Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN–MADISON

Laboratory-Based Surveillance Plan 2025-2026

Surveillance program overviews, submission instructions and 2024-25 data summaries

Welcome to the 2025-26 Season!

Thank you for participating in laboratory-based surveillance in Wisconsin! The participation of clinical laboratories across the state has helped Wisconsin develop one of the most robust surveillance networks in the country!

Supplies for collecting and shipping surveillance specimens, transport to the WSLH, and testing of surveillance specimens is available at **NO COST** when you send specimens using Purple Mountain Solutions. This booklet contains detailed information about the submission of clinical laboratory data and specimens for surveillance.

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Updates for the 2025-26 Season

Table 1. Updates to Data and Specimen Submission Requests for the 2025-26 Season

Pathogen	Surveillance Type	What is Requested
Updated Requests		
Enterobacterales, Pseudomonas aeruginosa and *Acinetobacter baumannii*	Specimens—Antimicrobial resistance monitoring	Changes to submission criteria (pg.21-22)
Pseudomonas aeruginosa	Specimens—Antimicrobial resistance monitoring	Updated AST profile information (pg. 21-22)
Blastomyces	Specimens-Other Pathogens of Public Health Significance	All positive isolates (pg. 26)
Hepatitis C Virus	Specimens-Other Pathogens of Public Health Significance	All new positives for molecular typing (NGS) (pg. 26)
No Longer Requested		
Influenza, SARS-CoV-2, Rotavirus and RSV	Antigen Testing Data	Number tested and number positive no longer needed (pg. 6)
Aeromonas, Plesiomonas shigelloides, E. coli O157, Entamoeba histolytica	PCR Testing Data	Number tested and number positive no longer needed (pg.6)

Biosafety Considerations

Evaluate biosafety at your testing site using a risk assessment:

Review your testing practices and lab environment and consider performing a risk assessment to minimize potential staff exposures when performing testing.

- Use personal protective equipment (e.g. safety glasses, gloves, lab coat)
- An online laboratory risk assessment tool is available here: www.cdc.gov/safelabs/resources-tools/biosafety-resources-and-tools.html

New WSLH General Requisition Form!!

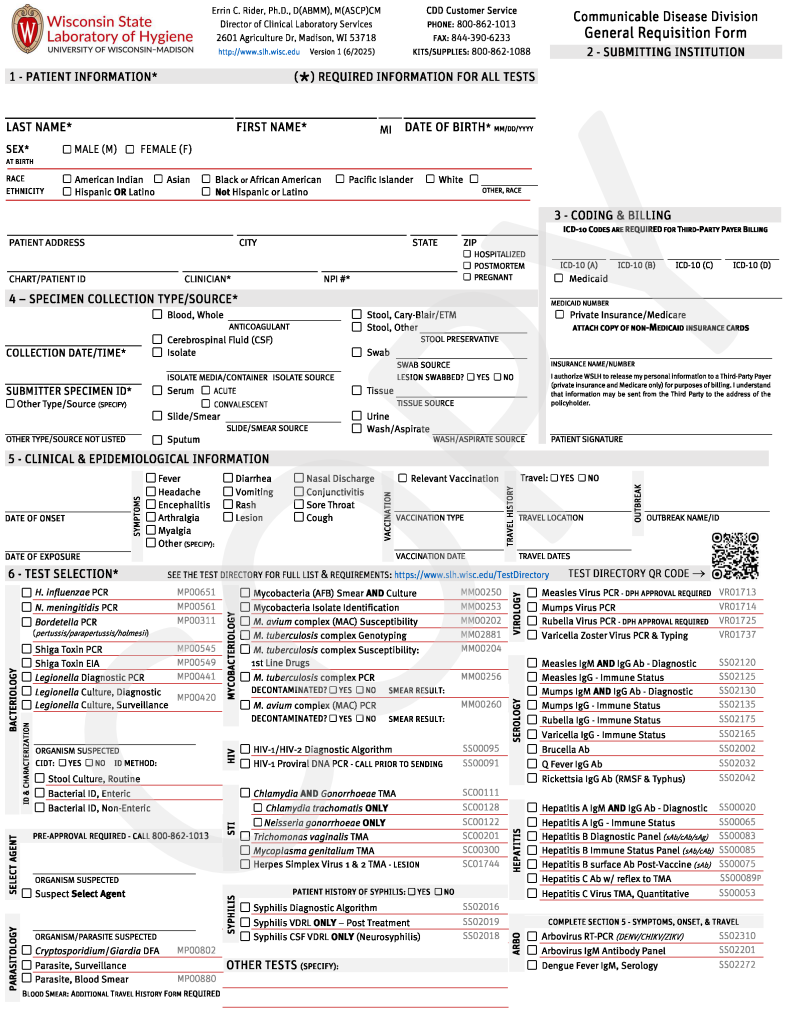
The Communicable Disease Division has recently combined Form A & Form B into an updated **General Requisition Form**. Combining test offerings to a single form and other updates are intended to enhance the accuracy, efficiency, and ease of the test submission process. Please contact WSLH at 1-800-862-1013 for customized requisitions forms.

