

# Infection Preventionist Starter Kit



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# Introduction



This series of overviews provides infection preventionists (IPs) with an easy-to-use “starter kit” containing background and resources for some of the many infection prevention-related responsibilities. This is not a replacement for any facility-specific orientation, but rather a supplement to enhance your learning.

The format is divided into suggested learning tasks based on the knowledge of experienced IPs across the continuum of care; the tasks can be done in any order that is convenient for you. Content was drafted by staff at the [Wisconsin Department of Health Services Healthcare-Associated Infections \(HAI\) Prevention Program](#) and [MetaStar, Inc.](#) with additional editorial support by the Wisconsin HAI Prevention Advisory Committee.

## Tips To Get Started

- **Watch:** [Infection Preventionists Save Lives](#) (4 min), Association for Professionals in Infection Control and Epidemiology (APIC)
- **Start a notebook:** Maintain a record of your learning experiences, note keeping, to-do lists, etc. Taking good notes is an essential part of this job, especially during investigations, meetings, and discussions, as you may need to refer to these often.
- **IP program review:** Review the essential documents of the organization’s IP program, including, but not limited to: IP Program Plan, annual risk assessment, surveillance plan, hand hygiene program, Bloodborne Pathogen Exposure Control Plan, Tuberculosis Exposure Control Plan, Antimicrobial Stewardship Plan, Emergency Management Plan, Water Management and Intrusion Plan, and IP committee minutes for the past six to 12 months.
- **Regulatory review:** Develop an awareness of critical regulatory statutes or accreditations applicable to your job. In most organizations, the quality department has oversight of accreditation. Be sure to discuss this when meeting with the quality director. Regulatory statutes are listed in the resource section of each overview.



# Tips To Get Started

- **Short meet-and-greets:** Introduce yourself to key IP partners in your facility. Connect with team members in leadership positions, including but not limited to:
  - Quality
  - IP medical director or epidemiologist
  - Nursing
  - Housekeeping/environmental services
  - Employee/occupational health
  - Plant operations/maintenance/engineering
  - Sterile process and delivery/reprocessing/high-level disinfection\*
  - Surgical services/operating room\*
  - Laboratory\*
  - Laundry/linen services\*

\*If applicable to your setting and facility.

Note: After the “meet-and-greet,” you should schedule a short meeting in the next few weeks to gain a better understanding of how the department integrates with the IP program. Prior to the meeting, review your IP Committee minutes and applicable policies and procedures. Use the “Infection Prevention Connections Within The First Month” guide to help decide who to meet with and what to discuss.

- **Surveillance:** Review surveillance types applicable to your facility, reporting methods, and improvement planning. Review your IP committee data reports and analysis for the past six to 12 months, as well as any surveillance reports, to track occurrence as specified by your program. If your facility is required to enter data into the National Healthcare Safety Network (NHSN), bookmark the link (<https://www.cdc.gov/nhsn>) on your computer.
- **Reporting:** Fulfill actions required by [DHS Chapter 145 of the Wisconsin administrative code](#). Many pathogens or disease processes require notification to your [Wisconsin local public health officer](#). The Wisconsin Electronic Disease Surveillance System ([WEDSS](#)) is used to electronically report these requirements.



For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)



# Program Infrastructure



## Summary

A comprehensive infection prevention (IP) program is essential to high-quality patient care and applies to all types of inpatient and outpatient health care settings (i.e., hospitals, long-term care facilities, ambulatory surgery centers, clinics, dialysis centers, hospice, home care). The IP program is based on the infection risks specific to that facility, the populations served, the services provided, and the health care personnel who deliver those services.

Policies and procedures are based on accepted best practices and standards by relevant organizations, as well as regulatory requirements by federal, state, and local authorities. The program is evaluated regularly for effectiveness by obtaining and analyzing data and, when necessary, practices are changed to improve outcomes. Utilizing an interdisciplinary approach ensures communication with key team leaders within the organization, including but not limited to, administration, nursing, medical staff, and ancillary services (i.e., housekeeping, laboratory, plant operations).

## Key Concepts

- The IP program director should be qualified and trained in infection control or in the training process. The IP may complete course(s) by recognized organizations [i.e., Association for Professionals in Infection Control and Epidemiology ([APIC](#)), Society for Healthcare Epidemiology of America ([SHEA](#))], and/or maintain Certification in Infection Control (CIC) by the Certification Board in Infection Control and Epidemiology ([CBIC](#)).
- A facility infection risk assessment should be performed annually. This evaluates and prioritizes high-volume, high-risk, and problem-prone activities. It assesses potential risks for infections, contamination, and exposures, as well as the program's readiness to eliminate or mitigate such risks. Updates occur whenever new risks (e.g., new procedures, change in patient population) are identified.
- A written infection prevention program plan is required. This is based on the annual risk assessment and includes a plan for surveillance, data analysis and reporting mechanisms, and structure of the multidisciplinary infection prevention committee. The plan should be evaluated annually and summarize the previous year's activities, including patient outcomes and cost savings. It should be distributed throughout the organization.



# Key Concepts

- Integration with the organization's performance improvement (PI) program is essential to identify opportunities relevant to the infection prevention program. The IP should take leadership roles on PI teams.
- Written infection control policies and procedures should be available, current, and based on evidence-based guidelines [i.e., Centers for Disease Control and Prevention ([CDC](#)), Healthcare Infection Control Practices Advisory Committee ([HICPAC](#))], practice standards, and the local, state, and federal regulatory requirements).
- The IP program is integral in education to patients, family members, other caregivers, health care providers, and staff.

# Program Components Checklist

- [Infection control risk assessment analysis](#)
- Bloodborne pathogen plan
- Tuberculosis control plan
- [Hand hygiene program](#)
- Antimicrobial stewardship plan
- Outbreak management plan
- Emergency management plan
- [Water management plan](#)
- Immunizations
- Employee health
- Committees and communication with key departments



**Reminder:** Your IP program should be based on the unique risks of your facility and the patients or residents you serve.



# Resources

## Information and Recommendations

- [Association for Professionals in Infection Control and Epidemiology \(APIC\) Online](#)
- [APIC Text](#) (subscription required)
- [Infection Control](#), Centers for Disease Control and Prevention (CDC)
- [Tools for Health Care Settings](#), CDC
- [Water Management Program](#), CDC



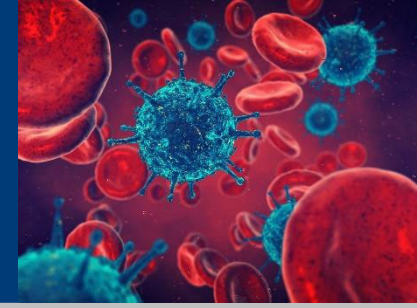
Forming your IP program will require building relationships and reaching out to leaders in your facility.



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# Bloodborne Pathogens



## Summary

A bloodborne pathogens (BBP) plan, also known as an exposure control plan, is an Occupational Safety and Health Administration ([OSHA](#)) requirement to protect employees. All health care organizations must have a BBP plan. To improve safety, it should be reviewed annually at a minimum, as well as whenever necessary to reflect up-to-date tasks and procedures, occupational exposures, technologies, and medical devices.

The BBP plan must be readily available to staff and have frontline staff input on identifying, evaluating, and selecting engineering and work practices within the plan. Annual education that incorporates universal/standard precautions and personal protective equipment (PPE) is also required. Infection prevention should collaborate with employee health to create a BBP plan.

## BBP Plan Components

- **Methods of compliance** with the plan requirements, including documenting engineering, work practice controls, handwashing facilities and cleansers, sharps containers, handling blood or other potentially infectious material (OPIM), labeling, and a policy for sharing information with your employees and contracted workers.
- **Exposure determination** that lists all job classifications with occupational exposure and possible tasks and procedures where potential exposure can occur, regardless of protective efforts.
- **Policies** that outline when PPE use is required, the accessibility/location of PPE, how to clean multi-use devices, disposal of single-use devices, and the replacement and laundering of PPE or other equipment, if necessary. PPE must be readily available and provided at no cost.
- **Requirements for housekeeping, cleaning, and sanitation**, including regular cleaning schedules with location, frequency, disinfection, spill, or accident clean-up steps to be performed by trained individuals.
- **Hazardous waste disposal and containment**, including requirements, secondary containers, labeling, and color-coding.
- **Laundry handling procedures** to avoid exposure or transmission.
- **Free Hepatitis B vaccination (HBV)** provided to employees within 10 days of employment and in the future, if declined initially, as well as documentation of declination or vaccination status for each employee.





# BBP Plan Components (continued)

- **Post-exposure procedures**, including reporting, evaluating, and following up with source and exposed individual; providing treatment or prophylaxis; and documenting all communication and medical care
- **Hazard communication to employees**, including labels, signs, color-coding, recognizing hazards, personal protective equipment (PPE), hepatitis B (HBV), and required individual training for the organization
- **Recordkeeping**, including employee medical and training records and a sharps injury/bloodborne pathogen (BBP) exposure log for the organization

## Sample Checklist

- BBP document with date of last review (at least annually) addressing BBP plan components
- Exposure determination list of those at risk of exposure to blood and/or body fluids
- List of PPE available in facility and when each should be worn
- Documentation of initial and annual BBP education, including universal, standard, and body substance precautions
- Hepatitis B vaccination program
- Post-exposure policy, procedure, or protocol
- [OSHA 300 Log](#)
- List of safety devices (i.e., engineering controls) and when each should be used
- Blood or body fluid spill cleanup policy, procedure, or protocol
- Employee hazards communication policy, procedure, or protocol
- Employee medical record policy, procedure, or protocol
- Cleaning and disinfection policy, procedure, or protocol, including schedule for cleaning and [EPA-approved agent\(s\)](#) used
- Hazardous waste handling policy, procedure, or protocol



**Reminder:** PPE must be readily available and provided at no cost.



## Information and Recommendations

- [Bloodborne Infectious Disease Information: HIV/AIDS, Hepatitis B, Hepatitis C](#), Centers for Disease Control and Prevention (CDC) and National Institute for Occupational Safety and Health (NIOSH)
- [Bloodborne Pathogens and Exposure Control](#), Wisconsin Department of Health Services (DHS)
  - [DHS Chapter 145: Control of Communicable Diseases and Reporting](#), DHS
  - [DHS Chapter 145 Appendix A: List of Reportable Conditions](#), DHS
  - [Wisconsin State Statute Chapter 252: Communicable Diseases](#), DHS
- [Bloodborne Pathogens and Needle Stick Prevention](#), DHS
- [Bloodborne Pathogens Standard](#), Occupational Safety and Health Administration (OSHA)
  - [Bloodborne Pathogens Standard Fact Sheet](#), OSHA
  - [Bloodborne Pathogens Standard Frequently Asked Questions](#), OSHA
  - [Bloodborne Pathogens Standard Quick Reference Guide](#), OSHA
  - [Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens](#), OSHA
  - [Health Care-Wide Exposure Hospital eTool](#), OSHA
- [Chapter NR 526: Management of Medical Waste](#), Wisconsin Department of Natural Resources
- [Hospital Infection Prevention Requirements](#), Centers for Medicare and Medicaid Services (CMS)
- [Patient Notification Toolkit](#), CDC
- [Wisconsin Administrative Code \(SPS 332.15\)](#), Wisconsin State Legislature
- [Wisconsin Electronic Disease Surveillance System \(WEDSS\) For Electronic Disease Reporting](#), DHS

## Report Forms

- [Acute and Communicable Disease Case Report Form \(F-4451\)](#), DHS
- [Sexually Transmitted Disease Case Report Form \(F-44243\)](#), DHS

## Observational Tools and Model Documents

- [Model BBP Exposure Control Plan](#), OSHA
- [Needle Stick Prevention and Care of Laundry Observation Tool](#), CDC and the Association for Professionals in Infection Control and Epidemiology

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)



# Environmental Infection Control



## Summary

The environment serves as a reservoir for a variety of microorganisms across all health care facilities. In rare situations, exposure to opportunistic pathogens, such as *Aspergillus*, *Legionella*, *M. tuberculosis*, and others, may result in adverse outcomes for patients/residents, visitors, and health care workers. By monitoring the environment and taking corrective actions as needed, risk can be reduced.

Key areas to monitor include environmental surface cleaning, air handling, water management, laundry practices, medical waste management, animal and pest control, as well as safe construction, renovation, repair practices and mold remediation. Microbiologic sampling of air, water, and the environment is rarely indicated except during an outbreak or when checking for a specific pathogen.

## Surface Cleaning

**Environmental surface cleaning is the routine cleaning and disinfection of the environment by trained individuals. Surfaces are divided into low-touch (i.e., floors, ceilings) and high-touch (i.e., keyboards, doors) areas. The physical removal of debris and microorganisms by wiping or scrubbing may be just as important as the antimicrobial effect of the cleaning agent used. Considerations:**

- The cost, safety, product-to-surface compatibility, and acceptability when selecting an EPA-registered agent. EPA-registered disinfectant label claims are based on efficacy on a pre-cleaned surface.
- Instances when specific agents must be used (i.e., cleaning surfaces contaminated with *C. difficile* and Norovirus).
- The product's contact (wet) time needed to allow for proper disinfection. Contact time for disinfectants range from 15 seconds to a maximum of 10 minutes. The surface must be visibly wet with the disinfectant for that amount of time to kill the microbes. If the surface dries before the prescribed contact time, a reapplication of product is indicated. Do not wipe the surface with a dry cloth or fan air over the surface to speed up the drying time.
- Avoid cleaning methods that produce a mist or aerosol or disperse dust.
- Do not use high-level disinfectants to disinfect non-critical instruments/devices or environmental surfaces.
- When cleaning medical equipment, follow the manufacturers' instructions for use (IFU).
- Surface disinfection products may be labeled as "tuberculocidal," however, such products will not interrupt the transmission of tuberculosis (TB) because TB is not acquired from environmental surfaces. The tuberculocidal claim is instead used as a benchmark by which to measure germicidal potency.



