Healthcare-Associated Infection Programs: Enhancing Healthcare Infection Control Assessment and Response

Meeting Report
Atlanta, April 13-14, 2016 and Salt Lake City, May 24-25, 2016
In collaboration with national, state and local partners, The Centers for Disease Control and Prevention (CDC) takes an aggressive approach to control and prevent healthcare associated infections (HAI), including infections caused by antibiotic resistant (AR) pathogens. State, local and territorial health departments play critical roles in HAI prevention and response with the rise in emerging infectious threats in healthcare and the community, including infections caused by AR pathogens. HAI/AR programs and their healthcare partners work together using available data to target training and prevention efforts to the facilities where problems are first occurring, are most serious or where immediate interventions are needed to protect patients. Current efforts to contain the spread of Candida auris, a highly resistant and deadly fungal pathogen, and carbapenem-resistant Enterobacteriaceae (CRE) illustrate public health’s essential role.

With these priorities as drivers for action, HAI/AR programs:

- Work to prevent transmission of infections across all healthcare settings and the community
- Use available surveillance, outbreak, laboratory, and infection control assessment data to target and tailor prevention and improvement interventions
- Work with public health and healthcare partners, using CDC guidelines to implement local prevention strategies
- Assess the infection control capacity and competency of healthcare facilities in their jurisdiction
- Address gaps in infection control through training and other technical assistance
- Strengthen oversight and provide essential connection and facilitate communication among healthcare facilities’ and health departments’ readiness to respond to future outbreaks of high-consequence infectious diseases

In the spring of 2016, CDC and the Association of State and Territorial Health Officials (ASTHO), with assistance from the Keystone Policy Center, convened two national meetings to provide a forum for health departments and their partners to share experiences and insights from the 2015 domestic Ebola response, make suggestions for infection control policy and practice implementation, and provide perspectives for integration of new activities into HAI/AR programs.

Health departments and healthcare partners that participated in the meetings have applied the knowledge gained to the current context of vigilant infection control and prevention, detection and containment of emerging threats. Using these experiences and the infection control tools and strategies described in this meeting report, combined with current containment guidance, health departments are equipped to leverage the partnerships and lessons learned from the Ebola response to ensure improved capacity for preventing, detecting, and responding to HAI/AR pathogens.
CDC has funded state HAI/AR programs since 2009, with significant increases in the past two years. This year, CDC is investing $77 million for HAI/AR programs in all 50 states, 5 major cities, Washington DC and Puerto Rico to prevent healthcare associated infections and combat antibiotic resistance through support for local AR expertise and lab capacity to improve detection and response to HAIs and all AR threats. In 30 states and 4 cities, CDC is funding health departments to aggressively expand CRE, *C. difficile*, and other MDRO prevention and antibiotic stewardship programs, and implement proven strategies in healthcare facilities to prevent infections and transmission across healthcare settings.

CDC is committed to helping states and cities strengthen their ability to prevent transmission of infections across settings, improve infection control in healthcare facilities, and enable more rapid and effective responses to outbreaks to keep people safe.

Sincerely,

Denise Cardo, M.D.
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National Center for Zoonotic and Emerging Infection Disease
Centers for Disease Control and Prevention
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Executive Summary

Project Background and Description

The response to the Ebola outbreak in West Africa highlighted the need to assess and strengthen infection control infrastructure and practice throughout the U.S. healthcare system. In 2015, the Centers for Disease Control and Prevention (CDC) received emergency funding to address the Ebola crisis domestically and abroad. Funding directed to public health departments for Infection Control Assessment and Response (ICAR) activities was intended to enhance public health’s capabilities to detect, respond to, control, and prevent imminent and emerging healthcare-associated infections (HAIs)—including those caused by antibiotic resistant (AR) pathogens—as part of the overall goal to strengthen state and local infection control programs in healthcare settings.

In spring 2016, CDC and the Association of State and Territorial Health Officials (ASTHO), with assistance from the Keystone Policy Center, convened two national meetings to provide a forum for state, local, and territorial health departments to share early experiences and insights, makes suggestions for infection control policy and practice implementation, and provide their perspectives on the integration of new activities into their existing programs. Each participating jurisdiction was asked to assemble a cross-sector team of up to four individuals representing diverse functions, roles, and disciplines in public health and healthcare. This report summarizes participants’ thoughts and opinions based on their experiences after the first year of the three-year ICAR funding.

Key Discussion Themes and Tips Shared by Public Health and Healthcare Participants

<table>
<thead>
<tr>
<th>Characteristics of Effective HAI/AR Programs</th>
<th>✓ Clear program goals and structure.</th>
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<tr>
<td></td>
<td>✓ A culture of transparency, safety, and accountability.</td>
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<td></td>
<td>✓ Health department serves as an expert resource for partners and the public.</td>
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<td></td>
<td>✓ Resources are optimized by leveraging support from health department leadership and pooling resources with partners.</td>
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<tr>
<td>Assessing Infection Control Readiness: Ebola and Beyond</td>
<td>✓ Assemble a diverse assessment team representing a range of public health functions.</td>
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<td>✓ Prepare for assessment visits collaboratively, clarifying objectives ahead of time.</td>
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<td>✓ Use the assessment visits as an opportunity for public health to provide value to and build trust with facilities.</td>
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<td>Collaboration between HAI/AR Programs and Partners</td>
<td>✓ Use existing networks to build trust with needed partners, both within and outside the health department.</td>
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<td>✓ Clarify roles, identify shared interests, and develop a common terminology.</td>
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<td>✓ Align and consolidate initiatives with overlapping objectives.</td>
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<tr>
<td>Strategic Communication</td>
<td>✓ Expand the focus from Ebola preparedness to infection control and HAI/AR prevention efforts more broadly.</td>
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<td>✓ Communicate with key partners early and often to maintain a working understanding of one another’s priorities and capabilities.</td>
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Introduction

