

Candida auris update: Ontario

Julianne Kus, MSc, PhD, FCCM

Deputy Chief, Microbiology and Laboratory Science

Clinical Microbiologist

May 7 2026

TIBDN Spring Meeting

Conflicts of interest

- No conflicts of interest to declare
- I have created this presentation for TIBDN

Candida auris - *Candidozyma auris*



- Described in 2009 in Japan from patient's ear → Latin for "ear" = *auris*
- Multi-drug-resistant fungal pathogen (yeast); some strains are pan-resistant
- Can colonize skin, respiratory tract, and urinary tract
- Shed from the skin into the environment contaminating surfaces and equipment
- Transmission is through direct, and indirect contact in healthcare settings
 - can lead to healthcare-associated invasive infections
 - high potential for outbreaks in healthcare settings
 - resistant to quaternary ammonium-based hospital disinfectants
- Estimates 6-10% of colonized patients progress to infection
- Mortality rates of invasive *C. auris* infections are estimated to be ~35-45%

Then and Now:

USA

2013 -2016: 7 known cases

Total case count (as of January 31, 2018):

- 215 confirmed cases
- 347 colonized patients

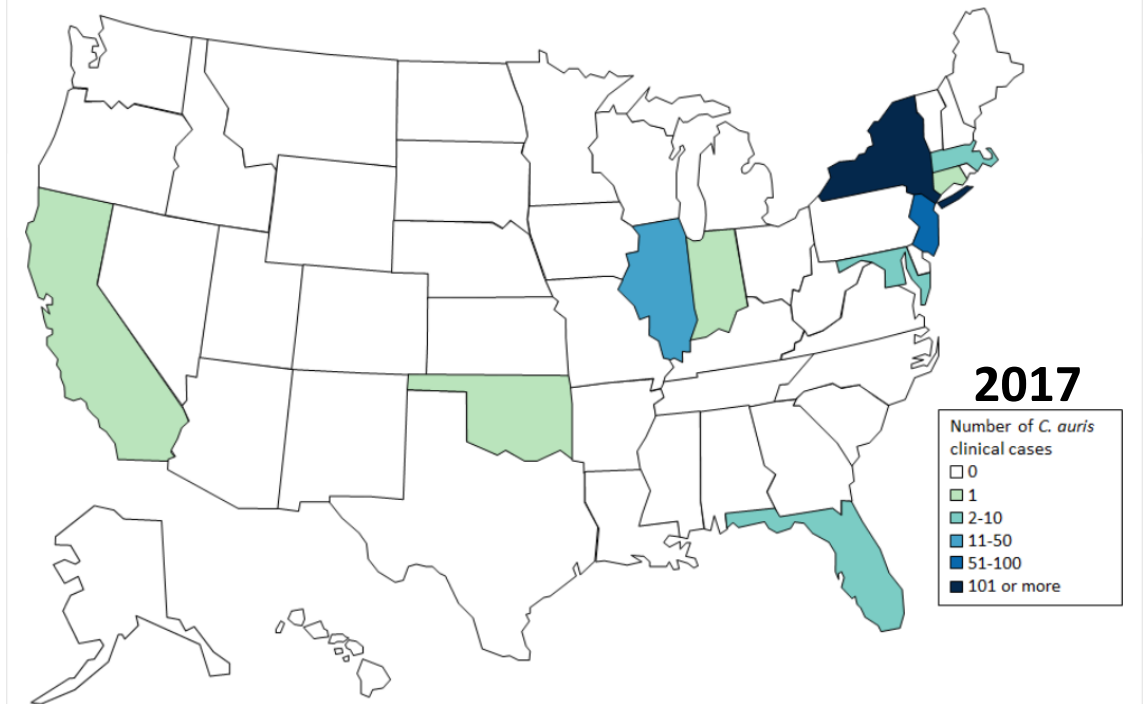
Initial Investigations of cases:

U.S. hospitals identified *C. auris* in 5 patients who were recently hospitalized in other countries (India, Pakistan, South Africa, and Venezuela).

WGS and epidemiologic information suggest, most cases identified in US resulted from local transmission of *C. auris* following introduction from other countries.

