



Infection Prevention and Control Updates and Q&A Webinars for Long-Term Care and Congregate Residential Settings

April 26th, 2024

Housekeeping

- All attendees in listen-only mode
- Submit questions via Q&A pod to **All Panelists**
- Slides and recording will be made available later
- For continuing education credit, complete evaluation survey upon end of webinar
 - Must be registered individually to receive credit

Agenda

- Upcoming Webinars and Educational Opportunities
- Respiratory Protection Program
- The Infection Preventionist and the Water Management Team
- Open Q & A

Upcoming Infection Prevention and Control Q&A

1:00 pm - 2:00 pm

Date	Infection Control Topic	Registration Link
Friday, May 17 th	Wounds	https://illinois.webex.com/weblink/register/r2053ad9fa6f000cda68e3b8d362ec19d
Friday, May 31 st	Hepatitis	https://illinois.webex.com/weblink/register/r373bab959328a8c3f0d3173175c31cb0
Friday, June 28 th	Best Practice for Specimen Collection and Storage	https://illinois.webex.com/weblink/register/r4db9e0331ce42a0ab89facf6b3f5fbce

Registration Open: Tiered Infection Prevention Training

- Springfield Training:
 - Novice: May 6th & 7th
 - Proficient and Advanced: May 8th & 9th
 - <https://www.ticketsource.us/hektoen-institute/tiered-infection-prevention-and-control-training/e-gdlrpv>
- Naperville Training:
 - Novice: July 29th & 30th
 - Proficient and Advanced: August 1st & 2nd
 - <https://www.ticketsource.us/hektoen-institute/tiered-infection-prevention-and-control-training/e-vldmdk>
- Must complete Self Assessment and receive placement before registering!
 - <https://redcap.link/ipcselfassessment>
 - Already took the assessment? Check your email – including spam folders!



SET UP A NURSING HOME VACCINE CLINIC



Telligen has partnered with the Community Pharmacy Enhanced Services Network (CPESN) to provide nursing homes with a vaccine clinic option. Included below are the offerings provided as a result of the partnership.

TELLIGEN WILL:

- Collaborate with CPESN to find a pharmacy for on-site vaccine services
- Support with logistics for scheduling and preparation work
- Cover pharmacy staff and travel time

PHARMACIES WILL:

- Provide influenza (while supplies last), COVID-19, pneumonia, and RSV vaccines
- Bring all vaccines, necessary supplies, and staff for immunizations
- Manage the required documentation to the state immunization registry
- Assist with determining vaccine eligibility for residents upon request
- Bill insurance for residents and staff to cover vaccine product and administration

If you would like to set up a vaccine clinic, please complete the [Vaccine Clinic Request](#) form by **April 30, 2024**. Clinics must be scheduled by **May 31, 2024**.



The VRD Project: An Approach to Combating Viral Respiratory Diseases in Illinois Long Term Care Facilities

Website to sign up: fightvrd.org

Questions? Email
vrd_questions@uic.edu



A Multifaceted Approach



Training

- School of Public Health Outbreak Investigation Training
- Viral Respiratory Disease Bootcamps
- Viral Respiratory Disease Toolkit



Consultation

- Ticketing system to link LTCF safety officers with public health experts during outbreaks
- First 500 enrollees receive free copy of Outbreak Investigation textbook by Dr. Mark Dworkin
- \$500 honorarium payment for LTCF staff who complete the training

Respiratory Protection Programs: The Business Case



Respiratory Protection Program

Objective:

Ensure that LTCFs are provided with training and technical assistance on how to develop, implement, and maintain a compliant and comprehensive respiratory protection program.



We will provide clinical, engineering, and administrative consultation for the development of a **robust Respiratory Protection Program (RPP)** that:

- meets all aspects of **OSHA Respiratory Protection Program Standard**
- **improves health outcomes for staff, residents, and visitors to the facility**
- **provides a solid return on investment** by way of training, consultation, materials, equipment, supplies, and cost-avoidance related to OSHA penalties and other CMP

Return on Investment

Investment

- 3 team members
- 6 hours virtual training
- 2 hours in-person fit testing training
- Participation in assessment, gap analysis, and action planning
- 8+ labor hours (variable depending on assessment results)

3 staff x \$50.00/hour x 16 hours =
\$2400.00

In labor and benefit expense invested

Return

- Simple, step-by-step guidance for developing a compliant RPP – written and practices
- Fit testing equipment, materials, and supplies
- Cost-avoidance (CMP) = up to \$156,259 per violation
- Improved infection prevention and control
- Improved health outcomes for staff, residents, and visitors to the facility
- Decreased Work Comp and lost time cost
- Improved IDPH and CMS compliance
- Goodwill/Marketing opportunity/improved patient and family experience

Free training and consultation **PROVIDED**

Minimum of \$2500 per facility in equipment and supplies **PROVIDED**

Minor infraction for no written RPP, no medical evals being conducted \$41,000 **SAVED**

Resident days lost to hospitalization/death **SAVED**

Agency/temporary staff coverage **SAVED**

Civil Monetary Penalties **SAVED**

Market share/revenue **INCREASED**

<https://www.osha.gov/safetypays/>



Procurement Worksheet

Added Return on Investment

Purifiers: \$300-500 ea.

Reusable hoods: \$50 ea

Disposable hoods: \$7 ea

Solutions: \$25 ea

PAPR: \$1000 ea with 5 hoods

Medical evaluations: \$14 ea

Example:

100 medical evals: \$1400

3 small purifiers: \$900

2 large purifiers: \$1000

1 PAPR with 5 hoods: \$1000

Total requested: \$4300

Respiratory Protection Program

Date:

Facility Name and Address:

Contact Person, Name, Email, Phone #:

Number of floors:

Number of dining rooms:

Therapy room (s):

Community room(s):

Resources Needed

Quantity

Small Air Purifier

Large Air Purifier

Reusable Fit Test Hood

Disposable Fit Test Hood

Replacement Sensitivity Solution for Respirator Qualitative Fit Test Kit, Sweet

Replacement Sensitivity Solution for Respirator Qualitative Fit Test Kit, Bitter

PAPR units

PAPR disposable hoods

Medical Evaluations

Questions? Ideas?