WSLH Test Catalog:

Please refer to the Online Test Catalog for any questions regarding test availability, as test list offerings may have changed or been updated. https://www.slh.wisc.edu/TestDirectory

Summary of Requisition Form Updates:

- Combine CDD Req Form A and CDD Req Form B
- Emphasize required information
- Reorganized and defined section grouping
- Reduce field area for less-utilized sections
- Combined Coding & Billing section
- Simplify symptoms



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Director of Clinical Laboratory Services
2601 Agriculture Dr, Madison, WI 53718
http://www.slh.wisc.edu Version 1 (6/2025)

CDD Customer Service
PHONE: 800-862-1013
FAX: 844-390-6233
KITS/SUPPLIES: 800-862-1088

Communicable Disease Division
General Requisition Form
2 - SUBMITTING INSTITUTION

1 - PATIENT INFORMATION* (★) REQUIRED INFORMATION FOR ALL TESTS

LAST NAME* FIRST NAME* MI DATE OF BIRTH* MM/DD/YYYY

SEX* AT BIRTH ☐ MALE (M) ☐ FEMALE (F)

RACE ETHNICITY ☐ American Indian ☐ Asian ☐ Black or African American ☐ Pacific Islander ☐ White ☐ OTHER, RACE
☐ Hispanic OR Latino ☐ Not Hispanic or Latino

PATIENT ADDRESS CITY STATE ZIP
☐ HOSPITALIZED ☐ POSTMORTEM ☐ PREGNANT

CHART/PATIENT ID CLINICIAN* NPI #*

4 – SPECIMEN COLLECTION TYPE/SOURCE*

COLLECTION DATE/TIME*

SUBMITTER SPECIMEN ID* ☐ Other Type/Source (SPECIFY)

OTHER TYPE/SOURCE NOT LISTED

☐ Blood, Whole — ANTICOAGULANT
☐ Cerebrospinal Fluid (CSF)
☐ Isolate — ISOLATE MEDIA/CONTAINER ISOLATE SOURCE
☐ Serum ☐ ACUTE ☐ CONVALESCENT
☐ Slide/Smear — SLIDE/SMEAR SOURCE
☐ Sputum
☐ Stool, Cary-Blair/ETM
☐ Stool, Other — STOOL PRESERVATIVE
☐ Swab — SWAB SOURCE — LESION SWABBED? ☐ YES ☐ NO
☐ Tissue — TISSUE SOURCE
☐ Urine
☐ Wash/Aspirate — WASH/ASPIRATE SOURCE

3 - CODING & BILLING
ICD-10 CODES ARE REQUIRED FOR THIRD-PARTY PAYER BILLING
ICD-10 (A) ICD-10 (B) ICD-10 (C) ICD-10 (D)
☐ Medicaid
MEDICAID NUMBER
☐ Private Insurance/Medicare
ATTACH COPY OF NON-MEDICAID INSURANCE CARDS
INSURANCE NAME/NUMBER
I authorize WSLH to release my personal information to a Third-Party Payer (private insurance and Medicare only) for purposes of billing. I understand that information may be sent from the Third Party to the address of the policyholder.
PATIENT SIGNATURE