- <https://www.cdc.gov/fungal/diseases/candidiasis/tracking-c-auris.html> [accessed Jan 21, 2018]

U.S. Map: Clinical cases of *Candida auris* reported by state, United States, as of December 31, 2017



Clinical Alert to U.S. Healthcare Facilities - June 2016

Global Emergence of Invasive Infections Caused by the Multidrug-Resistant Yeast *Candida auris*

- **Multidrug resistant** (azoles, +/- amphotericin B +/-, echinocandins)
- **Misidentified** (common biochemical methods, MALDI-ToF MS)
- **Highly transmissible between patients and environment**
- **Nosocomial infections/outbreaks**
- **High mortality**
- **Globally widespread**

Fungal Priority Pathogens List - 2022



Fig. 2. Proposed priority areas for action



AMR: antimicrobial resistance; R&D: research and development; WHO FPPL: World Health Organization fungal priority pathogens list.

Table 3. WHO fungal priority pathogens list

Critical group	High group	Medium group
<i>Cryptococcus neoformans</i>	<i>Nakaseomyces glabrata</i> (<i>Candida glabrata</i>)	<i>Scedosporium</i> spp.
<i>Candida auris</i>	<i>Histoplasma</i> spp.	<i>Lomentospora prolificans</i>
<i>Aspergillus fumigatus</i>	Eumycetoma causative agents	<i>Coccidioides</i> spp.
<i>Candida albicans</i>	Mucorales	<i>Pichia kudriavzevii</i> (<i>Candida krusei</i>)
	<i>Fusarium</i> spp.	<i>Cryptococcus gattii</i>
	<i>Candida tropicalis</i>	<i>Talaromyces marneffei</i>
	<i>Candida parapsilosis</i>	<i>Pneumocystis jirovecii</i>
		<i>Paracoccidioides</i> spp.

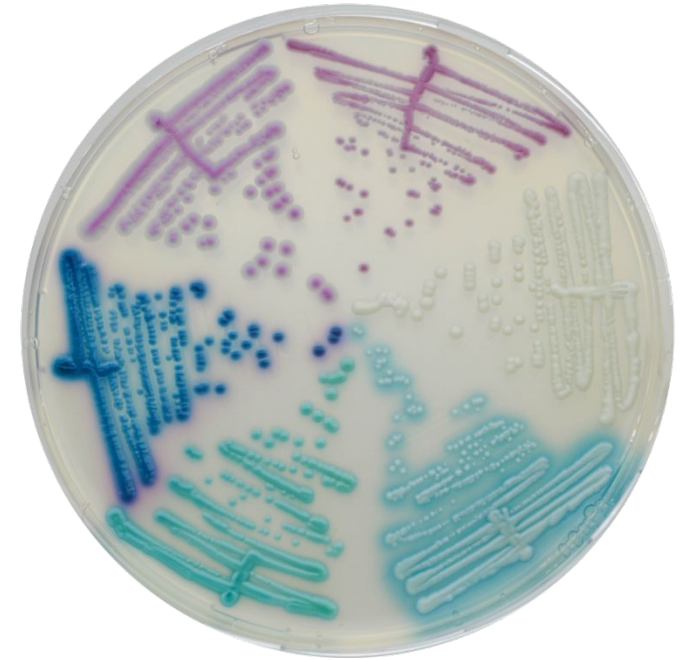
WHO fungal priority pathogens list to guide research, development and public health action, 2022

Candida auris – 2026

- Increased surveillance (capability, programs (CNISP, PHO/NML))

- Identification Methods

- MALDI ToF MS
 - Current databases for Bruker BioTyper and VitekMS
- Chromogenic agars
 - Examples: CHROMagar™ Candida Plus, Thermo Scientific™ Spectra™ Candida Agar, HardyCHROM™ Candida + auris
- Molecular assays (none Health Canada approved)
 - Examples: LDTs, DiaSorin, BioGX, altona
- Biochemical methods still unreliable (API, VITEK2, etc.)