# Air Handling

**Air handling involves monitoring the temperature, humidity, air pressure, and number of air exchanges per hour in a particular space. Considerations:**

- Different types of rooms demand different exchange rates and positive or negative air pressure. Air pressure relationships should be checked regularly.
- Verify that exhaust fans are located away from the air intake vents. These are usually on the roof of the building.
- Become familiar with the heating, ventilation, and air conditioning (HVAC) system. Its monitoring frequency varies, but it is usually computerized and maintained by the building's maintenance department. Guidance for these standards is from the [American Institute of Architects \(AIA\)](#).
- The normal comfort range for relative humidity is 30 to 60%. Relative humidity levels above 60% promote bacterial and fungal growth. Outbreaks of *Aspergillus*, *Pseudomonas*, *Staphylococcus aureus*, and *Acinetobacter* have been linked to poorly maintained or malfunctioning air conditioning systems.
- Ensure that emergency back-up generators are available to maintain the ventilation system in high-risk areas (e.g., operating rooms, intensive care units, negative and positive pressure rooms, transplant units, and oncology units) during power loss.

# Water Management

**Water management involves monitoring the water used for dialysis, cleaning and maintenance of ice machines and hydrotherapy tanks, providing appropriate water temperatures for laundry and dish machines, and periodically testing water lines for *Legionella*. Considerations:**

- The Centers for Medicare & Medicaid Services (CMS) requires that health care facilities (hospitals and skilled nursing facilities) should develop and adhere to [ASHRAE](#)-compliant water management programs to reduce the risk for *Legionella* and other pathogens in their water systems.
- If any water cultures are positive for *Legionella*, work with your water management program team and contract with an outside company for appropriate remediation and follow-up testing.
- Have a back-up water supply plan. A policy should provide guidance for recovering from water system disruptions, leaks, and natural disasters, such as flooding, where water becomes unavailable or unsafe.

# Pests

Pests are insects and rodents that can be agents for microorganism transmission as a vector. Building maintenance or environmental services departments are key resources. Contracted services may be used for regular maintenance.



# Laundry

**Laundry includes the use of water and detergent to suspend soil, while exhibiting some antimicrobial properties. Hot water washing also provides an effective means of destroying microorganisms.**

**Considerations:**

- Ensure a temperature of at least 160°F (71°C) for a minimum of 25 minutes is used for hot-water washing. No recommendation is offered by CDC regarding a hot-water temperature setting and cycle duration for items laundered in residence-style health care facilities.
- If low temperature washing is used, choose chemicals suitable for low-temperatures at proper use concentration.
- Ensure that the on-site or off-site laundry facility is monitored for cleanliness, proper handling, and use of appropriate temperatures.
- Handle and store soiled and clean linens separately. Cover or contain linens to avoid contamination. Do not carry linens against the body or drag along the floor.

# Regulated Waste

**Regulated medical waste (i.e., infectious waste), must be segregated and handled using personal protective equipment according to the Occupational Safety and Health Administration (OSHA) guidelines to avoid exposure to others. This includes:**

- Securely closing all bags before disposal. A single, leak-resistant biohazard bag is usually adequate for containment of regulated medical waste.
- Placing puncture-resistant containers at the point of use as needed for sharps.
- Disposing of medical waste regularly to avoid accumulation. This is done by a licensed contracted service complete with a record keeping system (manifest) documenting the “cradle to grave” cycle.
- For hospitals, ensure that medical waste management policies are in place that include possible Creutzfeldt-Jakob Disease (CJD) tissues or other transmissible spongiform encephalopathies (TSE) caused by prions. Prions have significant resistance to inactivation by a variety of physical, chemical, or gaseous methods. However, no epidemiologic evidence links acquisition of CJD with medical waste disposal practices.

# Mold

Mold can grow within 72 hours of water damage in drywall, plaster, ceiling tiles, etc. Ensure policies are in place to identify and respond to water damage, including prompt removal if wet structural materials cannot be dried within 72 hours. See construction section below.



# Animals

**Animals are becoming more frequent visitors in both acute care and long-term care settings, prompting consideration for the potential transmission of zoonotic pathogens from animals to humans. Although dogs and cats are most common, other pets may enter the facility. All health care facilities should have policies and procedures in place for both service animal and pet visitation. Considerations:**

- A service animal is not considered a pet, but rather an animal trained to provide assistance to a person because of a disability. Title III of the Americans with Disabilities Act (ADA) of 1990 mandates that people with disabilities accompanied by service animals be allowed access with their service animals into public places.
- Have a plan for who handles the animal's needs for food, elimination, and safety.
- Ensure that animals are up-to-date with vaccines, on a leash, and clean.
- Staff and patients should perform hand hygiene before and after pet visitation.
- In rare circumstances when animals are patients in human health care facilities, schedule these procedures after hours to reduce interaction with other patients. It is necessary to clean the room and equipment appropriately afterwards.

# Construction

**Construction, renovation, remediation, repair, and demolition projects require substantial planning and may require an infection control risk assessment (ICRA). Considerations:**

- Use a multidisciplinary team to perform a risk assessment outlining the type of construction and the population risks for the area. The team needs to know details about the project to ensure proper barriers are created (i.e., when, where, and scale of project).
- Construct physical barriers (i.e., plastic or drywall), block off or shut down air handlers, and change traffic patterns, if needed, to reduce or prevent the spread of dust and debris.
- Conduct daily monitoring and document the presence of negative airflow within the construction zone or renovation area.
- Flush the main water system to clear dust-contaminated lines and terminally clean the construction zone before the construction barriers are removed upon completion of the project.
- Document whether IPs are actively involved in the process. An eight-hour ICRA training is provided to IPs, facilities management staff, and contract workers free of charge by the North Central States Regional Council of Carpenters. Call 262-389-5432 for the upcoming schedule.



# Environmental Checklist

- Room cleaning checklist
- Daily air temperature and humidity log
- Log of positive and negative air pressure for operating and procedural rooms, as well as isolation rooms
- Water management plan for *Legionella*
- Laundry and dish machine temperature log for each load
- Manifest for medical waste
- Daily inspection of construction site for proper barriers and worker compliance



**Reminder:** If something is not cleaned first, it will not be properly disinfected.

## Resources

### Information and Recommendations

- [Legionellosis](#), Wisconsin Department of Health Services (DHS)
- [2019 Guidelines for Environmental Infection Control in Health Care Facilities](#), Centers for Disease Control and Prevention (CDC) Healthcare Infection Control Practices Advisory Committee (HICPAC)
- [Guidelines for Design and Construction of Hospitals and Health Care Facilities](#), American Institute of Architects (AIA)
- [Guidelines for Environmental Infection Control in Health Care Facilities: Appendix B](#), CDC
- [Infection Control Risk Assessment \(ICRA\) Training](#), North Central States Regional Council of Carpenters
- [Regulated Medical Waste: Table of Common Wastes in Healthcare \(WA-1259\)](#), Wisconsin Department of Natural Resources
- [Ventilation Guidelines for Health Care Facilities](#), American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)

### Evaluation

- [Environmental Cleaning Checklist](#), CDC
- [Evaluating Environmental Cleaning Tool](#), CDC

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)



# Disinfection and Sterilization



## Summary

Disinfection and sterilization are essential to ensure reusable medical and surgical instruments do not transmit infectious pathogens. Because sterilization of all patient/resident care items is not necessary, facilities must identify what type of reprocessing (i.e., cleaning, disinfection, sterilization) is needed based on the item's intended use.

Failure to properly clean, disinfect, or sterilize reusable medical equipment has led to numerous outbreaks. Compliance with scientifically based guidelines on cleaning, disinfection, and sterilization applies to all health care settings where reusable medical equipment is reprocessed for patient/resident care.

## Key Terms

- **Bioburden:** The degree of microbial contamination or microbial load; the number of microorganisms contaminating an object.
- **Biofilm:** An assemblage of surface-associated microbial cells that is enclosed in an extracellular polymeric substance matrix.
- **Cleaning:** Removal of visible soil (i.e., organic and inorganic material) from objects and surfaces that is normally done manually or mechanically with water and detergents or enzymatic products.
- **Critical items:** Medical devices that enter sterile tissue or the vascular system. These items must be sterile because any microbial contamination could transmit disease.
- **Decontamination:** Process to remove pathogenic microorganisms from objects so they are safe to handle, use, or discard.
- **Disinfection:** Process (disinfection) and means (disinfectant) of killing pathogenic bacteria, but not spores.
- **Disposable/single-use:** Intended for use on one patient/resident during a single procedure. It is not intended to be reprocessed (i.e., cleaned and disinfected or sterilized) and used on another patient/resident. The labeling may not identify the device as single-use or disposable. If a device does not have reprocessing instructions, regardless of labeling, it should be considered single-use and disposed of appropriately (i.e., according to federal, state, and local regulations) after one use.





# Key Terms

- **Enzymatic cleaner:** A cleaning agent that contains biological catalysts to aid in the removal of proteins or biofilms from a reusable medical device. Enzymatics are not disinfectants.
- **Manufacturer's instructions for use (IFU):** The Food and Drug Administration (FDA) requires medical device manufacturers to provide end users with directions on how to clean, disinfect, or sterilize each product.
- **Non-critical items:** Objects that come in contact with intact skin, but not mucous membranes. Intact skin acts as an effective barrier to most microorganisms, so the sterility of these items is "not critical." Generally, non-critical items are divided into non-critical patient/resident care items (i.e., blood pressure cuffs) and non-critical environmental surfaces (i.e., exam tables).
- **Pathogen:** Any disease-producing microorganism, including bacteria (and bacterial spores), fungi, viruses, parasites, and prions
- **Reprocessing:** Per [FDA in 2015](#), "a validated process used to render a medical device, which has been previously used or contaminated, fit for a subsequent single use. These processes are designed to remove soil and contaminants by cleaning and to inactivate microorganisms by disinfection and sterilization."
- **Reusable medical device:** A product intended for repeated use on different patients/residents, with appropriate decontamination, disinfection, or sterilization between uses, such as endoscopes.
- **Semi-critical items:** Medical devices that contact mucous membranes or non-intact skin. They should be free from all microorganisms; however, small numbers of bacterial spores are permissible.
- **Sterile:** Free of living organisms
- **Sterile processing (SP), sterile processing department (SPD):** Refers to the department or area in a health care facility that processes and controls sterile and non-sterile medical equipment, supplies, and devices used in patient/resident care. The process involves handling, collecting, transporting, sorting, disassembling, cleaning, disinfecting, inspecting, packaging, sterilizing, storing, and distributing reprocessed items.
- **Sterilization:** A process that destroys or eliminates all forms of microbial life, including spores, and is carried out in health care facilities by physical or chemical methods. Steam under pressure, dry heat, ethylene oxide (EtO) gas, hydrogen peroxide gas plasma, and liquid chemicals are the principal sterilizing agents used in health care facilities.



More terms can be found on page 98 of the [2008 CDC Guideline for Disinfection and Sterilization](#).



# Concept Checklist

- The Spaulding classification is an approach to disinfection and sterilization of patient care equipment informed by the degree of infection risk involved with using the items. Equipment is categorized as critical, semi-critical and non-critical.
- Facilities should have competency-based training programs for all personnel responsible for disinfecting and sterilizing equipment. It is strongly recommended that the sterile processing department lead and individuals who perform the majority of sterilization and disinfection procedures hold current certification from a recognized sterile processing course.
- Manufacturers' instructions for use (IFU) for each device should be current and readily available in all locations where that device is reprocessed. Single-use devices should not be reprocessed, except at an FDA-approved entity (i.e., FDA-registered third-party reprocessor registered for the specific device in question). Facilities must keep documentation from the third-party reprocessor confirming FDA registration.
- Reprocessing activity documentation should be kept and readily available in the location where the reprocessing occurs. The documentation (i.e., logs) varies according to the type of reprocessing [i.e., high-level disinfection (HLD), sterilization] and the associated requirements.
- Routine audits that monitor and document adherence to reprocessing procedures should be done at least annually, as well as whenever a problem is suspected.
- Adequate time, space, and equipment are necessary to ensure adherence to all reprocessing steps. Refer to specific guidelines (i.e., [ANSI](#), [AAMI](#), [AORN](#)) for more details.
- Centralized reprocessing is recommended whenever possible.
- Infection prevention should be consulted when new devices or products that require reprocessing are being considered.
- Policies and procedures should be available in the event of a reprocessing error or failure that could result in the transmission of infectious disease, including the recall (i.e., removal) of the device and risk assessment.
- Thorough cleaning is essential before high-level disinfection and sterilization. Inorganic and organic materials that remain on the surface of instruments interfere with the disinfection and sterilization process.



**Reminder:** Principles of disinfection and sterilization apply to all locations in a health care facility where instruments and reusable medical equipment are reprocessed.



