

Local and Tribal Health Department Healthcare-Associated Infection (HAI) and Infection Prevention Training Workbook

Workbook 1: Introduction to HAIs and Infection Prevention



WISCONSIN DEPARTMENT
of HEALTH SERVICES

How to Use this Workbook

This workbook covers a number of topics in a variety of different formats to help local and Tribal health departments (LTHDs) increase their knowledge on HAIs and infection prevention and control practices. The scenarios and questions included in this workbook are intended to enhance your own, self-paced learning. Each workbook includes a list of learning objectives, self-paced learning activities, links to additional helpful resources related to a given topic, and an answer key.

Meet Izzy

Throughout the program, you will follow Izzy, a communicable disease investigator at her local health department in charge of all things infection control. Using what you learn in each section, you will help Izzy provide infection control consultation and assistance to those in her jurisdiction.



Workbook 1 Objectives

By the end of this workbook, you will be able to:

- Explain the role of LTHDs in the prevention and control of HAIs and antimicrobial resistance (AR).
- List types of device-associated HAIs.
- Identify the Healthcare Emergency Readiness Coalition (HERC), public health, and Division of Quality Assurance (DQA) regions of Wisconsin.
- Understand the makeup of the AR Lab Network.

Workbook 1 Activities

Activity 1: What are HAIs? 1 hour

1. Watch the CDC (Centers for Disease Control and Prevention) [Recognize Infection Risks in Healthcare video](#).
 - a. According to the video, what are five factors of infection?

2. Learn where germs live in health care on the [Infection Control in Health Care: An Overview webpage](#).
 - a. What do you call a place where germs live and grow?

 - b. True or false: Most germs are not harmful to us.

 - c. List three common health care-related activities or procedures that can break through a person's natural defenses, making them more vulnerable to infection.

 - d. Which types of HAIs can live on skin? What infection control practices can help reduce risk?

 - e. True or false: It is common for a healthy person to have different types of germs in their blood.

 - f. What is the most common way that bloodborne viruses spread in health care?

 - g. Why isn't tap water used for IVs and injections?

 - h. Which types of HAIs live on dry surfaces? What infection control practices can reduce risk?

3. Complete either the [Diarrhea Dilemma](#) or [Fidgeting Felix gets an IV](#) infection control training.
 - a. Did you answer any of the questions incorrectly? Is there anything new that you learned while competing the challenge?

Activity 2: CLABSI, CAUTI, and VAP – Oh my!

1 hour

4. Read through the CDC (Centers for Disease Control and Prevention) [Central Line-Associated Bloodstream Infections: Resources for Patients and Healthcare Providers webpage](#).
 - a. Why are central lines more likely to cause series infections?
 - b. Describe what health care providers can do to prevent CLABSI?
5. Read through the [CDC Catheter-associated Urinary Tract Infections \(CAUTI\) webpage](#).
 - a. True or false: UTIs are the most common type of HAI reported to the National Healthcare Safety Network (NHSN).
 - b. What is the most important risk factor for developing a CAUTI?
 - c. List three strategies that can help reduce the risk of CAUTI.
3. Read through the CDC [Ventilator-associated Pneumonia \(VAP\) webpage](#).
 - a. How do ventilator-associated pneumonia (VAP) infections occur?
 - b. Describe three steps health care providers can take to prevent VAP.

Activity 3: Who are IPs? 45 minutes

Walk through a hospital IP's shoes by completing the computer-based video simulation, [Partnering to Heal](#) from Health.gov. After watching the introduction video (6.5 minutes), complete the simulation (about 30 minutes) as Janet, an IP.

- a. What was the outcome of your decisions as Janet? What choices led to this outcome? What areas did you feel you struggled with as Janet?

Activity 4: The role of LTHDs 15 minutes

1. Watch the National Association of County and City Health Officials (NACCHO) [Addressing Healthcare-Associated Infections: The Role of Local Health Departments video](#) (about 2 minutes).
 - a. Provide an example of how LTHDs can enhance their HAI prevention and control capacity.
2. Read the [Roles of Local Public Health section](#) of CDC's Interim Local Health Department Strategy for Response, Control, and Prevention of HAIs and AR.
 - a. List three advantages LTHDs have when conducting HAI and AR prevention and control activities.

Activity 5: Regions of Wisconsin 15 minutes

Izzy is a communicable disease investigator in Langlade County. Izzy received some questions from a nursing home in her county regarding enhanced barrier precautions. Izzy knows the Wisconsin HAI Prevention Program has experienced IPs who provide infection prevention support to each public health region of the state, called Regional IPs. Izzy decides to contact her Regional IP to help address the facility's questions.

Note: While the HAI Prevention Program may reference public health regions for dividing the state, other programs and regulatory agencies may utilize different geographic boundaries for their regions.



- a. Which [public health region](#) does the nursing home belong to and which [Regional IP](#) should Izzy contact?

