

Assessing healthcare-associated infections and antibiotic resistance prevention and control capacity in Missouri

CONTRIBUTOR: *Laura Kliethermes, Grants Transformation Director, Missouri Department of Health and Senior Services*

CATEGORY: **Epidemiology and Laboratory Capacity (ELC)**

The Missouri Department of Health and Senior Services (DHSS) Healthcare-Associated Infections/Antibiotic Resistance (HAI/AR) program assessed their current staffing capacity and needs to improve their work in the prevention and control of HAI/AR to better protect patients' health. This resulted in strategic staffing growth and increased capacity.



The “What”

DHSS’s HAI/AR program strives to improve infection prevention and control in healthcare settings throughout Missouri. The traditionally small program assessed the usefulness of each position intending to reorganize and recruit the appropriate professionals (e.g., epidemiologists, infection preventionist, pharmacist) to improve their work.

Epidemiology and Laboratory Capacity for the Prevention and Control of Emerging Infectious Diseases (ELC) funding was successfully utilized to hire five new positions:

- A HAI/AR coordinator position to manage the program;
- An epidemiologist to focus on improving the use of data sources, including National Healthcare Safety Network (NHSN), for HAI/AR program actions;
- An associate epidemiologist to improve the ability to investigate and respond to multidrug-resistant organisms (MDRO) infections;
- An infection preventionist to ensure accurate and timely response and prevention recommendations for facilities; and
- An antimicrobial stewardship pharmacist to expand stewardship activities.



More stories are available at stories.cste.org

SUBMITTED FEBRUARY 2024

In addition, two environmental officer positions were transferred to the HAI/AR program using partial ELC SHARP funding to increase environmental infection prevention and control assistance capabilities. Contracts have been put into place that increase the HAI/AR program's reach in the areas of infection prevention and response assessments within facilities, increased educational offerings in the area of infection prevention and control, and the beginning of antimicrobial stewardship activities.

Increasing personnel within the HAI/AR program took collaboration with DHSS leadership to create full time employee (FTE) positions within the program, coordination with the Missouri State Public Health Laboratory (MSPHL) to determine testing capacity, direction from the Centers for Disease Control and Prevention (CDC) to determine program priorities, and collaboration with the Council for State and Territorial Epidemiologists (CSTE) and counterpart HAI/AR programs in other jurisdictions to identify best practices.

The HAI/AR program has always had the desire and intent to grow as funding and FTE spots became available. It has been known for much of the program's existence that many potential activities were not addressed because of limited staff capacity. With the availability of these funds, as well as the clear direction within the supplement's workplan strategy and activity descriptions, the opportunity to increase staffing and increase targeted program activities presented itself.

The response to the COVID-19 pandemic exposed national shortcomings in the area of HAI/AR capacity. These funds allowed the program to address and mitigate some of these shortcomings and build more robust prevention and response capabilities.

The “So What”

The results of the assessment highlighted the following needs for the HAI/AR program:

- Expand infrastructure capacity necessary to reach program goals;
- Develop positions, hire, and onboard staff with appropriate expertise to increase program capabilities; and
- Establish contracts with external partners to further increase the ability to meet required grant deliverables while internal infrastructure is being built.

By using the ELC funding to supplement other HAI/AR funding streams, the program has had the ability to grow from an original program of only one epidemiologist, to a program of ten. With this increased workforce and their associated areas of expertise, the program is much more capable of response, prevention, data, stewardship, education, and assistance to hospitals, long-term care, dialysis facilities, local health departments, etc. The ability to respond to infection control incidents HAI/AR cases/outbreaks has greatly increased, and the infrastructure exists to continue evaluating and implementing program priorities into the future.

With this increased workforce and their associated areas of expertise, the program is much more capable of response, prevention, data, stewardship, education, and assistance.



The program grew from only one epidemiologist to a **program of 10**

The “Now What”

The HAI/AR program will continue to support the professional development of the team that is in place and increase expertise among the staff. The program intends to continue collaboration with internal and external partners to identify ongoing and new program priorities.

HAI/AR conditions are being added to the state's surveillance system, as they have not been included in the old system that is currently in place. The program will continue to train regional and local epidemiologists and healthcare providers on HAI/AR conditions, infection prevention and control strategies, and antibiotic stewardship activities. With the infrastructure that has been built, the program will continue to strive to meet or exceed CDC program expectations.

The HAI/AR program is relatively new and is engaging in relatively new activities, so educating external stakeholders on the services the program can provide can create partnerships within DHSS and outside partners. This is a priority for long-term future success. With the HAI/AR program that exists today, the intent is to cross-train staff so that the expertise each area contains can be readily accessed by other team members and to ensure continuity even through staffing changes or priority realignments. The program intends to increase capacity and staff readiness through infection prevention and control training, case and outbreak investigation training, and collaboration with peer jurisdictions for best practices, among other topics.

Ideally, if funds and FTEs were to become available, further staff-building would take priority to increase

internal capacity even further, and to rely less on contractual partners for onsite infection prevention assessments and educational offerings. Additionally, as the program gains recognition throughout the state, further collaborations with local public health agencies to increase their involvement with HAI/AR activities and investigations would be the goal.

Funding decreases would harm continuing activities and capacities that have been built throughout this funding supplement. Contracts with outside partners would be the first to go, resulting in fewer onsite infection prevention and control assessments and fewer educational offerings to healthcare facilities. Program staff would have to shift priorities and curtail response activities to the most pressing needs, and preventative activities may have to be reduced or eliminated. In a worst-case scenario, program positions may have to be reduced, further limiting activities.

Increases in funding would be ideal: long-standing and/or successful contracts could continue to provide onsite infection control visits to large numbers of various healthcare facilities in the state and to offer continued educational opportunities to healthcare providers. It would also be very useful internally, especially if the program is granted further FTEs. Ideally, the program would add more infection preventionists and epidemiologists to investigate and respond to HAI/AR cases and outbreaks as they occur.