Please email with questions:

SFischer@ProjectHOPE.org

Cohorts 7&8 begin May 5th and 6^h (Tues/Wed)

Registration is available now!

<https://redcap.uchicago.edu/surveys/?s=X38N7K77DRH7749N>

You may also register using our QR code:



The Infection Preventionist and the Water Management Team

Mary Alice Lavin, MJ, BSN, RN, CIC, FAPIC

April 26, 2024



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Disclosure

Mary Alice Lavin has no relevant financial relationship(s) to disclose with ineligible companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.



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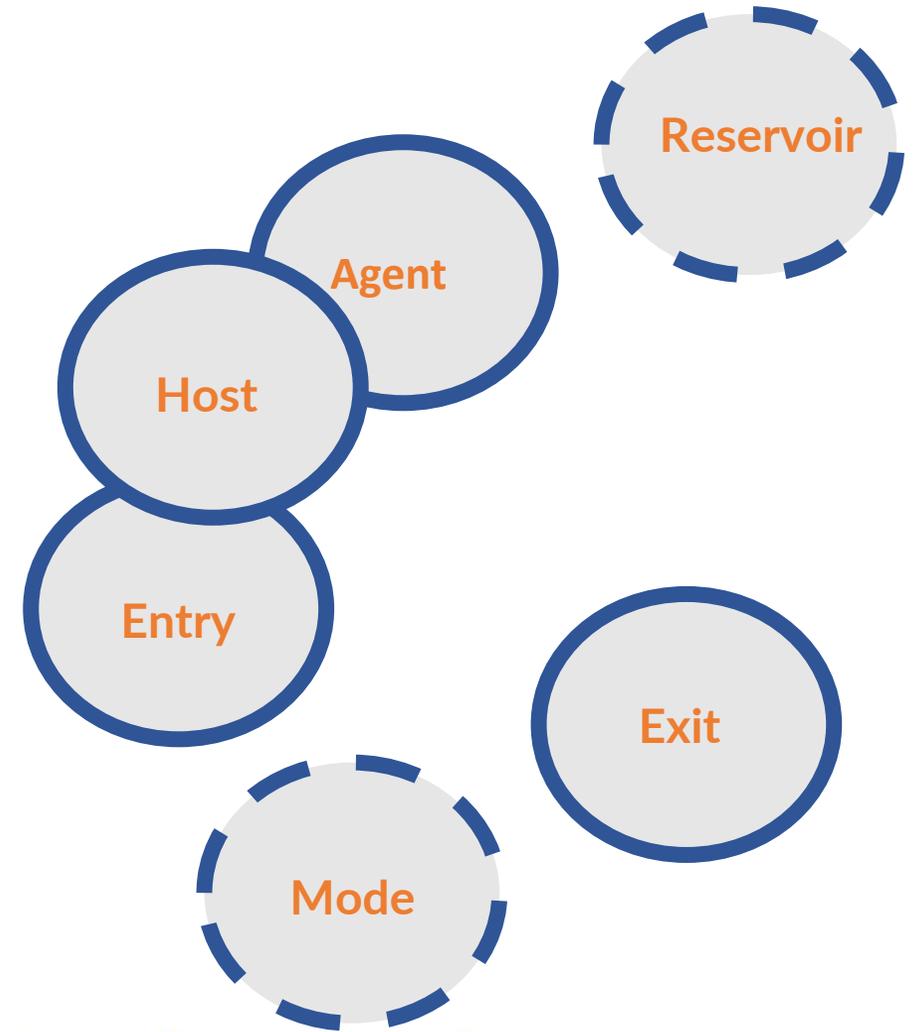
Objectives

- Recognize the importance of the Water Management Committee.
- Define the role of the infection preventionist on the Water Management Committee.
- Identify water associated risks and mitigation measures.



Chain of Infection

- Waterborne pathogens as the agent
- Water as the reservoir
- Aerosolization, aspiration, or splash/droplet as the mode



Why the Focus on Water?

- Recent estimates indicate 7.15 million waterborne infections occur annually in the United States.¹
- Healthcare facilities have complex water systems
 - Complex water systems are at greater risk for harboring waterborne pathogens
- Safe water is a part of preventing infection through a safe and sanitary environment
- Risk for healthcare-associated waterborne infections

Emerg Infect Dis. 2021;27(1):140-149

<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-17-30.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7883772/pdf/nihms-1669733.pdf>



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Resident, Staff, and Visitor Safety



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Regulatory Compliance

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850



Center for Clinical Standards and Quality/Survey & Certification Group

Ref: S&C 17-30-*Hospitals/CAHs/NHs*
REVISED 06.09.2017

DATE: June 02, 2017
TO: State Survey Agency Directors
FROM: Director
Survey and Certification Group
SUBJECT: Requirement to Reduce *Legionella* Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease (LD)
****Revised to Clarify Provider Types Affected****

<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-17-30.pdf>

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850



Center for Clinical Standards and Quality/Quality, Safety and Oversight Group

Ref: *QSO*-17-30- Hospitals/CAHs/NHs
REVISED 07.06.2018

DATE: June 02, 2017
TO: State Survey Agency Directors
FROM: Director
Quality, Safety and Oversight Group (*formerly Survey & Certification Group*)
SUBJECT: Requirement to Reduce *Legionella* Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease (LD)

****Revised to Clarify Expectations for Providers, Accrediting Organizations, and Surveyors****

<https://www.cms.gov/medicare/provider-enrollment-and-certification/surveycertificationgeninfo/downloads/qso17-30-hospitalcah-nh-revised-.pdf>



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State Operations Manual

Appendix PP - Guidance to Surveyors for Long Term Care Facilities

Table of Contents
(Rev. 211, 02-03-23)

Facilities must be able to demonstrate its measures to minimize the risk of Legionella and other opportunistic pathogens in building water systems such as by having a documented water management program. Water management must be based on nationally accepted standards (e.g., ASHRAE (formerly the American Society of Heating, Refrigerating, and Air Conditioning Engineers), CDC, U.S. Environmental Protection Agency or EPA) and include:

- An assessment to identify where Legionella and other opportunistic waterborne pathogens (e.g., Pseudomonas, Acinetobacter) could grow and spread; and*
- Measures to prevent the growth of opportunistic waterborne pathogens (also known as control measures), and how to monitor them.*

https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf Page 772



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Regulatory Compliance



525-535 West Jefferson Street • Springfield, Illinois 62761-0001 • www.dph.illinois.gov

ADMINISTRATIVE CODE

May 23, 2018

Dear Health Care Facility Licensee:

The Illinois Department of Public Health (IDPH) would like to remind health care facilities about the importance of infection prevention and the need for proactive practices to reduce risks to patients, staff, and the public in health care facilities. A variety of environmental factors associated with warmer temperatures can increase the risk of bacterial infections, especially for water-related diseases like Legionnaires' disease. Since 2000, there has been over a fourfold increase in *Legionella* infections nationwide.

IDPH requests that your facility review and update its water management plan (WMP). In June

<https://www.ilga.gov/commission/jcar/admincode/077/077006900D04750R.html>

<https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/letter-hcfs-wmp-060618.pdf>



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Regulatory Compliance

Section 300.700 Effective May 31, 2022

Section 330.792 Effective June 2, 2022

Section 340.1337 Effective June 2, 2022

- a) *A facility shall develop a policy for testing its water supply for Legionella bacteria. The policy shall include the frequency with which testing is conducted. The policy and the results of any tests and corrective actions taken shall be made available to the Department upon request. (Section 3-206.06 of the Act)*

- b) The policy shall be based on the ASHRAE Guideline "Managing the Risk of Legionellosis Associated with Building Water Systems" and the Centers for Disease Control and Prevention's "Toolkit for Controlling Legionella in Common Sources of Exposure". The policy shall include, at a minimum:
 - 1) A procedure to conduct a facility risk assessment to identify potential Legionella and other waterborne pathogens in the facility water system;
 - 2) A water management program that identifies specific testing protocols and acceptable ranges for control measures; and
 - 3) A system to document the results of testing and corrective actions taken.



Insert Facility Name

Water Infection Control Risk Assessment (WICRA) for Long Term Care Facilities

Performed by (names):

Assessment Date:

Water Management Program Team Role (Check all that apply)

- Hospital Epidemiologist/Infection Preventionist
- Compliance/Safety Officer
- Consultant

- Facilities Manager/Engineer
- Risk/Quality Management Staff
- Equipment/Chemical Acquisition/Supplier

- Environmental Services
- Infectious Disease Clinician
- Other (Specify)

A water infection control risk assessment (WICRA) is an integral part of the **insert facility name** Water Safety Management Plan. The numerical scores generated by the assessment help to prioritize water management monitoring and mitigation efforts. The WICRA should be updated periodically and when any water systems changes occur or new water containing equipment is introduced.

Location	Water Source	Mode of Transmission	Patient Susceptibility Highest = 4 High = 3 Moderate = 2 Low = 1	Patient Exposure High = 3 Moderate = 2 Low = 1 None = 0	Current Preparedness Poor = 3 Fair = 2 Good = 1	Total Risk Score Patient Susceptibility x Patient Exposure x Preparedness	Comments and Remediation Recommendations
First Floor							

https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.hektoen.org%2Fwp-content%2Fuploads%2F2023%2F10%2FBLANK-WICRA-Form_LTCF.docx&wdOrigin=BROWSELINK



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Slide courtesy of CDC

Sunny Shores Nursing & Rehabilitation Center
Water Infection Control Risk Assessment (WICRA) for Long Term Care Facilities

NOTE: This sample was created to assist long term care facilities and for educational purposes only. Each facility should complete an assessment based on the residents cared for and physical layout of the building. Utilize the definitions found here: <https://www.cdc.gov/hai/pdfs/prevent/water-assessment-tool-508.pdf> to guide the assessment. Add additional rows for potential risks on each floor and number of floors per building.

Performed by (names): Infection Preventionist Extraordinaire, Water Management Expert, Mr. Fixit, Ms. Quality, The Clean Team

Assessment Date: October 1, 2023

Water Management Program Team Role (Check all that apply)

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Infection Preventionist | <input checked="" type="checkbox"/> Facilities Manager/Engineer | <input checked="" type="checkbox"/> Environmental Services |
| <input type="checkbox"/> Compliance/Safety Officer | <input checked="" type="checkbox"/> Risk/Quality Management Staff | <input type="checkbox"/> Infectious Disease Clinician |
| <input checked="" type="checkbox"/> Consultant | <input type="checkbox"/> Equipment/Chemical Acquisition/Supplier | <input type="checkbox"/> Other (Specify) |

A water infection control risk assessment (WICRA) is an integral part of the Sunny Shores Nursing & Rehabilitation Center Water Safety Management Plan. The numerical scores generated by the assessment help to prioritize water management monitoring and mitigation efforts. The WICRA should be updated periodically and when any water systems changes occur or new water containing equipment is introduced.

Location	Water Source	Mode of Transmission	Resident Susceptibility Highest = 4 High = 3 Moderate = 2 Low = 1	Resident Exposure High = 3 Moderate = 2 Low = 1 None = 0	Current Preparedness Poor = 3 Fair = 2 Good = 1	Total Risk Score Resident Susceptibility x Resident Exposure x Preparedness	Comments and Remediation Recommendations
First Floor							
Medication Room	Sink counter storage of medication and intravenous therapy supplies	Indirect contact via splash/droplets	3	2	2	12	Ensure supplies are not stored within 3 feet of a sink. When counter space is limited, consider installing splash shields.
100 Wing	Nebulizers	Indirect contact via inadequate reprocessing and/or drying, Inhalation of	3	2	1	6	Residents requiring nebulizer treatments often have compromised respiratory systems.

https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.hektoen.org%2Fwp-content%2Fuploads%2F2023%2F10%2FSAMPLE-WICRA-Form_LTCF.docx&wdOrigin=BROWSELINK