CHROMagar™ Candida Plus – CHROMagar

- PHO distributed *C. auris* panels to ON and other provinces to help support validations

Testing Methods

Chromogenic Media



Molecular Assays



Methods will vary by laboratory

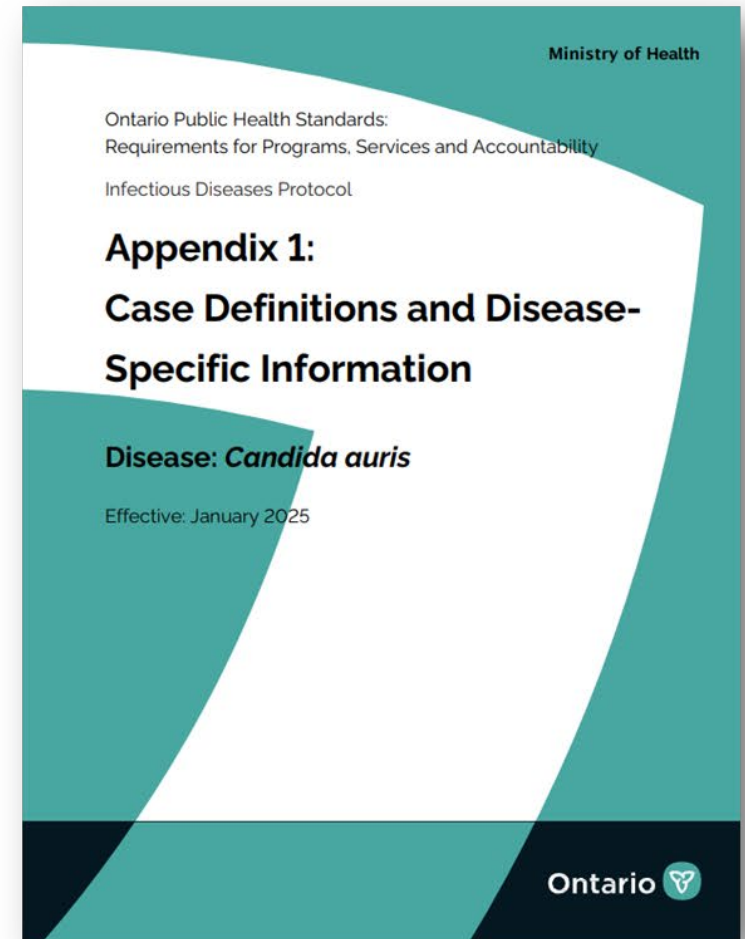
Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Focus on: *Candida auris* [Internet]. Toronto, ON: King's Printer for Ontario; 2023 [cited 2025 Jan 22]. Available from: https://www.publichealthontario.ca/-/media/Documents/C/2023/candida-auris.pdf?rev=28bed64fce3b427597a55d4be6ce3646&sc_lang=en

January 1, 2025

- **Amendments to the *Health Protection & Promotion Act* Regulations**
- *C. auris* became a designated Disease of Public Health Significance (DoPHS) and is reportable to the Medical Officer of Health (MOH).

Clinical cases (infections) and outbreaks

- **Suspect outbreaks**
 - single confirmed case identified in a facility that has no previous cases OR
 - \geq two confirmed cases are identified within a facility, even if on different units and present months apart
- **Confirmed outbreaks**
 - evidence of transmission between patients is identified OR
 - an epidemiological link between patients is identified OR
 - the facility considers transmission has occurred, or if the incidence of *C. auris* at the facility is higher than expected even without a clear link between patients



[Candida auris: A New Disease of Public Health Significance \(DoPHS\): Management of this Highly-Transmissible Fungal Pathogen](#)

Ontario pre-DOPHS, Lab-based data

- Voluntary submission for testing +/- surveillance
- PHO lab data 2014-2016 – 4 unique cases
- PHO lab data 2017-2024
 - **22 cases of *C. auris* identified in Ontario TOTAL**
 - **from 20 unique patients**
 - 12 patient cases were identified via diagnostic testing
 - 10 patient cases via surveillance testing
 - 2 individuals that were initially identified as colonized went on to develop an infection with *C. auris*.
- Of the 20 patients with *C. auris* identified
 - 17 had susceptibility testing performed
 - 16 of 17 (**94%**) isolates were fluconazole resistant
 - 6 of 17 (**35%**) were resistant to amphotericin B
 - Zero resistant to echinocandins

