Surveillance and Mitigation of a *Candida auris* Outbreak in an Inpatient Setting

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BACKGROUND

Candida auris (C. auris) is a threatening invasive fungus, commonly resistant to antifungal drugs and difficult to eliminate on surfaces. Hospitalized patients are most vulnerable as it can spread in health care settings and cause outbreaks resulting in severe illness in the immunocompromised.

Currently, *C. auris* cases are surging within the community and local health care facilities. Immediate response is crucial to mitigate the severity and spread of *C. auris* within a hospital setting.

THE CHALLENGE

The opportunity to reduce the incidence of *C.auris* at Memorial Hermann-Texas Medical Center.

The opportunity to increase awareness among clinical team members of *C. auris* and its effects on an institution and its patients.

Develop guidance on how to screen and isolate positive patients and identify the possibility of an outbreak for *C. auris.*

PROJECT GOALS

- Prevent a *C. auris* outbreak on the campus
- Create a guidance and education that focuses on PPE, environmental cleaning and surveillance methods to reduce or avoid future outbreaks.
- Pilot developed manual screening process in multiple high -risk units.
- Initiate automatic admission screening process using the electronic medical record (EMR) system by October 2023.

Candida auris Cases at MHTMC
(Dec. 2022 - March 2023)

THE APPROACH

- Using the expertise of the Chief Epidemiologist and guidance provided by the Centers for Disease Control and Prevention, isolation precautions, environmental cleaning, and screening criteria were established and monitored.
- Modified contact plus isolation precautions for all *C. auris* patients included personal protective equipment (PPE) usage, handwashing recommendations and one to one nursing.
- Review results of pilot to screen all high-risk patients (long term care, skilled nursing, rehab, etc.) upon admission to reduce the possibility of exposure through initial isolation.
- Create an automatic screening process to identify patients that meet the establish high-risk criteria.
- Surveillance cultures to be performed on possible exposed patients using a groin swab culture.

THE PROCESS

- Re-education on proper PPE donning and doffing was performed to improve compliance.
- Clear communication of cleaning responsibilities between unit staff and environmental services avoided gaps in cleaning methods.
- Work with multidisciplinary teams to establish a working automatic screening algorithm utilizing existing infectious disease screening tools located in the EMR
- Disseminate education on new screening process to all stakeholders, including but not limited to, nursing, physicians, and ancillary areas.
- Patients that are screened upon admission are placed on contact precautions and specialized cleaning protocol until results are finalized.
- Negative results will allow patient to be placed on standard precautions unless deemed other wise. Contact plus isolation was immediately initiated for all newly positive patients.
- To identify possible exposure, routine CDC guided surveillance screening was performed on all patients on the unit at the time of an actively positive patient.

RESULTS OF MANUAL PROCESS

- 12 cases January 2022- December 2022
- 17 cases January 2023-March 2023 (240% increase)
- 50% Present on Admission (positive <4 days after admission)
- 65% admitted from nursing home, LTACH, rehab and 53% surveillance swabs
- 820 screening cultures were collected between January 2023 and March 2023. Over 8 units underwent exposure screening.

RESULTS OF AUTOMATIC PROCESS

- 300 automatic admission screening cultures were collected between October 2023 and March 2024.
- Of those 300, 10 patients were positive upon admission resulting in roughly 650 surveillance swabs avoided due to the patients were on contact precautions per the admission guidelines.

LESSONS LEARNED

- During the manual process, surveillance cultures were only collected once on possibly exposed patients during the first three actively positive *C. auris* patient encounters. This may not have provided an accurate identification of severity of potential spread leading to unknown positive patients not being on proper isolation. Consistent surveillance screening is needed to identify severity of spread when identifying a possible exposure of *C. auris.*

- During the automatic process, dissemination of education and compliance of screening was more difficult than anticipated. Regular notification and reeducation was and is still needed to capture individuals who fall within the high-risk criteria. Culture orderables identification created barriers of tracking and monitoring for accuracy, leading to some form of manual clean up of data.