

# Combating superbugs is a team sport



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The Ohio Department of Health has expanded staffing capacity within the Healthcare-Associated Infections/Antimicrobial Resistance Program. This expansion has helped prevent disease transmission within healthcare facilities, increased awareness of threats, and ensured availability of data to inform state and local response efforts.

## The “What”

Antimicrobial resistance is a growing and urgent threat to the health and safety of all individuals. These organisms can be resistant to many, if not all of the drugs used to treat them and are referred to as multi-drug resistant organisms (MDROs). MDROs can be found in healthcare settings and have the potential to spread, leading to healthcare-associated infections (HAIs). It is estimated that 1 in every 31 patients will become ill with a HAI, or an infection acquired during the care of another health condition.

The Ohio Department of Health (ODH) Bureau of Infectious Diseases Healthcare-Associated Infections/Antimicrobial Resistance (HAI/AR) Program is tasked with reducing HAIs in Ohio. The Program supports local health departments (LHDs), healthcare providers and facilities, and other state partners through education, technical assistance, and data tracking. The primary



goals are to prevent and reduce HAIs, contain the spread of highly resistant organisms, and provide outbreak assistance. Program activities include promoting the responsible use of antimicrobials (e.g., antibiotics, antifungals) to prevent or minimize antimicrobial resistance, providing technical assistance on infection prevention and control (IPC) through phone consultations and onsite facility assessments, and providing education and guidance on infectious disease.

The HAI/AR Program used Epidemiology and Laboratory Capacity for the Prevention and Control of Emerging Infectious Diseases (ELC) funding from the Centers for Disease Control and Prevention to increase staffing in order to respond to the growing threat presented by MDROs. In 2018 and 2019, two MDROs (*Candida auris* and Carbapenemase-producing Carbapenem-resistant Enterobacteriaceae) were added to the State of Ohio list of reportable diseases. Approximately 300 clinical cases were reported per year for 2018 and 2019. Each case requires programmatic consultation and containment interventions. In 2019, the HAI/AR Program consisted of three frontline staff and a part-time supervisor, with one and a half staff focused on MDRO activities. One Infectious Disease Control Consultant (IDCC) nurse focused on training, education, and outreach to LHDs and healthcare facilities. This included phone consultation, coordination of confirmatory and screening testing at public health laboratories and providing onsite IPC assessments. The Health Services Policy Specialist focused on MDRO data collection and case tracking and had responsibility for data analysis. The capacity to provide outreach was limited, while the demand for response was increasing. By 2023, and based on the availability of additional ELC funds, the HAI/AR Program has grown to nine frontline staff and a full-time supervisor, with five staff focused full time on MDRO activities.



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## The “So What”

The increase in the number of staff has allowed the HAI/AR Program to respond more quickly to rising rates of MDROs. Clinical cases of these organisms have increased from approximately 300 cases in 2018-2019 to approximately 550 for 2022. One of the ways the HAI/AR Program assists with MDRO containment is by assisting facilities in identifying patients that have these organisms but do not show signs and symptoms (known as colonization). It is important to identify these colonized carriers because they can still pass MDROs to others even though they are not showing signs of infection. Hiring two additional IDCCs in 2022 enhanced the Program’s ability to meet demand for *Candida auris* screening tests

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after its emergence in Ohio in May 2020. The increased capacity also allowed the Program to maintain screenings for other MDROs, especially carbapenem-resistant *Acinetobacter baumannii* (CRAB), as the ODH Laboratory began testing clinical CRAB isolates in August 2022. The average number of screening events more than doubled from 26 per quarter in 2021 to 57 per quarter in 2022. In the first quarter of 2023, the program tripled the quarterly average from 2021 to 78 screening events coordinated.\*

Another way the Program supports efforts to contain the spread of MDROs is through technical assistance visits to healthcare facilities to assess IPC practices. In 2018, the Program provided 10 onsite technical assistance visits to local healthcare facilities, to support targeted infection control for MDROs. By 2023, the team has provided the same number within the first six months of the year. Similarly, the team has provided as many education opportunities in the first half of 2023 as they were able to provide during the entirety of 2022. The *C. auris* webpage was enhanced to include county-level case count maps, which are updated quarterly. Since adding data, page views have increased by an order of magnitude (from 263 in 2022 to 2,788 in the first six months of 2023).

\*Screening data for 2023 is preliminary.

## The “Now What”

In early 2023, the HAI/AR Program was able to hire an Epidemiology Investigator 2 to assist managing MDRO data, and added two staff dedicated to providing statewide education on IPC and MDROs. This has allowed the IDCCs to focus more specifically on MDRO containment and response activities, while developing and expanding the Program’s educational outreach. In the summer of 2023, the HAI/AR Program will be adding an Epidemiology Investigator 3 and a Health Services Policy Analyst. This will expand outreach efforts to include dialysis centers and other high-risk settings. The program will also be able to increase outreach on promoting responsible use of antimicrobials (known as antimicrobial stewardship),

which helps combat growing drug resistance. The new staff will help the Program better understand case data, including the impact of social determinants of health and health inequities, as well as evaluate containment activities in order to better inform future program priorities.

The expansion ODH’s HAI/AR Program has helped prevent additional spread of MDROs within healthcare facilities, promoted increased awareness of these threats among the general public and healthcare workers, and ensured availability of data to inform state and local response efforts, all in support of reducing the impact of HAIs and MDROs on Ohio communities.

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