Public Health Ontario

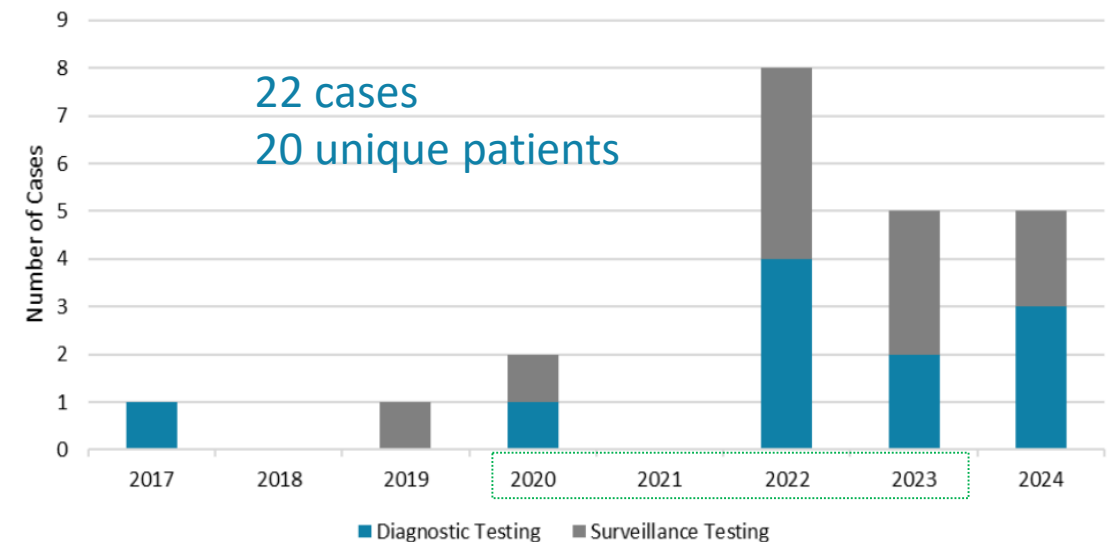
Santé publique Ontario

SURVEILLANCE REPORT

Candida auris in Ontario: January 1, 2017 – December 31, 2024

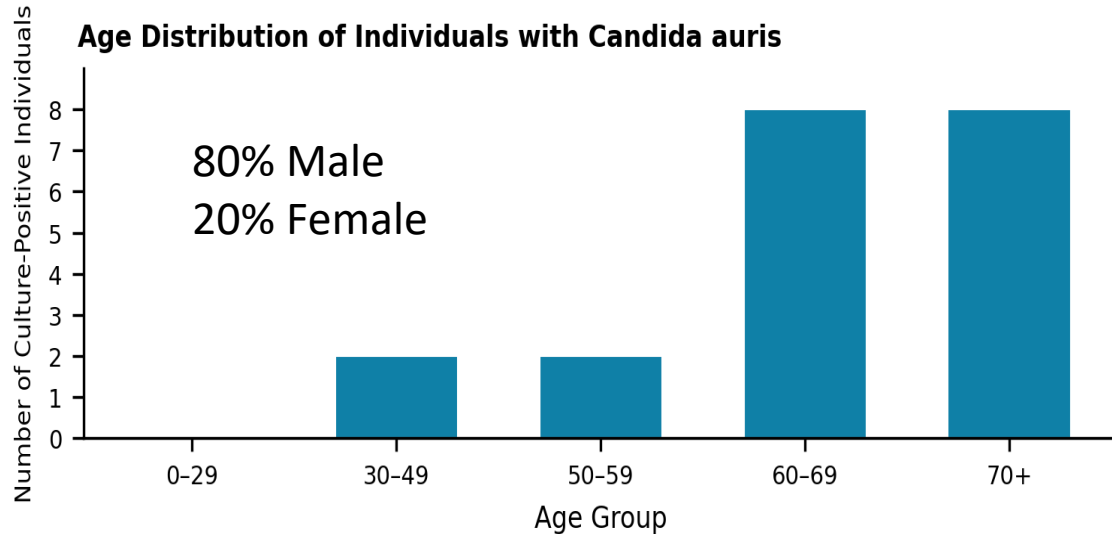
Published: March 2025

Figure 1: Number of Individuals with Culture-Positive *C. auris* Laboratory Results by Year



Candida auris in Ontario: January 1, 2017 – December 31, 2024

Summary



- Most patients ≥ 60
- Most patients from Toronto, Peel
- 7 other Health Units across the province had sporadic cases