## Information and Recommendations

- [2016 Guideline on Reprocessing Flexible Gastrointestinal Endoscopes](#), Multisociety publication
- [2017 Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities](#), American National Standards Institute (ANSI)/Association for the Advancement of Medical Instrumentation (AAMI) (subscription required)
- [2019 Guidelines for Perioperative Practice](#), Association of perioperative Registered Nurses (AORN) (subscription required)
- [Disinfection and Sterilization Webpage](#), University of North Carolina—Chapel Hill
- [Essential Elements of a Reprocessing Program for Flexible Endoscopes](#), Centers for Disease Control and Prevention (CDC) Healthcare Infection Control Practices Advisory Committee (HICPAC)
- [High-Level Disinfection \(HLD\) and Sterilization BoosterPak](#), The Joint Commission
- [Infection Control and Epidemiology Text](#), Association for Professionals in Infection Control and Epidemiology (APIC) (subscription required)
- [Infection Control Guideline for Disinfection and Sterilization in Health Care Facilities](#), CDC
- [Reprocessing of Reusable Medical Devices](#), Food and Drug Administration (FDA)

## Observational and Assessment Tools

- [Hospital Infection Control Worksheet \(Module 3: Equipment Reprocessing\)](#), Centers for Medicare and Medicaid Services (CMS)
- [Infection Prevention and Control Assessment Tool \(Section II.J. Device Reprocessing\)](#), CDC
- [Observation Checklist for High-Level Disinfection and Liquid Sterilization for “Clean” Areas](#), CDC
- [Observation Checklist for High-Level Disinfection and Liquid Sterilization for “Dirty” Areas](#), CDC

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)



# Laboratory



## Summary

Infection preventionists and clinical providers rely greatly on the microbiology laboratory for information crucial to infection prevention interventions and for clinical decision making. The work of the microbiology laboratory is instrumental in surveillance programs for detecting emerging significant and multidrug-resistant pathogens; public health or facility outbreaks; and potential bioterrorism events. Certain lab results have implications for infection prevention as they can indicate whether a person should be in transmission-based precautions or if a result needs to be reported to the health department. At times, the infection prevention program may receive calls regarding critical lab results. A strong, ongoing partnership between microbiology laboratory professionals and infection preventionists should remain a top priority in all infection prevention programs to ensure maximum patient safety and improve patient outcomes.

## Specimen Collection Considerations

An important part of obtaining accurate and reliable laboratory results is appropriate specimen collection. Below are a few factors that should be considered when having staff order lab tests and collect specimens.

- **Quality of specimens:** The quality of any laboratory result starts with patient and specimen preparation. Collecting the appropriate specimen per your specific laboratory's requirements will result in the highest quality test result. This includes proper labeling, packaging, and transportation to the laboratory in a timely manner and within the environmental conditions specified for that specimentype (refrigeration may be needed). Most laboratories have an online test directory with test requirements. ***Please contact your lab with any questions you may have before specimen collection.***
- **Labeling specimens:** It is extremely important to correctly label specimens and complete requisition forms. Full patient name, date of birth, date and time of collection, and site or source of specimen are all required information for the laboratory.
- **Turnaround time:** This includes the amount of time it takes the lab to receive, test, and determine the result a specimen. Factors that affect test turnaround time include the run frequency per day or week of that particular test, actual test completion time, and the length of time for culture growth. You can always contact the laboratory and ask what their average turnaround time is for the specific test of interest.



# Key Terms

- **Antibiotic Resistance Lab Network (AR Lab Network):** This is a group of seven CDC-supported state public health labs that provide national capacity to rapidly detect antibiotic resistance and inform local response to prevent additional spread of resistant organisms. The Wisconsin State Laboratory of Hygiene (WSLH) supports the Midwest Region.
- **Antibiotic susceptibility test (AST):** These tests measure which antibiotics a bacterial isolate may be effectively treated with. These tests help determine which antibiotics should be in the clinical setting or for treatment. ASTs can also serve as public health surveillance, to track emerging resistance. For each antibiotic tested, there will be a result of “resistant,” “intermediate,” or “susceptible.”
- **Antibody:** This is a protein found in the blood that is produced as the body’s response to a foreign bacteria or virus. There are qualitative tests that indicate a “yes” or “no” result to the presence of antibodies and quantitative tests with a value of how much antibody is present.
- **Antigen:** This is a substance (for example, bacteria or virus) that triggers an immune system response, which is usually the production of antibodies.
- **Antigen test:** This is an immunoassay that detects the presence of specific antigens to imply current infection.
- **Colonization testing:** This testing detects microorganisms that are not currently causing an infection, but are present within the body and may still pose a risk of transmission to others. Colonized patients or residents may also develop later infections with the organism due to its ongoing presence in the body.
- **Cultures:** This is a method of growing organisms in culture media to give visual characteristics that identify the organism. Culture results can take days due to the nature of growing and isolating a pathogen.
- **Molecular test:** This is a test that sequences DNA or RNA for specific markers of disease to detect current or active infection. Nucleic acid amplification tests (NAAT), reverse-transcription polymerase chain reaction (RT-PCR), and transcription mediated amplification (TMA) are examples of molecular tests.
- **Point of Care:** This is a test done at the patient bedside without the need to send a specimen to the lab for results.



# Key Terms

- Sensitivity and specificity:** These are validity measures of tests to determine the “truth” about the presence or absence of a disease. Every lab test has its sensitivity and specificity analyzed and published in its instructions.

		Disease Present	Disease Absent	
Test Results	Test +	A (true positives)	B (false positives)	Total that test +
	Test -	C (false negatives)	D (true negatives)	Total that test -
		Total with disease	Total without disease	

**Sensitivity:** The probability that a test correctly identifies a person **with** a disease

$$\text{Sensitivity} = A / (A + C)$$

$$\text{Sensitivity} = \frac{\text{number of individuals with disease who test positive}}{\text{number of individuals with disease}} \times 100$$

**Specificity:** The probability that a test correctly identifies a person **without** a disease

$$\text{Specificity} = D / (D + B)$$

$$\text{Specificity} = \frac{\text{number of individuals without disease who test negative}}{\text{number of individuals without disease}} \times 100$$

# Resources

## Information and Recommendations

- [Infection Preventionist’s Guide to the Lab](#), Association for Professionals in Infection Control and Epidemiology (APIC)
- [Diseases and Conditions A-Z List](#), CDC
- [Wisconsin State Laboratory of Hygiene](#)
- [American Society of Microbiology](#)



# Surveillance



## Summary

A comprehensive surveillance program is critical to the detection and prevention of healthcare-associated infections (HAI) and epidemiologically significant organisms. The goals of surveillance are to:

- Recognize potentially infectious patients/residents
- Initiate containment strategies, if indicated
- Prevent transmission of disease
- Identify trends and areas for improvement to lower risk of device- or procedure-related infections

Surveillance is a method of collecting data, analyzing intervention effectiveness by reviewing data, and taking appropriate action to reduce risks. Surveillance integrates performance improvement, patient safety, and public health activities.

Data collection will track infections, adverse events, and related processes of care to detect clusters and outbreaks, emerging infectious diseases, resistant pathogens, reportable diseases, and bioterrorism events. This data can be used to ensure compliance with federal and state regulations or mandatory reporting requirements. Data analysis and reports are shared with key members of the organization, such as quality/performance improvement, nursing, medical staff, administration, and relevant ancillary services.

## State Reporting Requirements

- Due to the potential health impact, any confirmed or suspected case of the diseases and conditions [listed in DHS 145 Appendix A](#), must be reported promptly, per state statutes. Questions may be directed to the Bureau of Communicable Diseases (BCD) at 608-267-9003. Specific reporting guidance for each reportable condition can be found on the [BCD disease reporting website](#).
- As of [May 2022](#), Wisconsin hospitals and nursing homes are no longer required to report cases of **carbapenem-resistant *Enterobacterales* (CRE)** in the National Healthcare Safety Network (NHSN) due to the availability of information about CRE cases in the Wisconsin Electronic Disease Surveillance System (WEDSS). Additionally, cases of **carbapenemase-producing CRE (CP-CRE)** are now a [Category II reportable](#) condition in Wisconsin, rather than [Category I](#).



# Key Terms

■ **Outbreak:** An increase over the expected occurrence of an event. A single case of an unusual disease (e.g., postsurgical Group A *Streptococcus* infection, healthcare-associated *Legionella* infection) may constitute an outbreak. In some instances, small outbreaks are referred to as “clusters.” Both outbreaks and clusters require prompt investigation.

■ **Incidence rate:** A measure of new cases arising in a population over a given period of time. This may be the same as the infection rate.

■ Calculation: 
$$\frac{\text{number of new cases in a given time period}}{\text{population at risk of the disease in that time period}} \times \text{constant } (k)$$

■ Example: One central line-associated bloodstream infection (CLABSI) in the medical intensive care unit (MICU) in April (*numerator during specified time*) / 400 central line days in April in the MICU (*denominator of population at risk during specified time*) X 1,000 (*constant*) = 2.5 CLABSIs per 1,000 central line days.

■ **Infection rate:** A measure of the frequency of an event in a defined population. The components of a rate are the numerator (number of events), the denominator (population at risk of *experiencing* the event), and the specified time in which the events occur. This may also be referred to as the prevalence rate.

■ Calculation: 
$$\frac{\text{number of infections in a given time period}}{\text{population at risk of the disease in that time period}} \times \text{constant } (k)$$

■ Example 1: Two catheter-associated urinary tract infections (CAUTI) in April in the surgical ICU (SICU) (*numerator during specified time*) / 400 catheter days in April in the SICU (*denominator of population at risk during specified time*) X 1,000 (*constant*) = 5 infections per 1,000 catheter days.





## Key terms (continued)

- **Standardized infection ratio (SIR)**: A risk-adjusted summary measure used to track HAIs over time in NHSN. It compares the number of reported HAIs to the number predicted based on NHSN baseline data, and adjusts for several factors that may impact the risk of acquiring an HAI. This measure allows for comparison to the national baseline of one. A SIR greater than 1 indicates more infections than would be predicted. A SIR less than 1 indicates fewer infections than would be predicted.
  - Calculation: 
$$\frac{\text{Observed (O) HAIs}}{\text{Predicted (P) HAIs}}$$
  - Example: In the second quarter of the year, three catheter-associated urinary tract infections (CAUTI) were identified in the MICU. The number of predicted events based on the 2015 NHSN national baseline for that unit was 1.92.  $3 \text{ CAUTIs (observed infections)} / 1.92 \text{ (number predicted)} = 1.56$ . This represents 56% more infections than predicted. The NHSN statistics calculator calculates a p-value and confidence interval for each SIR, which are used to determine whether this is a statistically significant difference.

## Data Tracking

- Information can be obtained by receiving alerts from an electronic medical record, attending morning report or huddles, receiving alerts from charge nurses or units, reviewing lab results, reviewing antibiotic starts, and rounding on units. Periodically verify the accuracy and quality of your data, regardless of how it is obtained. If a new method of obtaining data is under consideration, validate the process. NHSN provides several validation tools.
- Information can be tracked on a monthly infection signs/symptoms log, electronic surveillance program, or spreadsheet.
- State and federal requirements may indicate a specific method or database [i.e., [Wisconsin Electronic Disease Surveillance System \(WEDSS\)](#), [NHSN](#)] for tracking surveillance data.

## Data Evaluation

- Compared to baseline, is your organization trending up, down, or steady?
- Do you have a potential cluster or outbreak?
- Are there any unusual organism(s) or changes in antibiotic resistance patterns?



# Taking Action

- Review policies, procedures, and protocols. Are the documents current with best practices and evidence-based?
- Compare with observations or interviews
- Consider analysis of individual, or groups of, infections using a multi-disciplinary team approach, including but not limited to, staff that cared for that patient prior to the event, infection preventionists, the relevant surgical team (for surgical site infections), and patient safety.
- Are there inconsistencies related to staff training and competency? Are there barriers that prevent staff from doing the right thing (i.e., missing equipment or supplies)? Do staff understand the importance of the process in question?

# Pathogen Transmission

- Review current information on the [CDC](#) or [Association for Professionals in Infection Control and Epidemiology \(APIC\)](#) websites.
- Determine compliance related to transmission for:
  - Hand hygiene
  - Standard and transmission-based precautions
  - Personal protective equipment usage
  - Device insertion and maintenance

# Root Cause Analysis

- Root cause analysis (RCA) is a structured process used by organizations to understand the underlying causes of a past adverse event, in order to prevent its recurrence. The process utilizes a multidisciplinary team of stakeholders and a systems approach to develop a thorough understanding of the issues that contributed to the event and to identify potential corrective actions.
- The RCA process was initially developed to identify the causes of industrial accidents, but has been widely adopted in health care and infection control in particular.
- There are many tools available to guide RCA, including from the [Agency for Healthcare Research and Quality](#) and the [Joint Commission](#).



# Surveillance Plan Elements

A surveillance plan is based on the facility risk assessment. It should be updated at least annually and whenever there is a change to the risk assessment (i.e., new procedure or reportable disease, emerging pathogen). Each facility should decide if it will be incorporated into the infection control plan or remain separate.

