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2024 Updates of Legionella Water Management Plans

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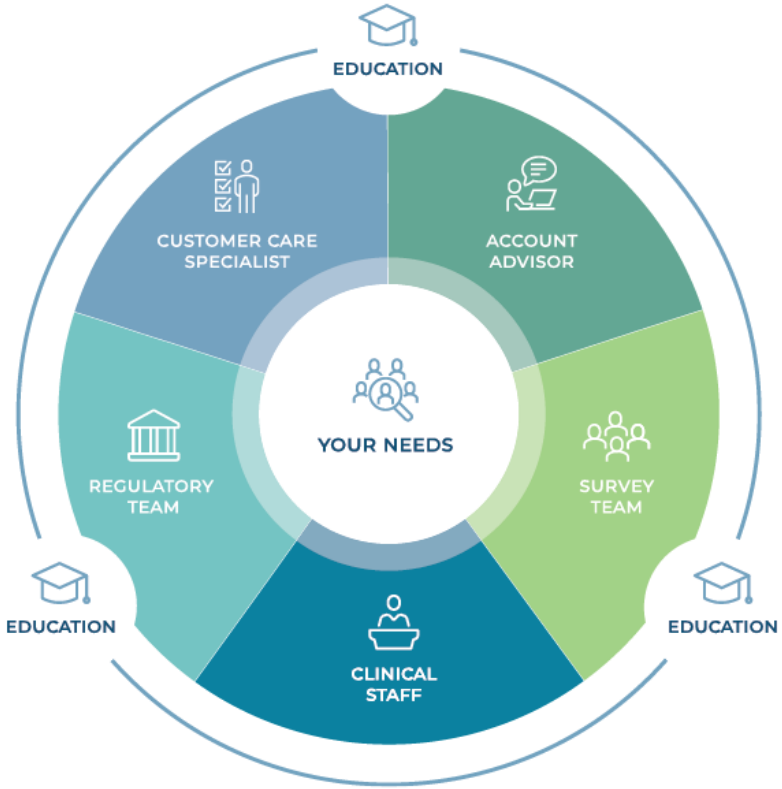

Standard 07.02.06 ACH | 18.02.06 CAH

Reduce Risk of Legionella in water systems: The infection control program includes processes to reduce the risk of growth and spread of legionella and other opportunistic pathogens in building water systems.

Element #1

- Conducts a risk assessment to identify where Legionella and other opportunistic waterborne pathogens (e.g. Pseudomonas, Acinetobacter, Burkholderia, Stenotrophomonas, nontuberculous mycobacteria, and fungi) could grow and spread in the water system.

Element #2

- Implements a water management program that considers the ASHRAE industry standard and the CDC toolkit, and includes control measures such as physical controls, temperature management, disinfectant level control, visual inspections, and environmental testing for pathogens.

Element #3

- Specify testing protocols and acceptable ranges for control measures and document the results of testing and corrective actions taken when control limits are not maintained.

Standard 07.02.06 ACH | 18.02.06 CAH (con't)

Example: LAMPS Users

If this is requested	Show this in the WMP Compliance Report
Multi-disciplinary team	Team Members Link
Description of Building water systems	Flow Diagram link and Water systems link
Risk Assessment	Risk Assesment per Hazard Analysis and WICRA report
Control Points	Water Systems, Control Measures, Water Quality Data, Reports
Outbreak and Contingency Plans	Responding to Disease
Communication plan	Notification and Communication
Infection Control Plan	WICRA, IP Control measures, IP documentation related to water
Temperature and disinfectant management, inspections, testing	Control Measures, data at bottom of Compliance Report, reports for temperature, disinfectants, and pathogen test results
Actions taken to reduce growth	Control Measures and Corrective action log
Water Shutdowns and Incidents (09.01.02 & 03)	Control Measure DWI01
Reports for water testing (11.06.03)	Water Quality Data and Reports, Data at bottom of compliance report
Construction -Assessing Risk (11.07.06)	Construction Checklist archives

(HC Info, 2024)

ACHC Note: Surveyors have ~15-20 minutes to cover the water management plan compliance. LAMPS Users, the "Report" option is helpful for surveyors to assess competency at a glance.

