Isolate Submission

- Submit to IDPH with Test requisition:
 - All *C. auris* blood isolates
 - The first *C. auris* isolate from other specimen sources (e.g., urine) for each patient stay
- IDPH forward to WI-ARLN for ID and AFST

 **State of Illinois**
Illinois Department of Public Health

**Communicable Diseases
Laboratory Test Requisition**

Type or use indelible dark ink and print legibly with capital letters

Submitter Information:

Submitter Code: _____ Submitter Name: _____

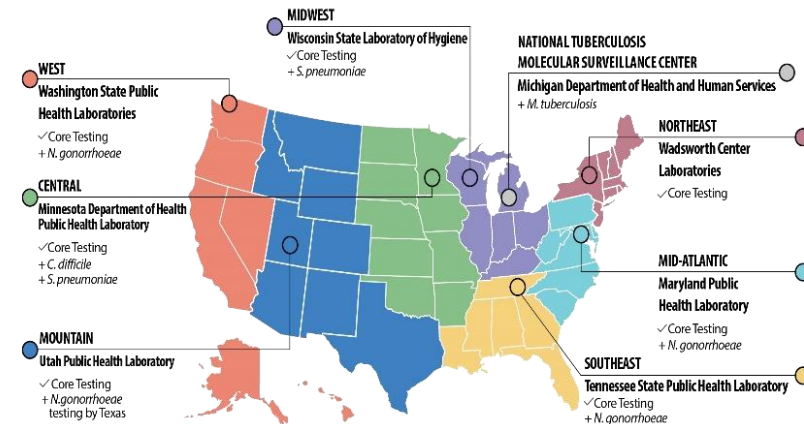
Submitter Address (Street Number, Name of Street): _____ City: _____ State: _____ ZIP Code: _____

Contact Person/Clinician's Last Name: _____ Telephone Number: _____ FAX: _____ E-mail Address: _____

Patient Information:

**Laboratory Specimen Number
(FOR PUBLIC HEALTH USE ONLY)**

Outbreak #: _____



Candida sp. surveillance

AR Lab Network Surveillance:

- *Candida auris* or suspect *Candida auris*
- *Candida* sp. not *C. albicans*

Wisconsin Surveillance:

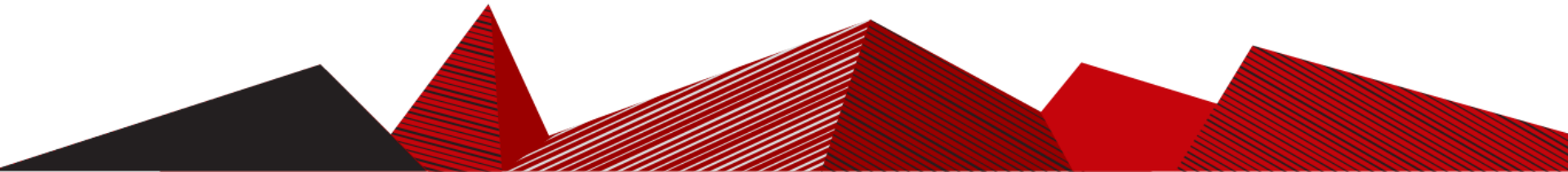
- *Candida auris* or suspect *C. auris*
- MDR *Candida* sp.
- Any “unusual or hard to identify” ID *Candida* sp.
- Invasive *C. glabrata*

- Identification by MALDI-TOF
 - Bruker RUO Database
 - MicrobeNet <https://microbenet.cdc.gov/>



Antifungal Susceptibility Testing

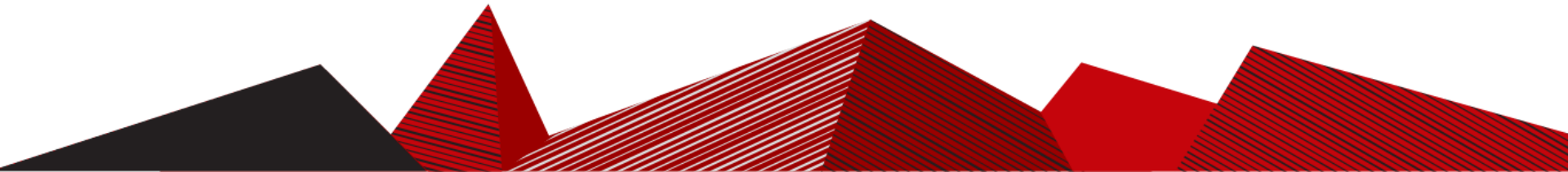
- Custom frozen microbroth dilution plates (Trek) for azoles and echinocandins
- Etest for amphotericin B
- Not FDA approved, validated by WSLH *Surveillance*
- Results available on request (MIC only)
 - Micafungin, Caspofungin, Anidulafungin, Fluconazole, Voriconazole, Posaconazole, Itraconazole, Isavuconazole, Amphotericin B



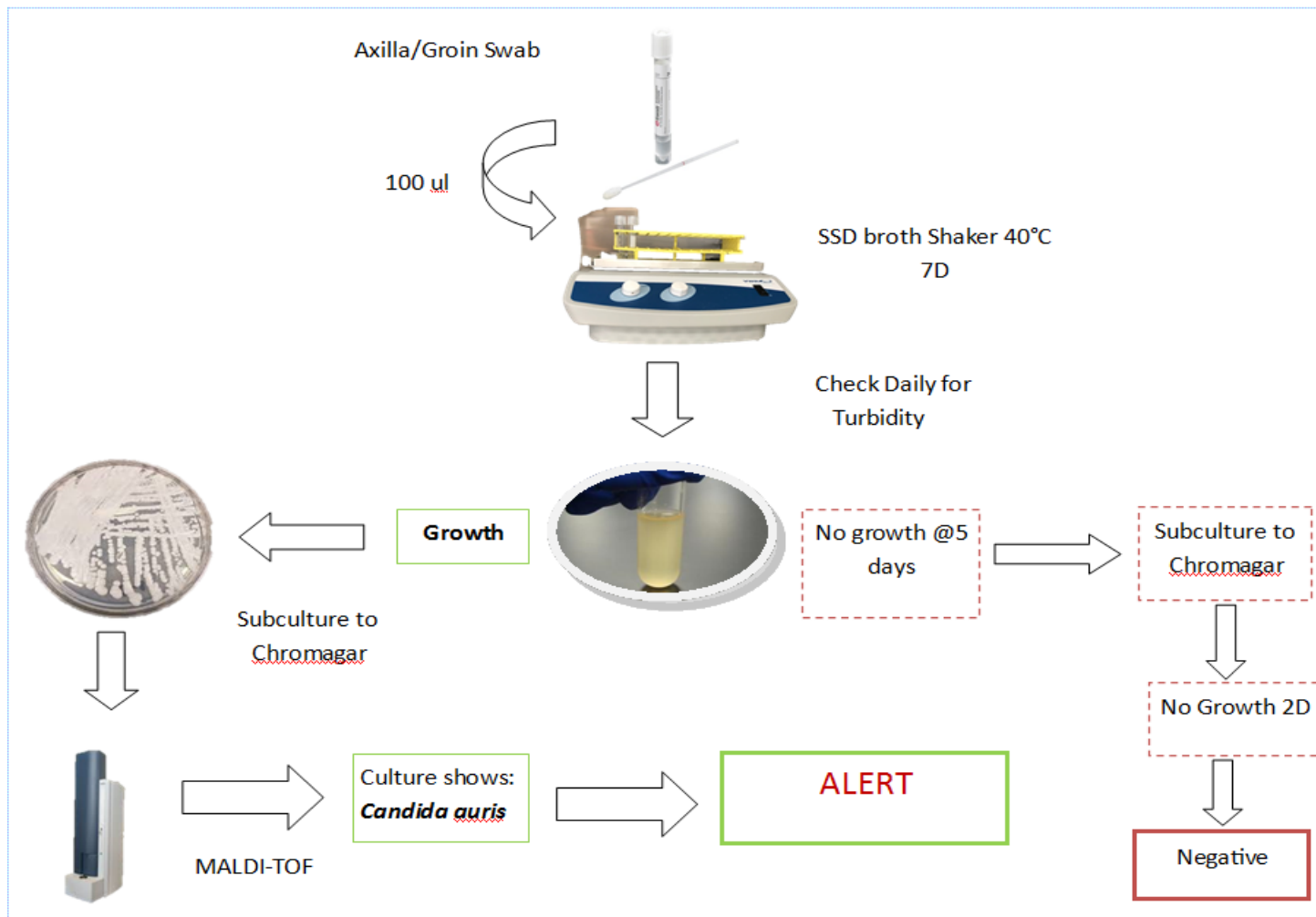
Candida auris Susceptibility Testing: Tentative Breakpoints (no current CLSI breakpoint recommendations)

Drug	Tentative MIC Breakpoint
Amphotericin B	≥ 2 $\mu\text{g/ml}$
Anidulafungin	≥ 4 $\mu\text{g/ml}$
Caspofungin	≥ 2 $\mu\text{g/ml}$
Micafungin	≥ 4 $\mu\text{g/ml}$
Fluconazole	≥ 32 $\mu\text{g/ml}$
Voriconazole	NA

