Infection prevention and preparedness manual for long-term care facilities

Utah Department of Health and Human Services
Healthcare Associated Infections/Antimicrobial Resistance (HAI/AR) Program

Utah Department of
Health & Human
Services

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Responding to infection prevention and control needs in long-term care facilities

The purpose of this manual is to provide infection prevention and control guidance for long-term care settings, including nursing facilities, assisted living facilities, and intermediate care facilities for individuals with intellectual disabilities (ICF/IID).

Following this guidance can help make your facility a safe place and prevent illnesses that affect residents and healthcare personnel (HCP) in long-term care settings. Doing these things can reduce illness, hospitalization, and death.

Long-term care facility residents are at high risk of severe illness, hospitalization, and death caused by respiratory pathogens, including influenza and SARS-CoV-2 (the virus that causes COVID-19). Residents are also vulnerable to multidrug-resistant organisms (MDRO), such as, carbapenemase-producing organisms.

A strong infection prevention and control (IPC) program is essential to protect the health and well-being of residents and HCP in long-term care facilities. IPC practices must be constant and remain in place whether or not long-term care facilities are experiencing an infectious disease outbreak. This manual summarizes core IPC guidance and preparedness practices for long-term care facilities to prevent the spread of infectious pathogens.

An electronic copy of this manual can be found at https://epi.health.utah.gov/healthcare-associated-infections-antimicrobial-resistance-program/ or by scanning the QR code:

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Acronyms

ABHR Alcohol-based hand rub

ACIP   Advisory Committee of Immunization Practices

AHRQ Agency for Healthcare Research and Quality

AIIR   Airborne infection isolation room

C. diff Clostridioides difficile

CDC   Centers for Disease Control and Prevention

CIBC   Certification Board of Infection Control and Epidemiology Inc.

CLIA   Clinical Laboratory Improvement Amendments

CMS   Centers for Medicare and Medicaid Services

DHHS Department of Health and Human Services

HAI   Healthcare-associated infection

HCP   Healthcare personnel

IP   Infection preventionist

IPCP   Infection prevention and control program

LHD   Local health department

LTCF   Long-term care facility

MDRO Multidrug-resistant organisms

MRSA Methicillin resistant Staphylococcus aureus

NHSN National Healthcare Safety Network

NIOSH National Institute for Occupational Safety and Health

OSHA Occupational Safety and Health Administration

PEP   Post-exposure prophylaxis

PPE   Personal protective equipment

SIR   Standardized infection ratio

Definitions

Airborne precautions: protections used to minimize transmission of infections that are carried on tiny droplets in the air.

Alcohol-based hand rub (ABHR): an alcohol-containing preparation (liquid, gel, or foam) designed for application to the hands to inactivate microorganisms and/or temporarily suppress their growth.

Antibiotic: a type of antimicrobial agent that kills or slows the growth of other microbes, specifically bacteria.

Antibody: a protein found in blood that is produced in response to foreign substances (e.g., antigens) invading the body. Antibodies bind to these organisms and destroy them to protect the body from disease.

Antigen: a foreign substance, usually protein or carbohydrate substance (as a toxin or enzyme), capable of stimulating an immune response, usually the production of antibodies.

Antigen test: a point-of-care test designed to detect the protein antigen of the SARS-CoV-2 virus (the virus that causes COVID-19) from nasal swabs or similar clinical specimens. Antigen tests take approximately 15-30 minutes to finalize a result.

Antimicrobial resistance: the result of microbes changing in ways that reduce or eliminate the effectiveness of drugs, chemicals, or other agents to cure or prevent infections.

Antiseptic: a germicide used on skin or living tissue to inhibit or destroy microorganisms. Examples include alcohols, chlorhexidine, chlorine, hexachlorophene, and iodine.

Barrier precautions: any method or device used to decrease contact with potentially infectious body fluids. Examples may include masks, gloves, and gowns.

Bloodborne pathogens: disease-producing microorganisms spread by contact with blood or other body fluids from an infected person. Examples include hepatitis B and C as well as HIV.

Centers for Disease Control and Prevention (CDC): a federal agency of the U.S. government that provides facilities and services for the investigation, identification, prevention, and control of disease. A global leader in public health.

Cleaning: the removal of visible soil, organic, and inorganic contamination from a device or surface, using either the physical action of scrubbing with a surfactant or detergent and water with appropriate chemical agents.

Cohorting: the practice of grouping residents infected or colonized with the same infectious agent together to confine their care to 1 area and prevent contact with susceptible residents.

Colonization: the presence of microorganisms on or within body sites without detectable host immune response, cellular damage, or clinical expression.

Communicable disease: an infection transmissible (e.g., from person-to-person) by direct contact with an infected individual or the individual's body fluids or by indirect means (e.g., contaminated object).

Contact precautions: a set of protections to prevent transmission of infectious agents that are spread by direct or indirect contact with a person or their environment.

Disinfectant: usually a chemical or physical agent that destroys disease-causing pathogens or other harmful microorganisms. It refers to substances applied to inanimate objects.

Droplet precautions: actions designed to reduce/prevent the transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions.

Droplets: small particles of moisture that may be generated when a person coughs or sneezes. Droplets may contain infectious microorganisms and tend to quickly settle out from the air; therefore, risk for disease transmission is generally limited to persons in close proximity to the droplet source.

Healthcare-associated infection (HAI): an infection that develops in a patient who is cared for in any setting where healthcare is delivered. The infection is related to receiving health care. Formerly known as nosocomial infection.

Healthcare personnel (HCP): all paid and unpaid persons who work in a healthcare setting who have the potential for direct or indirect exposure to patients or infectious materials, including body substances; contaminated medical supplies, devices, and equipment; contaminated environmental surfaces; or contaminated air.