New to Water Management

- Case Investigations
  - Suspect v. confirmed healthcare-associated infection of Legionnaires' Disease
  - 1 suspect case within 365 days…partial investigation by state health department
  - 1 confirmed case or 2 suspect cases within 365 days…full investigation by state health department
  - Having an active, defensible WMP and working with an ASSE 12080-certified professional could be critical for the facility
  - Clinicians testing patients with respiratory symptoms for Legionnaires' Disease upon admission can assist local health departments in distinguishing between community-acquired and healthcare-acquired

New to Water Management

- ASHRAE Standard 514
  - Broader scope and application than ASHRAE Standard 188
  - Covers chemical, microbial, and physical water conditions
    - Chemical- supplemental disinfection systems
    - Microbial- Legionella, Pseudomonas, NTM, etc.
    - Physical- scalding risk
  - Recommends using FDA Class II filters for ice machines for patient use
  - Emphasizes splash guard risk assessments of facilities

New to Water Management

- AAMI ST108
  - Critical Water v. Utility Water
  - Evaluation of Current Processes and Policies in Sterile Processing Department (SPD)
    1. Determine what department(s) this applies to
    2. Review with the department(s) if they are currently doing any testing of water (either internally or having a company do the testing)
    3. Evaluate which water sources are critical water and which are utility water (see info sheet for distinction)
    4. Align new parameters and testing locations with a plan
       - Where is the facility needing to test (i.e., where are critical water locations v. where are utility water locations)?
       - How often does each location need testing?
       - Can the facility test internally or do you need to hire a company to conduct the testing?
       - How much would testing cost per year per location (to plan into the next year's budget)?

5 Quick Tips to WMP Success

1. Ensure the water management team is ALL up to date with the WMP processes at your facility; know each team member's strengths
2. Documentation= Key
3. Annually review the entire WMP and documentation each year to know what the goals are for the following year
4. Be intentional with your facility's environmental Legionella sampling plan
5. Complete your WICRA and utilize it to assess if your WMP tasks cover all potential exposure areas

1. Water Management Team

- Maintenance/Facilities/Engineering
- Infection Preventionist
- Administration
- SPD (AAMI ST108)
- EVS/Housekeeping
- PT (if pool is present)
- Quality/Accreditation
- Water Management Consultant

2. Documentation!

- Monthly chlorine and temperature (hot and cold) readings (POE and POUs)
- Annual review notes
- Quarterly meeting notes
- Ice machine cleanings, filter changes, eyewash station flushing, quarterly bottled water dispenser disinfections, etc.