<https://www.cdc.gov/fungal/candida-auris/c-auris-antifungal.html>



Candida auris Colonization: culture



Candida auris Colonization: PCR



AMERICAN
SOCIETY FOR
MICROBIOLOGY

Journal of
Clinical Microbiology®

MYCOLOGY



Development and Validation of a Real-Time PCR Assay for Rapid Detection of *Candida auris* from Surveillance Samples

L. Leach,^a Y. Zhu,^a S. Chaturvedi^{a,b}

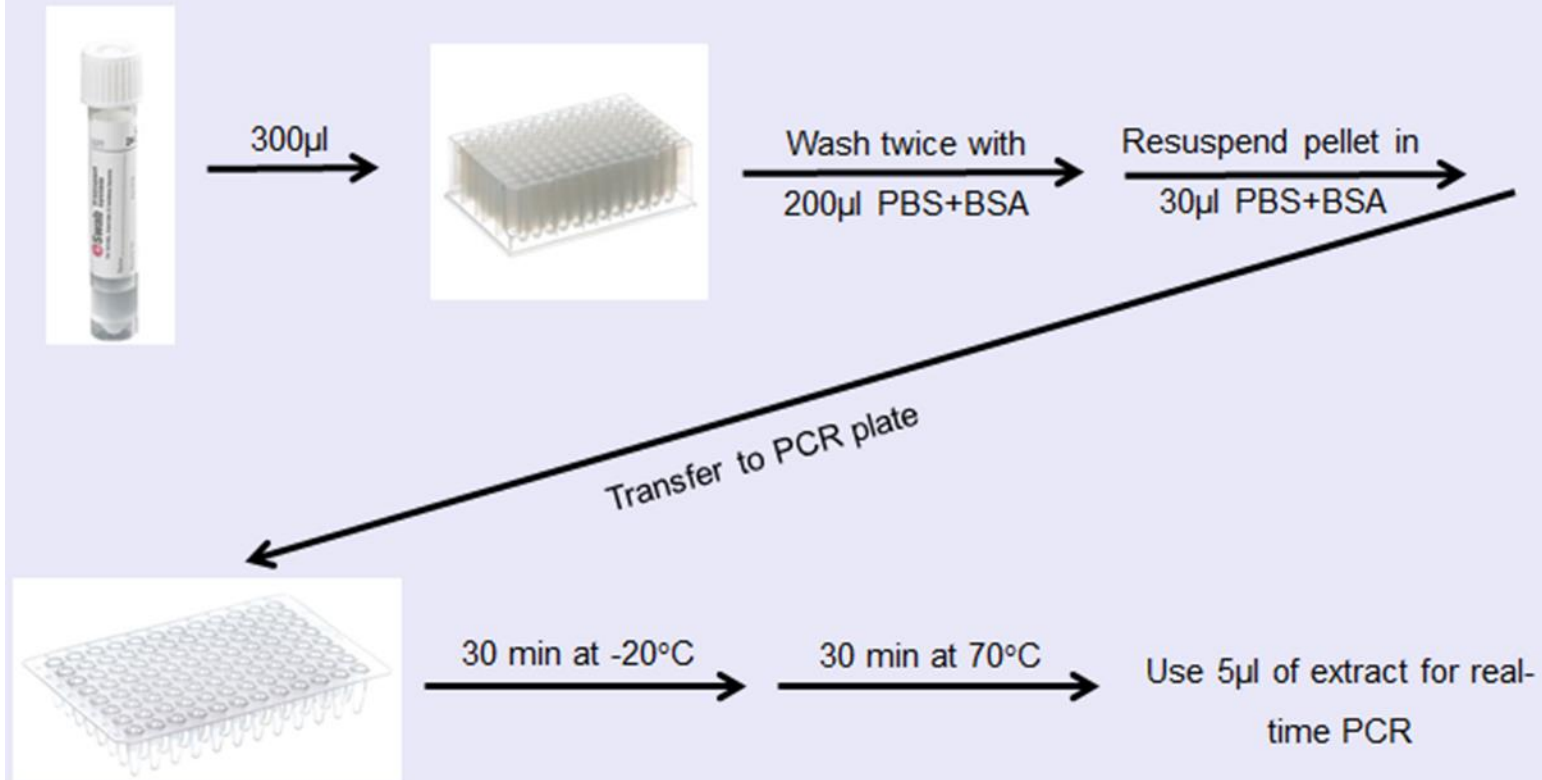
^aMycology Laboratory, Wadsworth Center, New York State Department of Health, Albany, New York, USA

^bDepartment of Biomedical Sciences, School of Public Health, University at Albany, Albany, New York, USA