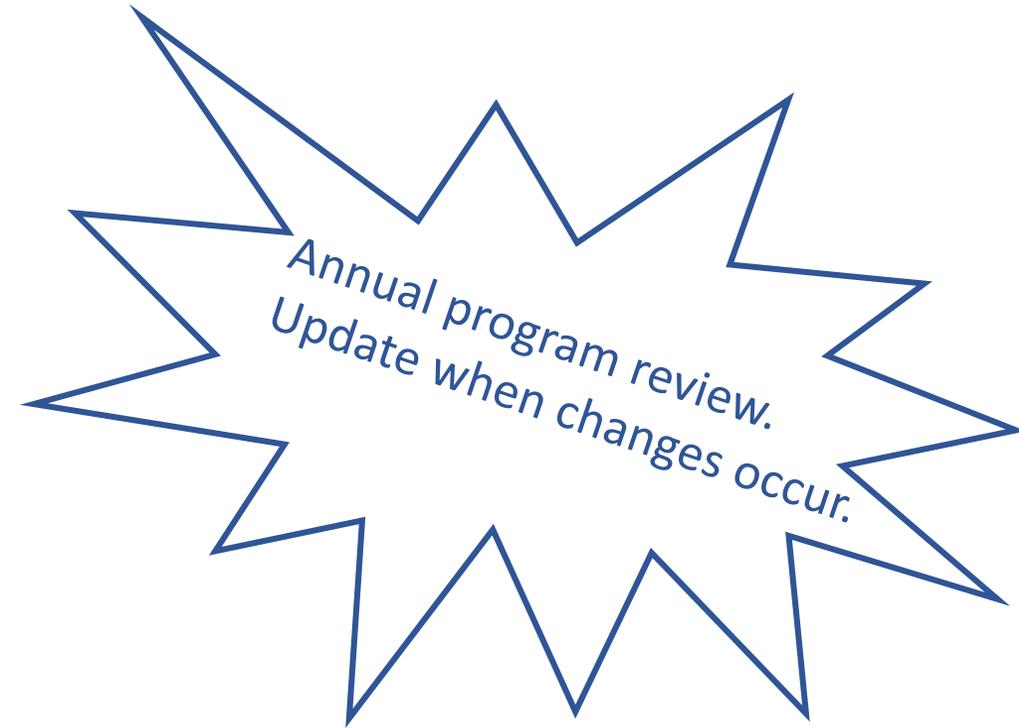
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Water Management Program

Components

- Water management team
- Describe the water system
- Identify the areas for growth and spread
- Decide control measures and monitoring
- Establish interventions
- Verification and validation
- Documentation and communication



www.cdc.gov/hai/prevent/water-management.html

<https://www.cdc.gov/legionella/wmp/toolkit/index.html>

Infectious Disease Reports. 2022; 14(3):341-359. <https://doi.org/10.3390/idr14030039>

<https://www.cdc.gov/legionella/health-depts/healthcare-resources/cases-outbreaks.html>



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Healthcare Facility Water Management Program Checklist

Available from: www.cdc.gov/hai/prevent/water-management.html

This checklist is intended to assist in the development of an all-hazards approach to water management in a healthcare facility, and may be used to:

- Evaluate a comprehensive water management program.
- Identify individuals to participate in the water management program.
- Assist in conducting assessments, including hazard analyses, environmental risk assessments, and infection control risk assessments.
- Inform water monitoring practices guided by the management program.

Depending on complexity of the building plumbing systems, a comprehensive program may include several water management plans. These plans should include areas within the system where control points are identified as well as monitoring methods and procedures.

<https://www.cdc.gov/HAI/pdfs/Water-Management-Checklist-P.pdf>



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Assessment of Risk and Mitigation Plan

Infection Control Assessment and Response (ICAR) Tool for General Infection Prevention and Control (IPC) Across Settings

Module 11: Water Exposure Facilitator Guide

Water Exposure: This form is intended to aid an ICAR facilitator in the review of a healthcare facility's infection risks posed by water exposures and related policies (Part A) and guide observations about water exposure risks (Part B). The form is intended for use in acute care facilities, long-term care facilities, and outpatient healthcare facilities. It is not intended for use in hemodialysis facilities; if conducting an assessment of a hemodialysis facility, refer to the resources at: [Audit Tools and Checklists | Dialysis Safety | CDC](#)

NOTE: This module does not apply to assessment of dental water lines.

Part A. Water Exposure Interview Questions

<https://www.cdc.gov/infectioncontrol/pdf/icar/ipc-mod11-water-exposure-508.pdf>



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The training includes templates and other resources.

[Register Today!](#)

[PreventLD Training - Preventing Legionnaires' Disease Training | EHS | CDC](#)



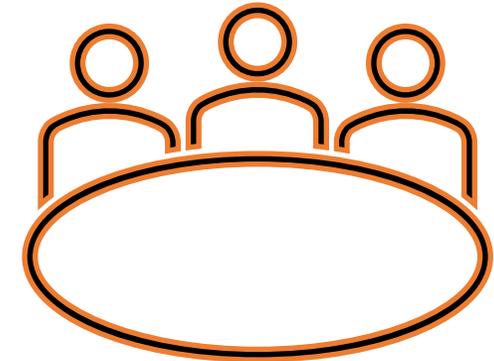
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Water Management Program

Water Management Team

- Building administrator or manager
- Facility maintenance/engineering staff
- Water management suppliers and/or experts
- Laboratorian/industrial hygienist
- Quality/regulatory/risk
- Infection Preventionist
- Infectious Disease Consultant/Laboratorian



<https://www.cdc.gov/legionella/wmp/toolkit/index.html>



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Developing the Team

For nursing homes, the group may consist of three or more individuals representing management, nursing (someone filling the role of infection control), and the facilities engineer; ad hoc members with subject matter expertise (to provide advice) may be water consultants.

Larger facilities representation may include a designee from the C-suite, risk management, infection prevention, facilities engineers, central services, laboratory, and ad hoc members from clinical departments or water consultants.