- Identify specific events being monitored and criteria used, including but not limited to:
  - Device-associated infections
  - Multidrug-resistant organisms (MDRO)
  - Epidemiologically significant organisms, including *Mycobacterium tuberculosis* complex
  - Occupational exposure to bloodborne pathogens
  - Communicable disease exposures
  - High-volume, high-risk, and problem-prone procedures and activities
- Determine rationale for selecting the specific event (i.e., outcome, process, mandatory reporting).
- Select methodology for case identification, data collection, and analysis. Evidence-based surveillance criteria (e.g., [NHSN](#), [McGeer's criteria](#) for long-term care) are necessary.
- Determine necessary data analysis reports, including analysis frequency and recipients.
- List any required state or federal reporting requirements, (e.g., by statute, accreditation, or public reporting) or mandatory reporting (i.e., [state communicable disease](#), [CMS](#)).



**Reminder:** Surveillance plans should be based on the facility risk assessment and updated at least annually.



## Information and Recommendations

- [Association for Professionals in Infection Control and Epidemiology \(APIC\)](#)
- [APIC Online Text](#) (subscription required)
- [Glossary of Commonly Used Terms](#), Centers for Disease Control and Prevention (CDC), National Healthcare Safety Network (NHSN)
- [Prevention, Reporting, and Control of Acute Respiratory Illness Outbreaks in Long-Term Care Facilities](#), Wisconsin Department of Health Services (DHS)
- [Recommendations for Prevention and Control of Gastroenteritis Outbreaks in Wisconsin Long-Term Care Facilities](#), DHS
- [Society for Healthcare Epidemiology of America \(SHEA\)](#)

## Data and Reporting

- [Antibiotic Resistance and Patient Safety Portal](#), CDC
- [Hospital CRE Toolkit](#), DHS
- [Long-Term Care Carbapenem-Resistant Enterobacteriales \(CRE\) Toolkit](#), DHS
- [NHSN](#), CDC
- [National and State HAI Progress Report](#), CDC, NHSN
- [Resources for Using NHSN](#), DHS
- [Standardized Infection Ratio \(SIR\) Guide](#), CDC, NHSN
- [Standardized Utilization Ratio \(SUR\) Guide](#), CDC, NHSN
- [Wisconsin Disease Reporting List of Communicable Diseases with Links to Resources and EpiNets](#), DHS
- [Wisconsin HAI Data](#), DHS

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswihaipreventionprogram@dhs.wisconsin.gov](mailto:dhswihaipreventionprogram@dhs.wisconsin.gov)



# Outbreak Management



## Summary

An outbreak can occur in any setting and can involve patients/residents, volunteers, staff, contracted workers, visitors, or a combination of these individuals. The goal in such events is to recognize the outbreak is occurring early, identify risk factors, stop the spread, and avoid future outbreaks.

Taking prompt action as soon as an outbreak is suspected may keep the outbreak from expanding. Conduct your investigation in a standardized way each time and assess the process to identify lessons learned after each investigation.

## Outbreak Recognition

- Consider the possibility of an outbreak when two or more cases of the same pathogen, or similar signs and symptoms, occur in patients/residents or staff in a given location (i.e., unit, wing, floor). Wisconsin utilizes the [Control of Communicable Diseases Manual](#) as a reference.
- Confirm the presence of the outbreak through review of medical records and facility illness logs to determine if multiple similar illnesses have occurred that may be related to each other.
- Notify your medical director any time you suspect an outbreak and review preliminary information together.
- If your medical director agrees an outbreak is occurring, notify additional individuals within your organization, including administration, staff, employee or occupational health, risk management, and communications or public affairs.
- Wisconsin statutes require notification of the local public health department. Public health will advise you if fee-exempt testing can be performed and can provide additional resources.
- While additional information is being collected, begin implementation of control measures as appropriate based on pathogen, likely mode of transmission, or clinical syndrome (respiratory, fecal-oral, HAI, etc.).

**NOTE:** For some pathogens, having a single case is a reason to take action (e.g., healthcare-associated *Legionella*) and initiate an investigation.



# Preliminary Investigation

- Reasons for outbreaks are often multifactorial, but common factors include lapses in infection prevention practices, contaminated equipment, unrecognized colonized or infected individuals, delays in initiation of isolation precautions, or sick employees at work.
- Performing a literature review of the causative agent is helpful to determine the mode of transmission, incubation period, contributing factors, and appropriate control measures.
- Develop a case definition and identify additional cases by reviewing labs results, reasons for admission, current illnesses, and staff sick calls or absences. Revise the definition as new information is available.
- Communicate with staff about the importance of identifying and reporting any new illnesses among patients/residents, volunteers, visitors, or staff. Ensure it is clear what signs or symptoms should trigger an alert and who should receive the report.
- Maintain a line list or spreadsheet of ill individuals throughout the outbreak. The line list should include information that allows you to track the course of the outbreak. Typical data points to include are demographics, unit, date of admission, date of symptom onset or diagnosis, diagnosis or pathogen identified, signs and symptoms, and risk factors. Ideally, make an epidemic curve based on how many individuals became ill each day to assess the trend.
- With your medical director, develop a preliminary outbreak management plan. Regularly revisit and update the plan as the situation changes or new information becomes available.
- Clear communication and education for staff and partners on the management plan is essential.



**Reminder:** Communication and education are key to stopping and preventing outbreaks.



# Stop Transmission

*One of the critical components of the outbreak management plan is implementing control measures which should be transmission-based precautions (i.e., isolation) based on the pathogen or clinical picture. The following control strategies may be part of your plan.*

- Avoid transferring patients/residents from an affected area to another unit, wing, floor, or facility if not needed. Unnecessary movement may further spread the outbreak. If movement within your facility, or to another facility, is needed to provide appropriate care or control the outbreak (single occupant room, respiratory isolation, etc.) notify the receiving unit or facility of the outbreak situation.
- Determine if patient/resident (ill and well) movement restrictions within your facility are appropriate (i.e., cohorting, diagnostic testing, activities, and eating in common dining room).
- Review personal protective equipment (PPE) requirements for staff and visitors.
- Review cleaning and disinfection requirements and required frequency for the patient/resident room and equipment, including if there is a need to change a product or add steps [i.e., bleach-based product used in addition to regular cleaning for gastrointestinal illness (GI)].
- Ensure strict hand hygiene is followed prior to and after patient/resident contact. For some pathogens (i.e., norovirus), only traditional soap and water should be used, as alcohol-based hand rub may not be effective.
- Work with employee or occupational health to ensure ill employees are assessed and appropriate restrictions are in place, requirements for returning to work are prepared, and if appropriate, prophylactic medications are obtained.
- Consider whether additional measures need to be taken by facilities/engineering management, such as construction containment, air handling verification, and pressure management.
- Determine if environmental sampling and/or screening of patients would be beneficial. This is never the first step and should not be done on every outbreak.

# Prevent Future Outbreaks

- Provide education for staff, patients/residents, visitors, and providers, and modify the message based on what they need to know.
- Audit compliance of prevention efforts to seek employee insight into potential underlying causes. Do not assign blame, but instead ask to observe procedures and variations and clarify challenges to good techniques.
- Continue to monitor for new cases occurring outside the incubation period. This is an indication that your measures are ineffective and additional steps are needed to control the event.
- Provide regular updates on the effectiveness of the control measures and, after the event has passed, present a final report to your infection prevention committee to determine effectiveness of measures and further education needed to prevent future occurrences.



# Outbreak Checklist

- Outbreak policies/procedures, either for all events or separate documents for the most common (e.g., influenza, *C. difficile*, norovirus/GI illness, scabies, varicella) in your facility
- Employee immunity or vaccination policy/procedure for your facility
- Employee illness policy/procedure for your facility
- Access to the [Control of Communicable Diseases Manual](#)

## Resources

### Wisconsin Statutes and Administrative Code

- [Wis. Stat. ch. DHS 145: Control of Communicable Diseases and Reporting](#) and [Appendix A: Reportable Conditions](#)
- [Wis. Stat. ch. 252: Communicable Disease](#)
- [Wis. Admin. Code ch. DHS SPS 332.15](#)

### Guidelines and Recommendations

- [Guideline for Isolation Precautions in Hospitals](#), Centers for Disease Control and Prevention (CDC)
- [Guideline for Prevention and Control of Norovirus Gastroenteritis Outbreaks in Health Care Settings](#), CDC
- [Health Care Personnel Immunization](#), CDC
- [Interim Guidance for Influenza Outbreak Management in LTC and Post-Acute Care Facilities](#), CDC
- [Norovirus Fact Sheet for Health Care Facilities](#), CDC
- [Norovirus Fact Sheet \(P-42075\)](#), Wisconsin Department of Health Services (DHS)
- [Practices for Selected Diseases](#), DHS
- [Precautions for Syndromes](#), DHS
- [Prevention and Control of Scabies in California LTC Facilities](#), California Department of Public Health
- [Recommendations for Prevention and Control of Acute Gastroenteritis Outbreaks in Wisconsin LTC Facilities \(P-00653\)](#), DHS
- [Reporting, Prevention, and Control of Acute Respiratory Illness Outbreaks in LTC Facilities](#), DHS
- [Seasonal and Pandemic Influenza Resources for Health Care Professionals](#), CDC

### Reporting and Observation Tools

- [Current Known Wide Impact Outbreaks in Wisconsin](#), DHS
- [Local Public Health Contact Information](#), DHS
- [Standard Precautions Observation Tools](#), CDC
- [Transmission-Based Precautions Observation Tools](#), CDC
- [State Public Health Communicable Disease Contacts \(by Disease\)](#), DHS

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)





# Standard Precautions



## Summary

Standard precautions are used for all patients, residents, clients, and staff regardless of what you know or do not know about them. All care is to be provided using standard precautions. They are the minimum expectation. Employees can go beyond those expectations, but not below.

Standard precautions help keep health care workers, patients/residents, and those in the environment safe. The Occupational Health and Safety Administration ([OSHA](#)) mandates staff education on this subject.

## Components

- **[Hand hygiene](#)**: The cornerstone of infection prevention and control. It is required by the Centers for Medicare and Medicaid Services (CMS) and other regulatory agencies.
- **[Personal protective equipment \(PPE\)](#)**: This is an OSHA requirement. Standard precautions, in terms of PPE, refers to wearing the right PPE for the task and the anticipated risk.
- **[Respiratory hygiene or cough etiquette](#)**: This includes covering a cough or sneeze and turning away from others, hand hygiene before and after touching your face, and disposing of facial tissues after use, to prevent the spread of pathogens.
- **[Transmission-based precautions \(TBP\)](#)**: Additional actions (e.g., contact, droplet, airborne, protective, or a combination) that may be necessary depending on the suspected or confirmed agent, including room placement, cleaning and disinfection of the environment and equipment, PPE, patient transport, and environmental controls. TBPs act as a set of measures that supplement, but do not replace, standard precautions.
- **[Cleaning and disinfection](#)**: The appropriate agent and cleaning frequency should be selected.
- **[Handling laundry](#)**: This is a [CMS](#) and [OSHA](#) requirement.
- **[Safe injection practices, including handling needles and sharps](#)**: This is an OSHA requirement.



# Standard Precautions Checklist

- All items in the bloodborne pathogens plan (BBP) checklist.
- Provision of initial and annual education on standard precautions (i.e., hand hygiene, PPE, respiratory hygiene, transmission-based precautions) and supporting documentation of completion.
- Transmission-based isolation precautions policy, procedure, or protocols.
- Hand hygiene policy, procedure, or protocols (e.g., specifying which guideline is followed, ensuring sinks and sanitizers are readily accessible, specifying what products are used, specifying policies regarding artificial nails or extenders).
- Hand hygiene program data is being shared with leaders and frontline workers.
- Laundry handling policy, procedure, or protocol
- Policy, procedure, or protocol regarding employee immunity upon hire or transfer and its documentation



**Reminder:** All care is to be provided using standard precautions.



# Resources

## Information and Recommendations

- [1998 Guidelines for Infection Control in Health Care Personnel](#), Centers for Disease Control and Prevention (CDC)
- [2003 Guidelines for Environmental Infection Control in Health Care Facilities](#), CDC
- [2005 Guidelines for Prevention and Control of Antibiotic Resistant Organisms in Health Care Settings](#), Wisconsin Department of Health Services (DHS)
- [2007 Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings](#), CDC
- [2007 Standard Precautions in Health Care](#), World Health Organization (WHO)
- [2008 Guideline for Disinfection and Sterilization in Health Care Facilities](#), CDC
- [Community-Associated Methicillin-Resistant \*Staphylococcus aureus\* \(CA MRSA\) - Guidelines for Clinical Management and Control of Transmission](#), DHS
- [Guidelines on Hand Hygiene in Health Care](#), CDC
- [Hand Hygiene](#), Association for Professionals in Infection Control and Epidemiology (APIC)
- [Hand Hygiene Guideline](#), CDC
- [Healthcare-Associated Infections: Personal Protective Equipment](#), DHS
- [Healthcare-Associated Infections: Precautions](#), DHS
- [Hospital Infection Prevention Requirements](#), Centers for Medicare and Medicaid Services (CMS)
- [Infection Control and Prevention: Standard Precautions](#), DHS
- [Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Virus Disease in U.S. Hospitals](#), CDC
- [Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus](#), CDC
- [Personal Protective Equipment](#), DHS
- [Practices for Selected Diseases](#), DHS
- [Precautions for Syndromes](#), DHS
- [Safe Injection Practices to Prevent Transmission of Infections to Patients](#), CDC
- [Sequence for Donning and Removing PPE](#), CDC
- [Updates to Isolation Precautions \(e.g., Tdap, Mumps, Ebola, Measles\)](#), CDC

## Observational and Evaluation Tools

- [Area Exterior to Isolation Rooms Observation Tool](#), CDC
- [Cough Courtesy Observation Tool](#), CDC
- [Hand Hygiene Provision of Supplies Observation Tool](#), CDC
- [Options for Evaluating Environmental Cleaning](#), CDC
- [Standard Precautions Observation Tool](#), CDC
- [Transmission-Based Precautions Observation Tool](#), CDC

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)



# Transmission-Based Precautions

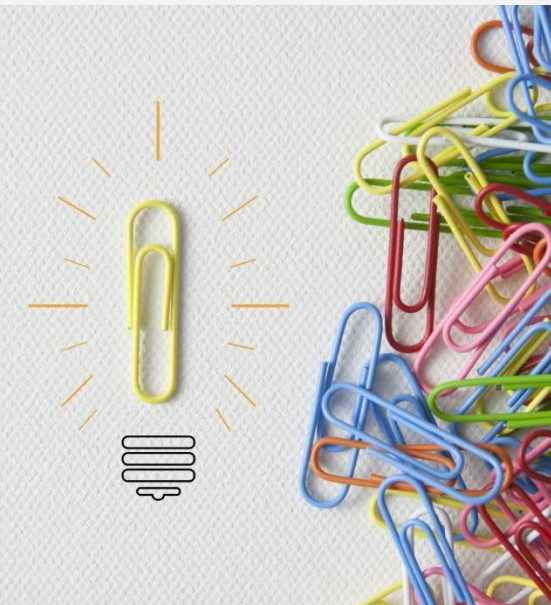


## Summary

Transmission-based precautions (TBP), also referred to as isolation precautions, are practices used in addition to standard precautions for added protection based on the pathogen. They prevent transmission of infection from person-to-person via staff, shared environment, medical equipment, or devices.