WSLH adaption to extraction method

Extraction

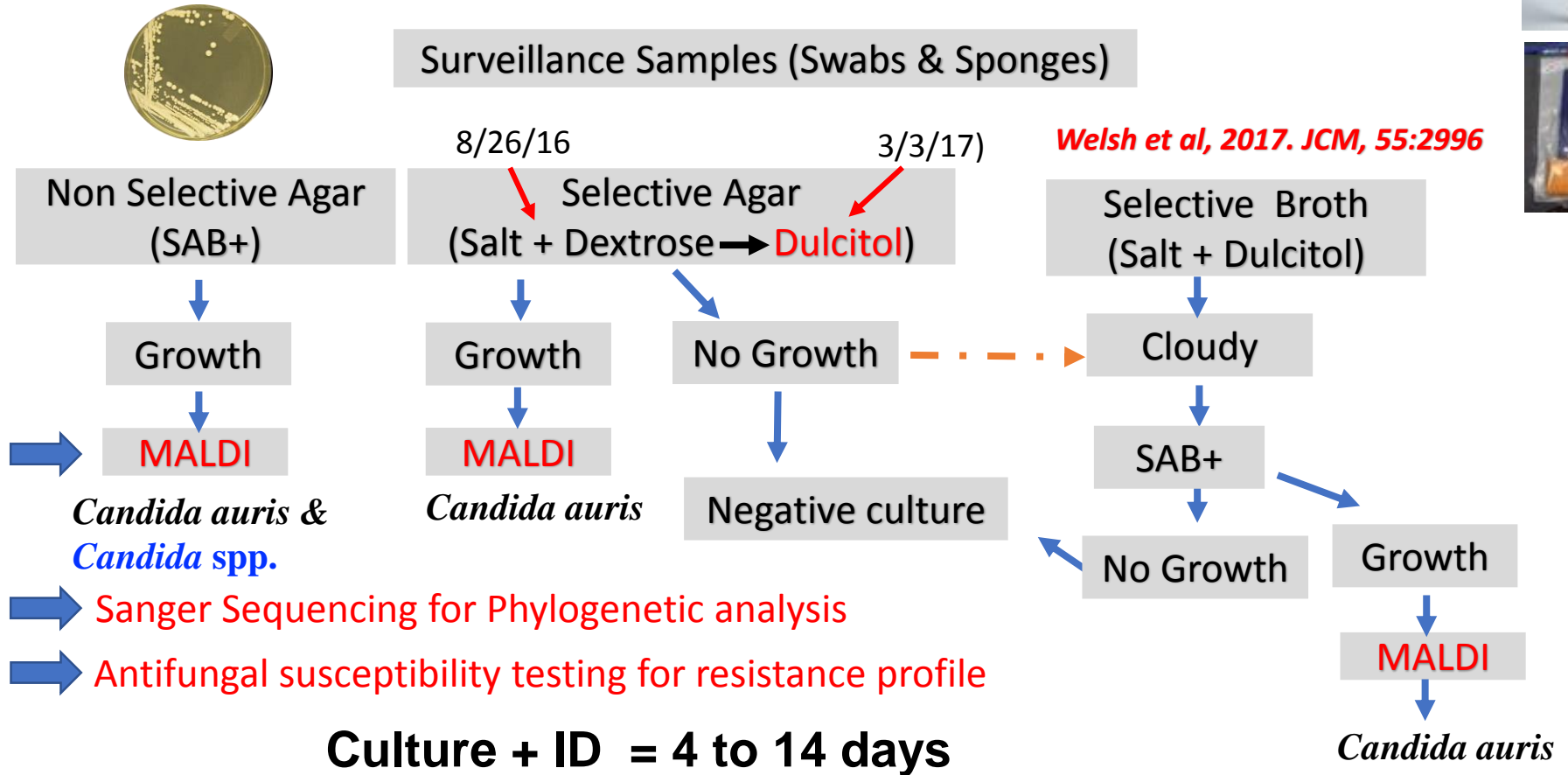


*Also validated individual tubes for admission screening specimens

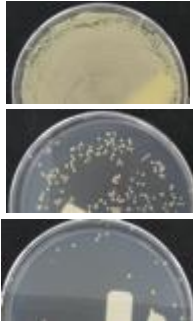
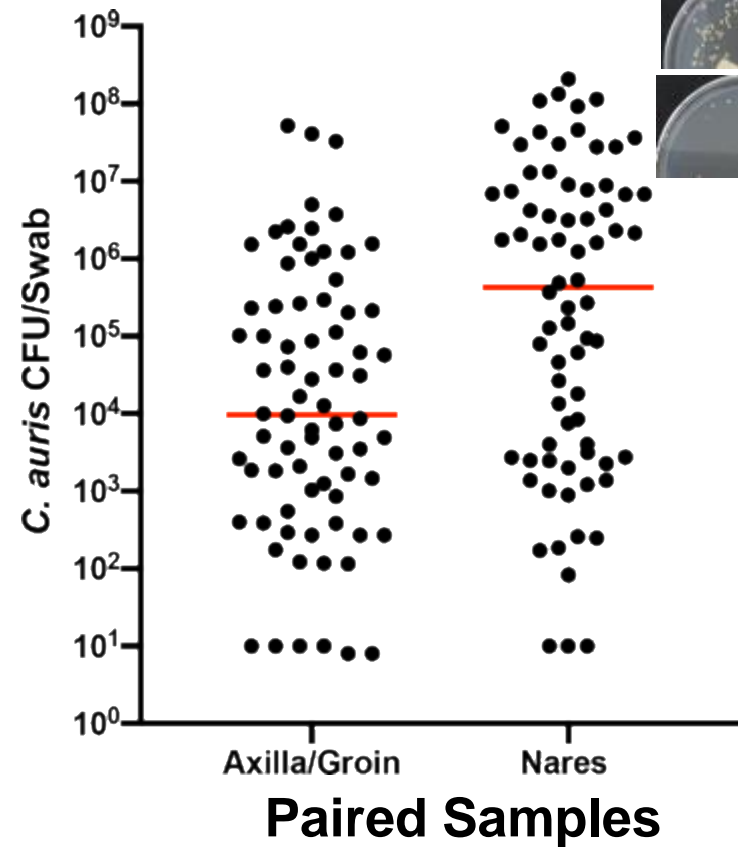
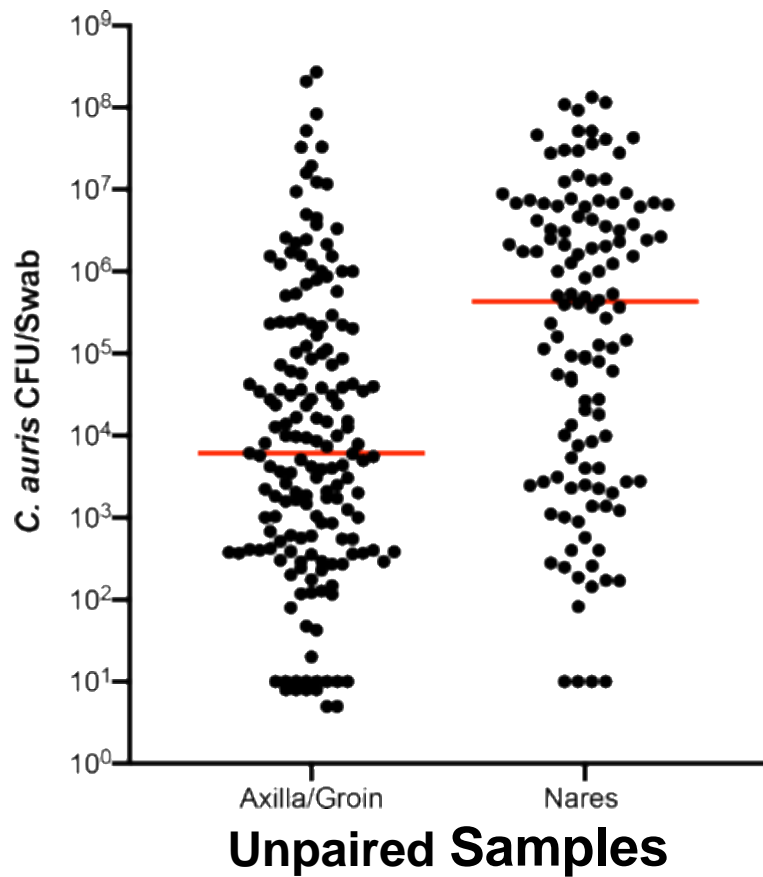
Culture/Identification - *C. auris* Surveillance Samples Laboratory Workflow Pre-PCR Era



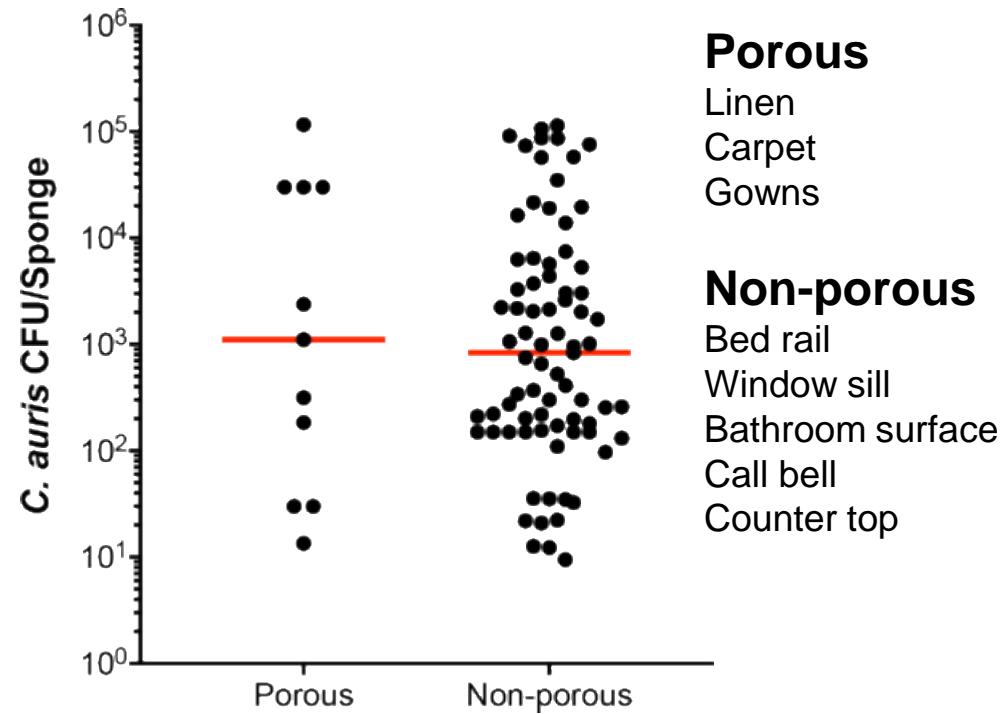
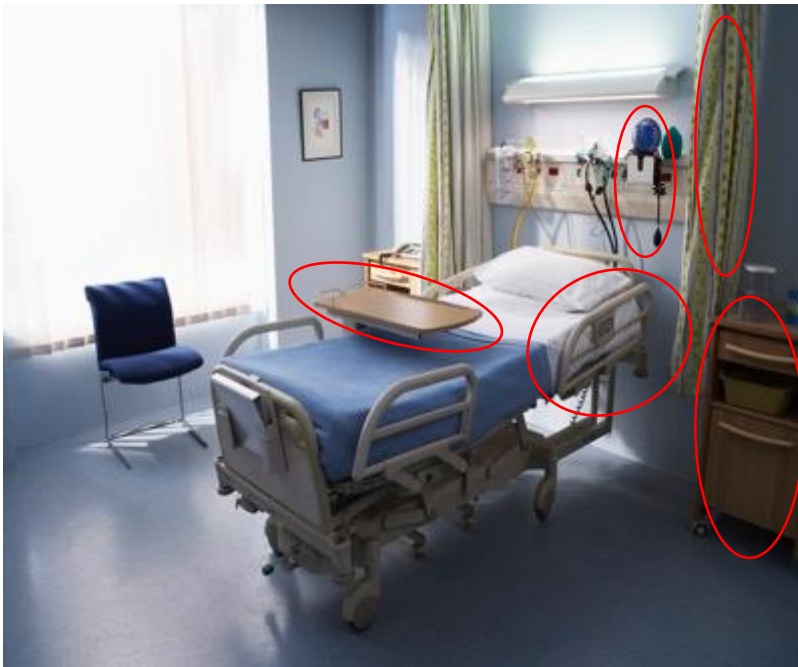
Surveillance Samples (Swabs & Sponges)



Heavy Colonization of Patient's Skin & Mucosal Surfaces (350 colonized cases)