Izzy then has some questions regarding proper health care emergency preparedness plan. She knows these questions can be addressed by her region's Healthcare Emergency Readiness Coalition (HERC) coordinator.

- b. Which [HERC region](#) does Langlade county fall under and which [HERC coordinator](#) should Izzy contact?

Finally, Izzy needs to contact her region's [Division of Quality Assurance](#) Regional Field Office Director (RFOD) about a few questions on nursing home regulations.

- c. Which [DQA region](#) does Langlade county fall under and which [RFOD](#) should Izzy contact?

Activity 6: Public health laboratories 10 minutes

Read how labs work together on the CDC's [Antimicrobial Resistance Laboratory Network webpage](#) and [fact sheet](#).

- a. What are two benefits of submitting isolates to a public health laboratory?
- b. True or false: Every state health department laboratory can test for enteric bacteria like Salmonella.
- c. True or false: Only two regional laboratories do core testing.
- d. Which seven jurisdictions (states/cities) send samples to the Wisconsin State Laboratory of Hygiene (WSLH) as part of their Midwest AR Lab role?

Additional Resources

The following are optional readings, articles, and other resources for information on the topics covered in Workbook 1.

- Read the [CDC's Safe Health Care blog post](#) on HAIs and AR.
- Explore the National Association of County & City Health Officials' (NACCHO) [Infection Prevention & Control Quick Start Guide](#) for additional background on the role of local health departments in infection prevention and control as well as infection prevention and control education.
- Read an article on [a day in the life of an infection preventionist](#) from *Infection Control Today*.
- Watch the Association of State and Territorial Health Officials (ASTHO) animated video: [Know Your Role in Preventing HAIs](#).
- Watch the [Association for Professionals in Infection Control and Epidemiology \(APIC\) video](#) on the value of infection prevention.
- Review the HAI Prevention Program's [LTHD webpage](#) with educational resources and information.
- Explore the [state-based HAI programs](#) on the CDC website.

Workbook Key

Activity 1: What are HAIs?

1. (a.) *In order to cause infection, germs need: a place to grow, a pathway, a person to infect, a way to around natural defenses, to survive.*
2. (a.) Reservoir. (b.) True. (c.) Surgery, inserting an IV, chemotherapy, antibiotic use
3. (a.) HAIs that can live on skin include Staph (MRSA), strep, Candida (including *C. auris*). Actions that reduce risk include: hand hygiene, appropriate glove use, injection safety, cleaning and disinfection, source control (covering cuts and wounds). (b.) False. (c.) When a patient's blood is on a sharp item that causes a needlestick or a cut or break in someone's skin and then enters their body.
4. (a.) It isn't sterile. (b.) HAIs that live on dry surfaces include *C. diff*, norovirus, candida, and rotavirus. Infection control practices that can reduce risk include: cleaning and disinfection, device sterilization, hand hygiene, use of PPE (such as gloves and gowns).
5. (a.) Open interpretation.

Activity 2: CLABSI, CAUTI, and VAP – Oh my!

6. (a.) *They access major veins close to the heart and can remain in place for weeks or months. (b.) Follow central line insertion prevention practices including hand hygiene, applying antiseptic to the skin, and using sterile barriers; follow central line maintenance practices; remove central line as soon as it is not longer needed.*
7. (a.) True. (b.) Prolonged use of the urinary catheter. (c.) *Ensure that catheters are only used when needed and removed as soon as possible; place catheters using proper aseptic technique; ensure the closed sterile drainage system is maintained.*

8. (a.) Infections occur when germs enter through the ventilator tube and get into the patient's lungs.
(b.) Keep the head of the patient's bed raised between 30-45 degrees; try to get patients off ventilators as soon as possible; practice hand hygiene before and after touching the patient; clean the inside of patient's mouth on a regular basis; clean or replace equipment before use on different patients.

Activity 3. Who are IPs?

(a.) Open interpretation.

Activity 4. The role of LTHDs

1. (a.) Partnering with facilities to strengthen data access at the local level, facilitating trainings and exercises to improve preparedness and response, engaging in coalitions to collaborate with partners on HAIs, educating health care providers on specific HAIs.
2. (a.) LTHDs are the frontline of public health, connect federal, state, and local partners, are well-positioned to educate and convene health care facilities, play a vital role in infection prevention, control, and response, often have authority for public health action and policies, have unique relationships to local health care facilities and partners, have knowledge of the local culture.

Activity 5. Regions of Wisconsin

(a.) Northern, Anna Marciniak, (b.) Region 2, North Central Wisconsin HERC, coordinator subject to change, (c.) Northeastern region (Green Bay), RFOD subject to change

Activity 6. Public health laboratories

(a.) Obtaining resistance mechanism data and detecting patient outbreaks, (b.) True, (c.) False, (d.) Wisconsin, Michigan, Illinois, Chicago, Indiana, Ohio, Kentucky