The [CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings \(2007\)](#) is the primary resource for selecting the appropriate type of TBP. [Appendix A](#) of the CDC guideline is used to determine the type and duration of isolation by pathogen or condition. Facilities also need to consider precautions for colonized (i.e., pathogen present, but not causing signs or symptoms) patients/residents, depending on the setting and type of organism.

## Key Concepts



- Hand hygiene must be performed prior to applying personal protective equipment (PPE) and after removal.
- The patient/resident isolation sign cannot contain the reason for the type of isolation, as this violates patient privacy, but signs indicating the type of isolation can be posted outside the room.
- Patients/residents can be roomed together (i.e., cohorted) if they both have the same confirmed pathogen, sensitivity, and are suitable roommates.
- All PPE must be removed without contaminating the environment or person.
- TBPs can be a single component or a combination of precautions.



# Contact Precautions

**Contact precautions are used when the pathogen can be transmitted by hands or a contaminated environment. Considerations:**

- All staff should wear gowns and gloves.
- All staff are considered susceptible.
- Standard precautions allow staff to use additional PPE as they wish.
- In long-term care facilities, the decision to utilize contact precautions may be based on a risk assessment and resident status, including the type of infection (i.e., colonization versus active), the resident's ability to follow directions and maintain hygiene, and the presence of transmission.
- Additional measures should be taken with gastrointestinal illnesses, including soap and water hand hygiene (i.e., no waterless hand hygiene) and cleaning with bleach-based or [EPA effective agents](#). Each facility may call this type of precaution by a different name.
- Although visitors should be encouraged to follow TBPs, each facility must determine the expectation of visitors who enter isolation precaution rooms.
- Patients/residents should perform hand hygiene and wear a clean gown or clean clothing when outside of their rooms.

# Droplet Precautions

**Droplet precautions are used when transmission can occur with large droplets (i.e., sneezing, coughing, or talking).**

- Staff should wear a surgical mask.
- All staff are considered susceptible.
- Potential distance of transmission is three to six feet with the risk of entering the eyes, nose, or mouth.
- Standard precautions (i.e., face shield, eye protection) allow staff to use additional PPE.
- Visitors should also wear a mask.
- Patients/residents should be encouraged to use [CDC's respiratory hygiene/cough etiquette in health care settings](#) resources.



# Airborne Precautions

**Airborne precautions are used when transmission occurs by small particles that can remain suspended in the air. The particles must be breathed in to be spread.**

- Staff must wear a fit-tested N95 respirator, powered air purifying respirator (PAPR), or another approved respirator. These devices require medical clearance prior to use, which is an OSHA requirement.
- Special air handling requirements are needed for airborne infection isolation rooms (AIIR). Coordinate with facilities management or engineering for AIIR validation and monitoring.
- The patient/resident room door must be kept closed to the hallway to ensure air pressure remains consistent.
- If the patient/resident is outside the AIIR, they need to wear a surgical mask, but not a respirator, which can cause difficulty breathing.
- Visitors should wear a N95 respirator after being educated on its use. They do not need to be fit tested.
- Environmental services staff need to understand how to turn over a room after discharge or transfer. Unless an N95 respirator is worn, staff should not enter the room until the air has been completely exchanged. Partner with your facilities team to determine the number of air exchanges per hour (AEH) in the room. Review the [CDC Morbidity and Mortality Weekly Report \(MMWR\) Guidelines for Preventing the Transmission of \*Mycobacterium tuberculosis\* in Health Care Settings](#), to determine, based on the AEH, how many minutes the room must be empty unless PPE is worn.
- Staff may have evidence of immunity to some pathogens that require airborne isolation (e.g., measles, varicella). Staff without acceptable presumptive evidence of immunity should not enter a known or suspected measles patient's/resident's room if staff with presumptive immunity are available.
- If a facility does not have an AIIR, the patient/resident should be masked and transferred to a facility with AIIR capability. While awaiting transfer, place the patient/resident in a private room (or with appropriate cohorts in emergencies) and keep the door closed.
- Patient/resident rooms must be monitored for negative pressure when in use. If a room is not in use, negative pressure should be routinely verified to ensure proper pressure prior to a patient's/resident's arrival.



# Protective Environment

**A protective environment (PE) room is used when a patient/resident has an increased risk of developing an infection due to severe immunosuppression.** No PPE outside of standard precautions is required. Per [CDC isolation guidelines](#), only allogeneic hematopoietic stem cell transplant (HSCT) patients require this precaution. However, some facilities choose to implement some or all of the recommendations below for other immunocompromised patients/residents:

- Use special air handling requirements, such as keeping the room at positive pressure compared to the surrounding area and ensuring sufficient air exchanges per hour. Coordinate with facilities management or engineering for validation and monitoring.
- Keep the room door to the hallway closed.
- Wear a non-fit tested N95 respirator when the patient/resident is outside the room.
- Prohibit flowers and plants in the patient/resident's room due to the risk of mold and fungi.
- Dust horizontal surfaces daily using cloths moistened with EPA-registered hospital disinfectant or detergent. Avoid dusting methods that disperse dust.
- Avoid carpet in patient/resident rooms and hallways, as well as upholstered furniture and furnishings.

## TBP Checklist

- Clear policies on when and where staff must don PPE prior to patient contact (e.g., outside the room prior to entering or stepping inside privacy curtain), as this is organization-specific. PPE must be donned prior to activity with contamination potential.
- Hand hygiene policies, including when it is performed after removal of PPE
- Validation that staff know where to find TBP patient/resident room signs and PPE equipment, how to document the isolation type in the medical record, expectations of visitors, are and where to find materials for just-in-time visitor education.
- Room clearance rates (i.e., air exchanges per hour) for each AIIR updated annually. This determines how many minutes must pass before staff can enter the room without PPE.
- Policies, procedures, and protocols related to annual negative and positive pressure room validation and monitoring
- Transport policies, procedures, or protocols regarding patients/residents in TBP



**Reminder:** TBPs are an addition to standard precautions, not a replacement for them.



## Information and Recommendations

- [Community-Associated Methicillin-Resistant \*Staphylococcus aureus\* \(CA MRSA\) Guidelines for Clinical Management and Control of Transmission](#), Wisconsin Department of Health Services (DHS)
- [Donning and Doffing Guidance](#), Centers for Disease Control and Prevention (CDC)
- [Getting Started Kit: Reduce MRSA Infections](#), Institute for Healthcare Improvement (IHI)
- [Guidance for Preventing Transmission of Carbapenem-Resistant Enterobacterales \(CRE\) in Acute Care and Long-Term Care Settings](#), DHS
- [Guide to the Elimination of MRSA Transmission in Hospital Settings](#), Association for Professionals in Infection Control and Epidemiology (APIC)
- [Guide to the Elimination of MRSA Transmission in Long-Term Care Facilities](#), APIC
- [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings](#), CDC
- [Guidelines for Prevention and Control of Antibiotic Resistant Organisms in Health Care Settings](#), DHS
- [Health Care Personnel Immunization](#), APIC
- [Management of Multidrug-Resistant Organisms \(MDRO\) in Health Care Settings](#), CDC Healthcare Infection Control Practices Advisory Committee (HICPAC)
- [Practices for Selected Diseases](#), DHS
- [Precautions for Syndromes](#), DHS
- [Strategies to Prevent Transmission of MRSA in Acute Care Hospitals](#), SHEA

## Environmental Protection Agency (EPA) Antimicrobial Product Lists

- [List G: EPA-Registered Antimicrobial Products Effective Against Norovirus](#), EPA
- [List K: EPA-Registered Antimicrobial Products Effective Against \*C. difficile\* Spores](#), EPA
- [List N: COVID-19 Disinfectants](#), EPA

## Education, Reporting, and Observation Tools

- [National Healthcare Safety Network \(NHSN\) MDRO/\*C. difficile\* Infection Module](#), CDC
- [Standard Precautions Observation Tools](#), CDC
- [Transmission-Based Precautions Observation Tools](#), CDC
- [Hand Hygiene and Personal Protective Equipment Observations Tool](#), DHS

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)





# Respiratory Protection Program



## Summary

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing safe and healthy workplaces for their employees. In addition, the Occupational Safety and Health Administration's (OSHA) [Respiratory Protection Standard](#) (29CFR 1910.134) requires that health care employers establish and maintain a respiratory protection program (RPP) in workplaces where workers may be exposed to respiratory hazards.

Respirators are often a key component of respiratory protection programs and are used in health care to protect against exposures to airborne transmissible infectious diseases (e.g., those caused by bacteria such as tuberculosis (TB), or viruses such as SARS-CoV-2), as well as chemicals and certain drugs that may be used in health care settings. Respirator use for TB is regulated under the general industry standard for respiratory protection.

Respirators used in health care protect the user by the removal of contaminants from the air. Respirators of this type include particulate respirators, which filter out airborne particles, and air-purifying respirators with cartridges/canisters, which filter out chemicals and gases. If respirators are used, OSHA requires the development, implementation, administration, and periodic re-evaluation of the RPP. Critical elements of the RPP include 1) assigning responsibility, 2) training, and 3) fit testing.

Information on the development and management of an RPP is available in technical training courses that cover the basics of respiratory protection. Such courses are offered by OSHA, the American Industrial Hygiene Association, universities, manufacturers, and private contractors. The Wisconsin State Laboratory of Hygiene's (WSLH) [WisCon Program](#), as part of the University of Wisconsin-Madison and in conjunction with the U.S. Department of Labor, currently offers free on-site consultation services to assist Wisconsin employers in meeting the obligations and responsibilities covered under the federal Occupational Safety and Health Act. They also provide an [online webpage](#) and training program that details the OSHA RPP requirements.



# RPPs and Tuberculosis

When an RPP is implemented related to potential exposure to TB, the number of health care workers (HCW) included in the RPP will vary depending on the 1) number of people with suspected or confirmed TB disease examined in a setting, 2) number of rooms or areas in which patients with suspected or confirmed infectious TB disease were encountered, and 3) number of HCWs needed to staff these rooms or areas. In settings where RPPs are required, enough HCWs should be included to provide adequate care for patients with suspected or confirmed TB disease. See TB Risk Assessment (Appendix B) of [Guidelines for Preventing the Transmission of \*Mycobacterium tuberculosis\* in Health-Care Settings, 2005](#) for more details on this.

## OSHA Emergency Temporary Standards RPP

The [OSHA COVID-19 Healthcare Emergency Temporary Standard \(ETS\)](#) took effect June 2021 to offer HCWs who face ongoing risk, by providing care to suspected or confirmed COVID-19 patients, additional protections. The ETS requires facilities to put formal processes in place on a number of safety and surveillance practices, including documentation of a COVID-19 plan, training, screening and triage, facemask and respirator use, physical distancing, cleaning and disinfection, ventilation systems, work restrictions, and paid leave for vaccinations and vaccine side effects.

The ETS also includes an option for an abbreviated respiratory protection process designed to improve protections and can be implemented more quickly and easily than the full RPP, called a Mini RPP. Due to the more limited implementation steps, the Mini RPP can only be used in certain circumstances and **is not a replacement for the normal OSHA Respiratory Protection standard**. The [Mini RPP 1910.504](#) applies when employees are not knowingly exposed to health hazards but respirators are worn voluntarily to enhance protection.

Mini RPP 1910.504 places additional responsibilities on the employer, such as informing workers of precautions to be sure the respirator itself does not present a hazard and providing specific training in the appropriate language and literacy level. Employers should also ensure:

- Completion of user seal checks.
- Proper re-use of respirators.
- Discontinuation of respirator use when employees or supervisors report medical signs or symptoms that affect safe use.