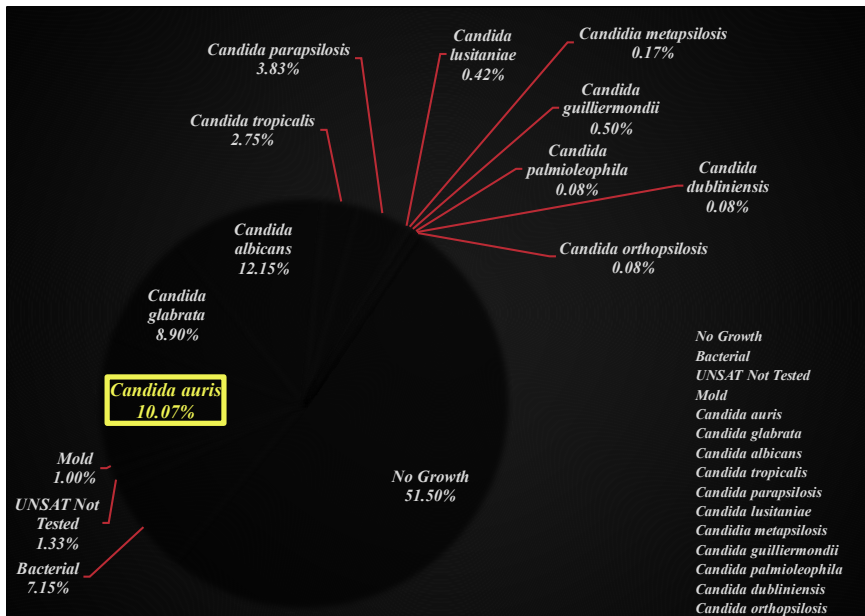


Heavy Colonization of Hospital Surfaces

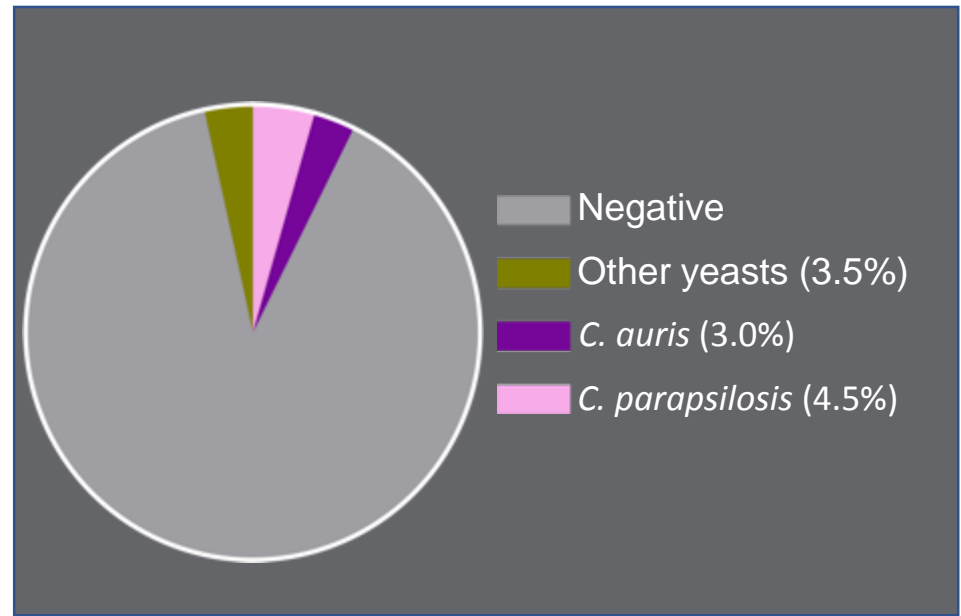


Prevalence of *C. auris* and other *Candida* species in Surveillance Samples

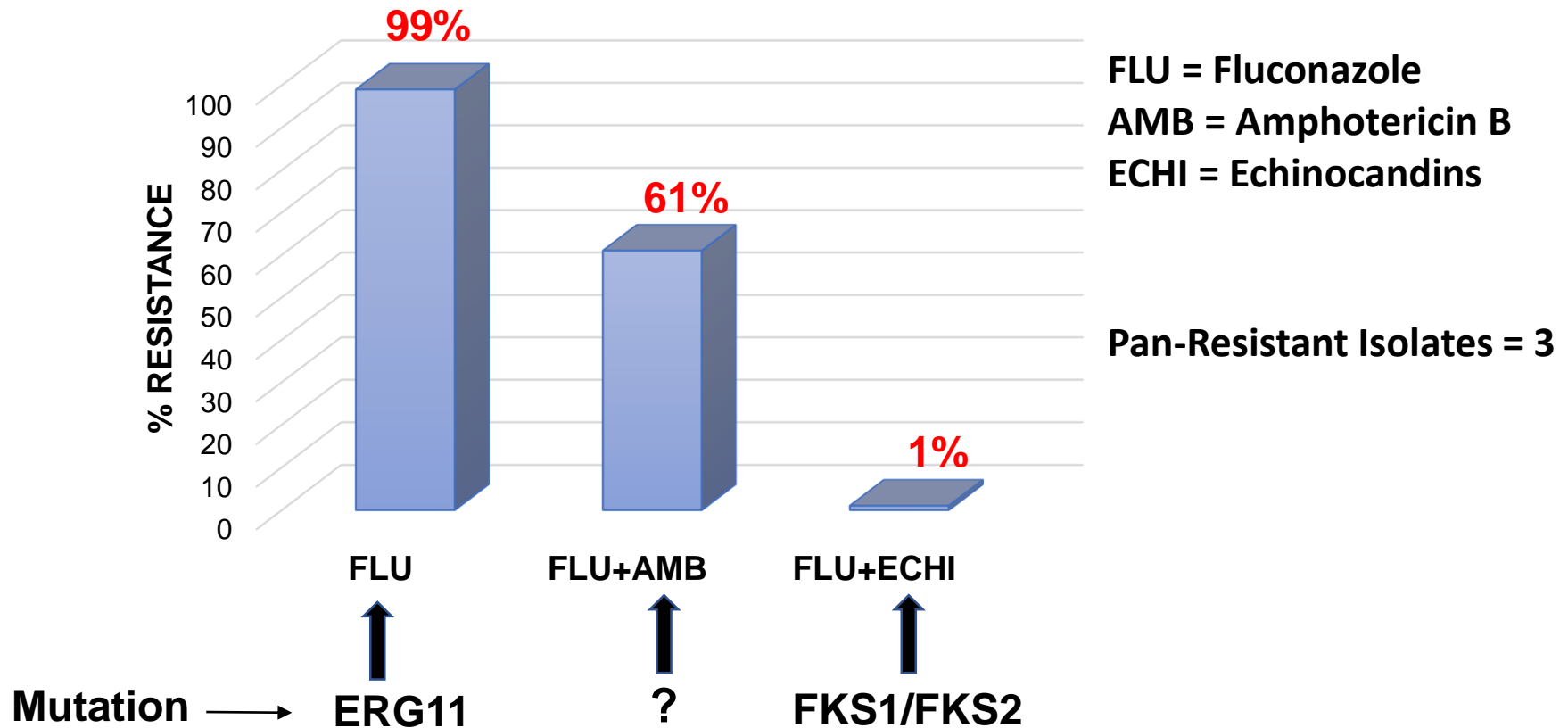
Patients



Environment

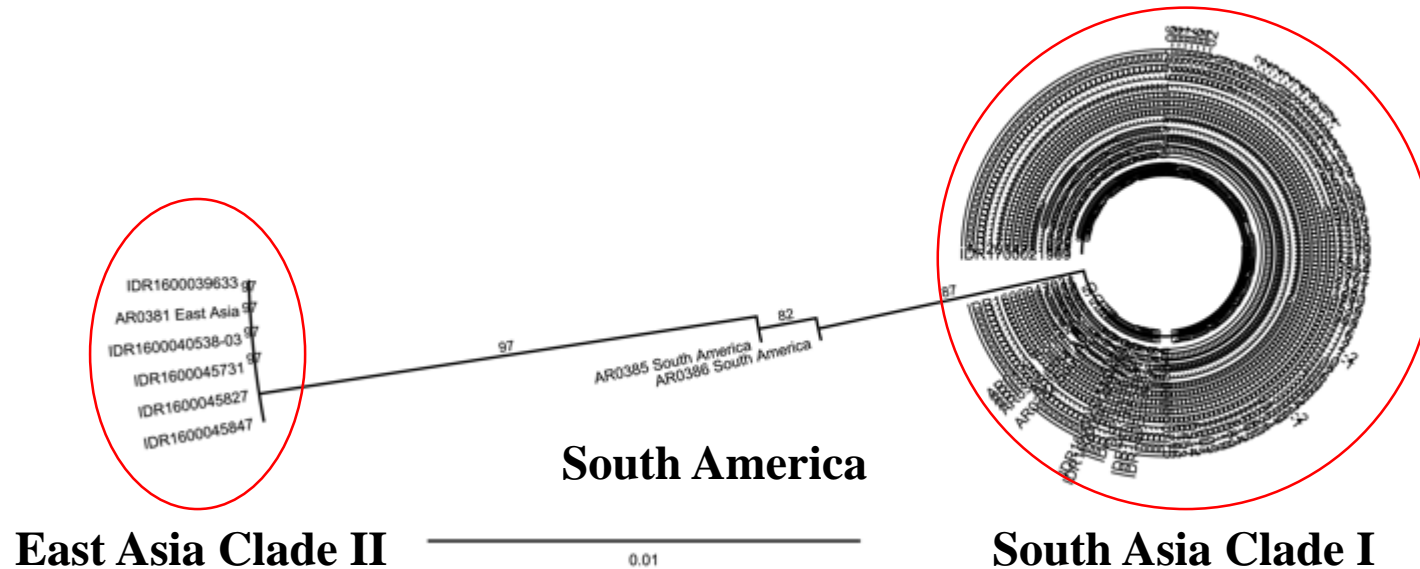


Antifungal Resistance Pattern of NY *C. auris* isolates



NY Outbreak dominated by South Asia Clade I

Sanger Sequencing of Ribosomal genes





AMERICAN
SOCIETY FOR
MICROBIOLOGY

Journal of
Clinical Microbiology®

MYCOLOGY



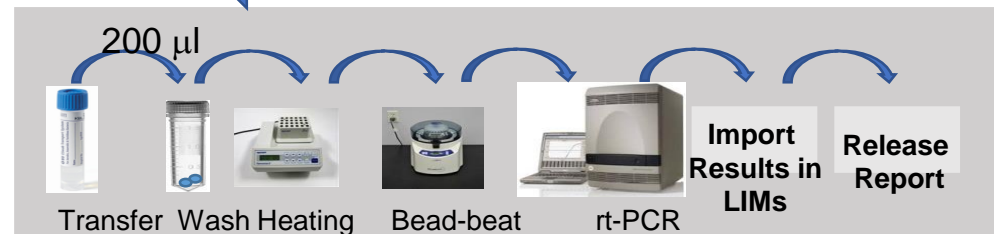
Development and Validation of a Real-Time PCR Assay for Rapid Detection of *Candida auris* from Surveillance Samples