5 - CLINICAL & EPIDEMIOLOGICAL INFORMATION

DATE OF ONSET
DATE OF EXPOSURE

SYMPTOMS: ☐ Fever ☐ Headache ☐ Encephalitis ☐ Arthralgia ☐ Myalgia ☐ Other (SPECIFY:) ☐ Diarrhea ☐ Vomiting ☐ Rash ☐ Lesion ☐ Nasal Discharge ☐ Conjunctivitis ☐ Sore Throat ☐ Cough

VACCINATION: ☐ Relevant Vaccination — VACCINATION TYPE — VACCINATION DATE

TRAVEL HISTORY: Travel: ☐ YES ☐ NO — TRAVEL LOCATION — TRAVEL DATES

OUTBREAK — OUTBREAK NAME/ID

6 - TEST SELECTION* SEE THE TEST DIRECTORY FOR FULL LIST & REQUIREMENTS: https://www.slh.wisc.edu/TestDirectory TEST DIRECTORY QR CODE →

BACTERIOLOGY
- ☐ *H. influenzae* PCR MP00651
- ☐ *N. meningitidis* PCR MP00561
- ☐ *Bordetella* PCR (*pertussis/parapertussis/holmesii*) MP00311
- ☐ Shiga Toxin PCR MP00545
- ☐ Shiga Toxin EIA MP00549
- ☐ *Legionella* Diagnostic PCR MP00441
- ☐ *Legionella* Culture, Diagnostic MP00420
- ☐ *Legionella* Culture, Surveillance

ID & CHARACTERIZATION — ORGANISM SUSPECTED — CIDT: ☐ YES ☐ NO ID METHOD:
- ☐ Stool Culture, Routine
- ☐ Bacterial ID, Enteric
- ☐ Bacterial ID, Non-Enteric

SELECT AGENT — PRE-APPROVAL REQUIRED - CALL 800-862-1013 — ORGANISM SUSPECTED
- ☐ Suspect **Select Agent**

PARASITOLOGY — ORGANISM/PARASITE SUSPECTED
- ☐ *Cryptosporidium*/*Giardia* DFA MP00802
- ☐ Parasite, Surveillance
- ☐ Parasite, Blood Smear MP00880

BLOOD SMEAR: ADDITIONAL TRAVEL HISTORY FORM REQUIRED

MYCOBACTERIOLOGY
- ☐ Mycobacteria (AFB) Smear **AND** Culture MM00250
- ☐ Mycobacteria Isolate Identification MM00253
- ☐ *M. avium* complex (MAC) Susceptibility MM00202
- ☐ *M. tuberculosis* complex Genotyping MM02881
- ☐ *M. tuberculosis* complex Susceptibility: 1st Line Drugs MM00204
- ☐ *M. tuberculosis* complex PCR — DECONTAMINATED? ☐ YES ☐ NO — SMEAR RESULT: MM00256
- ☐ *M. avium* complex (MAC) PCR — DECONTAMINATED? ☐ YES ☐ NO — SMEAR RESULT: MM00260

HIV
- ☐ HIV-1/HIV-2 Diagnostic Algorithm SS00095
- ☐ HIV-1 Proviral DNA PCR - CALL PRIOR TO SENDING SS00091

STI
- ☐ *Chlamydia* **AND** *Gonorrhoeae* TMA SC00111
- ☐ *Chlamydia trachomatis* **ONLY** SC00128
- ☐ *Neisseria gonorrhoeae* **ONLY** SC00122
- ☐ *Trichomonas vaginalis* TMA SC00201
- ☐ *Mycoplasma genitalium* TMA SC00300
- ☐ Herpes Simplex Virus 1 & 2 TMA - LESION SC01744