Higher risk exposure: occurs when the healthcare worker had prolonged close contact with someone with confirmed COVID-19 and any of the following:

- HCP was not wearing a respirator (N95) or eye protection and the person with SARS-CoV-2 infection was also not wearing a face mask;
- HCP was not wearing all recommended personal protective equipment (gown, gloves, eye protection, respirator) while performing an aerosol generating procedure.

Immunocompromised: is an underlying condition or treatment for a condition that impairs the body's ability to fight infection.

Infection preventionist (IP): the person(s) designated by a facility to be responsible for the infection prevention and control program.

Isolation: the practice of separating sick people with a contagious disease from people who are not sick.

Methicillin-resistant staphylococcus aureus (MRSA): a type of bacteria that is resistant to a group of powerful drugs. Not all *Staphylococcus aureus* strains are resistant to these drugs. Sensitive strains are called MSSA.

Multidrug-resistant organisms (MDROs): microorganisms, predominantly bacteria, that are resistant to one or more classes of antimicrobial agents.

National Healthcare Safety Network (NHSN): a secure computer system for hospitals and long-term care facilities to share information about their healthcare-associated infections. Managed by the Division of Healthcare Quality Promotion (DHQP) at the Centers for Disease Control and Prevention (CDC).

Outbreak: the occurrence of more cases of a particular infection than is normally expected, the occurrence of an unusual organism, or the occurrence of unusual antibiotic resistance patterns. For COVID-19, an outbreak is defined as 1 or more cases which occur in HCP or residents.

Personal protective equipment (PPE): a variety of barriers used alone or in combination to protect mucous membranes, skin, and clothing from contact with infectious agents. PPE includes gloves, masks, respirators, goggles, face shields, and gowns.

Post-exposure prophylaxis (PEP): the administration of medications following exposure to a disease in an attempt to prevent infection.

Prevalence: the total number of disease cases (new and existing) within a population at a given time.

Prolonged close contact: a cumulative time period of 15 minutes or more in a 24-hour period within 6 feet of a person with confirmed COVID-19 infection or any unprotected direct contact with infectious secretions or excretions. Any duration should be considered prolonged if exposure occurred during an aerosol-generating procedure.

Respirator: a personal protective device worn by healthcare personnel to protect them from inhalation exposure to airborne infectious agents that are < 5 micrometers in size.

Standard precautions: infection prevention practices that apply to all residents, regardless of suspected or confirmed diagnosis or presumed infection status.

Standardized infection ratio (SIR): a summary measure used to compare the healthcare-associated infection experience among 1 or more groups of patients to that of a standard population. It is calculated as the observed number of infections divided by the expected number of infections.

Surveillance: refers to the ongoing, systematic collection, analysis, interpretation, and dissemination of data to identify infections and infection risks.

Terminal cleaning: the thorough cleaning of a person's room following discharge or transfer in order to prevent transmission of potentially infectious organisms to the next room occupant.

Transmission-based precautions (isolation precautions): actions implemented, in addition to standard precautions that are based upon the means of transmission (airborne, contact, and droplet), in order to prevent or control infections.

Up-to-date on vaccination: a person has completed a COVID-19 vaccine primary series and received the most recent booster dose recommended for them by CDC.

Developing an infection prevention program

Infection prevention and control (IPC) programs have been used for decades in healthcare settings. A successful program encourages a key safety culture that protects residents, HCP, and visitors from a variety of illnesses. In 2016, the CMS Rules of Participation mandated that all licensed nursing facilities have an assigned infection preventionist (Centers for Medicare & Medicaid Services, 2016).

What are the key elements of a successful IPC program?
1. Appropriate plans, systems, and supplies.
2. Education and training for the assigned infection preventionist and for all roles of HCP.
3. Written IPC policies and procedures built on evidence-based guidelines, regulations, and standards.
4. IPC practices must be monitored and audited.
5. Regular surveillance of infection data.
6. Various types of IPC strategies (bundles, checklists, multidisciplinary teams).
7. Understanding of the built environment (water, heating, ventilation, and air conditioning [HVAC], plumbing, construction/renovation).
8. Integration and understanding of workloads, staffing, and bed occupancy.
9. Communication and education for residents and visitors.
10. Written plan for emergency preparedness, including outbreak management.

What are the core IPC domains?
1. Infection control program, procedures, and plans
2. Healthcare personnel and resident safety
3. Surveillance and disease reporting
4. Hand hygiene
5. Personal protective equipment
6. Respiratory hygiene
7. Antimicrobial stewardship
8. Injection safety and point of care testing
9. Environmental cleaning and disinfection

What resources are available for IP training and support?

- Centers for Disease Control and Prevention (CDC) has [guidance for long-term care settings](#). This includes fact sheets, guidelines, and other resources.

- CDC offers a self-paced, online [Nursing Home Infection Preventionist Training Course](#) that covers everything an infection preventionist needs to know.

- Utah DHHS offers on-site [Infection Control Assessment and Response (ICAR)](#) evaluations for facilities across Utah. You can email HAI@Utah.gov to schedule.

- Certification Board of Infection Control and Epidemiology (CIBC) is offering a LTCF specific certification beginning in fall of 2022. Details can be found on the [CIBC webpage](#).

- [Association for Professionals in Infection Control and Epidemiology](#) (APIC) has a long-term care section with multiple resources for infection preventionists.

- [Comagine Utah](#) offers workshops, one-on-one coaching, and a variety of infection prevention tools and resources for the LTCF setting.

- CDC offers a detailed [guide](#) for planning for public health emergencies in the context of LTCF.

