

Optimization and Standardization of a Surveillance Tool to Identify Patients at Risk for *Candida auris* across a Health System

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Background

- Our healthcare system is comprised of 11 hospitals in the Chicagoland area: 8 acute care facilities, 2 inpatient rehabilitation facilities and 1 critical access facility.
- In 2019, our academic medical center conducted a pilot surveillance program for *Candida auris* (*C. auris*) leveraging the electronic medical record (EMR) to identify patients at a higher risk for *C. auris*. This screening was discontinued during the pandemic.
- During the pandemic, *C. auris* re-emerged locally, prompting our system to resume screening and active surveillance to identify and isolate positive patients.
- This team sought to optimize the surveillance program prior to re-implementation.
- At the time of re-implementation, 10 of the 11 hospitals were on the same EMR platform.

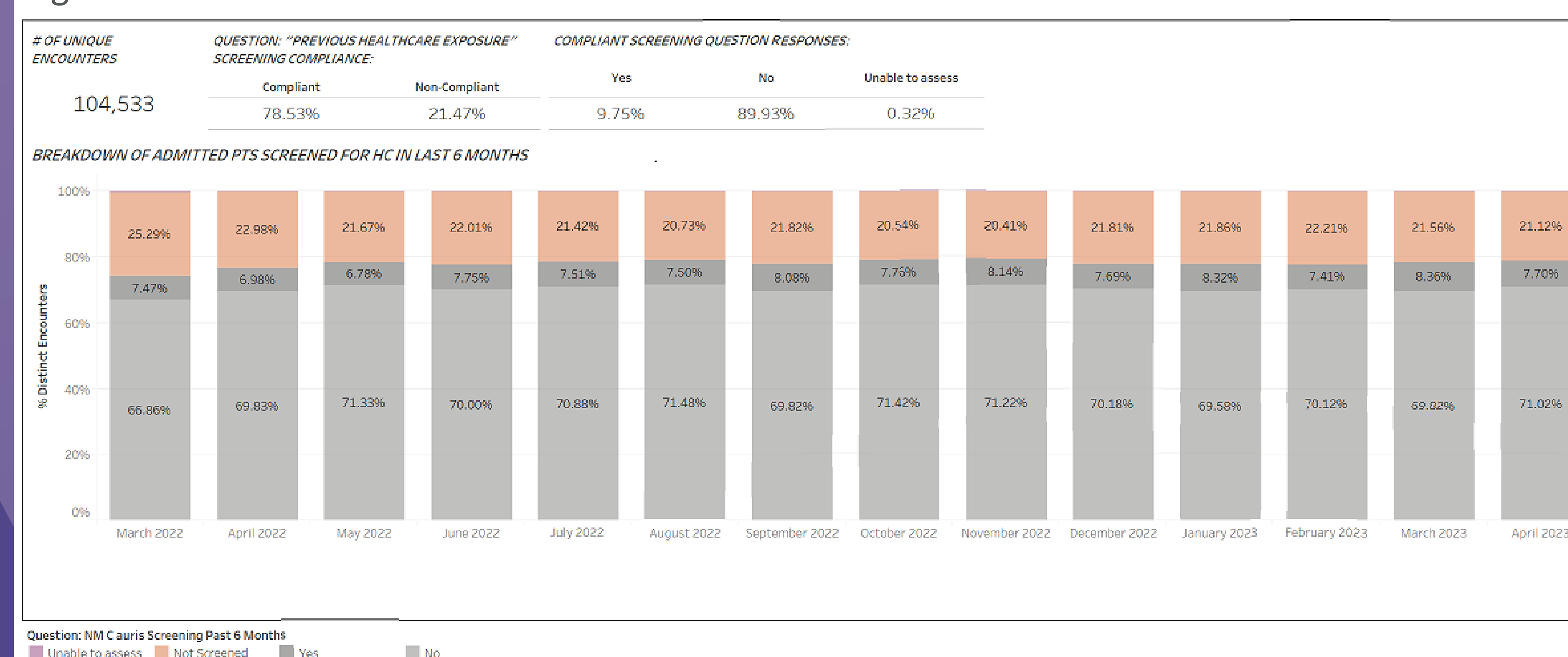
Methods

- Review of pilot data from October 1-December 31, 2019, including sensitivity in detecting high-risk patients
- Epidemiologic review of *C. auris* patient risk factors
- Review of state, local and federal agency guidelines for detecting and testing high-risk patients
- Review of Laboratory *C. auris* testing methodology and result reporting protocols at all of our locations
- Crosswalk of supplies and specimen collection protocols for system standardization and education
- Evaluation of risk of continued suspension of the screening and surveillance program due to the pandemic and disaster documentation in the EMR