Travel and Healthcare Exposure

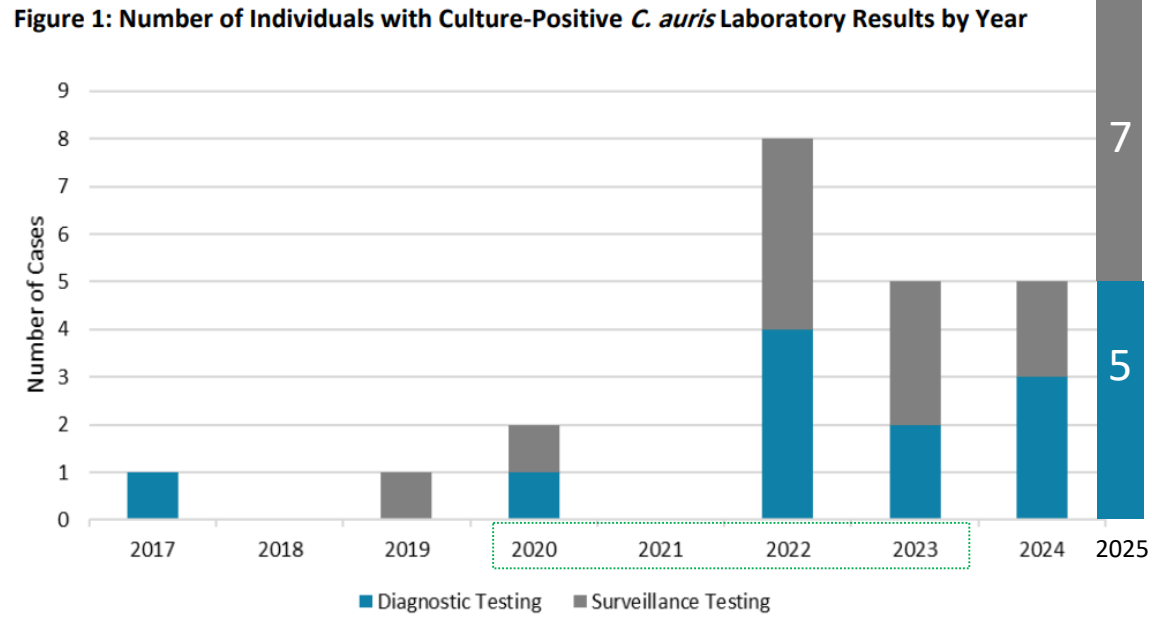
- 13/20 (65%) had recent travel outside Canada
- 12 received medical care abroad
 - USA, India, South Africa, Caribbean, KSA
- 6/20 (30%) reported no recent travel
- 5 detected from diagnostic specimens
 - not screening
- 1 case had no travel or hospitalization data available

Candida auris in Ontario: January 1, 2017 – December 31, 2024

Since DOPHS – Ontario 2025

PHO Laboratory Surveillance

- n=12
- Isolates identified from Diagnostic Testing = 5
- Isolates identified through screening = 7