# Key Terms

- **Aerosol-generating procedures:** Procedures that may increase potential exposure to aerosol transmissible disease pathogens due to the anticipated aerosolization of pathogens. Examples include open suctioning of airways, sputum induction, non-invasive ventilation (e.g., BiPAP, CPAP), and bronchoscopy.
- **Aerosol transmissible disease (ATD) or aerosol transmissible disease pathogen:** Any disease or pathogen that generates respiratory droplets or aerosolized particles that requires airborne precautions and/or droplet precautions to prevent transmission from inhalation (e.g., measles, varicella, TB).
- **Air-purifying respirator:** A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
- **Employee exposure:** Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.
- **Filtering facepiece (dust mask):** A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.
- **Fit test:** The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. Also, see qualitative fit test (QLFT) and quantitative fit test (QNFT) below.
- **Health care personnel:** Paid and unpaid staff who provide patient care in a health care setting or support the delivery of health care such as by providing clerical, dietary, housekeeping, engineering, security, or maintenance services.
- **High-efficiency particulate air (HEPA) filter:** A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent National Institute for Occupational Safety and Health (NIOSH) 42 CFR 84 particulate filters are the N100, R100, and P100 filters.
- **N95 respirator:** A general term for a half mask air-purifying respirator with NIOSH-approved N95 particulate filters or filter material (i.e., includes N95 filtering facepiece respirator or equivalent protection).
- **Powered air-purifying respirator (PAPR):** An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.
- **Qualitative fit test (QLFT):** A pass or fail fit test to assess the adequacy of respirator fit that relies on the individual's senses, such as taste, to detect air leakage from the respirator.
- **Quantitative fit test (QNFT):** An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
- **Respirator:** A device worn over the nose and mouth to protect the wearer from hazardous materials in the breathing zone. Respirators must be certified by NIOSH for the purpose for which they are used.
- **User seal check:** An [action conducted](#) by the respirator user to determine if the respirator is properly sealed to the face. This should be performed each time a health care worker puts on (dons) a respirator. Respirators that fail a seal check should not be used.



# Key Concepts

- A qualified program administrator must be designated to oversee the RPP. The program administrator is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the RPP and conduct the required evaluations of program effectiveness.
- It is required to have a written RPP that includes worksite-specific procedures for required respirator use. The RPP must be updated as necessary to reflect changes in workplace conditions that affect respirator use. An RPP should address the following procedures:
  - Selecting respirators for use in the workplace.
  - Conducting a medical evaluations of employees required to use respirators. Any employee using a respirator voluntarily is medically able to use the respirator.
  - Fit testing for tight-fitting respirators.
  - Ensuring proper use of respirators in routine and reasonably foreseeable emergency situations.
  - Cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators to protect the health of the user.
  - Ensuring adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators.
  - Training of employees in the respiratory hazards to which they are potentially exposed to during routine and emergency situations.
  - Training of employees on the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance.
  - Procedures for regularly evaluating the effectiveness of the program.
- Respirators, training, and medical evaluations should be provided by the employer at no cost to employees.

# Resources

- [General Respiratory Protection Guidance for Employers and Workers](#), WSLH
- [Guidelines for Preventing the Transmission of \*Mycobacterium tuberculosis\* in Health-Care Settings, 2005](#), CDC
- [Hospital Respiratory Protection Program Toolkit](#), OSHA
- [Mini Respiratory Protection Program](#), OSHA
- [OSHA COVID-19 Health Care ETS](#), OSHA
- [OSHA Respiratory Protection Overview](#), OSHA
- [OSHA Respiratory Protection Standards](#), OSHA
- [Pre-Fit Test Checklist](#), WSLH
- [Respirator Medical Evaluation Questionnaire Infosheet](#), WSLH
- [RPP Requirements Training Videos](#), WSLH



# Enhanced Barrier Precautions in Nursing Homes



## Summary

CDC released specialized [guidance](#) in 2019 to prevent the spread of targeted MDROs in nursing homes. [Enhanced barrier precautions \(EBPs\)](#) expand the use of PPE beyond situations in which exposure to blood and body fluids is anticipated, and **incorporate gown and glove use for high-contact resident care activities** where MDROs may be transferred to staff hands, equipment, and clothing. EBPs address the growing number of outbreaks where MDRO transmission is believed to have occurred from residents who were colonized with an organism, but not actively infected.

EBPs offer a mid-point between [standard](#) and [contact](#) precautions, and were developed to protect at-risk residents, while being less restrictive than contact precautions. They also take into account the types of activities that pose a higher transmission risk in the more home-like environment of skilled nursing facilities for residents who may live there for many years.

In July 2022, CDC expanded its recommendations for the use of EBPs in nursing homes, in part because of the growing recognition of the high prevalence of MDRO colonization as well as documented MDRO transmission in the nursing home setting. The updated CDC guidelines now recommend EBPs for **all residents with wounds and indwelling medical devices** and **expands the types of MDROs** for which EBPs are recommended. CDC states that in addition to the “targeted” MDROs (see below), facilities should also consider implementing EBPs for “other epidemiologically important MDROs.”

## Indications for EBPs

### When an MDRO is Present

At a minimum, EBPs apply to residents who are colonized or infected with a [targeted MDRO](#). These include:

- Pan-resistant organisms (meaning the organism was resistant to all drugs against which it was tested)
- Carbapenemase-producing carbapenem-resistant Enterobacterales
- Carbapenemase-producing carbapenem-resistant *Pseudomonas* spp.
- Carbapenemase-producing carbapenem-resistant *Acinetobacter baumannii*
- *Candida auris*

CDC recommends that nursing homes also consider implementing EBPs for other **epidemiologically important MDROs**. This is at the discretion of each facility, based on local risk assessment, and should include a discussion among facility leadership, including the medical director. The risk assessment could consider:

- MDRO activity within the building, past and current.
- MDRO prevalence, transmission, and outbreaks.
- MDRO prevalence within the geographic region and among health care transfer networks.



# Indications for EBPs (continued)

## Residents for which EBPs Apply

[Per CDC's updated recommendations](#), EBPs apply to:

- Residents who are infected or colonized with an MDRO, **when contact precautions do not apply**.
- Residents who have chronic wounds and/or indwelling medical devices, such as a central line, urinary catheter, feeding tube, or tracheostomy, or ventilator, **regardless of MDRO status**.

## High-Contact Resident Care Activities requiring EBPs

Because they present an increased risk for MDRO transmission, staff should wear a gown and gloves when performing **high-contact resident care activities** with residents in EBPs. [Per CDC](#), these activities include:

- Dressing.
- Bathing or showering.
- Transferring.
- Providing hygiene.
- Changing linen.
- Changing briefs or assisting with toileting.
- Using or caring for devices such as central lines, urinary catheters, feeding tubes, tracheostomies, or ventilators.
- Caring for any wound or skin opening that requires a dressing.

Gowns and gloves are not required for resident care activities other than those listed above, unless otherwise necessary for standard precautions.

Note that unlike contact precautions, residents on EBPs are **not** restricted to their rooms. These residents can participate in group activities and move freely throughout the residential care facility, without special precautions. EBPs are only used when staff are providing care designated as high contact.

Resident conditions should be assessed for the most appropriate level of precautions, with clear signage for staff to know whether they should be following standard, enhanced barrier, or transmission-based precautions. If a resident infected or colonized with an MDRO shows signs of acute infection, they should be placed on contact precautions until their infection resolves. Contact precautions may also be considered for a limited time period, as determined in consultation with public health authorities, on units or in facilities during the investigation of a suspected or confirmed MDRO outbreak.

Per [CDC's Guideline for Isolation Precautions: Appendix A](#), transmission-based precautions should be used with residents with other infections such as *C. difficile* or norovirus.



# EBPs Checklist

- Post [clear signage](#) outside rooms of residents on EBPs. These include residents who are colonized or infected with a targeted or epidemiologically important MDRO, as well as all other residents with a wound or indwelling device.
- Make PPE available outside the room.
- Ensure access to alcohol-based hand sanitizer at minimum outside each resident's room.
- Provide trash cans inside the resident's room near the door for PPE removal.
- Provide education to staff, residents, families, and visitors on when and with whom EBPs are used.
- Continue to adhere to other infection prevention measures, including hand hygiene, environmental cleaning, and cleaning and disinfection of medical equipment.
- Audit PPE practices and adherence to EBP guidance to ensure staff understand the transitions into and out of the rooms of residents on EBPs and provide education to assist with identified gaps.

## Resources

- [Implementation of PPE in Nursing Homes to Prevention Spread MDROs](#), CDC
- [Frequently Asked Questions \(FAQs\) about Enhanced Barrier Precautions in Nursing Homes](#), CDC
- [Considerations for Use of Enhanced Barrier Precautions in Skilled Nursing Facilities](#), Healthcare Infection Control Practices Advisory Committee (HICPAC)
- [Recommendations for Prevention and Control of Targeted Multidrug-Resistant Organisms in Wisconsin Nursing Homes](#), DHS

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov).



# Antimicrobial Stewardship



## Summary

Antimicrobial stewardship (AS) is a coordinated program that promotes the appropriate use of antimicrobials (including antibiotics, antivirals, antifungals, and antiprotozoals), improves patient/resident outcomes, reduces microbial resistance, and decreases the spread of infections caused by multidrug-resistant organisms.

A multidisciplinary team responsible for AS should include representation from pharmacy, nursing, providers, and infection prevention at a minimum. Follow the CDC Core Elements for your type of facility: [long-term care](#), [hospital](#), or [outpatient](#).

## Core Elements

- Leadership commitment
- Accountability
- Drug expertise
- Action
- Tracking
- Reporting
- Education





# Program Activity Checklist

- Demonstrate leadership support.
- Establish a committee whose members have expertise in antibiotics (e.g., infectious disease, physician, or pharmacist).
- Develop written policies and protocols for antibiotic prescribing, including indication, dose, and duration.
- Review a six-month summary of antibiotic use, including new starts, type, and number of days.
- Provide feedback about usage to clinical prescribers.
- Provide AS education to all nursing staff using antibiotic use data collected within the past 12 months.
- Provide AS education to all clinical prescribers using antibiotic use data collected within the past 12 months.



**Reminder:** AS teams should include representation from pharmacy, nursing, providers, and infection prevention.

## Resources

- [Antibiotic Resistance and Patient Safety Portal](#), Centers for Disease Control and Prevention (CDC)
- [Antimicrobial Stewardship: Implementation Tools and Resources](#), Society for Healthcare Epidemiology of America (SHEA)
- [Antimicrobial Stewardship Information](#), Wisconsin Department of Health Services (DHS)
- [Hospital Antimicrobial Stewardship Core Elements](#), CDC
- [Long-term Care Antimicrobial Stewardship Core Elements](#), CDC
- [Outpatient Antimicrobial Stewardship Core Elements](#), CDC

For more information, contact the Wisconsin Healthcare-Associated Infections Prevention Program at (608) 267-7711 or [dhswhaipreventionprogram@dhs.wisconsin.gov](mailto:dhswhaipreventionprogram@dhs.wisconsin.gov)



# Tuberculosis (TB)



## Summary

There are many pathogenic and environmental species of mycobacteria. The most clinically significant is *Mycobacterium tuberculosis*, the causative agent of tuberculosis (TB).

*M. tuberculosis* can be transmitted through the air from person-to-person, unlike other species (i.e., *M. gordonae*, *M. avium* complex). There are [two related TB conditions](#): latent TB infection (LTBI) and TB disease. LTBI means the person has *M. tuberculosis* in their body without making them sick. TB disease is when *M. tuberculosis* is actively growing in the body. When TB disease occurs in the lungs, it can be infectious to others. TB in other body sites, such as lymph nodes, bones or joints, is not infectious unless disturbed (i.e., surgery or other medical procedure).

## Key Concepts

- OSHA requires all health care facilities that care for active TB disease patients have a [respiratory protection program](#) and a [TB infection control program](#). These programs include administrative measures, environmental controls, and use of personal protective equipment (PPE) to prevent and control TB.
- Suspected or confirmed TB disease (pulmonary and extra-pulmonary), suspected or confirmed LTBI, and non-tuberculosis mycobacterial (NTM) disease are [reportable in Wisconsin](#).
- Chest imaging is performed when there is a positive [TST](#), [IGRA](#), or [TB symptom](#) screen. For diagnosis of pulmonary TB disease, sputa or bronchialveolar lavage are collected for microbiology testing (smear and culture). For [sputum](#), a series of three specimens is collected over 8 to 24 hours with at least one specimen collected early in the morning.
- Individuals with known or suspected TB disease should be confined to airborne infections isolation (All) to the extent possible.
  - All includes using a negative pressure room, having the individual wear a surgical mask when outside of a negative pressure space, and having staff wear a fit-tested N-95 respirator or powered airpurifying respirator (PAPR) if the individual is unmasked.
  - If the facility does not have the capability of providing care for an individual who requires All, a contingency plan must be in place for how to handle the situation.