<https://www.cdc.gov/HAI/pdfs/Water-Management-Checklist-P.pdf>



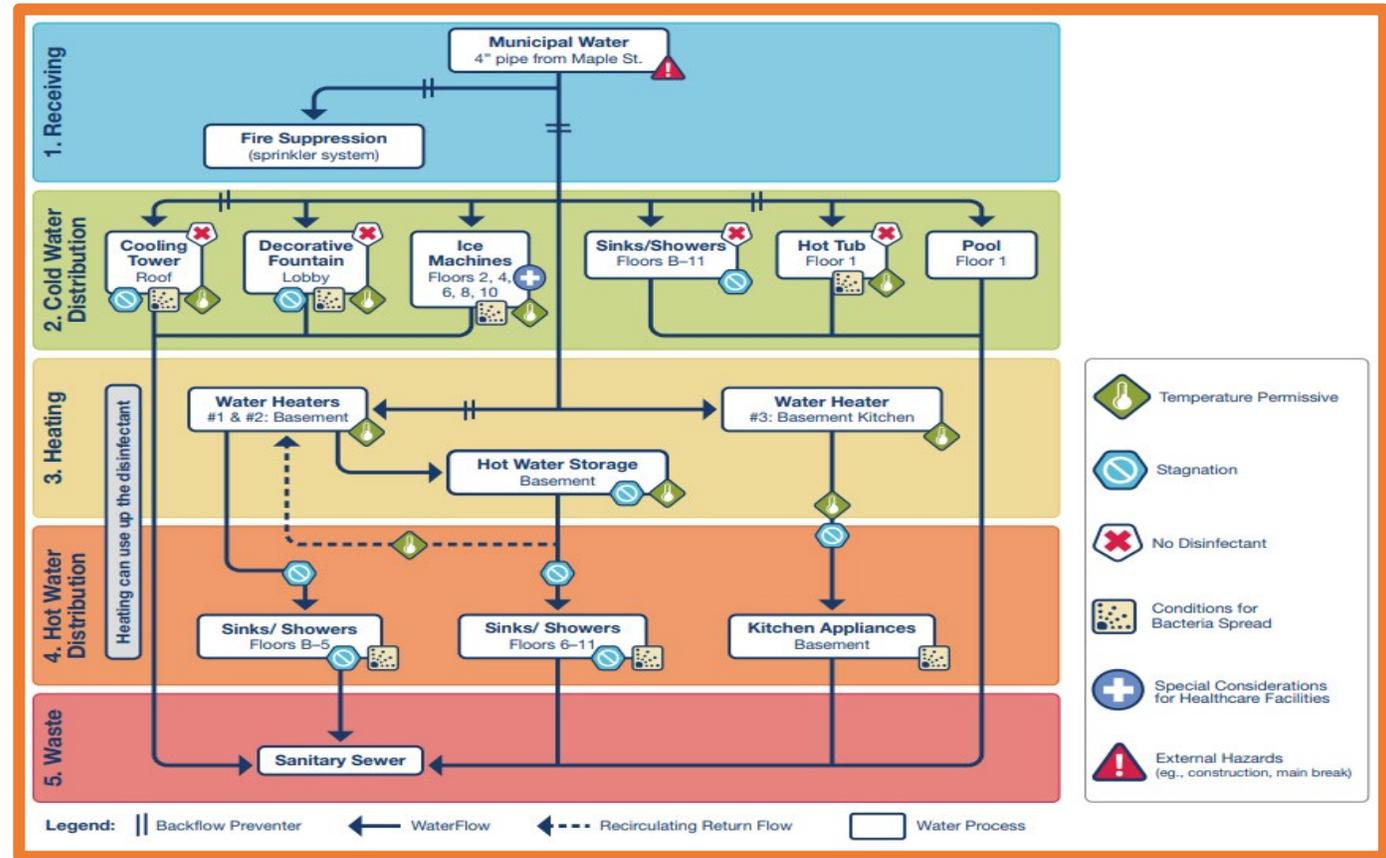
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Water Management Program

Water Management Plan

- Written description
- Building flow diagram
- Risk points in the flow



<https://www.ilga.gov/commission/jcar/admincode/077/077003000N29300R.html>

<https://www.cdc.gov/legionella/wmp/toolkit/index.html>



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Water Management Program

Control Measures

- Visual inspection
- Disinfectant level check
- Temperature check
- Start up



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Monitoring Water Quality

Considerations

- Sample collection
- Test method
- Lab expertise
- Interpretation of results

<https://www.cdc.gov/legionella/wmp/monitor-water.html#env-sampling>
<https://www.cdc.gov/legionella/wmp/control-toolkit/routine-testing.html>



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Figure 1. Routine *Legionella* testing: A multifactorial approach to performance indicator interpretation*^a

Concentration indicates that *Legionella* growth appears:

Uncontrolled	Poorly Controlled	Well Controlled			
≥10 CFU/mL ¹ in potable water	1.0–9.9 CFU/mL in potable water	Detectable to 0.9 CFU/mL in potable water	No <i>Legionella</i> detected in a single round of testing	No <i>Legionella</i> detected in multiple rounds of testing	No <i>Legionella</i> detected in multiple rounds of testing with methods that detect viable and non-viable bacteria of any <i>Legionella</i> species
OR ≥100 CFU/mL in non-potable water	OR 10–99 CFU/mL in non-potable water	OR Detectable to 9 CFU/mL in non-potable water			

Change in concentration over time indicates that *Legionella* growth appears:

Uncontrolled	Poorly Controlled	Well Controlled			
100-fold or greater increase in concentration (e.g., 0.05 to 5 CFU/mL)	10-fold increase in concentration (e.g., 0.05 to 0.5 CFU/mL)	<i>Legionella</i> concentration steady (e.g., 0.5 CFU/mL for two consecutive sampling rounds)	No <i>Legionella</i> detected in a single round of testing	No <i>Legionella</i> detected in multiple rounds of testing	No <i>Legionella</i> detected in multiple rounds of testing with methods that detect viable and non-viable bacteria of any <i>Legionella</i> species