Background

Lapses in infection control, along with varying implementation of policies and practices, result in an estimated 700,000 healthcare-associated infections (HAIs) in the United States each year.\(^1\) With the rise in emerging infectious threats in healthcare and the community—including infections caused by antibiotic resistant (AR) pathogens—state, territorial, and local health departments have an increasingly critical role in HAI prevention and response. Public health HAI/AR programs and their partners use available data sources to focus prevention efforts on facilities where problems are most serious or where immediate interventions are needed to protect patients. With these priorities as drivers for action, HAI/AR programs 1) assess the infection control capacity and competency of healthcare facilities in their jurisdiction; 2) address any gaps through training and other technical assistance; and 3) connect and facilitate communication among healthcare facilities and other partners to prevent transmission of infections in all healthcare settings, and respond to outbreaks of high-consequence infectious diseases.

In 2015, CDC issued emergency funding to public health departments which aimed to protect the public health and safety of the American people by enhancing public health capacity to effectively detect, respond to, control, and prevent imminent and emerging infectious diseases. The funding specifically provided resources to accelerate health department HAI/AR program activities related to healthcare Infection Control Assessment and Response (ICAR). Through this project, CDC awarded a total of approximately $85 million to 61 state, city, and territorial grantees.

Two activities of the ICAR project informed the scope of the meetings described in this report:

- **Activity A**: Funding, with a 24-month project period, was awarded to all 61 jurisdictions to support expanding State HAI Plans and Advisory Committees, improving coordination between health departments and healthcare settings, assessing the readiness of designated Ebola facilities, and assessing and improving HAI outbreak reporting and response.
- **Activity B**: Funding for this optional component, with a 36-month project period, was awarded to 53 jurisdictions to support expanding infection control assessments, increasing infection control competency and practice, and enhancing surveillance analytic and reporting capacity.

An ASTHO, CDC, and Keystone Policy Center Collaboration

Through funding from CDC, ASTHO has supported public health departments’ HAI/AR programs in their efforts to implement ICAR activities. In cooperation with CDC, ASTHO engaged the Keystone Policy Center to explore how the ICAR funding is enhancing the efforts of state HAI/AR programs and partners to develop a more effective response to emerging threats throughout the public health enterprise. To this end, ASTHO, CDC, and the Keystone Policy Center collaborated to design and execute the following key project activities:

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The CDC, ASTHO, and the Keystone Policy Center conducted site visits in Colorado, Kentucky, and Oregon to learn about the preliminary accomplishments and challenges encountered in implementing the ICAR program activities. Based on findings from the site visits, the project team developed a framework for two national, multi-stakeholder meetings.

CDC, ASTHO, and the Keystone Policy Center convened two national meetings where jurisdictional teams were invited to discuss topics such as HAI/AR program core competencies, strategic collaborations and communication, and strategies for sustainability.

Based on the previous activities, the project team identified key themes and promising practices for sustainable HAI/AR program capacity-building and ICAR implementation.

Findings from the national meetings are included in this report. A more detailed description of the meetings’ format and focus follows.

National Meetings

In spring 2016, CDC and ASTHO, with assistance from the Keystone Policy Center, convened two national meetings to explore specific areas of activity under the ICAR funding. (See Appendix A for an outline of the agenda used at the meetings.) Meeting objectives included:

- **Sharing experiences and advice** among grantees and national partners related to implementation of the ICAR activities, including assessing the infection control capacity and competency of healthcare facilities, and addressing any gaps through training and other technical assistance.
- **Identifying effective or promising approaches to HAI/AR program development.**
- **Exploring collaboration and coordination between** HAI/AR programs and key partners (e.g., healthcare facilities, public health preparedness, licensing and survey agencies, and other programs within the health department).
- Identifying effective or promising **approaches to the integration and sustainability** of HAI/AR efforts.
- **Identifying key action items** for participating jurisdictions.

Grantee jurisdictions were invited to participate in one of the two ICAR meetings, held April 13-14, 2016 in Atlanta and May 24-25, 2016 in Salt Lake City. The meetings were offered on different dates and in different regions to maximize participation. A total of 50 jurisdictions, including Puerto Rico and six
municipal jurisdictions, participated in one of the two meetings in person, and an additional five jurisdictions participated remotely via teleconference and webinar. Participants included:

- **HAI/AR program** leaders and staff.
- **Health agency leadership** (e.g., state and local health officials, state and local epidemiologists, and infectious disease directors).
- **Health agency preparedness program staff** (e.g., directors of public health preparedness).
- **Healthcare sector partners** (e.g., representatives from quality improvement organizations, hospitals, hospital systems, and licensing and survey agencies).
- **Representatives from national partner organizations**, including professional associations and membership organizations focused on infection control, epidemiology, public health leadership, health communication, and health research and education.

(See Appendix B for a full list of meeting participants.)

Participants at both ICAR meetings were asked to identify key strategies for expanding and sustaining HAI/AR program efforts (see figure below). The first topic, “Describing an Effective HAI/AR Program,” primed the meeting discussion and served as a central point of reference for the subsequent topics.

Breakout discussions focused on a range of strategic and technical issues related to infection control, and provided an opportunity for jurisdictional teams to identify goals, strategies, and action steps for collaborative implementation of ELC grant expectations.

**Discussion Framework for the National ICAR Meetings**
This Report

This report summarizes early experiences of public health departments implementing ICAR activities, and includes information gathered from pre-meeting questionnaires, post-meeting evaluations, and observations collected during the exploratory site visits. The report details state, territorial, and local public health perspectives on enhancing and sustaining HAI/AR program capacity for preventing and responding to high-consequence HAI outbreaks. Key themes that emerged from the discussions were based upon participants’ lessons learned regarding:

- Characteristics of effective HAI/AR programs and the impact of the ICAR funding on these programs.
- Strategies for assessing facility readiness for infection control.
- Strategies for coordinating and collaborating with public health and cross-sector partners.
- Tips for strategic communication.