L. Leach,^a Y. Zhu,^a S. Chaturvedi^{a,b}

^aMycology Laboratory, Wadsworth Center, New York State Department of Health, Albany, New York, USA

^bDepartment of Biomedical Sciences, School of Public Health, University at Albany, Albany, New York, USA

- ❑ Highly Sensitive (one *C. auris* CFU/PCR reaction)
- ❑ Highly Specific (No cross-reaction to yeasts/molds/bacteria/parasites)
- ❑ Rapid (4 h)
- ❑ Drawback- Manual nature of the assay





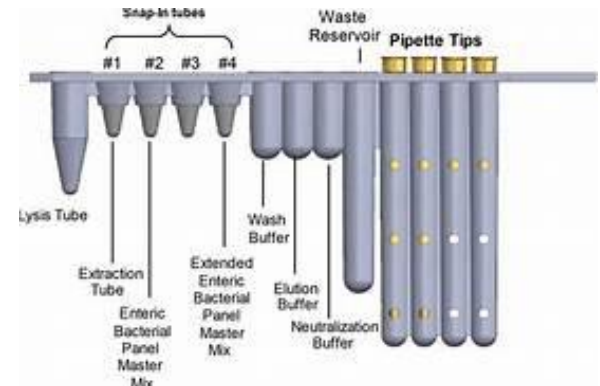
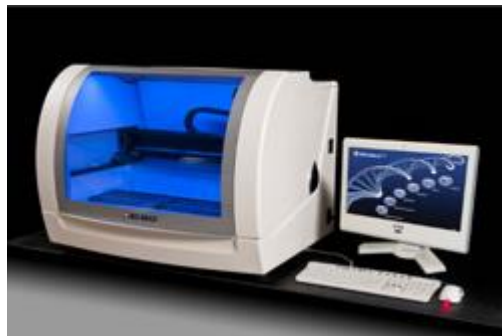
AMERICAN
SOCIETY FOR
MICROBIOLOGY

Journal of
Clinical Microbiology®

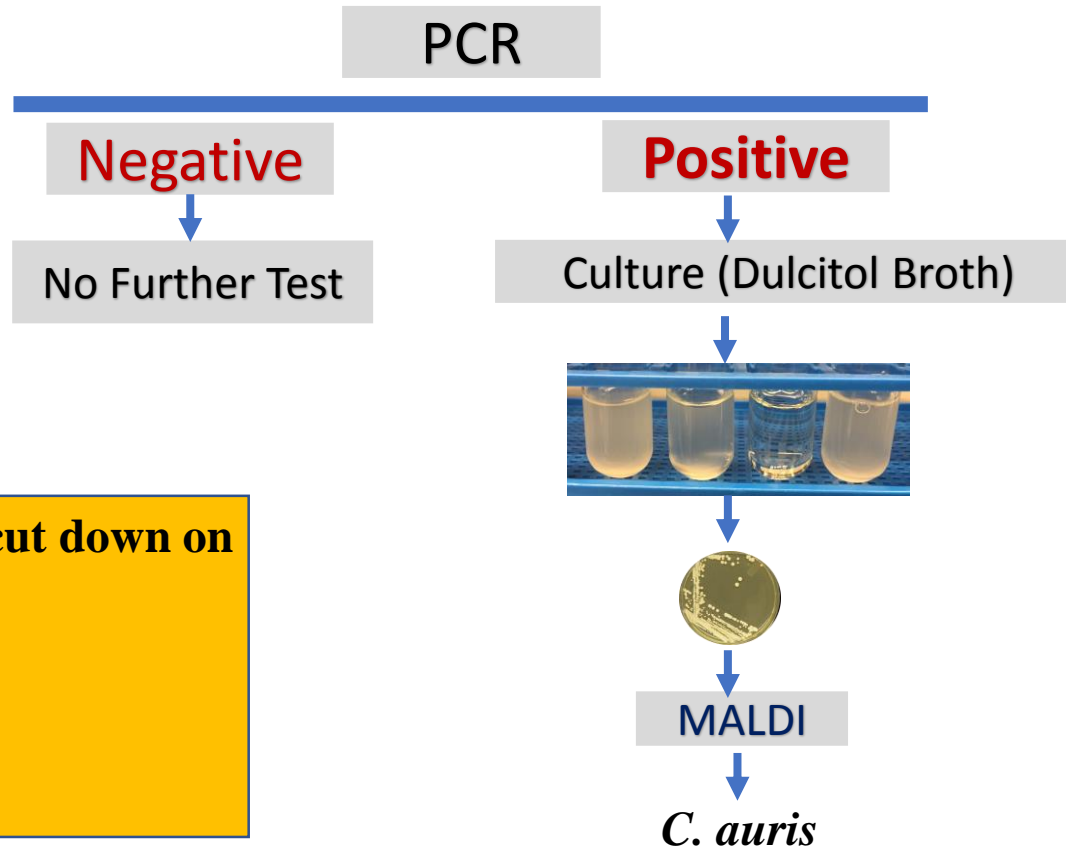
Mycology

A Rapid and Automated Sample-to-Result *Candida auris* Real-Time PCR Assay for High-Throughput Testing of Surveillance Samples with the BD Max Open System

L. Leach, A. Russell, Y. Zhu, S. Chaturvedi, V. Chaturvedi



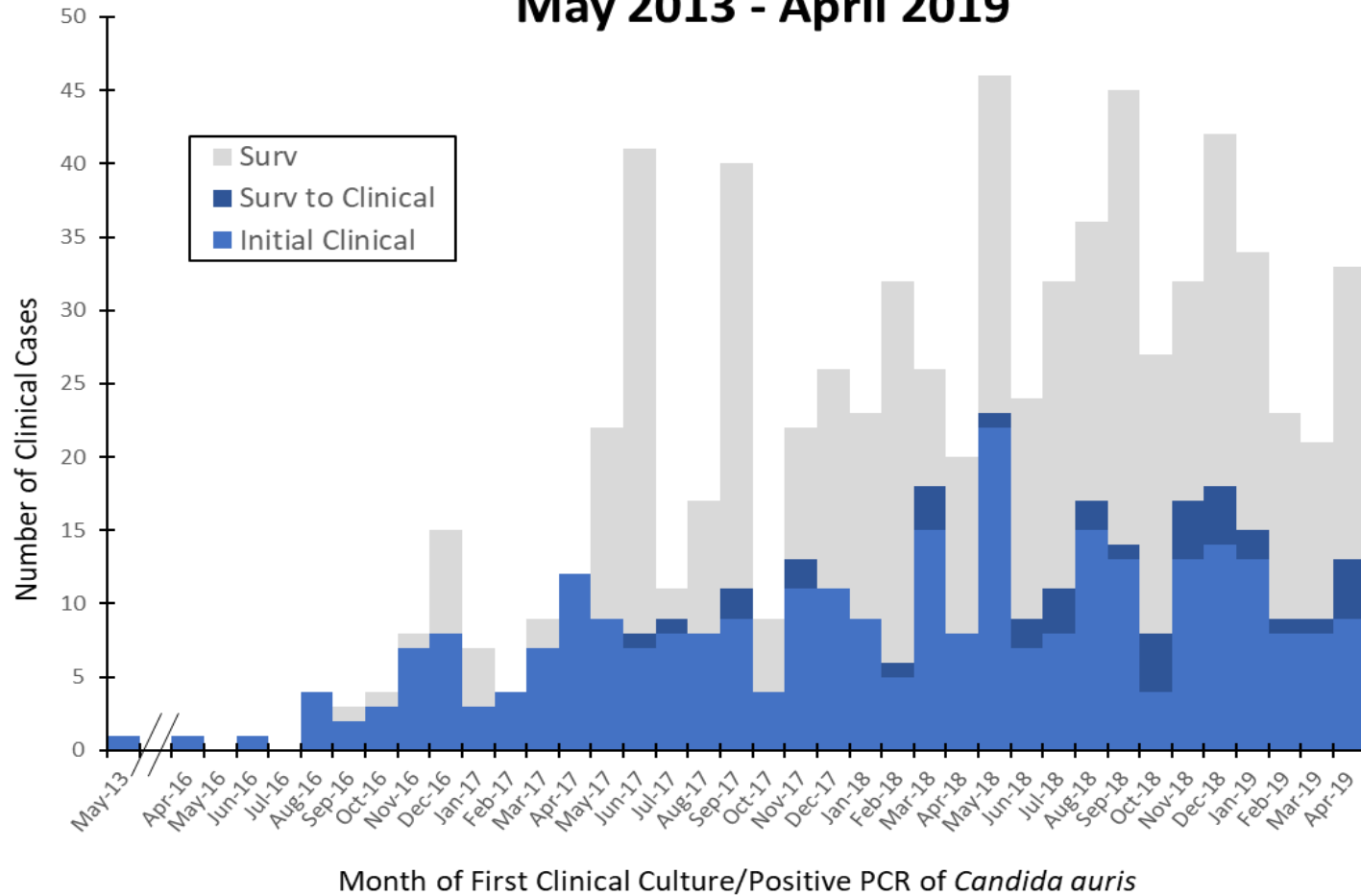
Modified Workflow Post PCR Era



Significant cut down on

- **Efforts**
- **Supplies**
- **\$ amount**

***Candida auris* Cases in New York State by Month, May 2013 - April 2019**



Summary

- Total Surveillance samples tested 20, 661 including 15, 026 point prevalence (10,521 swabs & 4,505 sponges), & 5,635 admission screening
- Total Clinical cases 415 & colonized cases 593 as of October 21, 2019. Approximately 11% of colonized cases converted into clinical, a concerning factor.
- Successful use of one swab of Nares/Axilla/Groin for all PPS (January 2018)
- Development of PCR assays (manual & automated) and their impact on infection control practices
- Relatively heavier colonization of nares than axilla/groin
- Predominance of South Asia Clade I
- Isolation of three Pan-resistant isolates