Extent indicates that *Legionella* growth appears:

Uncontrolled	Poorly Controlled	Well Controlled			
Detection in multiple locations AND a common source location ²	Detection in a common source location that serves multiple areas	Detection in a few of many tested locations within a water system	No <i>Legionella</i> detected in a single round of testing	No <i>Legionella</i> detected in multiple rounds of testing	No <i>Legionella</i> detected in multiple rounds of testing with methods that detect viable and non-viable bacteria of any <i>Legionella</i> species
OR Detection across many locations within a water system	OR Detection in more than one location within a water system				

Type³ of *Legionella* (species and serogroup) associated with Legionnaires' disease:

Highly Associated	Less Associated
<i>L. pneumophila</i> serogroup 1; Non-Lp1 <i>L. pneumophila</i> ; Presence of multiple different <i>Legionella</i> species or serogroups	Any non- <i>pneumophila</i> <i>Legionella</i> species including "blue-white" fluorescent <i>Legionella</i>

*This figure is intended for use during routine testing only. Test results are performance indicators and are not a measure of risk of human illness. This figure is not intended for use if a building or device is associated with Legionnaires' disease (LD) cases or an outbreak.

^aSee "Routine testing for *Legionella*" for guidance regarding suggested response activities. Comparable results may lead to different suggested response activities when other factors are considered (e.g., if there is evidence of poorly controlled growth at a healthcare facility).

^bConsidering the type of *Legionella* identified along with other *Legionella* testing performance indicators provides a clearer picture of water system control than the results of any single indicator. For example, facility owners and operators may consider implementing immediate interventions for a healthcare facility with: A. detectable but <10

colony-forming units per milliliter (CFU/mL), B. non-Lp1 *Legionella pneumophila*, C. observed at steady concentrations, but D. detected at multiple distal locations including a central water heater.

¹Concentrations expressed as CFU/mL are for test results generated by traditional spread plate culture methods. If other test methods are used, consult testing lab or manufacturer instructions for appropriate interpretation.

²Common source location examples include water heaters, hot water returns, storage tanks, and cooling tower basins.

³If a facility has a history of associated LD cases, then sequencing isolates obtained during routine testing may provide performance indicators regarding outbreak strain persistence (if that strain is detected).



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



Office of Water
EPA 810-R-16-001
September 2016

Technologies for *Legionella* Control in Premise Plumbing Systems: Scientific Literature Review

<https://www.epa.gov/ground-water-and-drinking-water/technologies-legionella-control-premise-plumbing-systems>
<https://www.epa.gov/sites/default/files/2016-09/documents/placeholder.pdf>



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Water Management Program

Plan Effectiveness

Verification

- Confirmation of design implementation
- Cross check

Validation

- Cultures
- Disinfectant

<https://www.cdc.gov/legionella/downloads/wmp-data-template.xlsx>



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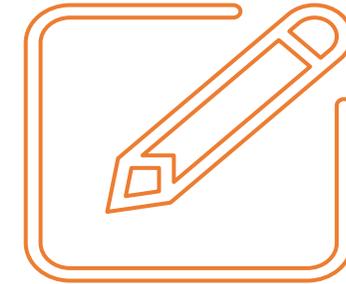
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Water Management Program

Plan Package

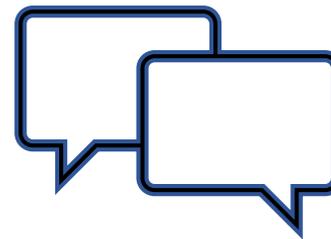
Document

- Team membership
- Facility characteristics
- Water system description and flow diagram
- Control measures and limits
- Verification and validation



Communicate

- Facility
- Consultants
- Health Department



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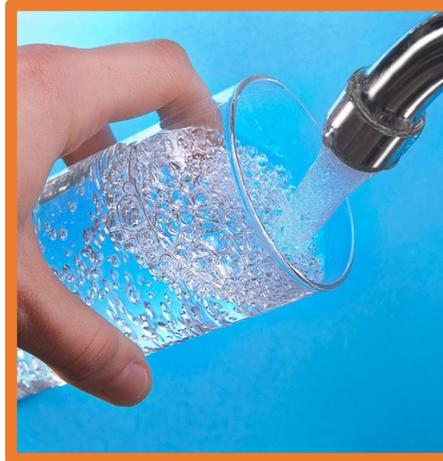
Risk Mitigation Measures

Risk Mitigation	Limitation/Failure	Ensuring Compliance
Corporate water management plan	Plan not specific to the local facility/building	Adopt corporate plan to the specific building
Water containing equipment is inspected on a quarterly basis	Quarterly equipment inspection not performed	Establish preventive maintenance schedules
Process flow diagram	Therapy pool not included	All fixtures and equipment must be included in the flow diagram
Temperature, pH, chemical monitoring	No documentation	Audit
Decorative water feature maintenance	Manufacturer's instructions not followed	Ensure manufacturer's instructions for use are available and followed
Ice machine filters	Filters not changed	Follow manufacturer's frequency for changing
Contracted service maintains cooling towers	Biocides were not added	Include contracted services timelines in the facility maintenance schedules

Sources of Exposure

Acceptable Uses of Tap Water

- Drinking
- Handwashing
- Cooking
- Dishwashing



Imperfect Uses of Tap Water

- Flushing feeding tubes
- Rinsing some medical devices including CPAP machines and nebulizers
- Filling nebulizers

J Parenter Enteral Nutr. 2017;41:15-103

<https://www.cdc.gov/infectioncontrol/pdf/guidelines/healthcare-associated-pneumonia-H.pdf>



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Sources of Exposure

Sinks

- Design
 - Depth
 - Fixtures and faucets
- Placement
- Uses



FGI. Guidelines for Design and Construction of Residential Health, Care and Support Facilities. 2022 Edition. 2.1-8.4.3.2

Handwashing station sink.

Infect Control Hosp Epidemiol. 2018 Dec;39(12):1467-1469.