I. Characteristics of Effective Healthcare-Associated Infection/Antibiotic Resistance Programs

HAI/AR programs are undergoing a period of growth and evolution, as they respond to new and re-emerging threats and enhance program activities with the support of increased federal investments.

Preventing infections in a coordinated and targeted fashion, detecting and responding to immediate infectious diseases threats in healthcare settings, and improving antibiotic use for all patients are core priorities for HAI/AR programs. With the events of the 2014 domestic Ebola response and the current emphasis on preventing infections caused by antibiotic resistant pathogens, HAI/AR programs are scaling up and increasingly using available data to target infection control and prevention interventions.

As is still the case, at the time of the ICAR national meetings, jurisdictions were at different stages of implementing infection prevention activities, and encountered different challenges and opportunities in pursuing infection control objectives. Despite these variations, discussion at both ICAR national meetings suggested many common core characteristics of effective HAI/AR programs. Jurisdictions identified several considerations about program functions, organizational culture, and approaches to maximizing available resources and leveraging collaborations based on lessons learned during the first year of ICAR funding. Recommendations from participants on how to optimize HAI/AR programs’ core characteristics and functions are as follows:
Key Programmatic Functions Shared by Participants

Jurisdictions noted the following as crucial HAI/AR program functions:

✓ **Use available data and share findings** with facilities and appropriate partners to target interventions. **Use data for action** to identify potential clusters/outbreaks. **Monitor data quality** through data validation.

✓ **Identify and update an effective protocol for responding to potential outbreaks** that provides support and guidance to both the health department and affected facilities.

✓ **Serve as an expert resource** for public and private sector partners and the general public. In coordination with key partners, **provide infection control training, education, and guidance** to the public and providers. Leverage existing training programs when possible.

✓ As appropriate, **inform policy development** by engaging and communicating with public health and facility leadership about high-level strengths and gaps in infection control and antimicrobial stewardship.

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**State Spotlight: Establishing a Clear, Effective Program Structure in Colorado**

As HAI/AR program activities expand in the United States, it’s important to use clear and thoughtful program structures to maximize effectiveness. To this end, Colorado reorganized its HAI program into three distinct units:

- **Health Facility Infection Surveillance** focuses on data and analytics (e.g., from CDC’s National Healthcare Safety Network [NHSN] and Targeted Assessment for Prevention [TAP] reports) to publish facility-specific HAI reports, identify targeted areas for prevention, and provide support during outbreak investigations.

- **Emerging Infections** performs outbreak investigations, participates in HAI projects (including the Emerging Infections Program), and coordinates travel monitoring for emerging infections.

- **Infection Prevention** provides prevention services, supports outbreak investigations, and maintains strategic partnerships and stakeholder relationships.

(Antimicrobial stewardship efforts occur across all three units.)

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**Tip: Maintain Core Staff Competencies**

Successful HAI/AR programs maintain staff with strong clinical backgrounds and competencies in infection prevention, epidemiology, informatics, monitoring and data validation, laboratory analysis, and clerical support.
Culture of Prevention for Protecting Patients and Communities

Jurisdictions recommended the following administrative best practices for HAI/AR programs:

✓ Maintain awareness of the HAI/AR landscape and act on available data. Identify key stakeholders and explore opportunities to synergize with existing projects and activities.
✓ Foster a culture of transparency, accountability, and respect with key stakeholders and the public.
✓ Act decisively, particularly in the face of an emergency, to protect patients despite the constraints of incomplete information.
✓ Maintain and foster commitment and passion for the reasons that brought health professionals to HAI/AR work, while remaining practical about how best to accomplish goals.

Collaboration and Coordination

Meeting participants recommended the following strategies to ensure successful HAI/AR-related collaboration and information-sharing between agencies and partners:

✓ Engage with key stakeholders to pursue infection prevention objectives. Stakeholders may include healthcare facilities and their leadership, providers, antibiotic prescribers, pharmacists, professional associations, patients, community organizations, and licensing and survey agencies.
✓ Provide leadership and expertise to partners regarding HAIs and antibiotic stewardship. Communicate the value that public health brings.
✓ Develop or leverage public-professional partnerships to help support education and fill expertise gaps for antibiotic resistance and stewardship.

Tip: To Optimize Facility Collaborations, Pivot from Perceived Regulator to Essential Partner

- Create infrastructure for ongoing engagement: Convene regular conversations among facility representatives to provide a forum for continuous engagement. Consider building on Ebola readiness to develop networks of stakeholders committed to infection prevention.
- Articulate the business case: Prevented infections represent cost savings for facilities. Highlight the value of partnering with public health for infection prevention.
- Leverage local partnerships: Many facilities have strong pre-existing relationships with local health departments. Employ these relationships to partner with local health departments when engaging new facilities, and build an active dialogue with counterparts in healthcare licensing and survey agencies.
Maximizing Available Resources

Jurisdictions recommended the following strategies to most efficiently use HAI/AR resources:

- **Garner the support** of health department leadership.
- **Develop and maintain access to strong laboratory services** and expertise to identify cases and outbreaks.
- **Encourage a working relationship with information technology** support in order to better interface with clinical and laboratory systems.
- **Leverage partnerships** to align resources and prevention goals.
- **Explore alternative funding** sources (e.g., fines collected from survey agency inspection activities).

Defining the Impact of Infection Control Assessment and Response Funding on Healthcare-Associate Infection/Antibiotic Resistance Programs

Jurisdictions affirmed that ICAR funding has helped augment the capabilities of HAI/AR programs and partners in many ways. While this increased investment has resulted in important successes, the early stages of ICAR implementation also highlighted some persistent challenges and gaps in capacity. The graphic below provides a high-level summary of participants’ experiences regarding early impact of the ICAR activity in three key areas: programmatic capacity, workforce and training, and partnerships. (Note: The graphic below specifically describes the impact on HAI/AR programs, unless otherwise specified.)