Part 2: Treatment of *C. auris* infection

ARLN lab confirms that the *C. haemulonii* was in fact *C. auris*

Part 2: Treatment of *C. auris* infection



You Learn That...

September 13, 2018

The ARLN lab confirms that the *C. haemulonii* isolate is in fact *C. auris*. Antifungal susceptibility testing results from ARLN lab are not yet available. Results are reported to submitting laboratory and communicated to clinical staff.

Part 2: Treatment - Debrief



Group Discussion

1. What should clinicians do next?
2. What should Infection Preventionist do next?
3. What should laboratorians do next?

Part 2: Summary – Report Out



More ▾

New Online

Views **8,889** | Citations **0** | Altmetric **119**

JAMA Insights | Clinical Update

ONLINE FIRST

September 6, 2019

What Is Known About *Candida auris*

Suzanne F. Bradley, MD^{1,2}

» Author Affiliations

JAMA. Published online September 6, 2019. doi:10.1001/jama.2019.13843



Full
Text

Candida auris is a new species that was reported in Asia as a rare cause of ear infections in 2009; it had not been found among large repositories of yeast isolates collected prior to 2013.^{1,2} However, the widespread dissemination of *C auris* is not due to a single strain. For reasons that are not clear, multiple strains, called *clades*, have emerged independently in various parts of the world.^{1,2} Cases of *C auris* have been identified in 33 countries across 5 continents.¹⁻³

Treatment of Infections

- Consultation with an infectious disease specialist is highly recommended when caring for patients with *C. auris* infection.
- Adults and children ≥ 2 months of age

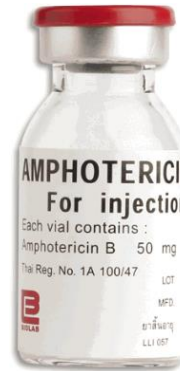
Echinocandin Drug	Adult dosing	Pediatric dosing
Anidulafungin	loading dose 200 mg IV, then 100 mg IV daily	not approved for use in children
Caspofungin	loading dose 70 mg IV, then 50 mg IV daily	loading dose 70mg/m ² /day IV, then 50mg/m ² /day IV (based on body surface area)
Micafungin	100 mg IV daily	2mg/kg/day IV with option to increase to 4mg/kg/day IV in children 40 kg

Resistance: *C. auris*



88%

Azoles



34%

Polyenes



2%

Echinocandins

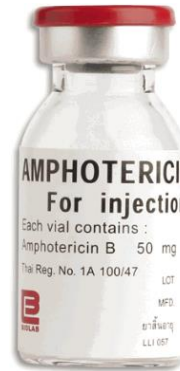
- **33% multidrug-resistant**
- **2 pan-resistant cases found in 2019**

Resistance Among 254 Clinical IL Isolates



12%

Azoles



1%

Polyenes



2%

Echinocandins

34 (13%) Any resistance

3 (1%) resistant to Fluconazole and Amphotericin B

Development of High-Level Echinocandin Resistance in a Patient With Recurrent *Candida auris* Candidemia Secondary to Chronic Candiduria

Mark J. Biagi,¹ Nathan P. Wiederhold,^{2,✉} Connie Gibas,² Brian L. Wickes,³ Victoria Lozano,³ Susan C. Bleasdale,⁴ and Larry Danziger¹

¹University of Illinois at Chicago College of Pharmacy, Department of Pharmacy Practice; ²University of Texas Health Science Center at San Antonio, Department of Pathology and Laboratory Medicine, Fungus Testing Laboratory; ³University of Texas Health Science Center at San Antonio, Long School of Medicine, Department of Microbiology, Immunology, and Molecular Genetics;

⁴University of Illinois at Chicago College of Medicine, Department of Medicine

- S639P point mutation region of FKS1 (*C. albicans* and
- S639P mutation region of FKS1
- Prolonged micafungin exposure
- Subinhibitory urine concentrations
- Chronic indwelling urinary catheter (changed 4 times)

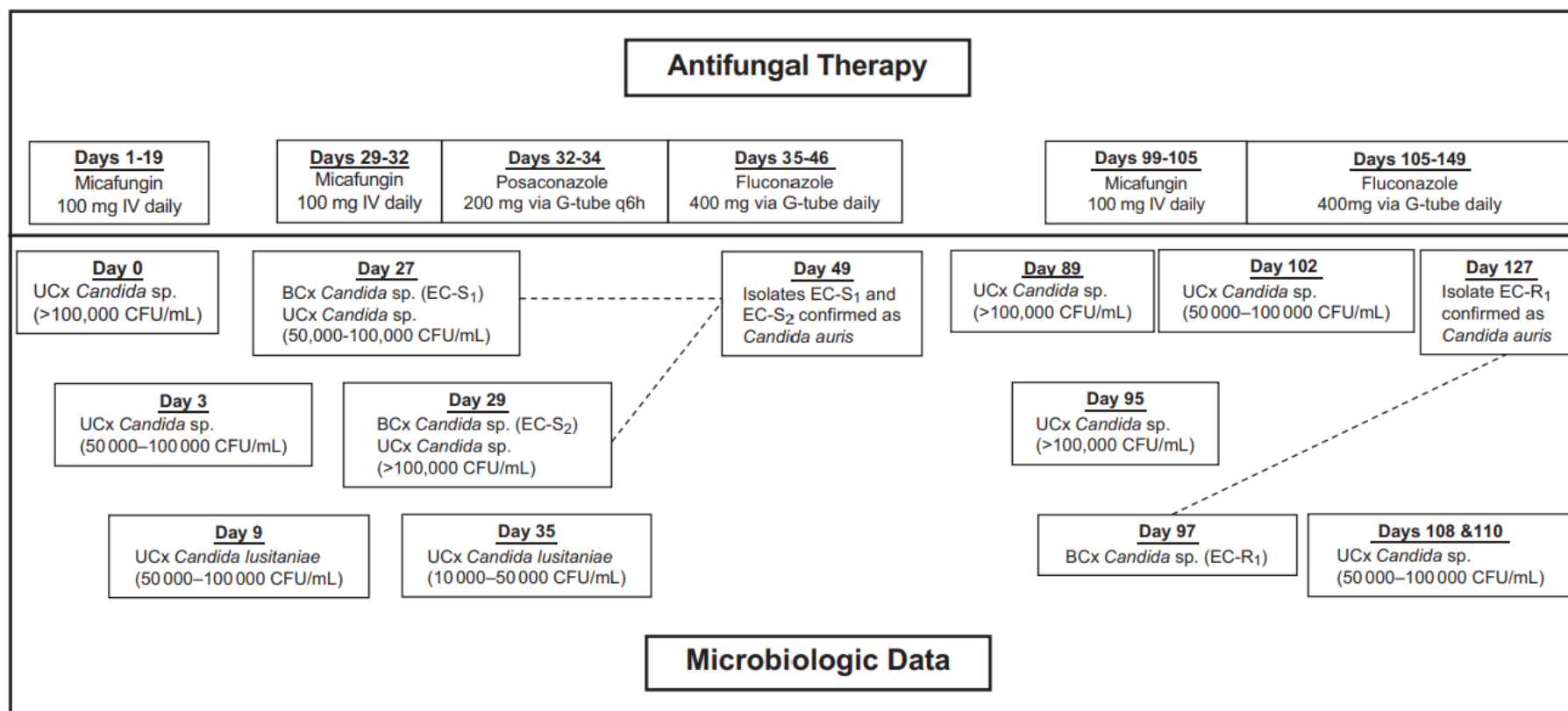


Figure 1. Timeline of Antifungal Therapy and Microbiologic Data.^a Abbreviations: BCx, blood culture; EC-R1: echinocandin-resistant strain isolated on day 97; EC-S1: echinocandin-susceptible strain isolated on day 27; EC-S2: echinocandin-susceptible strain isolated on day 29; q6h: every 6 hours; UCx: urine culture. ^aPatient previously received micafungin at an outside hospital for an unknown duration prior to the initial presentation at our institution (day 0).