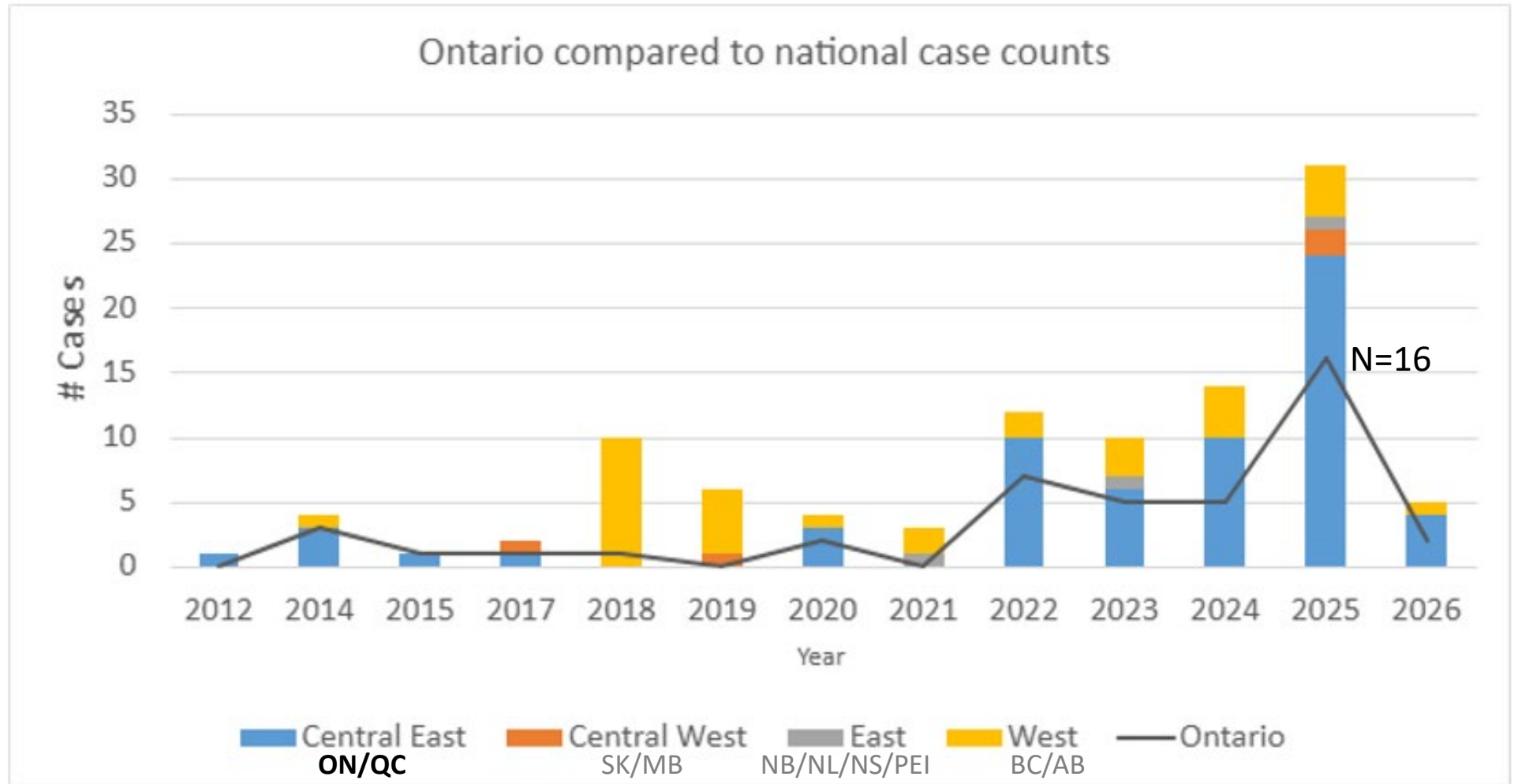
iPHIS: integrated Public Health Information System

- Clinical cases = 2
 - 3 isolates from diagnostic testing determined to not be causing infection (eg: urine, sputum, wound etc)
- Toronto and Peel continue to have the most cases
- >65yo continue to be most impacted age group, followed by 18-64
- 70% male, 30% female
- Largest risk factor:
 - Hospitalization outside of Canada
 - Underlying illness