<table>
<thead>
<tr>
<th>PROGRAMMATIC CAPACITY</th>
<th>OPPORTUNITIES OR SUCCESSES</th>
<th>CHALLENGES OR GAPS</th>
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<tr>
<td></td>
<td>• Building capacity for health departments to conduct onsite facility assessments of infection control readiness.</td>
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<td></td>
<td>• Data resulting from assessments can be used to inform action, including outbreak investigation and monitoring.</td>
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<tr>
<td></td>
<td>• Opportunities to expand the scope of infection control work.</td>
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<td></td>
<td>• Continued need for more robust, reliable data to target facilities and interventions, especially in jurisdictions without mandatory reporting.</td>
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<td>• Increased demand from facilities for HAI/AR program support can result in strain on staff capacity.</td>
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“The value of hands-on assessments cannot be over-emphasized” — HAI Coordinator
### WORKFORCE AND TRAINING

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<tr>
<th>OPPORTUNITIES OR SUCCESSES</th>
<th>CHALLENGES OR GAPS</th>
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<tr>
<td><strong>HAI/AR PROGRAMS</strong></td>
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<tr>
<td>- Opportunity to use funding to hire much-needed staff.</td>
<td>- Slow hiring processes and difficulties identifying and recruiting qualified staff.</td>
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<td>- Opportunity to enhance staff training in infection prevention.</td>
<td>- Staff increases resulting in workspace constraints and training backlogs.</td>
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<td>- Concerns regarding capacity to maintain optimal staff levels once the ICAR funding ends.</td>
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<tr>
<td><strong>HEALTHCARE FACILITIES</strong></td>
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<tr>
<td>- Opportunities for training and education, particularly in risk assessment and NHSN.</td>
<td>- A need for ongoing training in infection control for facility staff at all levels.</td>
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<td>- Elevating the profile of the facility’s infection prevention staff, as they come to be understood as a critical part of response and prevention work.</td>
<td>- Infection preventionists provide critical expertise, but there is a continued shortage of individuals in this role.</td>
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### PARTNERSHIPS

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<th>OPPORTUNITIES OR SUCCESSES</th>
<th>CHALLENGES OR GAPS</th>
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<tr>
<td><strong>OPPORTUNITIES OR SUCCESSES</strong></td>
<td><strong>CHALLENGES OR GAPS</strong></td>
</tr>
<tr>
<td>- Opportunities to promote the value of public health, and specifically, the HAI/AR program as a critical partner to healthcare.</td>
<td>- A complex partner landscape, including public health preparedness, facility administration and staff, pharmacies, and licensing, who may have competing priorities or grant activities.</td>
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<tr>
<td>- Opportunities to establish or strengthen relationships and reputations through facility assessments, which can in turn support future interactions.</td>
<td>- Difficulty navigating administrative layers to effect change.</td>
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<tr>
<td>- Opportunities to partner with academic and healthcare institutions to address emerging workforce needs.</td>
<td>- Potential challenges maintaining new partnerships once the funding supplement ends.</td>
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**Observations from Site Visits:**

The ICAR funding resulted in some key HAI/AR program successes, including strengthened partnerships and priority alignment among partners. One state observed that links between state and local health departments had also improved as a result of this work.
Looking Ahead

Public health and healthcare stakeholders at the national meetings suggested that HAI/AR programs may improve in many ways by the end of the ICAR project period (March 2018), thanks to:

- An infusion of in-house subject matter expertise.
- Improved coordination of infection control-related initiatives across agencies and programs.
- Better IT programs, resulting in better utilization of HAI/AR data.
- Improved understanding of regulatory requirements across sectors, with resulting recommendations for policy change.
- Broader perception of the HAI/AR program as a resource.

II. Assessing Infection Control Readiness: Ebola and Beyond

The ICAR activity called for health departments to assess the readiness of Ebola-designated assessment facilities, identify and address gaps, and conduct follow-up assessments. At the national meetings, jurisdictions discussed promising practices related to preparing for and conducting onsite assessments and participating in subsequent follow-up activities. Most programs also received funding to expand this approach beyond Ebola: to perform on-site assessments of broader infection control practices in a mix of hospitals, nursing homes, dialysis centers and outpatient facilities. Building trust with key partners emerged as a critical success factor. (For more information, see Spotlight: Building Trust with Facilities on page 15.) Below are highlights from participants’ discussions on how to optimize infection control assessments.

Identifying Facilities for Expanded Infection Control Assessment and Response Assessments

- **Use data** to prioritize facilities for assessment. Jurisdictions suggested looking at numbers of preventable infections (e.g., using CDC Targeted Assessment for Prevention [TAP] tools), outbreak reports, and high frequency of invasive procedures or historic challenges with infection control (e.g., long term acute care, nursing homes).
- **Consider prioritizing facilities that have requested assessment visits** and those where the health department has strong relationships with facility staff.
- **Facilities with past citations** where there does not appear to have been follow-up may also serve as good sites to start assessments. (Note: This can also be an opportunity to start conversations with surveyors or regulators). The Centers for Medicare and Medicaid Services (CMS) can provide lists of facilities with past citations by jurisdiction.
Assembling the Assessment Team

For Ebola preparedness, jurisdictions identified important roles and beneficial areas of expertise to include in an assessment team, such as **infection control professionals, preparedness program staff, local public health professionals, and lab safety experts**. Some jurisdictions suggested including **regulatory partners** because of their technical knowledge or existing relationships with facilities.