Infect Control Hosp Epidemiol. 2009;30(1):25-33



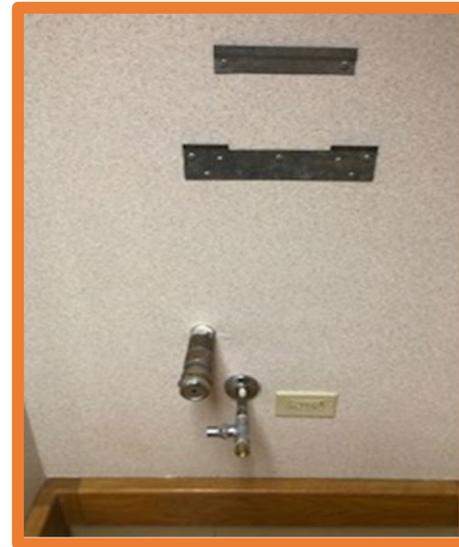
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Sources of Exposure

Dead Legs

- Often difficult to identify
- The result of equipment being removed and or construction
- Create a space where water can remain stagnant at room temperature



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Sources of Exposure

Additional Sources

- Showers
- Decorative water features¹
- Cooling towers
- Ice machines
- Dialysis Box²



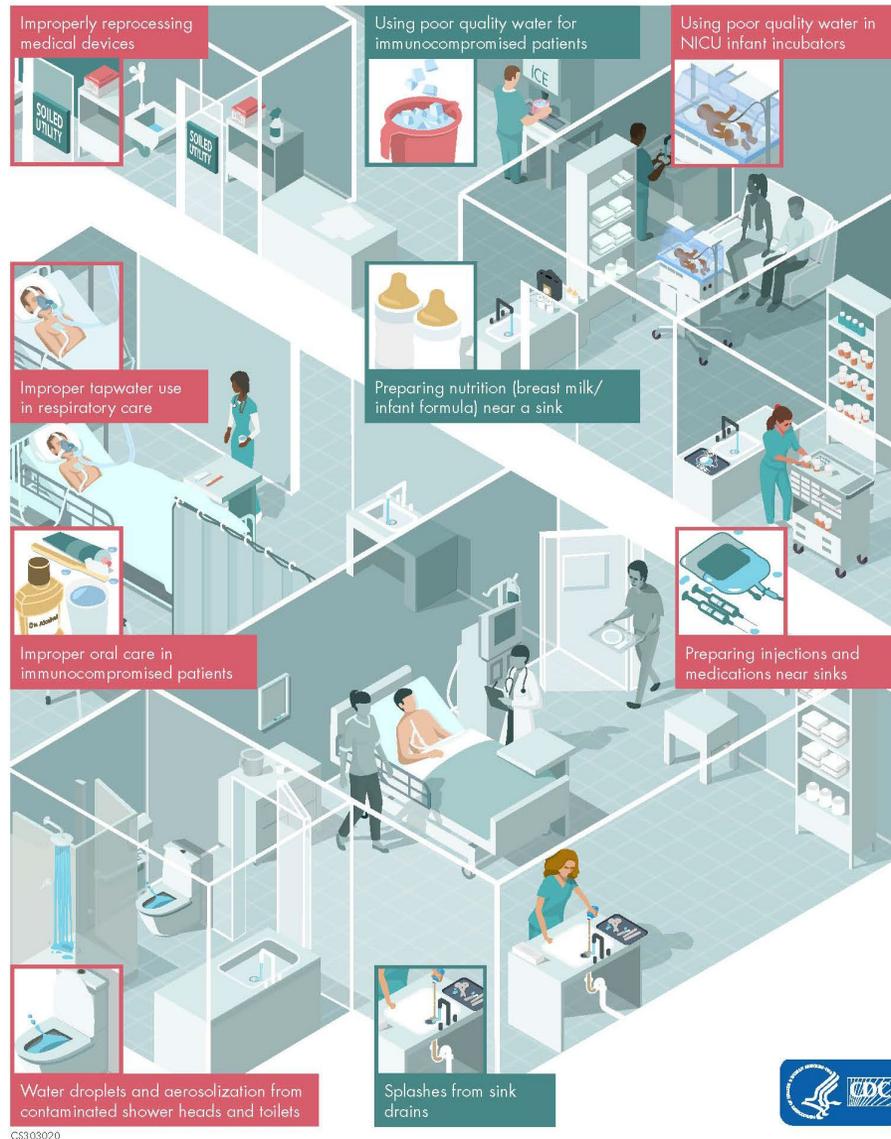
¹The Facility Guidelines Institute. Guidelines for Design and Construction of Residential Health, Care, and Support Facilities. 2022 Edition. 2.1-7.2.2.14
Decorative water features

²American Journal of Infection Control (2022), doi: <https://doi.org/10.1016/j.ajic.2022.08.007>



Sources of Exposure

Potential Transmission Routes from Water to Patients



<https://www.cdc.gov/hai/prevent/environment/water.html>

Mathers AJ, Vegesana K, German Mesner I, et al. Intensive Care Unit Wastewater Interventions to Prevent Transmission of Multispecies *Klebsiella pneumoniae* Carbapenemase-Producing Organisms. *Clin Infect Dis*. 2018;67(2):171-178. doi:10.1093/cid/ciy052

GERMS LIVE IN WATER AND ON WET SURFACES.

WHERE IS THE RISK?

Know where germs live to stop spread
and protect patients



- Tap water is safe to drink, but it is not sterile. It always has some germs in it.
- Most of the time, the germs in tap water aren't a problem for healthy people, but they can cause illness in patients with very weak immune systems.
- Germs in water can spread to surfaces and people and cause harm.
- If medical instruments and equipment (e.g., devices and central lines) get wet, bacteria can grow. When those devices are used, that bacteria can then get into a patient's body or blood and cause infection.

