A Bronx Tale: A Multi-cycle PDSA to Control *Candida auris*

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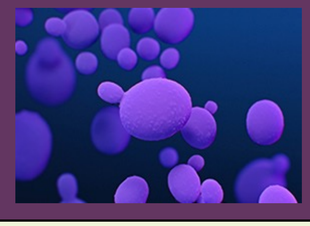


AIM

The aim is to decrease the number of incident hospital-onset (HO) *Candida auris* (CA) cases in 2021 by 75% (compared to 2020) and to decrease the percent positivity in serial point prevalence studies (PPS).

BACKGROUND

CA is an emerging fungus and often multi-drug resistant organism that presents a serious global health threat.

Beginning in September 2019, we started to identify patients with HO CA infections. Unfortunately, as a result of the initial surge of COVID-19 cases in March of 2020 and the various challenges that came with it (i.e. supply of PPE, patient census, etc.), our CA transmission was magnified.

With the implementation of several interventions in the second half of 2020, we noticed a substantial decrease in HO CA. However, we were still seeing HO clinical and surveillance CA cases and needed to implement further interventions to decrease transmission and consequently decrease colonization and clinical cases.

PLAN

Our main goal and plan for infection prevention & control activities was to mitigate the transmission of HO CA cases and avoid patient morbidity and mortality related to CA infection.

1. To assure patient safety by eliminating hospital onset CA, colonization and infection.

2. To provide a safe environment for patients, healthcare workers, and visitors.

Prepared by Susan Singh

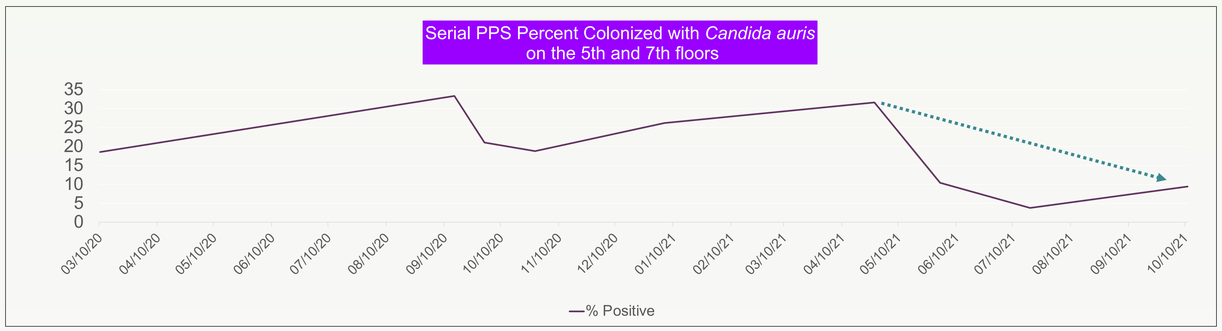
DO

After several department specific meetings, in April 16, 2021, the *Candida auris* committee was established for a multi-discipline approach at looking at potential gaps in processes leading to transmission of CA. All new cases of CA are also thoroughly investigated by IPC (reviewing the patient's chart, conducting tracers, epidemiologic links and possible gaps in IPC practices) which also led to some of the following interventions-

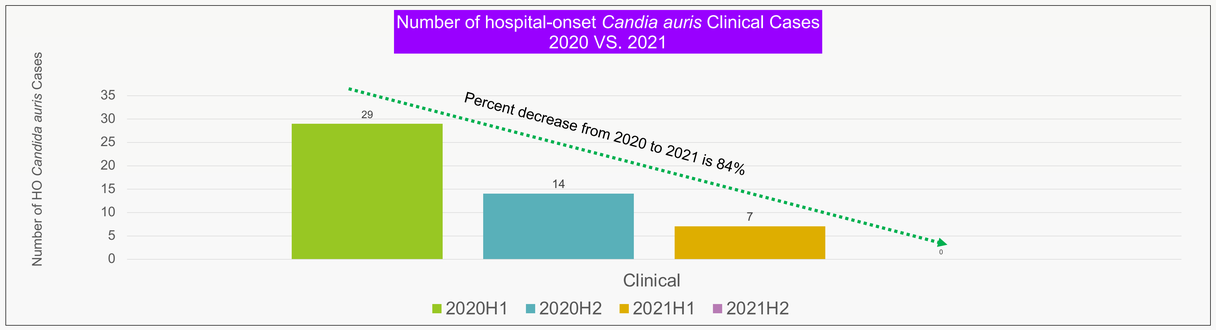
January 2021 to date:

- Wound and IV cart equipment to be disinfected
- Vital sign machines/monitors per patient to continue and be monitored
- Enhanced cleaning of Pyxis, Med room
- Wire glove holders outside of all patient rooms, 1 box inside to be discarded after patient discharge for isolation rooms
- Each ICU and 7S room with their own isolation cart to prevent cross transmission
- Weekly audits for glucometer cleaning
- Weekly IPC audits for appropriate cleaning and covering of patient care equipment
- Improvements in IR workflow
- Cart disinfection (procedure, IV, Code, airway) with covering with disposable bag
- Surveillance swabs for all patients transfer/admit to 7S
- Enhanced cleaning of HD unit and machines; to include ATP swabs upon disinfecting HD machines, halosil inpatient unit 1x per month, Surfacide inpatient HD unit and machines daily
- Labelling IV poles with room numbers
- Before terminal clean, all patient care equipment must be taken out and sent to CSD for disinfection. (IV pumps, TTM, flowtron, bair hugger, feeding pumps, etc.)
- ED Trauma bay – transport monitor disinfection and storage
- Halosil disinfection rooms 501-516 upon discharge or transfer, after terminal cleaning
- Updated protocols for cleaning processes for EEG, EKG, ECHO
- Acquisition of disposable EEG leads
- Updated protocol for cleaning of ultrasound machine in ED, to include compliance audits

Graph 1



Graph 2



STUDY

As new cases of CA are investigated, new opportunities for process improvement are identified. This allows for multi-cycle PDSA.

1. We surpassed our goal by decreasing the number of HO CA clinical isolates by 84%. (See graph 2)
2. We decreased transmission shown by the decrease in the percentage of patients colonized overtime in serial PPS to less than 10.4% since June 2021 . (See graph 1)

ACT

As we have experienced, CA is easily transmissible and contaminates and survives in the environment. It has the potential to cause serious infection especially when a patient becomes colonized. CA must be 'attacked' from various angles.

1. **Administrative leadership** and multi-departmental committee has been crucial in achieving our goal
2. **Identify** epidemiologic links when new cases of CA are identified
3. **Investigate** all new cases of CA in real-time to identify any practices or processes that must be addressed and improved upon
4. **Observe** for continued compliance for all interventions

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