For expanded assessments related to broader infection control, jurisdictions noted using smaller teams to conduct site visits. As with Ebola readiness assessments, jurisdictions noted that it’s helpful to have team members with complementary skill sets and perspectives.

Preparing for an Effective Assessment

Jurisdictions listed the following best practices for preparing for facility assessments:

- **Assure the facility** that the health department’s primary mission during the visit is to help ensure infection control readiness, and it is not driven by enforcement objectives. Clarify that the consultations are confidential and findings will be reported in the aggregate. Discuss how the health department will use the findings.

- **Advise the facility to mobilize a team** spanning relevant functions and areas of expertise, including: infection prevention, healthcare epidemiology, laboratory analysis, pharmacy, patient transport, environmental transport, quality improvement, administration, materials management, and facilities management.

- **Share assessment tools** prior to the visit so that key facility personnel can prepare for questions and help facilitate ready access onsite.

- **Work with partners** such as the Association for Professionals in Infection Control, the Society for Healthcare Epidemiology of America, local medical associations, and governmental agencies (e.g., CMS quality improvement networks) to gain access to facilities that have been challenging to engage.
During Onsite Observations

Health departments can most readily identify gaps in infection control through careful, patient observation and by studying practices up close and in person. When conducting onsite assessments, members of the assessment team should “walk the facility,” letting natural conversation emerge rather than creating a formal atmosphere of scrutiny. Assessment methods should prioritize observing activities (e.g., donning and doffing) in the spaces where they are conducted, rather than relying on facility-generated checklists or reviews of policies and procedures.

Adjusting Assessment Approaches for Different Needs

Jurisdictions suggested scaling or adjusting assessment approaches for the needs of different types of facilities or communities. For example, although it’s generally possible to use a systematic approach to assess regulated facilities, assessing alternative settings (e.g., non-regulated facilities) can benefit from more exploratory, investigative approaches.

Suggested Practices for Assessment Follow-Up

Jurisdictions suggested that health departments employ the following best practices after facility assessments:

- **Communicate the top two or three gaps** to the facility on the day of the assessment.
- **Send resources by email** within a few days of the assessment.
- **Send the facility the full report** within a month of the assessment.
- **Follow up** to help mitigate gaps and ensure that correction plans are implemented.

Tip: Use Key Tools to Facilitate Assessment Activities

Many jurisdictions indicated that the CDC assessment tool was extremely helpful. Jurisdictions suggested that tools specific to different facility settings would be useful, and noted additional helpful tools/resources:

- IAuditor inspection checklist app.
- Cloud-based collaboration software systems (e.g., Microsoft SharePoint) for sharing resources and coordinating among partners.
- Society for Healthcare Epidemiology of America’s infection control guidelines.
- Association for Professionals in Infection Control 2014 poll of infection preventionists to assess Ebola readiness.
Coordinate among health department programs (e.g., infection control, emergency preparedness, regulatory, etc.) to apply needed expertise to address gaps.

**Tip:** During initial follow-up communication with facilities, acknowledge any notable strengths observed during the course of the assessment and highlight areas needing improvement.

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**Using Findings to Inform Infection Control Readiness**

Data collected from assessment visits can be used to support facilities and health departments, along with their partners, in preventing and detecting outbreaks. Meeting participants suggested using the data to:

- **Target efforts and resource development** (e.g., facility education tools and trainings) to address gaps in infection prevention.
- **Inform coordinated HAI/AR efforts**. Partners from other programs within health departments, healthcare entities, and national or regional partner organizations may contribute skills and resources needed to address gaps.
- **Conduct a gap analysis**, supplemented by NHSN data (e.g., using TAP strategy), infection rates, and outbreak reports.
- **Identify stewardship needs** (e.g., developing of a statewide educational program to help combat antimicrobial resistance).

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**Health Department Capacity: A Challenge for Follow-up**

Although jurisdictions emphasized the importance of following up to ensure corrective action or improvement after assessment visits, at the time of the national meetings, many HAI/AR programs lacked the capacity to follow up systematically—or at all—on identified gaps.
Sustaining Assessment Activities

Although jurisdictions were at early stages of implementing ICAR activities at the time of the in-person meetings, they were consistently interested in discussing ways to maintain or expand their activities. The figure below lists some of these resulting strategies for sustaining efforts to assess and enhance facility infection control readiness:

When communicating with facilities, emphasize the importance of positioning infection control and preparedness activities to anticipate future and emerging threats (e.g., new antibiotic resistant pathogens).

Serve as a resource and offer technical support to facilities. Modify existing assessment templates to expand to new types of facility settings.

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Provide forums (e.g., regular calls and webinars) for continued cross-sector coordination and learning. Coordinate across jurisdictions to provide trainings and other learning opportunities for healthcare providers.

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Develop partnerships with universities and establish networks of retired infection preventionists to increase skilled workforce capacity, especially during outbreak response.

Establish a rotation schedule for continued onsite facility assessment, with intermittent phone calls to maintain regular communication. Develop a facility prioritization plan for ongoing assessments.

Establish a rotation schedule for continued onsite facility assessment, with intermittent phone calls to maintain regular communication. Develop a facility prioritization plan for ongoing assessments.
Spotlight: Building Trust with Facilities

HAI/AR programs emphasized the importance of trust-building as a critical element for forging and maintaining productive relationships with facilities. Below are some of their strategies for building trust with key partners and tips for implementing these strategies as part of the health department’s ICAR activities.

- **Set clear expectations for the facility.** Help facilities understand the purpose of the assessment visits. Discuss the nature of site access, expertise needed onsite, and how the gathered data will be used. Consider sharing the assessment tool in advance.

- **Understand the facility’s culture and needs.** Ensure—and demonstrate—the health department’s understanding of the facility’s organizational culture and interests. Recognize any positive or negative experiences that the facility may have had with the health department historically.