Healthcare personnel and resident safety

Doing all you can to increase the safety of HCP and residents will help your facility improve quality of care and resident outcomes. HCP safety starts with clear written policies and procedures about vaccination, bloodborne pathogens, and use of proper precautions during resident care.

Tuberculosis screening, testing, and treatment for HCP

All HCP must be screened for tuberculosis (TB) at time of hire. Guidelines for TB screening and testing (Sosa et al., 2019) include the following recommendations:

- Individual TB risk assessment to identify risk factors at the time of hire.
- TB screening of all HCP including a symptom evaluation and test (IGRA or TST) for those without prior TB disease or latent TB infection.
- Symptom evaluation for all HCP **when an exposure is recognized**.
  - For HCP with a baseline negative TB test and no prior TB disease or LTBI, perform a test (IGRA or TST) when the exposure is identified. If that test is negative, do another test 8–10 weeks after the last exposure.
- Annual TB testing of HCP or residents is *not* recommended unless there is a known exposure or an ongoing outbreak .
- Treatment is encouraged for all HCP and residents with untreated latent TB infection, unless there is a medical concern that prevents it.
- Annual screening of those who have been diagnosed with latent TB infection.

It is recommended residents receive TB screening upon admission. You may also consider TB testing, as residents are at higher risk of infections.

Vaccination program

Immunization is a vital part of protecting HCP and residents. Recommended vaccines for HCP include: COVID-19, hepatitis B, influenza, MMR (measles, mumps, rubella), varicella, and Tdap (tetanus, diphtheria, and pertussis).

A vaccination plan should be developed to protect residents and HCP from vaccine-preventable diseases. Residents in long-term care facilities (LTCF) are more likely to get these diseases because of underlying medical conditions and communal living. The program should have a plan to vaccinate staff and residents and offer vaccines.

Manage

Facilities should consider how to manage vaccination of residents and HCP. You might include the following HCP in vaccine program management:

employee health

director of nursing

infection preventionist

facility administrator

medical officer

HCP champions

Educate

The vaccination program should be designed to meet the educational needs of residents, resident representatives, and the facility HCP. The education must include the benefits, risks, and potential side effects. Keep a record of all vaccine education you do in resident health records or employee files.

Document

Facilities are required to keep detailed records of resident vaccination status including COVID-19, influenza, and pneumococcal vaccine. You are not required to review resident status of other scheduled vaccines for adults (such as shingles and Tdap) but it is recommended. Facilities that care for pediatric residents should review the resident record to make sure the pediatric resident has received recommended vaccines. HCP records must remain confidential. If a resident or HCP refuses vaccination, include all signed vaccine declination forms and waivers in resident and employee records.
Once complete, the vaccination plan should be reviewed and updated annually.

Specific vaccinations

Hepatitis B

Employers are required to offer the hepatitis B (HBV) vaccine to all HCP who may have exposure to blood and body fluid at time of hire and at no cost. Additionally, it is the employers' responsibility to offer hepatitis B surface antibody (anti-HBs) testing after vaccination series completion (Occupational Safety and Health Administration, 1996). Employers must ensure workers who decline vaccination sign a declination form. Please

refer to the OSHA Fact Sheet on hepatitis B vaccination for additional information.

Influenza
All HCP and residents should be educated about and offered an annual influenza vaccination. CDC has developed an influenza vaccine toolkit to help encourage HCP to be vaccinated.

COVID-19
All HCP who work in CMS provider settings are required to complete their primary COVID-19 vaccination series or be granted a qualifying exemption. Vaccination against COVID-19 is highly recommended for all residents. Being up to date means a person has completed a COVID-19 primary series and received the most recent booster dose recommended for them by the CDC. Being up to date reduces a person's risk of getting and spreading SARS-CoV-2. The COVID-19 vaccine toolkit can be used to help build confidence in vaccination.

Pneumococcal Vaccination
Pneumococcal disease is a name for any infection caused by bacteria called Streptococcus pneumoniae, or pneumococcus. Pneumococcal infections can range from ear and sinus infections to pneumonia and bloodstream infections. CDC recommends pneumococcal vaccination for all adults 65 years or older, for infants, and for children and adults with certain medical conditions. Specific recommendations can be found on the CDC pneumococcal vaccine page.

Vaccination reporting

COVID-19 vaccination of HCP and residents in LTCF should be submitted to the National Healthcare Safety Network (NHSN). CMS requires skilled nursing facilities (SNF) to submit COVID-19 vaccination status to NHSN.

Influenza vaccination of HCP and residents should be submitted to NHSN and the Utah Department of Health and Human Services (DHHS). Long-term Care Facility Immunizations Rule R432-40 describes reporting influenza and pneumococcal (PPSV23, e.g., Pneumovax) vaccines for residents and influenza for staff in LTCF (Utah Department of Health and Human Services, 2022a). Rule 386-705 describes data sharing with DHHS and NHSN. These rules support the recommendations from Centers for Disease Control (CDC), Advisory Committee of Immunization Practices (ACIP), and Centers for Medicare and Medicaid Services (CMS) and collect data to provide an annual vaccine coverage report.

The Utah Immunization Information System (USIIS)

The Utah Immunization Information System is a secure and confidential immunization information system that merges Utahns immunization histories. Reach out to the LTCF Facility Immunization Coordinator to become an immunization provider or for help reviewing patient immunization histories.

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Bloodborne pathogens

Bloodborne pathogens live in blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). HCP who come into contact with blood and body fluids are at increased risk for these serious diseases.

The Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens standard requires employers to do the following:

- Establish an exposure control plan. This is a written plan to eliminate or minimize occupational exposures. This booklet provides [Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards](#).
- Update the plan each year to reflect changes in tasks, procedures, and positions that affect occupational exposure.
- Implement the use of standard precautions (see additional information below).
- Find ways to reduce hazardous conditions in your facility and make plans to use them. Examples of hazard reduction include using sharps disposal containers, self sheathing needles, and sharps with built-in injury protection.
- Make sure HCP use work practice controls to reduce their risk of exposure. Examples are appropriate practices for handling and disposing of contaminated sharps, handling specimens, handling laundry, and cleaning contaminated surfaces and items.
- Provide personal protective equipment (PPE), such as gloves, gowns, eye protection, and masks (see the PPE section below for additional information).
- Use labels and signs to communicate hazards.
- Provide information and training to workers as well as regular validation on management of potential bloodborne pathogen exposures.
- Maintain employee health records and document bloodborne pathogen education and training for HCP (Occupational Safety and Health Administration, n.d.-a).

Policies for sick HCP

All facilities should have a clear policy to outline when to keep HCP who are sick from coming to work. The purpose of this policy is to protect residents and HCP. Examples of sick HCP include someone with respiratory symptoms, or someone who meets the criteria for quarantine. To encourage HCP to comply, these policies should not result in the loss of wages, benefits, or job status. HCP should be told to immediately report any signs or symptoms of a contagious disease.

Injection safety

A common way to give medication is by injection into the muscle, subcutaneous tissue, or vein for the prevention, diagnosis, and treatment of various illnesses. Patients and HCP are at risk for infection when safe injection practices are not followed. Injection safety is part of standard precautions—the basic levels of patient safety and provider protections.

"A safe injection does not harm the recipient, does not expose the provider to risk, and does not result in waste that is dangerous for others. To achieve this, each injection needs to be administered with a new syringe and needle. After administration, sharp equipment needs to be discarded in a puncture proof container for appropriate disposal" (World Health Organization, 2016).

There are several things you must consider when you develop safe injection policies:

- Adopt standardized policies and procedures on injection safety which includes protocols for performing finger sticks and point of care testing.
- Mandatory initial competency training for all new employees and annual validation training.
- Create tools to audit (monitor and document) adherence to injection safety procedures and provide feedback to healthcare personnel about their adherence to safe practices.
- Evaluate inventory and access of safe injection supplies regularly (e.g., single-use syringes, auto-disabling lancets, retractable or safety needles, sharps containers).
- Conduct an annual review of currently utilized and newly available products.

CDC injection safety resources for providers

Includes tools and resources to develop and put in place safe injection practices.
- CDC: Injection Safety: The One & Only Campaign

Resources for residents and their families
- CDC Injection Safety Information for Patients

Precautions for the care of residents

Standard precautions

Standard precautions are used for all patient care. "Standard precautions are based on a risk assessment and make use of common-sense practices and personal protective equipment (PPE) utilization that protect residents and HCP from infection and prevent the spread of infection from patient to patient" (Centers for Disease Control and Prevention, 2019a). Standard precautions include the following measures:

- Perform hand hygiene before and immediately after resident care.
- Use PPE whenever there is a possibility of exposure to blood and bodily fluids, such as:
  1. Gloves when exposure to hands is expected (e.g., finger stick).
  2. Gown when exposure to arms or clothing is expected (e.g., changing patient briefs).
  3. Face protection when there is a chance of splash or spray from blood or bodily fluids (e.g., suctioning).
- Follow respiratory/cough etiquette principles.
- Consider private rooms, if available, for patients who are immunocompromised or at risk of poor outcomes from an infection.
- Correctly clean and disinfect shared patient care equipment after each use.
- Clean and disinfect the facility frequently.
- Treat all soiled linens as potentially infectious.
- Follow safe injection practices, including proper handling of needles and other sharps.

Transmission based precautions

Transmission based precautions are the second level of basic infection control and are used with standard precautions for patients with known or suspected infections.

Contact precautions
(Examples: *Clostridioides difficile*, scabies, or norovirus)
- Place patients in isolation or cohort if they have the same disease.
- Use gowns and gloves.
- Limit transport and movement of patients.
- Use disposable or dedicated patient-care equipment.
- Prioritize cleaning and disinfection of rooms.

Droplet precautions

(Examples: influenza or RSV)
- Place patients in isolation or cohort if they have the same disease.
- Source control (patients wear a mask).
- HCP should wear a mask when in patient rooms. Certain conditions, such as SARS-CoV-2 or monkeypox, require a respirator rather than a mask.
- Limit transport and movement of patients.

Airborne precautions

(Examples: TB or measles)
- Place patients in an airborne infection isolation room (AIIR).
- Source control (patients wear a mask).
- Restrict at-risk HCP from entering patient rooms.
- HCP should wear fit-tested, National Institute for Occupational Safety and Health (NIOSH) approved N95 or higher-level respirators.
- Limit transport and movement of patients.
- Immunize at-risk persons as soon as possible after unprotected contact.

Enhanced barrier precautions

[Examples: Should be used for LTCF residents with a) a known MDRO and Contact Precautions do not apply, and b) a wound or indwelling device, regardless of the presence or absence of an MDRO.]
- Gown and gloves worn by HCP during all high-contact resident care activities.

Spanish versions of the CDC's Precaution signs can be found here.

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Surveillance and disease reporting

Surveillance

Infection surveillance data is used to measure the success of infection prevention and control programs, to identify areas for improvement, and to meet public reporting mandates. Routine surveillance gives a picture of what health problems are taking place and helps track changes over time. Facilities should watch for increasing disease rates to make sure infection control measures are put in place quickly to prevent further spread of illness. Federal and state-based requirements for public reporting of healthcare associated infections (HAI) require infection rate data to be submitted to the National Health and Safety Network (NHSN).