Management of Infections Infection

Source Considerations

- Urinary penetration
 - Fluconazole has good penetration but increased resistance
 - Echinocandins have poor penetration
- Considerations
 - Flucytosine good urinary penetration
 - Amphotericin B
 - Bladder irrigation
 - New drugs
 - Fosmanogepix

Management of Infections and Colonization

- CDC does not recommend treatment of *C. auris* identified from noninvasive sites, when there is no evidence of infection
- Prevention of invasive infections
 - Appropriate care of medical devices
 - Meticulous skin preparation for surgical procedures
 - Antibiotic stewardship
- Infection control recommendations

Pan-resistance – all three classes

- CDC-confirmed pan-resistant *C. auris* cases in NY
- Cases unrelated
- Developed resistance on treatment
- No pan-resistance found among screened contacts
- Pan-resistance has also been reported from a few other countries



NYSDOH/Wadsworth Center

- Patient characteristics
- Colonization to infection data
- Resistance patterns in NYS
- Pan-resistant cases
- Treatment challenges
- Antifungal stewardship

Part 3: Case History/Controlling Spread

The infection preventionist at the facility provides the case patient history.

Part 3: Case History



You Learn That...

July, 2019

Hospitalized abroad for five weeks :

- The patient was in India visiting family members when she developed symptoms of a stroke.
- She was immediately admitted to the intensive care unit (ICU) in a hospital in India, where she underwent numerous complicated neurosurgical procedures and received lots of antibiotics.
- After being moved to moved to a step-down unit for 3weeks,
- Following 10 days in the step-down unit, she was transferred directly to a U.S. acute care hospital.
- She has a tracheostomy and is ventilator-dependent and has a urinary catheter.

August/September 2019

Direct transfer to a U.S. short-stay acute care hospital for one week:

- On August 26, she was directly admitted to a U.S. short-stay acute care hospital (ACH).
- She was not initially on Contact Precautions.
- She had two roommates during the first week of the admission
- On ACH day 7 (September 3), a sputum specimen revealed carbapenem-resistant *Enterobacteriaceae* (CRE). On ACH day 10 (September 6), *C. auris* was identified in a blood culture.

Part 3: Controlling Spread



You Learn That...

September 2019

Direct transfer to an LTACH:

- On September 9, she was transferred to a long-term acute care hospital (LTACH). The hospital communicated to the LTACH about CRE, but they had not yet known about *C. auris*.
- On September 13, you received the AR Lab Network notification that this patient was confirmed to have *C. auris*.

September 2019

Infection Control:

- ACH - 360 beds (four 20-bed units/floor).
 - Adequate adherence to hand hygiene (HH) and Contact Precautions
 - Variable use of sporicidal agents for environmental cleaning.
- LTACH - 50 beds (25 beds/floor)
 - HH compliance 40%, limited ABHR and PPE
 - EVS staff member cleaning a Contact Precautions room and returning to the cart for supplies without changing gown and gloves.
 - Wound care, PT, RT, OT staff are shared between patients on both floors.
 - Index Patient had a roommate due to lack of available single rooms.

Part 3: Controlling Spread - Debrief



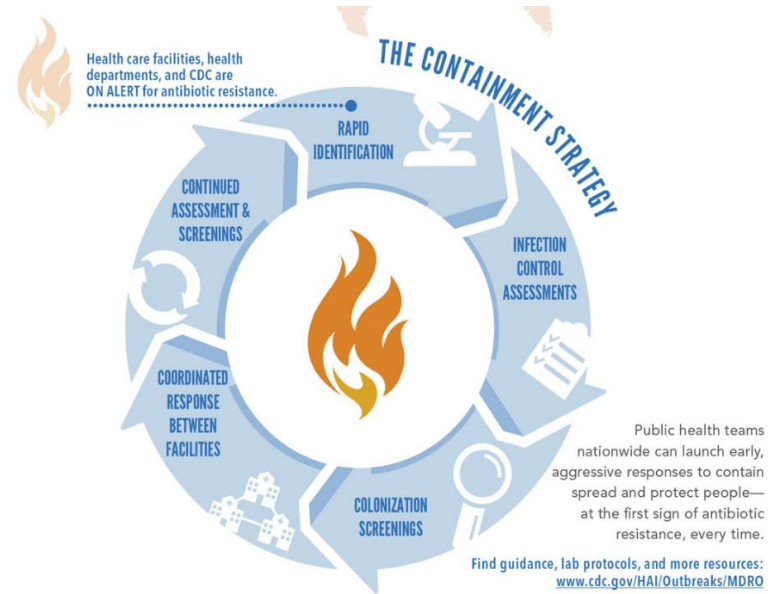
Group Discussion

1. Who notifies the facility the patient was discharged to of *C. auris* result?
2. What actions should the short-stay ACH take to prevent spread of *C. auris* spread?
3. What actions should LTACH take to prevent spread of *C. auris*?
4. Do you recommend screening to assess for *C. auris* at the ACH and/or LTACH?
 - a) If yes, who do you recommend prioritizing for screening?
5. Do you anticipate challenges in implementation of these recommendations at either facility? If so, what are they?

Part 3: Summary – Report Out

Containment steps

- Report to health department
- Infection control
- Screen
- Lab surveillance



Case Report Form

CANDIDA AURIS CASE REPORT FORM

Completed By: _____

Date of completion: __/__/__

PATIENT INFORMATION

Name: _____

Date of Birth: __/__/__

MR#: _____

Sex: ☐ Female ☐ Male

Facility Name: _____

Date of admission: _____

Admission source: ☐ Home ☐ Facility, specify: _____

Reason for admission: _____

Date of discharge: __/__/__

Reason for discharge: ☐ expired ☐ hospice ☐ home ☐ transferred (facility name): _____

Past Travel History:

Has the patient recently travelled to another country? ☐ No ☐ Yes, specify: _____

If yes, did the patient receive healthcare there? ☐ No ☐ Yes, when? __/__/__

CLINICAL INFORMATION

List all hospitalization dates at your facility and any other known facilities (including facilities or nursing homes) in the 6 months prior to *C. auris* specimen collection:

Facility name: _____ Admission date: __/__/__ Discharge: _____

Facility name: _____ Admission date: __/__/__ Discharge: _____

Candida auris, clinical Case Report

[Demographic](#) | [General Illness](#) | [Medical History](#) | [Healthcare Facility Encounter](#) | [Laboratory Tests](#) | [Medication Information](#) | [Epidemiologic Data](#) | [Reporting Source](#) | [View Logs](#)

Print

Close

State Case Number: 19-168522

[Expand All](#)

[Demographic](#) - Add or update person current name, address, phone, identification information. _____

[General Illness](#) - Medical Background info which includes name of Physician, hospitalization status, current diagnos... _____

[Medical History](#) - Add or update patients medical history information. _____

[Healthcare Facility Encounter](#) - Add or update healthcare facility encounter information. _____

[Laboratory Tests](#) - Add or update laboratory test information. _____

[Medication Information](#) - Add or update patients medication information. _____

[Epidemiologic Data](#) - Add or update all epidemiologic data. _____

[Reporting Source](#) - Add or update reporting source information. _____

[View Logs](#) - Review user comment and system generated activity logs. _____

Print

Close

XDRO Registry

XDRO
registry

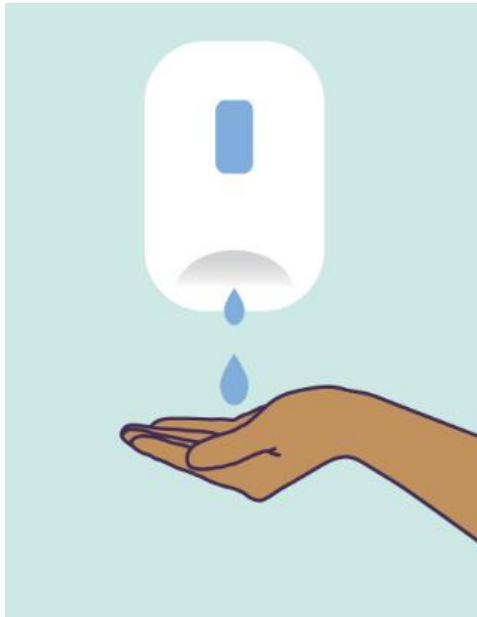
Extensively drug resistant organism registry

- Purpose
 - Improve MDRO surveillance
 - Improve inter-facility communication
- What's in there?
 - CRE
 - *Candida auris**
 - Carbapenemase-producing *Pseudomonas aeruginosa**
 - Carbapenem-resistant *Acinetobacter baumannii* *

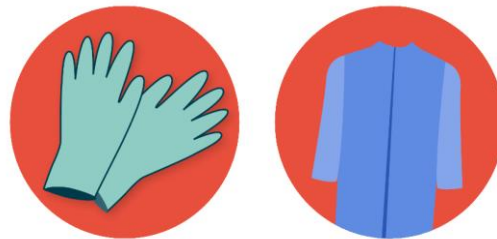


* Entered by public health

Facility Level Prevention Strategies: Back to Basics



Hand Hygiene



**Personal Protective
Equipment & Precautions**



**Environmental Cleaning &
Disinfection**

Infection Prevention and Control

- Single-patient room using Standard AND Contact Precautions.
- Emphasizing adherence to hand hygiene.
- Cleaning and disinfecting patient care environment and reusable equipment with recommended products.
- Inter-facility communication.
- Screening contacts.
- Conduct surveillance for new cases to detect ongoing transmission.