- **Consider providing assurance that might alleviate initial concerns.** Letters of agreement between the health department and facilities, or other modes of documenting expectations and roles in preparation for an ICAR visit, can facilitate access.

- **Plan visits collaboratively.** Joint planning between the ICAR team and facility staff can help foster mutual understanding.

- **Follow through on expectations.** Reliability and consistency can help foster confidence over time. Send tools ahead of time, arrive on schedule, and follow up in a timely manner.

- **Leverage any available “trust brokers.”** Use existing shared relationships (e.g., with the quality improvement organization, hospital association, or the Association for Professionals in Infection Control) to help build mutual confidence.

- **Establish routines for regular quality contact between health department and facility.** “Operationalize” relationships outside of outbreak responses to build a collaborative dynamic.

- **Adjust the approach for different types of facilities.** Acknowledge that the approach for gaining buy-in for an assessment visit, along with the expectations during a visit, may vary for different facilities or facility types.

- **Demonstrate program value to facility partners.** Share how health departments can provide NHSN technical assistance, sample personal protective equipment, and supporting education through materials, web-based resources, and site visits.

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“Trust between the HAI program and facility is built by the three Es: Education, Expertise, and Empathy.”

-HAI program staff member

“Our hospital members start to see a [familiar] cast of characters...in a collaborative setting. That’s really helpful.”

-State hospital association representative
III. Healthcare-Associated Infection/Antibiotic Resistance Program Coordination and Collaboration with Public Health Partners

Activities outlined in the ICAR program reinforced the imperative for HAI/AR programs to coordinate their efforts with other public health partners. At the time of the national meetings, the strength and durability of these public health collaborations varied across jurisdictions, depending on factors such as: the centralization (or decentralization) of the state health department authority, the distribution and availability of funds, the history of regional or local interactions, and the nature and severity of recent outbreaks. Despite this variability, jurisdictions identified many common strategies and opportunities for HAI/AR program coordination with preparedness programs, local health departments, and laboratories. The sections below describe meeting participants’ suggestions on how best to coordinate and collaborated with key public health partners.

**Preparedness Programs**

HAI/AR and preparedness programs traditionally interact during planning and response activities. However, despite their close proximity within a health department and complementary or overlapping activities, a lack of regular communication and coordination between these programs can lead to conflicting messages, different response plans, and competition for resources. Jurisdictions’ strategies for strengthening and formalizing coordination between these two programs include:

- **Clarify each program’s role** and the resources it will provide in the partnership. Outline current activities, funding sources, and deliverables.
- **Develop communications** that **emphasize infection control as a tool for preparedness** using language that crosses both sectors.
- **Communicate with one voice**, prioritizing consistent messaging to partners, facilities, and the community.
- **Include preparedness program staff** on the HAI advisory committee and ICAR assessment teams.
- **Jointly develop an outbreak response plan**. Test this plan early and often, revising it continuously.
- **Develop grant applications collaboratively**, building in opportunities for sustained coordination between programs.

"Recognize the culture clash between HAI and preparedness, and develop a shared language and protocols for collaboration."

-Preparedness program staff member

**State Spotlight: Creating Forums for Collaboration in Oregon**

The Oregon HAI program holds quarterly calls with the preparedness program and regulatory licensing agencies to update one another on recent activities, upcoming projects, or other opportunities for alignment.
Local Health Departments

Capacity, resources (including but not limited to funding), and regulatory structure can affect coordination between the state and local health departments. In general, states with decentralized governance systems (i.e., local health departments, which are primarily led by employees of the local government, not the state) reported facing the greatest challenges in coordinating efforts between the state and local health departments. However, given the benefits of partnerships between state HAI/AR programs and local public health—including pooled expertise, messaging alignment, increased relationship networks for gaining access to facilities, and efficient resource use—these programs should aim to coordinate their goals, activities, and deliverables whenever possible. Strategies for doing this include:

 ✓ **Invite local public health to join assessment visits.** Local health department staff are more likely than state health department staff to have had regular communication with facilities and providers, and can facilitate access for assessment purposes.

 ✓ **Engage local public health for follow-up activities** (e.g., to provide trainings for facilities) after assessment visits.

 ✓ **State health departments already coordinating with their local public health partners can invite them to participate in regular HAI/AR program meetings** and/or join the state HAI advisory committee.

 ✓ **Understand local health department priorities** and opportunities to build local capacity (e.g., National Association of County and City Health Officials [NACCHO] demonstration projects) to ensure alignment.

 ✓ **As with other partners, present a united front** and ensure consistent messaging across all levels.

Public Health Laboratories

Jurisdictions noted a need to establish regular access and timely communication between HAI/AR programs and public health laboratories. The two functions are frequently located separately and traditionally have had little interaction, posing a challenge for effective coordination. Although implementing ICAR activities and recent outbreak responses have resulted in increased requests for public health laboratories specifically, many laboratories face resource constraints (e.g., outdated equipment, limited capacity to test all samples in a timely manner).

Jurisdictions’ suggestions for enhancing relationships between HAI/AR programs and laboratories include:

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**Tip: Engage Local Public Health**

Positioning a local health department to lead a facility assessment allows the state HAI/AR program to play a consultative role, while minimizing perception of a regulatory dimension to the exercise. Direct involvement of both local and state staff can also result in broader or deeper expertise onsite.
Include laboratory staff on assessment teams and/or HAI advisory committees to improve communication, strengthen relationships, and contribute to planning, training, and response activities.

Include laboratories in grant proposals to demonstrate cross-function public health support for infection control priorities and to help increase technical capacity.

As possible, accelerate the shift to electronic reporting to help ensure timely data gathering and reporting and minimize confusion.