103 cases now total
 ON 43

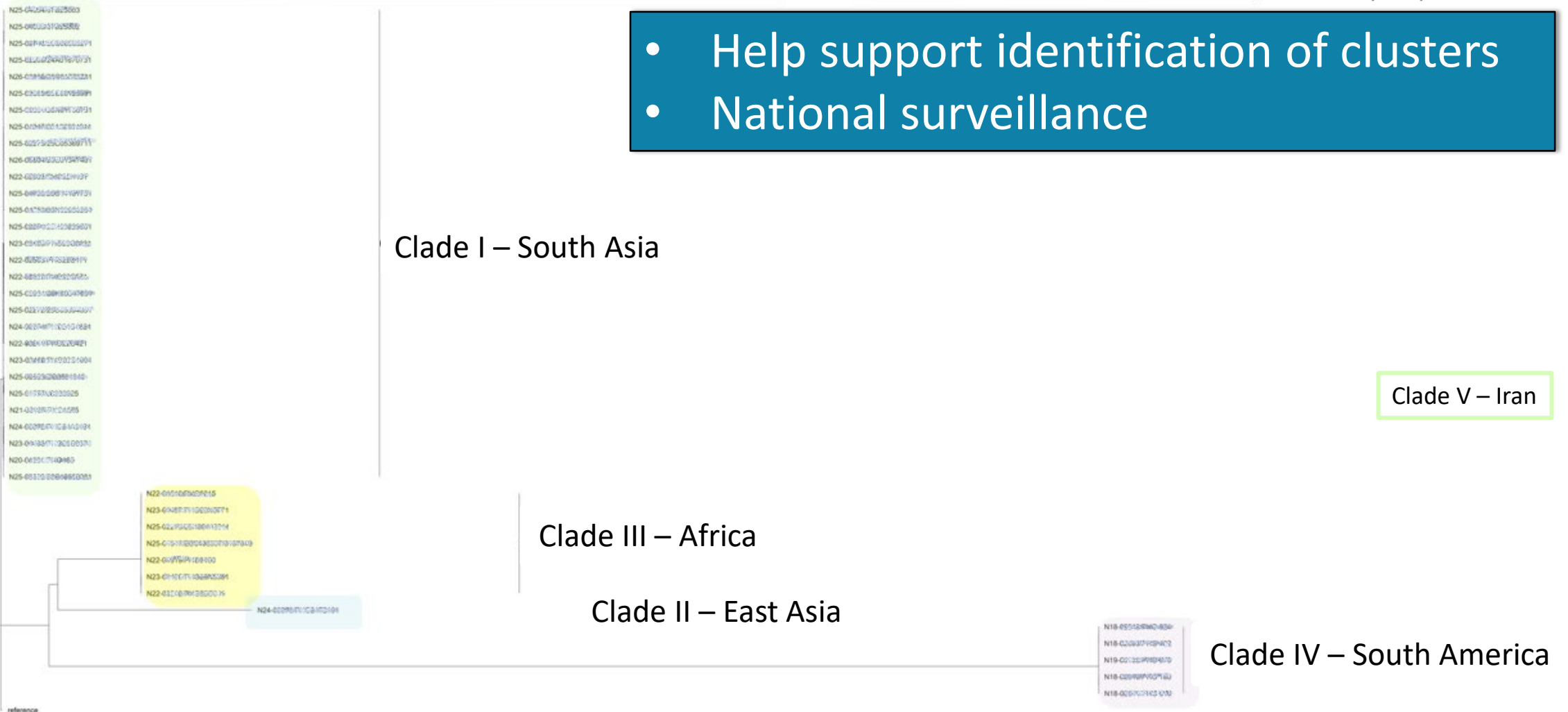
Combination of
 CNISP + Provincial
 Surveillance



Data: March 30, 2026

Ontario – Clades of *C. auris* (WGS)

- Help support identification of clusters
- National surveillance



Antibiotic Resistant Organism (ARO) Risk Factor-Based Screening Guidance for All Health Care Settings

Screening Checklists

Published: June 2024

B. *Candida auris* Risk Factor-Based Guidance

Has the patient / resident been admitted to a health care facility outside of Canada (including the United States) within the previous 12 months? Yes No

Has the patient / resident been transferred from a Canadian health care facility with an ongoing outbreak or transmission of *C. auris*? Yes No

Does the patient / resident have a prior history of colonization or infection with *C. auris*? Yes No

Is the patient / resident chart flagged with a history of *C. auris*, or *C. auris* exposure? Yes No

Follow-up Actions for a Positive *C. auris* Screen

If the patient or resident answers 'yes' to any of the questions in **Section B**, or is unable to answer any of the screening questions in **Section A**:

Initiate Contact Precautions in a private room with dedicated toileting facilities, and dedicate all equipment and supplies as able.