Germs That Live in Water

- *Acinetobacter*
- *Serratia*
- *Pseudomonas*
- *Legionella*



Healthcare Tasks Involving Water

- Toileting
- Cleaning
- Handwashing

Infection Control Actions to Reduce Risk

- Cleaning and disinfection
- Device sterilization
- Hand hygiene
- Use of personal protective equipment (gloves, gowns, eye protection)



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention



WWW.CDC.GOV/PROJECTFIRSTLINE

It Happens in a Minute

Examples of activities that would be impacted by a water interruption

Consumption and essential care

- Drinking at faucets and fountains
- Food preparation
- Handwashing
- Wound care
- Emergency surgery

Equipment and sanitary purposes

- Flushing toilets
- Bathing patients
- Fire suppression sprinkler systems
- Heating, ventilation, and air conditioning



A Florida hospital lost water service for 5 hours due to water main break.



A hospital in Texas lost water service for 48 hours due to an ice storm that caused a citywide power outage that included the water treatment plant.



A 2014 chemical spill in West Virginia contaminated a water supply for roughly 300,000 residents and affected 10 hospitals in the area.

https://www.cdc.gov/healthywater/emergency/pdf/19_302124-E_EWSP-Grab-N-Go-p.pdf



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**Emergency Water Supply
Planning Guide for Hospitals
and Healthcare Facilities**

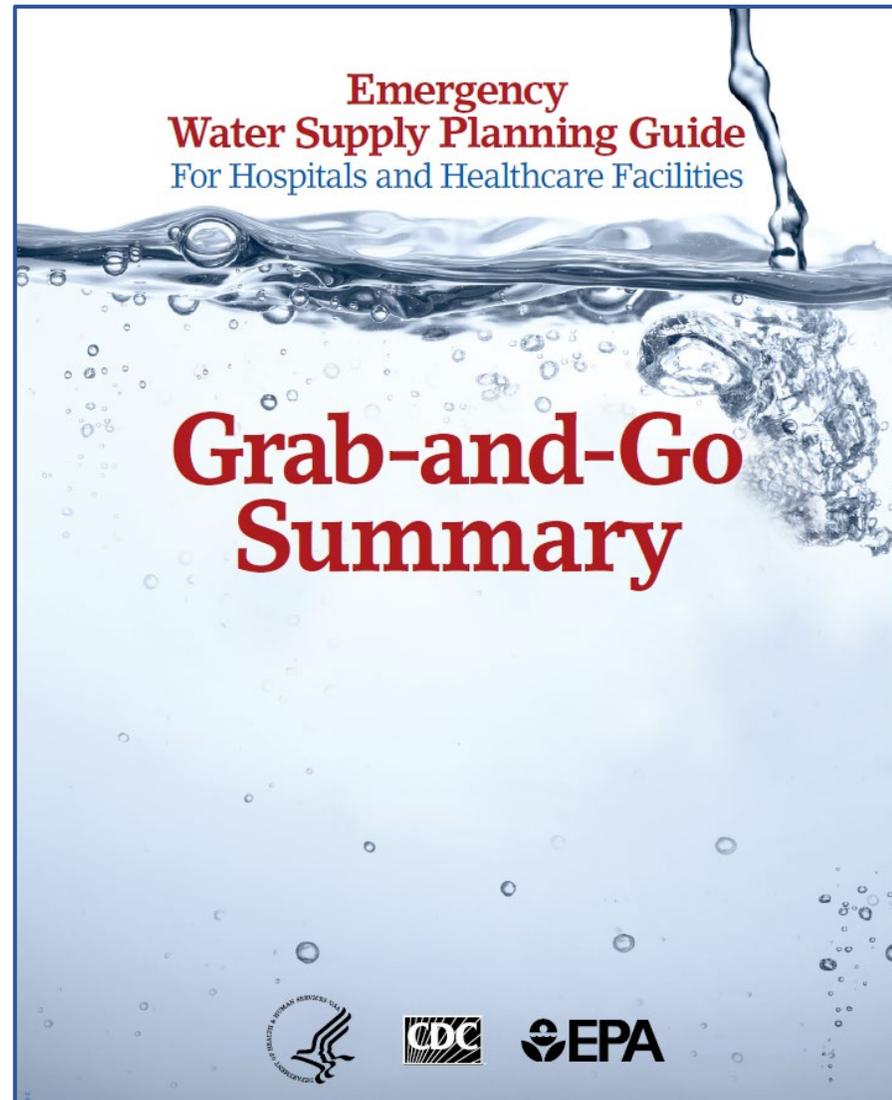


<https://www.cdc.gov/healthywater/emergency/pdf/emergency-water-supply-planning-guide-2019-508.pdf>



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**Emergency
Water Supply Planning Guide**
For Hospitals and Healthcare Facilities



**Grab-and-Go
Summary**



https://www.cdc.gov/healthywater/emergency/pdf/19_302124-E_EWSP-Grab-N-Go-p.pdf

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Summary



The risk from water associated infection is real and healthcare is no exception.



Healthcare facilities are required to have a water management program.



The program will only be as good as the implementation of the components which must be verified and validated.



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Additional Resources

Centers for Disease Control and Prevention. Legionella (Legionnaires' Disease and Pontiac Fever. Things to Consider: Healthcare-associated Cases and Outbreaks. Available at: <https://www.cdc.gov/legionella/health-depts/healthcare-resources/cases-outbreaks.html#measures-facilities> Accessed April 22, 2024.

Illinois Department of Public Health. Legionella Response Compendium, Available at: <https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/legionella-prevention-response.pdf> Accessed April 22, 2024.

Illinois Department of Public Health. Disease and Conditions. Legionnaire's Disease. Available at: <https://dph.illinois.gov/topics-services/diseases-and-conditions/legionellosis.html> Accessed April 22, 2024.



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Reminders

- For continuing education credit, please fill out the evaluation survey upon end of webinar
 - <https://forms.office.com/g/e1mzDbr5QM?origin=lprLink>
- SIREN Registration
 - To receive situational awareness from IDPH, please use this link to guide you to the correct registration instructions for your public health related classification:
<http://www.dph.illinois.gov/siren>
- Telligen Resources:
 - Project Firstline Trainings:
<https://www.telligenqconnect.com/infectionpreventionandcontrol/>
 - Contact Telligen: **nursinghome@telligen.com**