SYPHILIS — PATIENT HISTORY OF SYPHILIS: ☐ YES ☐ NO
- ☐ Syphilis Diagnostic Algorithm SS02016
- ☐ Syphilis VDRL **ONLY** – Post Treatment SS02019
- ☐ Syphilis CSF VDRL **ONLY** (Neurosyphilis) SS02018

OTHER TESTS (SPECIFY):

VIROLOGY
- ☐ Measles Virus PCR - DPH APPROVAL REQUIRED VR01713
- ☐ Mumps Virus PCR VR01714
- ☐ Rubella Virus PCR - DPH APPROVAL REQUIRED VR01725
- ☐ Varicella Zoster Virus PCR & Typing VR01737

SEROLOGY
- ☐ Measles IgM **AND** IgG Ab - Diagnostic SS02120
- ☐ Measles IgG - Immune Status SS02125
- ☐ Mumps IgM **AND** IgG Ab - Diagnostic SS02130
- ☐ Mumps IgG - Immune Status SS02135
- ☐ Rubella IgG - Immune Status SS02175
- ☐ Varicella IgG - Immune Status SS02165
- ☐ Brucella Ab SS02002
- ☐ Q Fever IgG Ab SS02032
- ☐ Rickettsia IgG Ab (RMSF & Typhus) SS02042

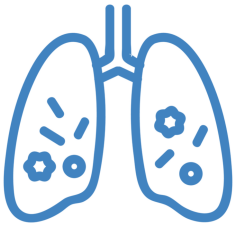
HEPATITIS
- ☐ Hepatitis A IgM **AND** IgG Ab - Diagnostic SS00020
- ☐ Hepatitis A IgG - Immune Status SS00065
- ☐ Hepatitis B Diagnostic Panel (*s-Ab/cAb/sAg*) SS00083
- ☐ Hepatitis B Immune Status Panel (*s-Ab/cAb*) SS00085
- ☐ Hepatitis B surface Ab Post-Vaccine (*s-Ab*) SS00075
- ☐ Hepatitis C Ab w/ reflex to TMA SS00089P
- ☐ Hepatitis C Virus TMA, Quantitative SS00053

COMPLETE SECTION 5 - SYMPTOMS, ONSET, & TRAVEL

ARBO
- ☐ Arbovirus RT-PCR (*DENV/CHIKV/ZIKV*) SS02310
- ☐ Arbovirus IgM Antibody Panel SS02201
- ☐ Dengue Fever IgM, Serology SS02272

Laboratory Testing Data Submissions

In collaboration with other public health partners, the WSLH has developed data-driven statewide respiratory and gastrointestinal pathogen surveillance programs in Wisconsin. Weekly reporting of diagnostic testing data to WSLH is important so that public health partners know what communicable diseases are impacting community health in Wisconsin.



Wisconsin Respiratory Surveillance Program:

The aim of this program is to gain situational awareness of the respiratory pathogens circulating in Wisconsin, including geographic spread and positivity rates. **All Sites** in Wisconsin performing PCR/molecular and/or antigen testing for respiratory pathogens are asked to submit their testing data on a **weekly basis** (number tested, number positive) **all year round**. Refer to Table 2 for a list of pathogens for which testing data is requested.

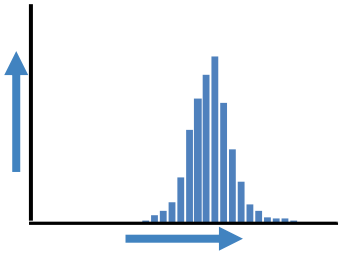
Wisconsin Acute Diarrheal Illness Surveillance Program:

The aim of this program is to gain awareness of the gastrointestinal pathogens effecting community health in Wisconsin. The WSLH requests that clinical labs submit gastropathogen PCR testing data for bacterial, parasitic and viral pathogens on a **weekly basis** (number tested, number positive), **all year round**. Refer to Table 2 for a list of pathogens for which testing data is requested.

Why Submit Data?

