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KNOW *Candida auris*: Prevention of another outbreak through screening and early identification

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ABSTRACT

Background: *Candida auris*, within the last decade, has emerged as a multidrug resistant public health threat that can lead to hospital outbreaks¹. It is an invasive fungal yeast resistant to multiple antifungal agents. The mode of transmission is through contaminated hospital items (including clothes and furniture) and interventions by staff. Two *Candida auris* outbreaks occurred in Qatar. The first outbreak was in Al Wakra Hospital (AWH), which is a facility of Hamad Medical Corporation (HMC), the principal public healthcare provider in the State of Qatar. As concluded by Eyre DW, et al. (2018), a series of interventions and environmental screening program may reduce the *Candida auris* outbreak². A screening toolkit that includes a checklist based on an existing protocol and operationally defined criteria is a key preventive measure for *Candida auris* identification. We aim to attain 100% compliance with screening suspected patients and preventing further outbreaks.

Methods: A screening protocol toolkit was created for eligible patients that allowed early identification and prompt intervention therefore enhancing the provision of high-quality, efficient, cost effective, and safe patient care. Furthermore, implementation of an Outbreak Prevention Bundle had been proven effective in preventing the spread and comprised: (1) prophylactic contact precautions, (2) blanket screening of at risk/exposed patients, (3) environmental sampling, and (4) hydrogen peroxide disinfection.

Results/Findings/Recommendations: In 2020, continuous screening was maintained for patients fitting the HMC criteria. The protocol for the management of outbreaks was implemented. The number of COVID-19 positive cases peaked during July - August 2020 when COVID-19 patients were transferred to AWH (Figure 1). Overall, AWH reached 407 cumulative days without *Candida auris* outbreak (Figure 2).

Conclusion: *Candida auris* outbreak is preventable through early identification via screening and implementation of an Outbreak Prevention Bundle. This method has led to no active outbreak in AWH since August 2019 until October 2020.

Keywords: *Candida auris*, outbreak, outbreak prevention, early identification, screening

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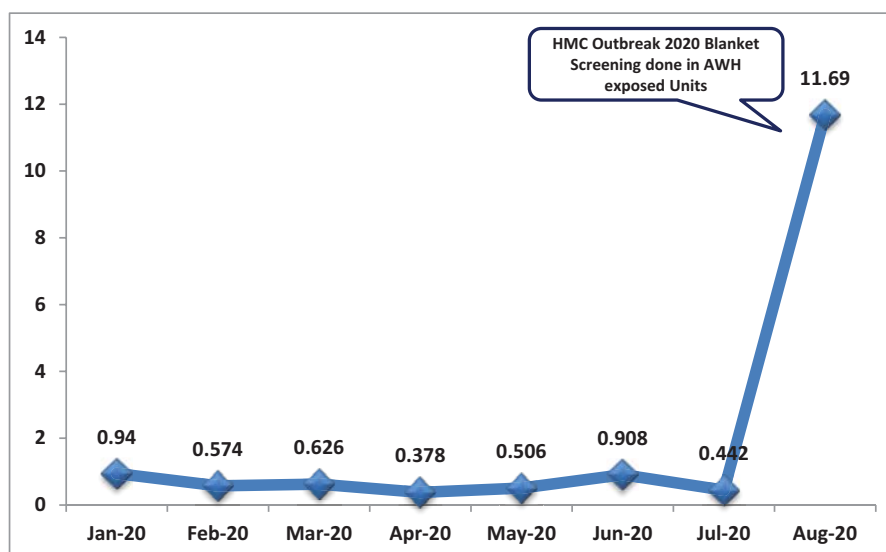


Figure 1. Rate of *Candida auris* screening performed per 1,000 patient days at Al Wakra Hospital from January 2020 to August 2020 (n = 106).

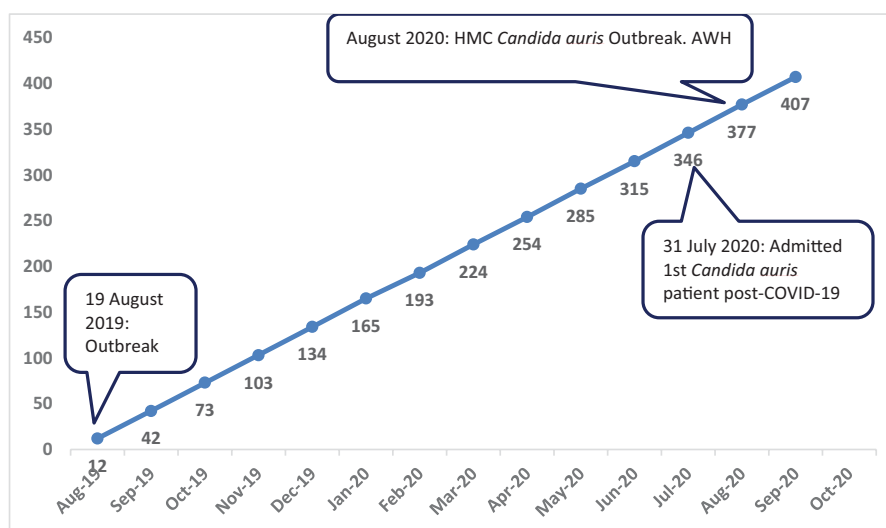


Figure 2. Cumulative days WITHOUT *Candida auris* outbreak, Al Wakra Hospital, Qatar.

Ethical approval/IRB statement: This project is part of the Quality Management Education Program (QMEP Cohort 5) of the Hamad Healthcare Quality Institute (HHQI) and the Joint Commission International (JCI) as a quality improvement work. There is no requirement for Institutional Review Board approval. This project is supported and approved by the Chief Executive Officer of Al Wakra Hospital, Prof. Adam Cairns and Assistant Executive Director of the hospital's Quality and Patient Safety Department, Dr. Almunzer Zakaria.

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