All facilities should have a written surveillance policy and plan which outlines the activities and processes to track and monitor infections in the facility. The plan should, at a minimum, include the following parts:

- Written intake procedures to screen for potentially infectious persons at time of admission.
- A system to track newly identified infections. Line lists or logs are often used to track newly identified infections among HCP and residents. Facilities may choose how to organize their tracking system based on their specific size, resident population, and HCP demographics.
- A clear notification system when a positive lab result for an infectious disease is reported to the facility by a clinical laboratory or is discovered by point-of-care testing.
- A system to communicate and follow up on clinical information when residents transfer in or out of the facility.

Disease reporting

The Utah Reportable Diseases list outlines diseases and conditions (including outbreaks) that are reportable to the local health department or DHHS. Each facility should have a point of contact at their local health department (LHD) who can assist with a reportable disease report or outbreak. Any COVID-19 case in a LTCF is reportable regardless of whether or not testing was performed in the facility.

All facilities should have a written plan for outbreak response. This plan should clearly define what makes up an outbreak (e.g., one case of COVID-19 versus three cases of influenza in 72 hours) and what procedures will be followed once an outbreak is identified.

Personal protective equipment (PPE)

PPE usage

Personal protective equipment (PPE) is an important element of infection prevention and control practices. Both residents and HCP may need PPE in various circumstances to help prevent transmission of infectious pathogens. PPE should be donned prior to contact with others and disposed of immediately after use. Hand hygiene should be performed before and after use of PPE.

In addition to selecting the appropriate PPE, HCP should understand how to correctly wear, use, and dispose of PPE.

Face masks are used to prevent the spread of respiratory pathogens and should fit snugly over the nose, mouth, and chin of the wearer with minimal gaps for air to escape. Cloth face coverings are not considered PPE and should be avoided in a healthcare setting.

Respirators are personal protective devices used to lower the wearer's risk of inhaling hazardous airborne particles (including pathogens such as COVID-19 or influenza). Refer to the respiratory protection section below for details on respirator types and requirements for medical evaluation and fit-testing.

Eye protection is used to protect eyes from any splashes, spray, or droplets. Prescription glasses are not sufficient protection. HCP who wear glasses should still wear a face shield or goggles when indicated.

Gowns are used to protect arms and clothing from pathogens. Ties should be securely fastened so the gown stays in place while providing care. Disposable gowns are preferred over reusable gowns.

Gloves are used to protect hands from exposure to body fluids and blood. They should be properly sized for the employee. Facilities should ensure latex-free gloves are readily available in all sizes to accommodate any HCP or resident with an allergy or sensitivity to latex.

Additional information on types and use of PPE can be found at the CDC PPE FAQ page.

Donning and doffing

Donning and doffing stations should be arranged to avoid cross-contamination. Generally, donning stations should be placed outside the door to an isolation room. A large trash bin should be located inside the room near the exit so contaminated PPE is discarded before you leave the room.

All facility HCP should be able to demonstrate correct donning and doffing PPE for entering and exiting isolation areas.

PPE management

Designate someone in the facility to track PPE supply and reorder as needed. Calculate your facility PPE burn rate for both standard use and use during an outbreak.

Respiratory hygiene

OSHA respiratory protection program

The respiratory protection program (RPP) is an important safety component for any HCP who may be required to wear respirators as part of their job duties (Occupational Safety and Health Administration, 2019). The RPP is necessary for prevention and control of respiratory pathogens (e.g., COVID-19, influenza, tuberculosis) or chemical exposure. Facilities are expected by regulatory agencies such as Centers for Medicare & Medicaid Services (CMS) and Occupational Safety and Health Administration (OSHA) to implement a RPP. The components of an effective RPP are outlined below.

Components of the RPP

- Responsibilities associated with the implementation and administration of the program.

- Hazard evaluations are used to identify and evaluate contacts and potential exposures in accordance with public health guidance. It should include employees, visitors, residents, health care providers, volunteers, and vendors.

- Types of respiratory protection available, appropriate usage, and level of protection required.
    - PPE availability and contingency plans.
    - Types of respiratory protection for various circumstances:
        - Residents in various levels of precautions and respiratory protection guidance (e.g., type of mask).
        - Procedures or tasks (e.g., aerosol generating procedures, direct patient cares, visiting).
        - Transporting residents both inside and outside the facility.
        - Performing routine personal care (bathing, oral care) and interactions.
    - Individuals involved in cleaning, disinfecting, and terminal cleaning after the patient is discharged or transferred.

- Fit testing protocols and training:
    - The description of the fit test and the exercises to be performed
    - The respirator to be tested must be worn for at least five minutes before the fit test begins.
    - HCP who are assigned more than one respirator must be fit tested for each respirator assigned.
    - Training and use requirements.

Medical evaluation and clearance

Medical screening is an element of the written RPP. The OSHA standard mandates that when HCP are required to wear a respirator due to a potential hazard in the work environment, they must be fit tested, trained, and medically evaluated before respirator use. The medical evaluation may need to be repeated if circumstances change. Medical evaluation includes:

- Determination that an individual is physically able to perform work while using respiratory protection, including the assessment of physical and psychological stress.
- Consideration of medical conditions that place workers who use respirators at risk for serious medical consequences. That requires a medical clearance once identified.