Environmental Cleaning

- CDC recommends use of an Environmental Protection Agency (EPA)-registered hospital-grade disinfectant effective against *Clostridioides difficile* spores (List K)
- Research found that the following products led to a substantial reduction (≥ 4 log reduction) of *C. auris*:
 - Oxivir Tb
 - Clorox Healthcare Hydrogen Peroxide Cleaner Disinfectant
 - Prime Sani-Cloth Wipe
 - Super Sani-Cloth Wipe

Frequent IC challenges identified during on-site assessments

- Gaps in adherence to hand hygiene, limited access to alcohol-based hand rubs inside and outside of resident rooms
- Limited access to personal protective equipment (PPE) and minimal use of Contact Precautions
- Improper product selection, use and frequency to reduce environmental surface contamination within shared rooms
- Inadequate cleaning/disinfection of equipment shared between residents
- Incomplete communication of MDRO history or risk factors during facility transfers

Micro lookback

- Review past microbiology records (as far back as 2015, if possible) to identify cases of confirmed or suspected *C. auris*.

***Candida auris*: A drug-resistant yeast that spreads in healthcare facilities**

A CDC message to laboratory staff

Speciating Yeast

- Sterile site isolates may only be performed by request
- Species from non-sterile isolates often not identified



~50%

Only about 50% of clinical cases are from blood

Point Prevalence Surveys



- Screen every patient on a given unit or floor where transmission is suspected
- Testing through CDC's AR Lab Network
- Composite swab of the patient's bilateral axillae and groin
- While awaiting screening results, place high-risk patients in single rooms on Contact Precautions

NYSDOH/Wadsworth Center

- Infection prevention & control challenges
 - Single rooms
 - Patient transfers

Part 4: Follow-Up

Monitor Infection Control recommendations and supports additional screening to ensure your recommendations are effective.

Part 4: Transmission Screening and Point Prevalence Surveys



You Learn That...

ACH

Contact Screening:

- 1 of 9 patients tested screen positive for *C. auris* colonization

PPS:

- Expanded to 20 bed unit
- No new cases are identified.

LTACH

PPS #1- Floor A:

- 2 of 24 patients tested screen positive.
 - One roommate; one residing in room across the hall.

PPS #2- Whole house:

- 47 of 50 patients are screened:
- 2 patients are positive for *C. auris* on the same floor as the index patient

PPS #3- Floor A:

- 24 patients are screened:
- No new cases are identified

PPS #3- Floor A:

- 25 patients are screened
- No new cases are identified

Part 4: Follow-up- Debrief

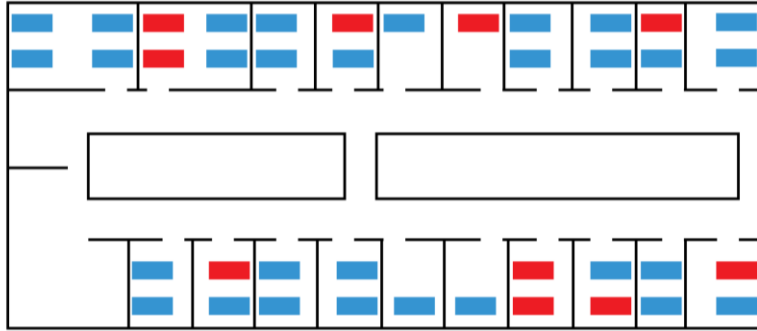


Group Discussion

1. Do you recommend additional screening at the ACH?
2. What are next steps (interventions/screening) for the ACH?
3. Do you recommend additional screening at the LTACH?
4. What are the next steps (interventions/screening) for the LTACH?
5. How can you evaluate whether infection control practices are improving?

Part 4: Summary – Report Out

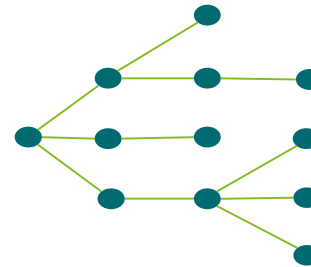
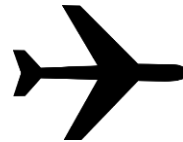
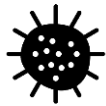
Recommendations for screening



Healthcare exposure



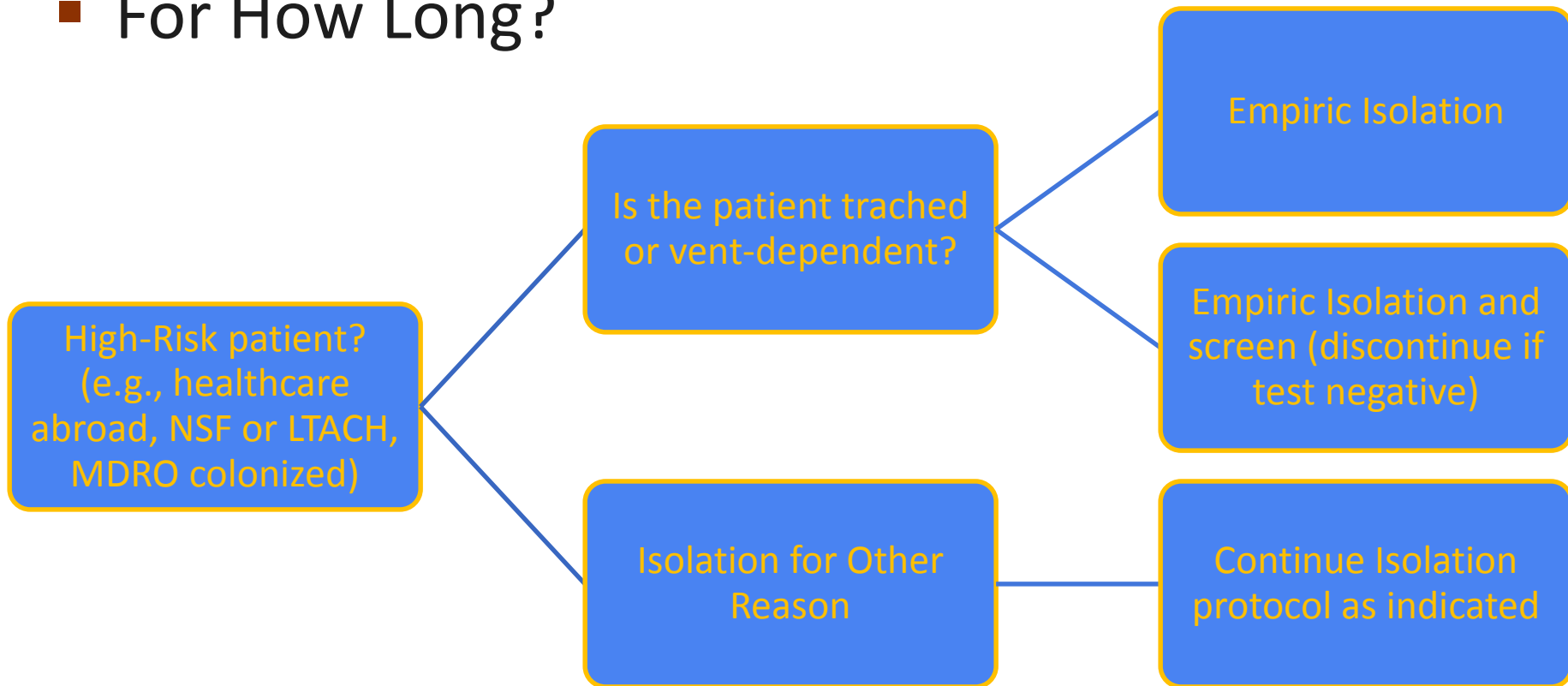
Colonized with other MDRO



Healthcare abroad in past year

Screening Algorithm e.g.

- Who?
- How?
- For How Long?



Periodic point prevalence surveys in LTACHs and vSNFs

- To assess prevalence
- To assess effectiveness on IC interventions
- Conducting periodic PPS at an LTACH bordering a high prevalence area for early detection



NYSDOH/Wadsworth Center

- Screening: nares, axillae and groin
- Back to Basics
 - Portable equipment
 - ATP testing
- Decolonization
 - Role of host factors
 - Research activities

NYSDOH/Wadsworth Center

- Epidemiology
 - Successes: High level of awareness, relative geographic containment, cessation of transmission at key healthcare facilities, lack of transmission among concerning patients groups (oncology, pediatrics)
 - Future activities & challenges:
 - Admission screening?
 - Laboratory capacity

Resources



**Cleaning and Disinfecting
a Resident Room in
Long-Term Care**



***Candida auris: A drug-resistant
yeast that spreads in healthcare facilities***
A CDC message to laboratory staff

■ CDC

- <https://www.cdc.gov/fungal/candida-auris/index.html>
- <https://www.cdc.gov/fungal/candida-auris/health-professionals.html>

■ IDPH

- <http://www.dph.illinois.gov/topics-services/diseases-and-conditions/infectious-diseases/candida-auris>

■ CDPH

- <https://www.chicagohan.org/cauris>
- <https://www.chicagohan.org/hai>
- <https://www.chicagohan.org/antimicrobialstewardship>