# TB and LTBI Comparison

	LTBI	TB Disease
<b>Bacterial load</b>	The patient has a small amount of alive, but inactive TB bacteria in the body.	The patient has a large amount of active TB bacteria in the body.
<b>Infectiousness</b>	The patient cannot spread TB bacteria to others and does not require respiratory isolation.	The patient may spread TB bacteria to others and may require airborne infections isolation (All).
<b>Symptoms</b>	The patient does not feel sick, but may become sick if the bacteria activate in the body. Overall, 5 to 10% of those with LTBI will develop active disease in their lifetime, with a <a href="#">higher risk</a> for those recently infected or immunocompromised.	The patient may feel sick and may have <a href="#">symptoms</a> such as cough, fever, and/or weight loss.
<b>Test results: <a href="#">Interferon gamma release assay (IGRA)</a> or <a href="#">tuberculin skin test (TST)</a></b>	The patient usually has a positive IGRA or TST result indicating TB infection.	The patient usually has a positive IGRA or TST result indicating TB infection.
<b>Chest radiography</b>	The patient usually has a normal radiograph.	The patient may have an abnormal radiograph.
<b>Microbiology</b>	The patient will have negative sputum smears and cultures.	The patient may have positive sputum smear results and cultures in which <i>M. tuberculosis</i> is isolated.
<b>Treatment</b>	The patient should be encouraged to take <a href="#">treatment for LTBI</a> to prevent TB disease.	The patient needs <a href="#">treatment for TB disease</a> .
<b>Reporting</b>	Report within 72 hours to patient's local health department by entering data into the <a href="#">Wisconsin Electronic Disease Surveillance System (WEDSS)</a> or completing a <a href="#">LTBI case report form</a> .	Immediately report by phone to patient's local health department.  <b>AND</b>  Within 24 hours, enter data into WEDSS or complete <a href="#">TB disease case report form</a> .



**Reminder:** Suspected or confirmed TB disease (pulmonary and extra-pulmonary), suspected or confirmed LTBI, and non-tuberculosis mycobacterial (NTM) disease are reportable in Wisconsin.



# Tuberculosis Checklists

## Minimum documents or program procedures to identify, verify, and update as needed:

- [TB Exposure and Control Plan](#)
- [F-02314: Wisconsin TB Risk Assessment and Symptom Evaluation \(for baselinescreening of health care personnel\)](#)
- [F-02314E: Wisconsin TB Risk Assessment and Symptom Evaluation \(for annualemployee screening\)](#)
- [Initial and annual TB education](#)
- [CDC facility risk assessment](#) that takes into account [Wisconsin TB statistics](#)

## If your facility has the capability of airborne isolation, there are further requirements:

- Respiratory Protection Plan
- Annual fit test medical screening, documentation of fit testing and results, and education may be applicable
- Annual verification documentation of negative pressure room air exchanges and clearance calculations (i.e., staff need to be aware how much time can pass prior to entering a room without a respirator or PAPR when the patient is not physically in the room)
- Means of verifying room is negative pressure to the surrounding space when the room is used for airborne isolation
  - Should be documented at least daily while the room is in use
  - When not in use, the pressure relationships should be verified on a regular schedule to assure a functional and safe room when a patient presents requiring AI.
- Operating room policy, procedure, or protocol for patients who require airborne isolation



## Guidelines and Recommendations

- [Core Curriculum on Tuberculosis: What the Clinician Should Know](#), Centers for Disease Control and Prevention (CDC)
- [FAQ](#), Occupational Safety and Health Administration (OSHA)
- [FAQs](#) and [Additional Clarifying FAQs](#), CDC
- [Guidelines for Environmental Infection Control in Health Care Facilities](#), CDC
- [Preventing the Transmission of \*Mycobacterium tuberculosis\* in Health Care Settings](#), CDC (2005)
- [Recommendations for TB Screening, Testing, and Treatment of Health Care Personnel](#), CDC (2019)
- [Respiratory Protection in Health Care Settings](#), CDC
- [TB e-tools](#), OSHA
- [TB Infection Control in Health Care Settings](#), CDC
- [TB Screening and Testing of Health Care Workers](#), CDC
- [Wisconsin TB Program Webpage](#), Wisconsin Department of Health Services (DHS)

## Wisconsin [TB Program](#) Resources

- [Wisconsin Active TB Case Definition and Reporting and Investigation Protocol \(P-01928\)](#), DHS
- [Reporting TB Disease, Acute and Communicable Disease Case Report \(F-4451\)](#), DHS
- [Wisconsin LTBI Case Definition and Reporting and Investigation Protocol \(P-02303\)](#), DHS
- [Reporting LTBI, Confidential Case Report Form \(F-02265\)](#), DHS
- [LTBI Treatments \(P-01181\)](#), DHS
- For *baseline* TB screening: [Wisconsin TB Risk Assessment Questionnaire Screen \(F-02314\)](#), DHS
- For *annual* employee TB screening: [TB Risk Assessment Questionnaire Screen \(F-02314E\)](#), DHS
- [Tuberculosis Screening and Testing: Health Care Personnel \(P-02382\)](#), DHS
- [Tuberculosis Screening and Testing: Residents of Adult Long-Term Care Facilities \(P-02382A\)](#), DHS
- [Positive IGRA: What's Next? \(P-01182\)](#), DHS
- [Positive TST: What's Next? \(P-02288\)](#), DHS



# Resources (continued)

## State Statute and Program Requirements

- [DHS Chapter 124 Hospitals](#) (pages 87-88), [DHS Chapter 132 Nursing Homes](#) (pages 151 and 154-156), [DHS Chapter 133 Home Health Agencies](#) (page 187), DHS
- [DHS Chapter 145 Control and Reporting of Communicable Diseases](#), DHS
- [DHS Chapter 145: Appendix A List of Reportable Conditions](#), DHS
- [Respiratory Protection Standard 1910.134](#), OSHA
- [Wisconsin Statute Chapter 252 Communicable Diseases](#), DHS
- [Wisconsin TB Statute 252.07](#), DHS

## Evaluation, Observation, Screening and Reporting Tools

- [Area Exterior to Airborne Isolation Rooms Observation Tool](#), CDC and Association for Professionals in Infection Control and Epidemiology (APIC)
- [Assessing Infection Control Tuberculosis Program](#), WHO
- [Checklist for TB Infection Control in Health Care Facilities](#), WHO



# Summary



Infection prevention and control issues have been around since the beginning of time. From the ancient Greek physician Hippocrates, to Ignaz Semmelweis' efforts to convince care givers to wash hands with chlorinated lime to prevent puerperal sepsis and maternal deaths, to today, infection prevention continues to play a crucial role in protecting and improving public health.

Each generation has something new to offer, with lessons learned and epidemics to overcome. Today's infection preventionists continue to build upon what is known and to discover new opportunities for improvement. Sharing this knowledge is the key to continually moving the practice of infection prevention forward.

## Things to remember

- Be patient with yourself and others.
- Know that it may take two years to feel comfortable in the infection preventionist position.
- Understand that your prevention focus is different than others at your facility.
- Even the most experienced infection preventionists learn something new every day.
- Don't be afraid to reach out and ask for guidance.
- Gather a multidisciplinary team to address important situations.
- Consult with expert resources online and in person.
- Attend education offerings, such as webinars and conferences.
- Join and be involved with your [local APIC chapter](#) to share concerns and ask questions of IP peers.
- You are not alone!

## Resources

- [Association for Professionals in Infection Control and Epidemiology \(APIC\)](#)
- [Certification Board in Infection Control \(CBIC\)](#)
- [The Society for Healthcare Epidemiology of America \(SHEA\)](#)
- [Wisconsin Department of Health Services, Division of Public Health, HAI Prevention Program](#)



## IP Starter Kit Sample Tool A: Key Connections for Infection Preventionists

This document is used to support infection preventionists in meeting internal key partners. Fill in your organization's contacts for quick reference. Use the keypoints section to guide your discussion during an introductory meeting. Note any items that may need later follow-up and how to access key documents.

Connection	Name	Phone Number	E-mail	Key Points
Administrative Contacts  President/CEO/ Administrator  Director of Nursing				<ul style="list-style-type: none"> <li>• Infection prevention plan</li> <li>• Surveillance program</li> <li>• Annual risk assessment</li> <li>• Committee reports and frequency</li> <li>• Policies and procedures</li> <li>• Handoffs</li> <li>• Communication</li> </ul> <ul style="list-style-type: none"> <li>• Meetings</li> <li>• Responsibilities</li> <li>• When to notify</li> <li>• Organizational/reporting structure</li> <li>• Antimicrobial stewardship plan</li> <li>• Outbreak management plan</li> </ul>
Emergency Department  Admitting				<ul style="list-style-type: none"> <li>• Room turnover, cleaning</li> <li>• Transfer communication form between facilities, especially for communicable diseases</li> <li>• All room availability</li> </ul>
Employee/Occupational Health				<ul style="list-style-type: none"> <li>• Monitor sick calls for potentially infectious conditions</li> <li>• Return to work clearance</li> <li>• Communicable disease exposures</li> <li>• Post-exposure prophylaxis</li> <li>• Vaccines</li> <li>• Pregnant health care workers</li> </ul> <ul style="list-style-type: none"> <li>• OSHA log</li> <li>• Bloodborne pathogen plan</li> <li>• TB plan and screening</li> <li>• N95 fit testing</li> <li>• State vaccination regulations</li> <li>• Wisconsin Immunization Registry (WIR)</li> </ul>
Engineering/Plant Operations/ Maintenance				<ul style="list-style-type: none"> <li>• Water mitigation and management plan</li> <li>• Air handling plan, including pressure monitoring, control, and reports</li> <li>• All monitoring and controls (if applicable)</li> <li>• Humidity monitoring and control</li> </ul> <ul style="list-style-type: none"> <li>• Construction management and minor repairs (i.e., infection control risk assessment [ICRA])</li> <li>• Emergency management plan</li> <li>• Ice machines (cleaning)</li> <li>• Legionella testing</li> <li>• Protective environment monitoring and controls (if applicable)</li> </ul>





## IP Starter Kit Sample Tool A: Key Connections for Infection Preventionists

Environmental Services				<ul style="list-style-type: none"> <li>• Policies and procedures ownership</li> <li>• Cleaning schedule for patient and common areas</li> <li>• EPA-registered products (sporicidal)</li> <li>• Training (primary and back-up)</li> <li>• In-house or contracted service</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment cleaning (e.g., who, what equipment, what cleaning product, frequency, and contact time)</li> <li>• Blood spill clean-up</li> <li>• Availability of service</li> <li>• Pest control</li> </ul>
Food Services				<ul style="list-style-type: none"> <li>• Food storage</li> <li>• Expiration dates</li> <li>• Temperatures (e.g., storage, serving, dish machines)</li> </ul>	
Lab Services Microbiology, Immunology				<ul style="list-style-type: none"> <li>• Specimen requirements manual</li> <li>• Designated location for holding and transportation of samples</li> <li>• Notification of positive results and alerts/tags</li> </ul>	<ul style="list-style-type: none"> <li>• Facility antibiogram</li> <li>• Shadow opportunity for IP</li> <li>• Lab reporting for resistant/unusual pathogens notification</li> </ul>
Laundry				<ul style="list-style-type: none"> <li>• In-house or contracted service</li> <li>• Policies and procedures ownership</li> <li>• Equipment cleaning schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Products</li> <li>• Training (primary and back-up)</li> <li>• Proper linen handling and storage</li> </ul>
Medical Director				<ul style="list-style-type: none"> <li>• When to notify</li> <li>• Check in frequency</li> <li>• Support for IP Program</li> <li>• Outbreak management</li> </ul>	<ul style="list-style-type: none"> <li>• IP, Quality or QAPI Meetings</li> <li>• Antimicrobial Stewardship Committee</li> </ul>
Nursing				<ul style="list-style-type: none"> <li>• Names of unit managers</li> <li>• Policies and procedures</li> <li>• Line days</li> <li>• Competencies</li> </ul>	
Pharmacy				<ul style="list-style-type: none"> <li>• Contracted or in-house</li> <li>• Medication preparation</li> <li>• Antimicrobial stewardship role and plan</li> </ul>	<ul style="list-style-type: none"> <li>• IV preparation (if applicable)</li> <li>• Expiration dates</li> <li>• Proper storage of medication (temperature and humidity)</li> </ul>



## IP Starter Kit Sample Tool A: Key Connections for Infection Preventionists

Local Public Health Department (LHD)				<ul style="list-style-type: none"> <li>• Reportable conditions and process</li> <li>• Contact names</li> <li>• Contact method</li> </ul>	<ul style="list-style-type: none"> <li>• When to contact, including off hours</li> <li>• County versus state reporting</li> <li>• Request to be added to LHD listserv</li> </ul>
Purchasing				<ul style="list-style-type: none"> <li>• Value analysis (cost/benefit)</li> <li>• New equipment decisions                             <ul style="list-style-type: none"> <li>○ Manufacturer’s instructions for use (IFU)</li> <li>○ Cleaning and disinfection</li> <li>○ Single use versus multi-use</li> <li>○ Sterilization</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Patient care supplies</li> <li>• PPE selection</li> <li>• Supply levels</li> <li>• Med watch reporting</li> <li>• Role of product representatives and tracking</li> </ul>
Quality Improvement				<ul style="list-style-type: none"> <li>• Regulatory requirement</li> <li>• Credentialing and surveys</li> <li>• Data requirements and frequency</li> <li>• Infection Prevention and Control Committee participation</li> </ul>	
Respiratory Therapy				<ul style="list-style-type: none"> <li>• Ventilator policies</li> </ul>	
Staff Education				<ul style="list-style-type: none"> <li>• Role of IP</li> <li>• New employee education</li> <li>• Annual employee education                             <ul style="list-style-type: none"> <li>○ Precautions, including precaution types, PPE, and hand hygiene</li> <li>○ TB</li> <li>○ Bloodborne pathogens plan</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• As-needed education</li> <li>• Competencies and audits</li> <li>• Patient care protocols</li> <li>• Clinical and non-clinical employees</li> <li>• Development of tools or resources</li> </ul>
Surgery/Operating Room (if applicable)				<ul style="list-style-type: none"> <li>• Transportation of instruments to processing</li> <li>• Loaner trays</li> <li>• Immediate use sterilization</li> <li>• Implants/tissues</li> </ul>	<ul style="list-style-type: none"> <li>• Asepsis protocols</li> <li>• Air handling, pressure, temperature, and humidity</li> <li>• Traffic control</li> <li>• Attire issues</li> </ul>