The employer must provide an employee with a medical evaluation to determine his or her ability to use a respirator. If an employee refuses to be medically evaluated for the use of a respirator, he or she cannot be assigned to a job that requires a respirator. The medical evaluation must be provided before the employee is fit tested and uses the respirator for the first time. The medical evaluation can be completed by a physician or other licensed healthcare professional, provided it falls within the scope of their license. Additional information on RPP medical evaluations can be found in section (e) of the Small Entity Compliance Guide for Respiratory Protection Program. The necessary information for the medical examination is found in Appendix C.

What are Air-Purifying Respirators?

Air-purifying respirators (APRs) work by removing gases, vapors, aerosols (droplets and solid particles), or a combination of contaminants from the air through the use of filters, cartridges, or canisters. These respirators do not supply oxygen and therefore cannot be used in an atmosphere that is oxygen-deficient or immediately dangerous to life or health. The appropriate respirator for a particular situation will depend on the environmental contaminant(s).
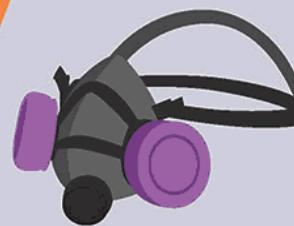
Filtering Facepiece Respirator (FFR)

- Disposable
- Covers the nose and mouth
- Filters out particles such as dust, mist, and fumes
- Select from N, R, P series and 95, 99, 100 efficiency level
- Does NOT provide protection against gases and vapors
- Fit testing required

⚠ WARNING

Elastomeric Half Facepiece Respirator

- Reusable facepiece and replaceable cartridges or filters
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge or filter
- Covers the nose and mouth
- Fit testing required

Elastomeric Full Facepiece Respirator

- Reusable facepiece and replaceable canisters, cartridges, or filters
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge, canister, or filter
- Provides eye protection
- More effective face seal than FFRs or elastomeric half-facepiece respirators
- Fit testing required

Powered Air-Purifying Respirator (PAPR)

- Reusable components and replaceable filters or cartridges
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge, canister, or filter
- Battery-powered with blower that pulls air through attached filters or cartridges
- Provides eye protection
- Low breathing resistance
- Loose-fitting PAPR does NOT require fit testing and can be used with facial hair
- Tight-fitting PAPR requires fit testing

CDC NIOSH
Centers for Disease Control and Prevention
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Cleaning and disinfecting

Understanding the role of environmental surfaces, environmental cleaning, and hand hygiene to break the chain of transmission will help stop the spread of potentially infectious pathogens.

The chart below (Centers for Disease Control and Prevention, 2020d) is a visual to show how easily environmental cleaning and disinfection can break the chain of infection:
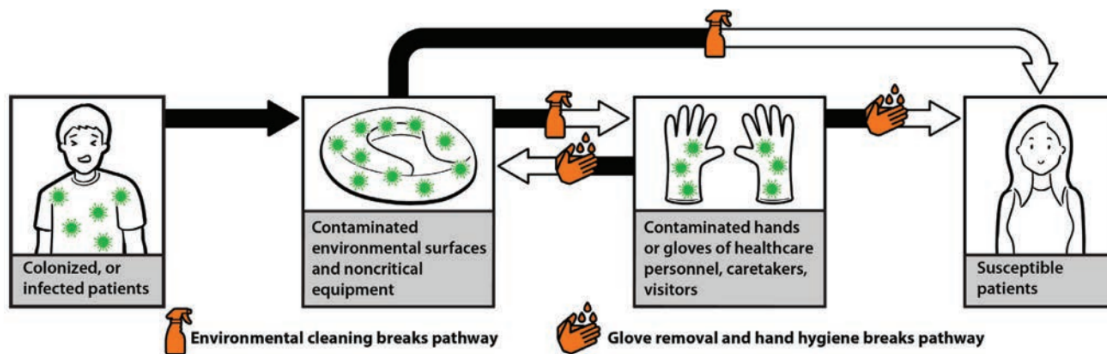
A colonized or infected patient can contaminate environmental surfaces and equipment. Pathogens from these contaminated environmental surfaces and equipment can move to a susceptible patient in two ways:

1. The susceptible patient makes contact with the contaminated surfaces directly (e.g., touches them).

2. HCP, caregiver, or visitor makes contact with the contaminated surfaces and moves pathogens to the susceptible patient.

Contaminated hands or gloves of HCP, caregivers, and visitors can also contaminate environmental surfaces in this way. Correct hand hygiene, appropriate use of PPE, and environmental cleaning can prevent the transfer of pathogens to HCP, caregivers, and visitors and to susceptible residents.

Housekeeping management plan

Each facility should have a primary person, preferably an infection preventionist, who serves as a coordinator for the environmental cleaning program in the facility. Other HCP who should have a role in the development, management, and direction of environmental cleaning services include:

- Cleaning managers and supervisors
- Administrators
- Director of nursing
- Designated infection prevention champions

Effective environmental cleaning programs require excellent communication and collaboration among HCP in all areas of the facility. Routine meetings with key stakeholders are recommended on a monthly basis.

Cleaning and disinfecting best practices

Cleaning is the physical removal of pathogens and debris using soap or detergent. This process does not necessarily kill germs, but when you remove pathogens in this manner, it lowers their numbers and reduces the risk of spreading infection. Disinfecting kills germs on surfaces or objects. Disinfecting is only effective after cleaning has been performed.

Consider the type of surface and how often the surface is touched. Generally, the more people who touch a surface, the higher the risk of contamination. Prioritize cleaning high-touch surfaces **at least once a day**. If a disease is spreading in a facility community (e.g., norovirus, COVID-19, influenza, MDRO, scabies) you may choose to clean more frequently or disinfect in addition to cleaning.