3. Annual Review

- Frequent reviews are becoming more prominent

- Plan to build it into your facility's WMP management

4. Intentional Legionella Sampling

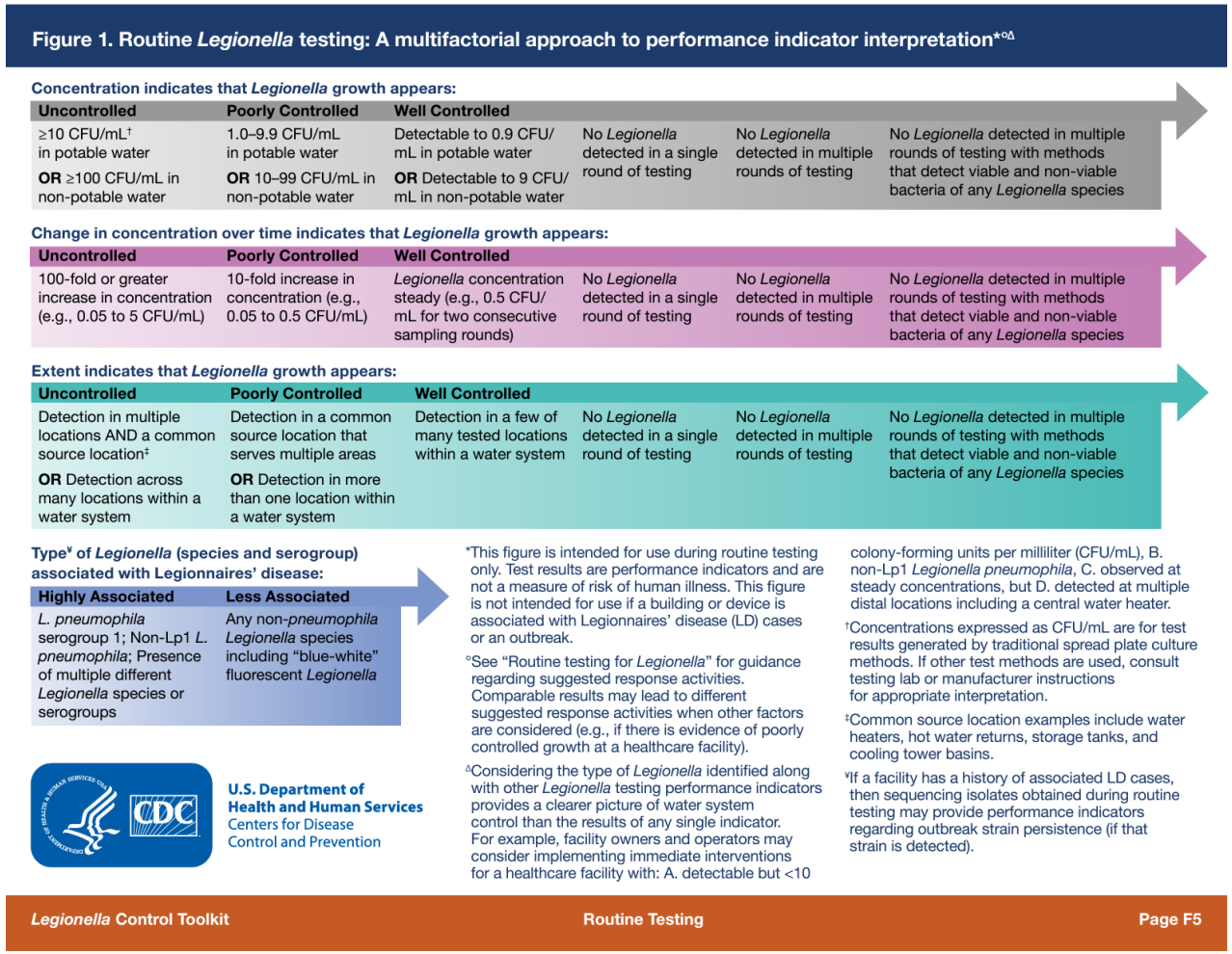

Figure 1. Routine *Legionella* testing: A multifactorial approach to performance indicator interpretation*°Δ

Concentration indicates that *Legionella* growth appears:

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

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)	*Legionella* concentration steady (e.g., 0.5 CFU/mL for two consecutive sampling rounds)	No *Legionella* detected in a single round of testing	No *Legionella* detected in multiple rounds of testing	No *Legionella* detected in multiple rounds of testing with methods that detect viable and non-viable bacteria of any *Legionella* species

Extent indicates that *Legionella* growth appears:

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

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

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

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

*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.

°See "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).

ΔConsidering 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.

†Concentrations 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.

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

¥If 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).

Legionella Control Toolkit | Routine Testing | Page F5

Legionella testing may be useful for

Routine purposes	• Establishing a baseline measurement for performance indicators • Evaluating potential growth and transmission sources • Validating a WMP
Non-routine purposes	• Confirming success or failure of remedial treatment • Investigating potential sources of environmental exposure for people with disease

Facilities that may see benefit

Certain types of facilities may benefit from routine testing, including those

- That house or treat people at increased risk for Legionnaires' disease
- Unable to meet control limits consistently
- With a history of associated Legionnaires' disease cases
- That want additional information on their WMP performance

(Centers for Disease Control and Prevention (CDC), 2021)

5. CDC's WICRA

Water Infection Control Risk Assessment (WICRA) for Healthcare Settings

Facility Name: **Assessment Location:**

Performed By (names): **Assessment Date:**

WMP Team Role(s) *(check all that apply):*

- ☐ Hospital Epidemiologist/Infection Preventionist
- ☐ Risk/Quality Management Staff
- ☐ Equipment/Chemical Acquisition/Supplier
- ☐ Facilities Manager/Engineer
- ☐ Infectious Disease Clinician
- ☐ Other *(please specify):*
- ☐ Environmental Services
- ☐ Consultant
- ☐ Compliance/Safety Officer

Location	Water Source	Modes 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 Susceptability *x* Patient Exposure *x* Preparedness	Comments

WATER INFECTION CONTROL RISK ASSESSMENT (WICRA) FOR HEALTHCARE SETTINGS

(Centers for Disease Control and Prevention (CDC), 2021)

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Thank you

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