Test for *C. auris*

Sites to swab for *Candida auris* include:

- Combined bilateral axilla **and** groin
- Nares
- Previously colonized, or clinically relevant sites (e.g., wounds, exit sites, external ear canal) may also be indicated

- Compiles best practice recommendations for ARO screening

Antibiotic Resistant Organism (ARO) Risk Factor-Based Screening Guidance for All Health Care Settings

Take Aways

- *Candida auris* has increased rapidly across the globe since 2013, with explosive growth in USA after 2020 driven by healthcare transmission, pandemic pressures, and extensive colonization.
- While only a minority progress to invasive disease, associated mortality is high, making *C. auris* an infection-control challenge.
- Canadian healthcare facilities need to remain vigilant to try to maintain low case #s
 - Be familiar with your yeast identification SOPs and systems, available screening methods & recommendations
 - Be familiar with DOPHS requirements
- Reach out to PHO's Laboratory if you need isolates for validation
- Keep sending isolates from new cases to PHO's Laboratory for provincial and national surveillance

Acknowledgements

- All the laboratories that have participated in volunteer surveillance by submitting isolates and providing information
- PHO's Laboratory Mycology Staff
- PHO's IPAC team (especially Jennifer Robertson, Monica Hui, Kasey Gambeta and team)
- Dr. Amrita Bharat – PHAC/NML
- Allison McGeer and CNISP team
- Public Health Units
- TIBDN

Best Practice Resources

- **Foundational resources:**

- PIDAC best practice recommendations: [Interim Guide for Infection Prevention and Control of *Candida auris*](#)
- PHO Focus On: [Candida auris](#)

- **New resources:**

- Management Algorithm: [Management of single new case of *C. auris* Algorithm \(July 2024\)](#)
- Screening Checklist: [Antibiotic Resistant Organism \(ARO\) Risk Factor-Based Screening Guidance for All Health Care \(July 2024\)](#)

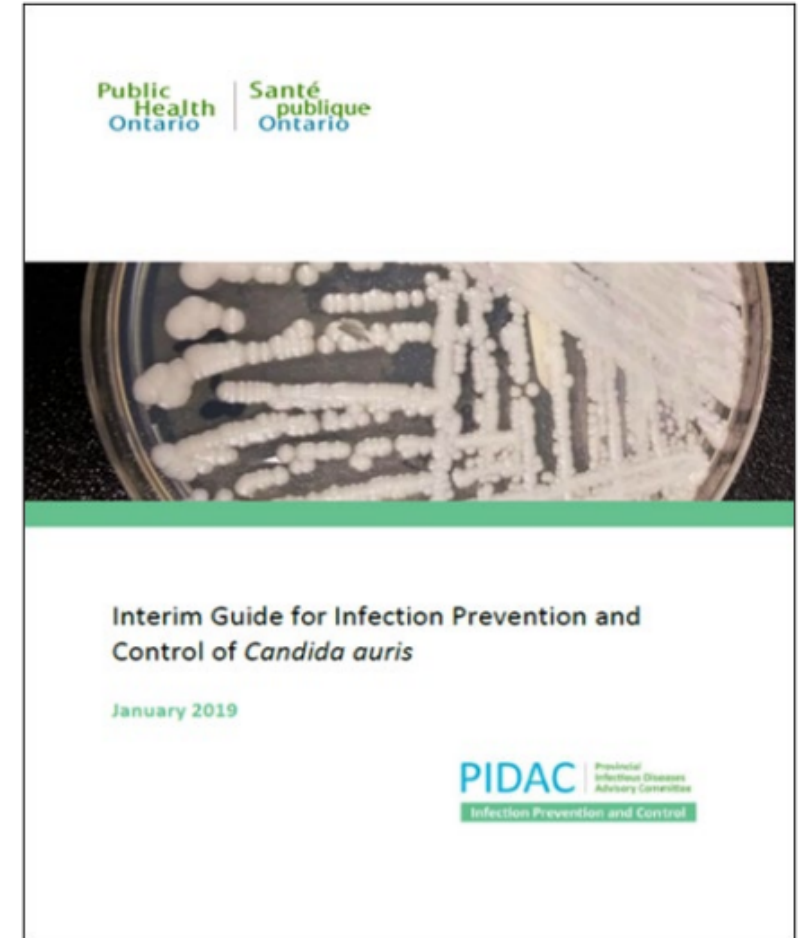


Image source: Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Interim guide for infection prevention and control of *Candida auris* [Internet]. Toronto, ON: Queen's Printer for Ontario; 2019 [cited 2025 Jan 22]. Available from: https://www.publichealthontario.ca/-/media/Documents/P/2019/pidac-ipac-candida-auris.pdf?rev=7f655451d9144044b38ca13c77649ee3&sc_lang=en