Routine cleaning

"Clean housekeeping surfaces (e.g., floors, tabletops) on a regular basis, when spills occur, and when these surfaces are visibly soiled. Disinfect … environmental surfaces on a regular basis (e.g., daily, three times per week) and when surfaces are visibly soiled." (Centers for Disease Control and Prevention, 2019b).

Clean high-touch surfaces at least once a day or more often as determined necessary. Examples of high-touch surfaces include: pens, counters, carts, tables, doorknobs, light switches, handles, stair rails, elevator buttons, desks, keyboards, phones, toilets, faucets, and sinks.

Terminal cleaning

Terminal cleaning and disinfection occurs after the patient is discharged or transferred. The goal of terminal cleaning is to (1) remove any organic material and (2) significantly reduce and eliminate pathogen contamination to ensure there is no transfer of pathogens to the next patient. During terminal cleaning, first clean high areas then low areas and from cleanest areas to dirtiest areas.

Spot cleaning

All staff should pay attention to areas that may need immediate attention and cleaning. Reasons for immediate cleaning include blood, body fluids and other solids or liquids that may potentially spread infection or cause a fall hazard.

Protect cleaning staff
Keep in mind the availability of cleaning products and PPE appropriate for the cleaners and disinfectants used (see table below). Wash your hands with soap and water for 20 seconds after cleaning. Be sure to wash your hands right after you take off gloves. Use an alcohol-based hand sanitizer that contains at least 60% alcohol if your hands aren't visibly dirty.
Follow EPAs six steps for safe and effective disinfectant use.

Choose the correct disinfectant and use it properly
Visit the EPA website to decide which products to use for specific pathogens in the healthcare setting.
- List N contains products that are effective against COVID-19. Make sure the registration number on the product matches the registration number on the EPA's List N search tool
- List K contains products that are effective against MDROs and C. *diff*. Other pathogens may need to use different disinfectants that can be found on List K
- List P contains products that are effective against C. *auris*

Always follow the directions on the label to make sure the product is used safely and effectively. The label will include safety information and application instructions. Many products recommend keeping the surface wet with a disinfectant for a certain period of time, usually between 15 seconds and 10 minutes. This is called contact time or dwell time.

Cleaning and disinfection PPE	
Type of cleaning task (Routine and terminal)	**Required additional PPE (Gloves required for <u>all</u> tasks)**
Standard precautions	No additional PPE
Blood and body fluid spills and high contamination risk areas	Gown and/or plastic apron Goggles or face shield
Droplet precautions	Gown and/or plastic apron Goggles or face shield
Contact precautions	Gown and/or plastic apron
Airborne precautions	Respirator (N95, PAPR or equivalent)
Preparation of disinfectant products and solutions	According to specifications in SDS (manufacturer instructions). If SDS not available, then same as droplet (above).

Follow best practices

Have a written schedule and checklists for housekeeping

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- Make sure the housekeeping plan is clear and to the point
- Put the plan in a place where everyone can see it
- Provide checklists to help HCP with cleaning tasks
- Complete routine audits (see below) and provide feedback to HCP
- Delegate cleaning tasks clearly and specifically between patient care staff and housekeeping staff

Use HCP training that supports all types of learners
- Provide ongoing training to promote accuracy and compliance
- Use different forms of teaching including interactive methods, audio-visual, and hands on demonstrations
- Encourage HCP to participate

Audit tools to make sure cleaning is effective

- **Performance observations**—use a standardized form (e.g., checklists) for structured observations that are specific to individual patient care areas. The goal is to rate the effectiveness of cleaning staff and adherence to the Standard Operating Procedure (SOP), e.g., identify the number of steps performed correctly.

- **Visual check for cleanliness**—after an area has been cleaned, observers check the cleanliness of items (e.g., using a gloved hand, wipe surfaces to look for dust).

- **Fluorescent markers**—a tracing agent (e.g., fluorescent material, chemical tracer) marks certain items and surfaces before cleaning. After cleaning, a trained observer uses a detecting agent (e.g., ultraviolet light, enzymatic detector) to see if any tracing agent is left. The observer counts the items that still show tracing agents and gives a score based on how many were cleaned completely, partially, or not at all.

- **ATP bioluminescence**—detection of ATP shows that organic material (microbial or biologic) is present on an object or surface. Objects are tested before and after cleaning to see the effectiveness of a cleaning procedure. A numeric score can be created based on the proportion of marked surfaces/objects that were under the threshold decided beforehand.

- **Environmental samples**—the only *direct* measurement of levels of microbial contamination after cleaning. In this process, samples are taken after an item is cleaned. Swabbing can show the presence of a specific bacteria on a surface. Contact agar plates can show the level of bacterial contamination on an area of a large, flat surface.

The CDC has quick observation checklists for standard precautions and transmission based precautions that can be used as an additional resource.

## Sterilization in healthcare facilities

Sterilization is essential to make sure medical and surgical instruments do not transmit

infectious pathogens to patients. Because sterilization of all patient-care items is not necessary, healthcare policies must identify, based on the item's use, whether cleaning, disinfection, or sterilization is needed. More specific information can be found in CDCs [Disinfection & Sterilization Guidelines](#).

Emergency preparedness

It is essential that LTCF owners and administrators prepare to be disaster flexible and to be able to respond to disaster situations that endanger residents and staff. Have a disaster plan, remain calm, and be flexible to save lives and reduce physical damage (Elderedge et al., 2008).

Types of disasters:
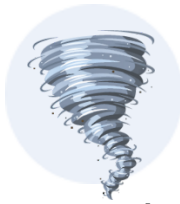
Natural

Floods, earthquakes, utility outages, extreme temperatures, fire, blizzards, tornadoes

Man-made

Biological agents, chemical agents, nuclear or radiation threats

All hazards approach:
- Work with local emergency managers
- Utah Department of Public Safety—Be Ready Utah
  - Be Ready Utah Index
- Organizational support—Utah Health Care Association
  - UHCA Emergency Preparedness

Four basic tenets of emergency preparedness:
1. Make a plan.
2. Prepare an emergency kit.
3. Be informed.
4. Get involved with local emergency managers.