## IP Starter Kit Sample Tool A: Key Connections for Infection Preventionists

Therapy (Physical, Occupational, Speech)				<ul style="list-style-type: none"> <li>• Staff and patient hand hygiene</li> <li>• Contracted or in-house</li> <li>• Policies and procedures</li> <li>• Cleaning and disinfection of equipment</li> <li>• Single versus multi-use item handling during turnover between patients</li> </ul>
Wisconsin Department of Health Services, Division of Public Health, Healthcare-Associated Infections (HAI) Prevention Program				
Director	Ashlie Dowdell	608-266-1122	<a href="mailto:ashlie.dowdell@dhs.wisconsin.gov">ashlie.dowdell@dhs.wisconsin.gov</a>	<ul style="list-style-type: none"> <li>• Program policy questions</li> <li>• HAI Program presentation requests</li> <li>• Program project partnership opportunities</li> </ul>
Antibiotic Resistance Epidemiologist	Megan Lasure	608-266-0915 Fax: 608-261-4976	<a href="mailto:megan.lasure@dhs.wisconsin.gov">megan.lasure@dhs.wisconsin.gov</a>	<ul style="list-style-type: none"> <li>• CRE reporting questions</li> <li>• Colonization and admission screening for targeted pathogens</li> </ul>
NHSN/HAI Surveillance	Nancy Eberle	608-267-9189	<a href="mailto:nancy.eberle@dhs.wisconsin.gov">nancy.eberle@dhs.wisconsin.gov</a>	<ul style="list-style-type: none"> <li>• NHSN technical assistance (e.g., enrollment, reporting, analysis, monthly update calls and emails)</li> <li>• Custom NHSN data analysis and reports</li> <li>• Requests to be added to state IP and NHSN users listservs</li> </ul>
Health Educator	Mariah Welke	608-628-1870	<a href="mailto:mariah.welke@dhs.wisconsin.gov">mariah.welke@dhs.wisconsin.gov</a>	<ul style="list-style-type: none"> <li>• Develop and disseminate health education material</li> <li>• Executes communications efforts</li> <li>• Website updates and maintenance</li> </ul>
Infection Preventionists				
Central office	Beth Ellinger	608-266-0365 Fax: 608-261-4976	<a href="mailto:beth.ellinger@dhs.wisconsin.gov">beth.ellinger@dhs.wisconsin.gov</a>	<p>HAI Program infection preventionists are available for consultation and assistance with facility infection prevention needs including:</p> <ul style="list-style-type: none"> <li>• Infection prevention and control-related questions</li> <li>• Infection control breaches</li> <li>• Outbreaks</li> <li>• Infection control assessments (i.e., ICAR)</li> <li>• PPE use and optimization</li> </ul>
Northern Region	Anna Marciniak	608-590-2980	<a href="mailto:anna.marciniak@dhs.wisconsin.gov">anna.marciniak@dhs.wisconsin.gov</a>	
Northeastern Region	Greta Michaelson	608-867-4647	<a href="mailto:greta.beyer@dhs.wisconsin.gov">greta.beyer@dhs.wisconsin.gov</a>	
Western Region	Nikki Mueller	608-628-4464	<a href="mailto:nicole.mueller1@dhs.wisconsin.gov">nicole.mueller1@dhs.wisconsin.gov</a>	
Southern Region	Stacey Firkus	608-867-4347	<a href="mailto:stacey.firkus@dhs.wisconsin.gov">stacey.firkus@dhs.wisconsin.gov</a>	
Southeastern Region	Aimee Mikesch	608-867-4625	<a href="mailto:aimee.mikesch@dhs.wisconsin.gov">aimee.mikesch@dhs.wisconsin.gov</a>	
	Ashley O'Keefe	608-556-8608	<a href="mailto:ashley.okeefe@dhs.wisconsin.gov">ashley.okeefe@dhs.wisconsin.gov</a>	



### IP Starter Kit Sample Tool B: Isolation Quick Reference Guide

Precaution Type	Example Situations/ Pathogens	Personal Protective Equipment (PPE) Needed	Patient/Resident Room Requirements	Cleaning Requirements	Comments
<b>Standard</b>	Anything that is wet (other than sweat), uncontrolled body secretions, wound draining, or skin and soft tissue infections  HIV, HBV, HCV	<ul style="list-style-type: none"> <li>• Gloves, if touching with hands</li> <li>• Gown, if risk of contamination</li> <li>• Mask/eye protection, if possible spray or splash</li> <li>• Remove PPE prior to leaving room and perform hand hygiene</li> </ul>	Any patient/resident rooms	Follow standard facility cleaning and disinfection procedures.	Regardless of what is known or unknown, these precautions must be followed.
<b>Contact (and Standard)</b>	MRSA VRE CRE	Gloves and gown	Any single patient/resident room	Follow standard facility cleaning and disinfection procedures.	
<b>Contact with GI Additional Measures (and Standard)</b>	<i>C. difficile</i> Norovirus	Gloves and gown	Any single patient/resident room	Additional cleaning needed with bleach-based or EPA-registered disinfectant with claims for the pathogen	Do not use waterless hand sanitizer. Use traditional soap and water hand hygiene after patient/resident contact.
<b>Droplet (and Standard)</b>	Influenza Pertussis Mumps <i>Neisseria meningitides</i>	Surgical mask (ideally with eye protection)	Any single patient/resident room	Follow standard facility cleaning and disinfection procedures	



IP Starter Kit Sample Tool B: Isolation Quick Reference Guide

Precaution Type	Example Situations/ Pathogens	Personal Protective Equipment (PPE) Needed	Patient/Resident Room Requirements	Cleaning Requirements	Comments
<b>Airborne (and Standard)</b>	TB Measles Shingles Chickenpox	Fit-tested respirator or powered air purifying respirator (PAPR)	Airborne infection isolation room (AIIR): Negative pressure room with proper air exchanges and filtration/exhaust	Follow standard facility cleaning and disinfection procedures.	Room must be monitored to validate maintains pressure relationship to the hall. Room air must turn over completely prior to staff entering without protection.
<b>Protective Environment (and Standard)</b> Per the CDC Isolation Guidelines, this is required for allogeneic hematopoietic stem cell transplant (HSCT) only. However, some facilities choose to implement some or all of the recommend- ations for certain immunocompromised patients/residents.	Immunocompromised individual	None, but patient/resident wears respirator when outside of room	Positive pressure room with proper air exchanges and filtration/exhaust	Patient/resident should not be present at time of cleaning	No flowers or plants in the patient/resident's room



## IP Starter Kit Sample Tool C: Detergent Marking for Environmental Cleaning Audits

### Detergent Marking for Environmental Cleaning Audits

#### Supplies

- Laundry detergent that has phosphors added to make white clothing appear brighter in sunlight (e.g., Tide Free and Gentle). Use a “free” detergent version with no color or scent, so that detergent marks are not detectable.
- Cotton swabs
- Exam gloves
- Plastic sandwich bags
- UV/black light flashlight (available online for \$5-10)

#### Process Steps

1. Perform hand hygiene before starting.
2. Don gloves.
3. Put a small handful of cotton swabs in the sandwich bag.
4. Pour laundry detergent into the sandwich bag to cover the cotton swabs.
5. Allow detergent to soak in for about a minute.
6. Take one cotton swab from the bag and use it to mark a quarter-sized circle on a surface to be audited for environmental cleaning.
7. Either use the other side of the cotton swab on the next surface or discard the first and use a new swab on each new surface to avoid cross-contamination.
8. Allow the circles to dry briefly.
9. You can check the circles by shining the UV flashlight over them.
10. Once the room is cleaned, go back in and check your marked areas for removal of the detergent.
11. Educate housekeeping staff as necessary
12. Consider using a picture-based map of the room, such as the example on page two, to indicate where surfaces were marked and any areas where the detergent was still present.



Example Room Map (taken from [http://www.floridahealth.gov/diseases-and-conditions/health-care-associated-infections/ documents/cpo-discharge-packet.pdf](http://www.floridahealth.gov/diseases-and-conditions/health-care-associated-infections/documents/cpo-discharge-packet.pdf))

## EVS Cleaning Checklist

### 1. HEALTH CARE ZONE

- Door knobs
- Light switches
- Window sills
- Sharps container
- Soap dispenser
- Paper towel dispenser
- Counter surface area
- Handwashing sink in patient room
- Faucet appliance/handles
- Sink perimeter/surface area
- Inside sink basin
- Patient closet
- Stationary computer designated in patient room
- Visitor chair or couch

### 2. PATIENT ZONE

- Bed controls
- Bed-side railings
- Bedside table
- Bedside commode
- Blood pressure cuff
- Call light/television control
- IV pole
- Monitoring equipment
- Telephone

### 3. BATHROOM

#### SINKZONE

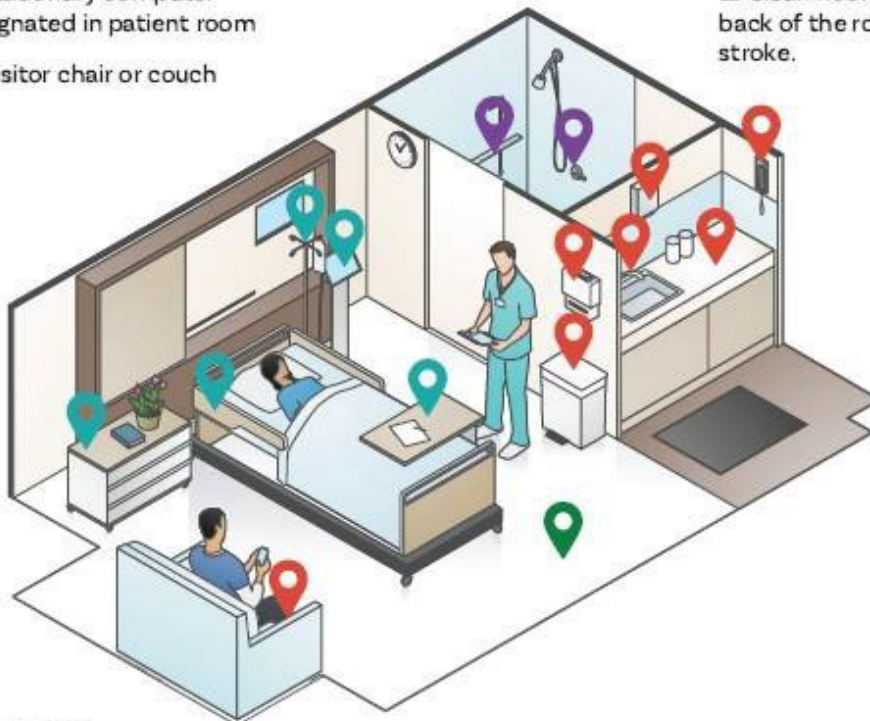
- Mirror
- Paper towel dispenser
- Soap dispenser
- Light switches
- Door knob
- Sink perimeter
- Sink basin
- Stop with drain and discard cleaning cloth

#### SHOWER ZONE

#### TOILET ZONE

### 4. FLOORS

- Clean floors last. Start in the back of the room using the "S" stroke.



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## IP Starter Kit Sample Tool D: Cleaning Procedures and Product Chart

Customize with the disinfectant type and contact/wet time specific for your facility. Contact/wet time will depend on the specific product used.

Item	Frequency	Staff Responsible	Disinfectant Type [Insert Your Specific Products]*	Contact/Wet Time [Insert Specific Times for Your Products]	Comments
High-touch environmental surfaces (e.g., light switch, bed rail, table, door knob)	Daily**	Environmental services (EVS) staff**	Product A^	Example: 3 minutes, allow solution to air dry	
Floors	Daily**	EVS staff**	Product B^	Example: 5 minutes, allow solution to air dry	
Toilet	Daily**	EVS staff**	Product Q^	Example: 5 minutes	
Patient care equipment (e.g., blood pressure cuff, stethoscope, wheel chair, bedside scale, commode)	After each patient use or weekly if used by a single patient	EVS, RN, CNA	Product K^+	Example: 3 minutes, allow solution to air dry	For isolation patients, dedicate equipment to stay inside the room and be used only on the patient. Return only clean items to the clean storage room after use.
Glucometers	Before and after each patient use, even if it is designated for one patient	RN	Bleach wipe according to manufacturer's instructions^	Example: 3 minutes, allow solution to air dry	Do not use hydrogen peroxide.
Tourniquets for blood draw	Single use, dispose of after each use	Not applicable	Not applicable	Not applicable	This is a disposable product and should not be cleaned for reuse.
Computer screens and monitors	Daily**	RN, CNA	Screen cleaner^	Example: 2 minutes	

\*Check [EPA list N](#) for products that meet EPA's criteria for use against SARS-CoV-2 (COVID-19).

\*\*Unless visibly soiled, then whoever is available should clean the item as soon as possible.

+ Be aware of and follow blood spill cleaning policy.

^ Wear gloves to protect hands and wash hands with soap and water after removing gloves.