State Spotlight: Formalizing Linkages with the State Laboratory in Kentucky

In Kentucky, an epidemiologist based at the state public health laboratory works as the “epi lab connector.” This position serves as the designated liaison between the state laboratory and the health department’s epidemiology division, which houses the HAI program. When an outbreak occurs, this individual ensures that the lab understands testing priorities in order to obtain timely results and facilitate effective communication between departments.

IV. Cross-Sector Partnerships Involving Healthcare-Associated Infection/Antibiotic Resistance Programs

Successfully implementing and sustaining ICAR program activities requires strong working relationships between HAI/AR programs and facilities in their jurisdictions. Essential healthcare partners include licensing and survey agencies, hospitals and other facilities, hospital associations, trade associations, providers, and pharmacies. HAI advisory committees also play an important role in facilitating coordination and collaboration within jurisdictions. Other important partners include quality innovation network-quality improvement organizations (QIN-QIOs), regulatory partners, and academic institutions. The sections below describe meeting participants’ suggestions on how best to coordinate and collaborate with key partners in other sectors.

“Begin to develop relationships before you actively need them. It takes time – a couple of years – to build them and for them to pay off. Now we are starting to develop projects together.”

-HAI/AR program staff member
Healthcare Facilities

In the early stages of ICAR implementation, some programs encountered challenges establishing contact with certain types of facilities or gaining access once contact was established. Some jurisdictions also indicated that resource constraints hindered their ability to approach the number of facilities that they wanted to assess, or their ability to remain available for follow-up requests from facilities. Nevertheless, jurisdictions indicated that assessment activities were an important opportunity to build or enhance relationships with facilities, and offered the tips below. (For additional tips, see *Spotlight: Building Trust with Facilities* on page 15.)

- **Make the business case** for infection control. Engage facility leadership with data demonstrating the financial benefits of infection control readiness. Highlight any financial incentives that may motivate facilities to engage with health departments.

- **Use assessment activities as an opportunity to develop or enhance trust-based partnerships** with facilities. Although some facilities may initially be reluctant to receive an assessment, a well-conducted assessment and follow-up process can help establish ongoing channels of communication and a basis for further coordination and partnership.

- When encountering challenges gaining access to facilities, **enlist the support of hospital associations, QIN-QIOs**, and other entities that are already known and trusted by facility staff.

- **Use testimonials** from facilities with a positive experience of assessment to expand the circle of healthcare partners welcoming future assessments.

Healthcare-Associated Infection Advisory Committees

HAI advisory committees can play an important role in building partnerships and strengthening coordination across the healthcare continuum as it relates to infection prevention. Strategies for maximizing the function of HAI advisory committees as a bridge for partnerships and a forum for cross-sector coordination include:

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Observations from Meeting Participants:

Jurisdictions identified both great opportunity and significant challenges in partnering with long-term care facilities. These facilities are more likely than some to experience shortages in staff and infection control expertise necessary to embark on assessment activities. However, some health departments found that many such facilities still welcomed the opportunity to partner for the site visit and technical assistance.
Welcome a diverse range of perspectives and functions on the advisory committee when possible, including from public health preparedness, local public health, facilities, pharmacies, patient advocacy groups, providers, surveyors, and insurance companies.

Develop meetings and agendas collaboratively, to ensure that all members experience a sense of joint ownership and see the value of their participation.

Develop and disseminate training in partnership with other members of the advisory committee.

Pharmacies

Many jurisdictions noted some difficulties engaging with pharmacies and pharmacy associations in their prevention and planning efforts. In some jurisdictions, the board of pharmacy is not located within the same agency as public health, resulting in the added complexity of interagency coordination. Some jurisdictions reported success with the following strategies:

Engage the board of pharmacy, or a particular pharmacy partner participating on the HAI advisory committee, in a closer working relationship.

Explore establishing memorandums of understanding with national pharmacy chains that facilitate connections and information-sharing with local pharmacy branches.

Consider contacting smaller pharmacies directly to exchange information and engage them in conversations regarding infection prevention and stewardship.

Survey and Licensing Agencies

As HAI/AR programs evolve and strengthen working relationships with healthcare facilities, it is critical to understand the role and value of survey and licensing agencies as partners in infection control and outbreak response. The structure and organization of survey and licensing responsibility varies across the country, with regulatory authority existing separately from the health department in some jurisdictions, and jointly in others. However, stakeholders at both national meetings emphasized the importance of developing and fostering relationships between public health and regulatory partners, and recommend:

Clarifying, and (as appropriate) differentiating the roles of the HAI/AR program and the survey or licensing agency. Describe to healthcare facilities how the two entities’ roles, responsibilities, and objectives vary, and where they overlap. Refer to regulatory/licensing as a valued partner rather than portraying them as an antagonist.

Identifying opportunities for consistent communication with regulatory partners. Open lines of communication provide an opportunity to discuss trends, recent activities, and joint solutions (e.g., trainings for identified gaps, or follow-up to ensure that corrective plans are implemented).
When possible, using data from regulatory partners to better target facilities for assessments. Conversely, discuss the ICAR experiences with regulatory partners/surveyors when possible to ensure preventing transmission of infections is prioritized.

Determining thresholds that should trigger regulatory intervention. For example, some jurisdictions indicated that they generally share aggregate assessment findings with survey or licensing agencies, but report any egregious deficiencies. Communicate with healthcare facilities about these reporting thresholds.

Additional Cross-Sector Partners

Jurisdictions suggested engaging with QIN-QIOs, academic institutions, and hospital associations to help broker relationships with healthcare facilities, streamline activities, and support workforce training and development. They recommended the following strategies:

- Leverage partnerships with hospital associations and QIN-QIOs to help bridge gaps in confidence or understanding with healthcare facilities. Hospital associations can also help health departments gain direct access to facility leadership and decisionmakers.
- When possible, consolidate or align QIN-QIO and ICAR assessments to minimize the burden on facilities.
- Partner with academic institutions to help build and maintain a pipeline of qualified infection prevention and control professionals, both in the public health and healthcare sectors. Identify areas of needed expertise to inform how these institutions develop their program curricula. Develop and provide training or education programs in collaboration with university-based subject matter experts and QIOs.