Utah code requires the licensee and administrator to develop and coordinate emergency preparedness plans with state and local emergency disaster authorities.

- Provide information for HCP to develop their personal/family emergency preparedness plan.
- Educate residents and HCP on the facility plan and practice annually.
- Keep up to date through the Be Ready Utah site.

Antimicrobial stewardship

Antibiotics and other antimicrobial drugs are essential in treating many infections, but their usefulness is threatened by overuse. Antimicrobial stewardship ensures these life-saving medications are used appropriately and is a crucial component of your facility's infection control program (Centers for Disease Control and Prevention, 2021a).

There are 7 core elements of long-term care antimicrobial stewardship as outlined by the CDC:

- **Leadership:** Facility leaders express their commitment to antimicrobial stewardship and promote a culture of stewardship in the facility.

- **Accountability:** Designate medical, nursing, and pharmacy leads responsible to oversee stewardship activities in the facility.

- **Drug expertise:** Seek a partner pharmacist or other expert in antimicrobial drugs to provide consultation services.

- **Action:** Develop and follow protocols that encourage responsible antimicrobial use.

- **Tracking:** Measure antimicrobial use and related adverse events within your facility. Monitor adherence to antimicrobial protocols.

- **Reporting:** Provide feedback to facility providers and HCP regarding their own practices.

- **Education:** Provide stewardship training to HCP. Promote awareness to residents and families.

The CDC has several resources to guide long-term care facilities in creating stewardship programs.

AHRQ Antibiotic Stewardship Toolkit for long-term care
Includes tools and resources to improve antibiotic use in long-term care

Core elements of stewardship
A CDC guide for antibiotic stewardship in long-term care
Core elements facility checklist
Suggested policies and actions to improve stewardship

Resources for residents and their families

Includes a [commitment letter](#)
Trifold educational [brochure](#)

Printable posters to display in your building(s)

Leading Antibiotic Stewardship in Nursing Homes [poster](#)
Antibiotic Stewardship in Nursing Homes [flier](#)

COVID-19

COVID-19 outbreaks remain a challenge in the LTCF setting. As part of OSHA's commitment to protect workers and deliver stronger worker safety requirements, the agency issued a [COVID-19 Healthcare Emergency Temporary Standard (ETS)](#). This is a federal standard that must be matched or exceeded by state plans. The ETS contains [specific requirements](#) to protect workers from exposure to the coronavirus in all LTCFs and assisted living settings. This [ETS will continue](#) until OSHA issues a final standard. The COVID-19 Healthcare ETS contains important requirements for hazard assessment, training, symptom monitoring, PPE use, case reporting, ventilation, and cleaning and disinfection related to COVID-19.

All facilities should ensure they are in compliance with the ETS until a final standard is issued.

Preparing for COVID-19

In addition to complying with the ETS requirements, facilities should prepare an outbreak plan that enables the facility to respond rapidly and effectively when a COVID-19 case is suspected or identified. [Recommendations and resources for COVID-19 prevention and response](#) offers guidance to ensure your facility has an adequate plan in place prior to an outbreak. This CDC [checklist](#) may also assist you in comprehensive plan development.

CLIA certificate of waiver

A Clinical Laboratory Improvement Amendments (CLIA) Certificate of Waiver is required to perform point of care COVID-19 tests which have been given Emergency Use Authorization (EUA) by the Food and Drug Administration (FDA). If you do not already have a CLIA Certificate of Waiver, please consult the [CLIA manual](#) for instructions. Follow EUA or FDA instructions for use.

The CLIA waiver is attached to a person at the site and not the site itself. We suggest you pick someone who is likely to be a long-term employee at your site as the waiver will not be valid if that person leaves your site. The person doesn't have to be a doctor for the waiver application; they can be a nurse or facility administrator—someone who is going to be responsible to make sure the site follows the manufacturer's instructions exactly as they are written.

Responding to a COVID-19 case

Discovering a COVID-19 case among residents or staff requires swift response to prevent spread and the overall impact on a long-term care community. [Recommendations and](#)

resources for COVID-19 prevention and response in LTCF is intended to help guide an initial response to an outbreak. The outbreak response algorithm and other resources are designed to guide you through your response to a newly identified COVD-19 case. Please review the CDC antigen testing algorithm to ensure test results are reliable. Additionally, reach out to DHHS HAI or your local health department to report any COVID-19 cases and confirm your outbreak response aligns with the most recent guidance.

Additional CDC guidance to prevent and reduce the impact of COVID-19 in LTCFs can be found in the Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic.

Reporting results

Follow state and federal regulations regarding results reporting.

- Test results must be reported to DHHS within 24 hours of testing.
- Nursing homes enrolled in the NHSN can report all individual POC results via NHSN. If you report using NHSN, you do not need to report to the state system because NHSN sends results to the state.
- Facilities who do not report via NHSN should report via EDX. Test results can be entered by direct data entry by a CSV upload.

If you do not have access to the state portal, please email edx@utah.gov to set up your access.

Additional COVID-19 resources

Recommendations for managing HCP during COVID-19

- Interim guidance for managing healthcare personnel with SARS-CoV-2 Infection or exposure to SARS-CoV-2 | CDC

Visitation

- COVID-19 guidance for visitors and leaves of absence | CMS

Mental health resources

- Mental health resources | DHHS

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