Results

- Review of the pilot *C. auris* screening program data revealed low yield of positive cases.
- Review of the epidemiological data resulted in changes to the admission screening questions to identify at-risk patients and prompt specimen collection:
 - Patients ≥ 18 years of age, who are not known to be positive for *C. auris*, with a prior admission to a tertiary care facility within the past 6 months, including: inpatient rehab, nursing home, long-term care facility.
 - Nasal and axilla/groin specimens collected on every qualifying patient; respiratory specimens collected if patient has a tracheostomy or mechanically ventilated at time of admission.
- Laboratory *C. auris* testing methodology was standardized to PCR which shortened the turn-around-time of results to ensure timely isolation of positive patients.
- Specimen collection supplies and nursing protocols were standardized across 10 healthcare sites and education was provided on supply and EMR changes.
- A data dashboard was created in the electronic data warehouse to track compliance with admission screening and positive cases.

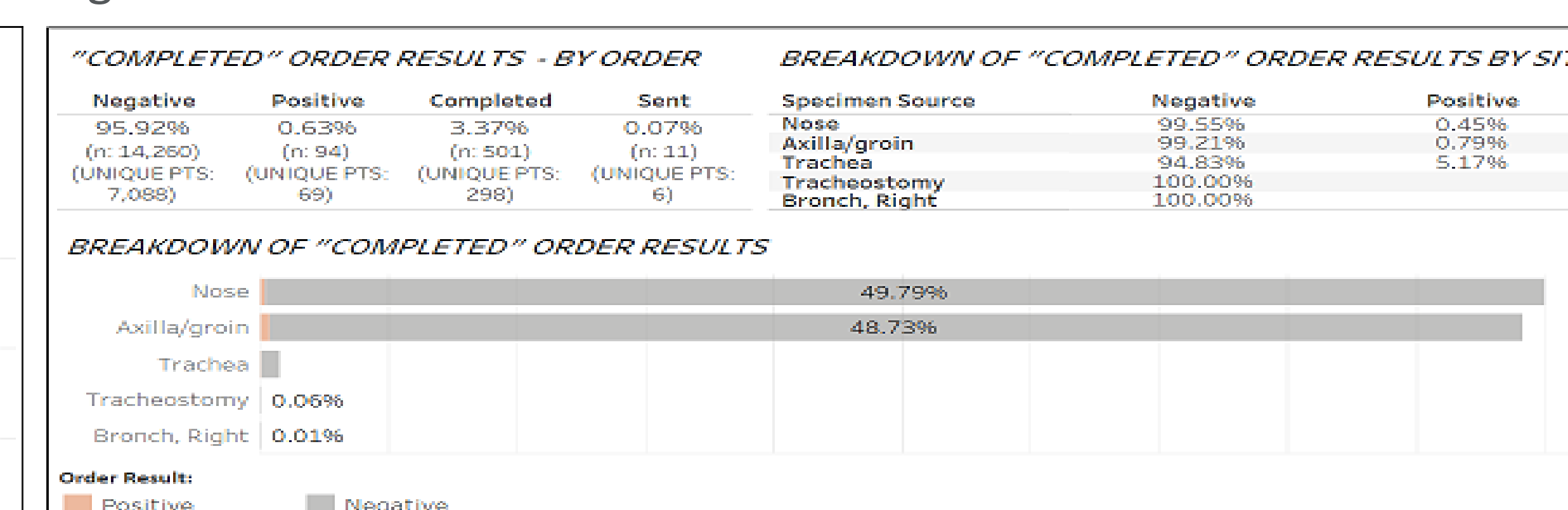
Figure 1



Data Details:

- The *C. auris* screening and surveillance program was implemented on February 2, 2022 at 1 hospital and on March 8, 2022 at the remaining 9 after EMR disaster documentation was discontinued.
- From March 8, 2022 – April 30, 2023, there were 104,533 unique patient encounters across the 10 hospitals. Of those, 82,086 (78.5%) were screened at admission. Of those screened, 8,002 (9.75%) qualified for *C. auris* surveillance cultures (Figure 1).
- Of the 8,002 patients who qualified for surveillance cultures, 6,825 (85.3%) had specimens collected and 69 (1.01%) were positive for *C. auris* (Figure 2).

Figure 2



Conclusion

- Utilizing the EMR to assist in early identification of *C. auris* is essential in expediting the mitigation and containment of exposure.
- This multi-disciplinary team improved the process by simplifying the screening questions to pinpoint high-risk factors and transitioning from a culture-based test to a standardized PCR sensitive methodology to quickly identify and isolate positive patients.
- Partnership with infection prevention, clinical informatics, nursing, and nursing education is crucial to the success of a surveillance program.
- Continuous review of positive patient demographics and epidemiology allows us to evaluate and further refine screening processes and selected high-risk patient populations.

References

- CDC (2020). Screening for *Candida auris* Colonization.
- Illinois Department of Public Health (2021). *Candida auris*.