In Summary: Strategies for Strengthening Coordination and Collaboration

Whether stakeholders are increasing alignment with public health partners or exploring opportunities to build connections with cross-sector stakeholders, meeting participants recommend keeping the following general tips in mind:

- Recognize cultural differences between sectors, and even between different programs within a health department.
- Develop a shared vocabulary and clearly define key terms.
- Clarify respective roles and identify shared interests.
- Use data to highlight the benefits of prioritizing infection control efforts.
- Present a united front to the broader community using a shared, consistent message.
- Align and coordinate initiatives with similar objectives in order to make efficient use of funds and human capacity across public health and healthcare.
- Routinize collaboration so that it becomes the norm in preparing for and responding to outbreaks.

“We need oversight organizations like QIOs to endorse the concept of collaboration between facilities and health department[s].”

- Health department epidemiologist
V. Strategic Communication

In addition to sharing promising practices specific to ICAR implementation, participants at the national meetings discussed experiences communicating the value of HAI/AR programs to partners, lessons learned regarding strategic communication, and their advice for pivoting pathogen-specific communication to a focus on overall infection control proficiency. They noted that strategic communication remains critical to their efforts as HAI/AR programs expand capacity and respond to new challenges.

In Advance of an Outbreak

Meeting participants recommended the following strategies for communicating with partners before an outbreak occurs:

✓ Raise awareness among key partners (e.g., public health leadership, governors’ and mayors’ offices, preparedness and other response programs and agencies, and healthcare facilities) about HAIs and AR, proven prevention strategies, and the importance of working together to address this important issue.²

✓ Identify and establish relationships with key communication partners in advance of an outbreak.

✓ Build communication tools and protocols collaboratively so that emergency responses are planned, practiced, and controlled, rather than relying on day-to-day reactions. Train staff and partners on communication plans to ensure awareness.

✓ Support efforts to communicate with key partners and the public by documenting HAI program progress and impact and developing population-based measures to track public health outcomes.

² For tools to help health departments enhance communication and coordination around HAI/AR, visit ASTHO’s HAI web page.

Tip: Keep public-facing communication local and personal, connecting with the public’s perspective by citing patient stories. Messages should include achievable solutions, both explaining what is already being done to help keep communities safe and stressing what the target audience can do—whether through individual behavior, within a community, or between silos.

“It’s important to know your audience and engage them in a way that is most meaningful to them.”

Representative from a national partner organization
During an Outbreak

Meeting participants recommended employing the following strategies for communicating with key partners and the public during an outbreak:

✓ **Establish a culture of transparency and timeliness** to build trust with the public, minimize fear, and counter the influence of inaccurate messages from other sources.

✓ When using data to quantify risk and progress in alleviating a threat, **provide data in simple language and in a clear context**, so that it is accessible to non-experts. Programs and partners should not expect data alone to be persuasive.

✓ **Use multiple messaging channels**, including conventional news outlets and social media, to educate the public. Explore in-person communication opportunities (e.g., town halls, community forums) to engage the assistance of the public and key community leaders in prevention and response efforts.

✓ **Make the message actionable.** In addition to providing information about threats or risks, outline solutions describing what is being done to lower risk, and what the public, community leaders, and other partners can do to help the infection control efforts.

✓ **Tailor messages to target audiences.** Identify key audiences and their motivators, and use straightforward, accessible language. In the course of a broad national or regional event, tailor communications to local audiences to help them better understand the possible and probable impacts on their communities.

✓ **Coordinate with partners** to ensure early and consistent public messaging. Partners should endeavor to speak with a single voice during a crisis, ensuring message alignment across internal and external partners. Consider establishing a primary coordination center for communications (e.g., a joint information center).

✓ Each organization should **designate a point person for media requests**. Ensure that this person is prepared with talking points, key messages for target audiences, and an understanding of key partners’ roles and responsibilities.

✓ **Inform and orient internal staff** directly rather than letting them learn information about the outbreak via the internet or other media sources. This is particularly important for frontline workers, who may be caring for or working around infected patients or handling lab specimens.

“Statistical tools can be helpful, but it’s hard to translate that information for lay audiences. Put the patient back into the equation!”

-HAI coordinator
Conclusion

The 2014 Ebola outbreak and other recent events catalyzed increased investment in and coordination for HAI prevention, outbreak response, and antibiotic resistance containment. The ELC funding supplement, and specifically the ICAR project, provided HAI/AR programs with critical resources, and increased momentum and alignment for these related missions.

The national HAI/AR meetings convened by ASTHO and CDC, with support from the Keystone Policy Center, brought together current and potential partners from jurisdictions across the U.S., including HAI program staff, public health leaders, preparedness program staff, regulators, and representatives from healthcare systems, associations, and national organizations. Participating stakeholders emphasized how important trust-based relationships and ongoing collaboration and coordination (locally, regionally, and nationally) are to successful HAI/AR responses.

Meeting participants expressed interest in further opportunities to share experiences, expertise, and maximize resources through remote learning platforms and in-person dialogue. Jurisdictions cited CDC’s HAI Grantees meeting and the Council of State and Territorial Epidemiologists (CSTE)’s HAI Subcommittee meetings as essential opportunities to continue this type peer-to-peer learning. In the meantime, jurisdiction action plans developed during the meetings can serve as frameworks to guide state-level goals and coordinated action steps.

As programs and their partners in all sectors work together to achieve shared goals, sustain new capacity, and evolve to meet new HAI/AR challenges, ICAR activities can provide a framework for transitioning from the response to Ebola—or any specific outbreak or special pathogen—to everyday vigilance to protect communities, patients, and those who care for them.