To determine geographic spread:

Testing numbers from around the state are broken down by region to monitor trends for respiratory pathogens in each part of the state. Regional graphs are updated weekly and can be found on the WSLH website.
www.slh.wisc.edu/wcln-surveillance/surveillance/virology-surveillance/



To provide situational awareness:

Testing data is used to determine when the season begins, peaks and ends for a variety of pathogens. The data can be used to identify outbreaks, detect an issue with test methods, inform medical provider differential diagnosis, and inform clinical lab staffing needs for seasonal and outbreak testing. Graphs of surveillance data are updated weekly and can be found on the WSLH website.
www.slh.wisc.edu/wcln-surveillance/surveillance/

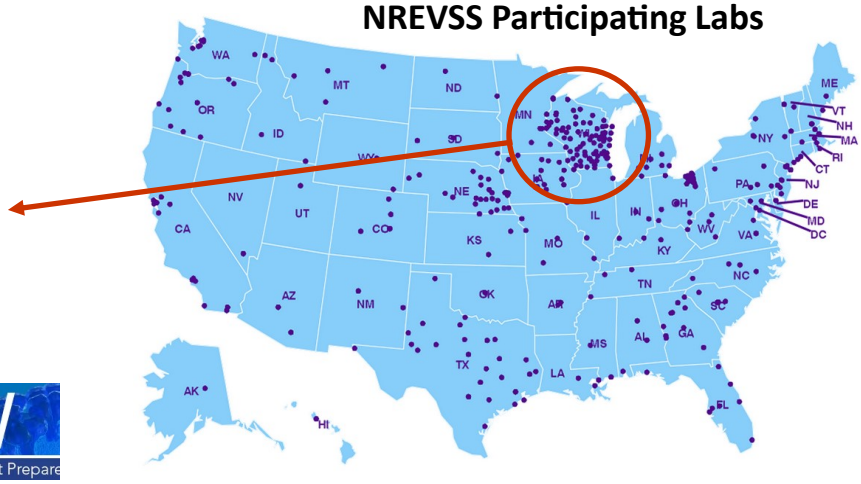
Why Submit Data?

To participate in the National Respiratory and Enteric Virus Surveillance System (NREVSS)

WSLH collates all testing data collected from Wisconsin and submits it to NREVSS on a weekly basis. NREVSS is a laboratory-based system that monitors temporal and geographic circulation of a variety of viral pathogens. NREVSS data can be viewed on the CDC website at: www.cdc.gov/surveillance/nrevss/

NREVSS Participating Labs

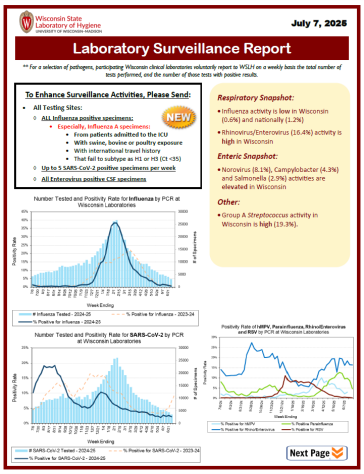
Wisconsin leads the country for the number of labs participating in surveillance activities.



To participate in national influenza surveillance:

Influenza testing data is submitted to the CDC for inclusion into the national influenza surveillance program. Influenza data can be found on CDC's FLUVIEW website at: www.cdc.gov/fluview/

Wisconsin Surveillance Data Distribution:



WSLH Website:

Aggregate data for a variety of pathogens can be found on the WSLH website at: www.slh.wisc.edu/wcln-surveillance/surveillance/

WSLH Bi-Weekly Surveillance Report:

The WSLH aggregates all respiratory and enteric pathogen data and provides summary reports in the bi-weekly Laboratory Surveillance Report, which is distributed to over 600 recipients across the state. Email WCLN@slh.wisc.edu to sign up for this report.

WCLN Laboratory Messages:

The WSLH provides laboratory guidance and general updates through Wisconsin Clinical Laboratory Network (WCLN) Laboratory Messages. If you would like to receive these messages, please email wcln@slh.wisc.edu and include "WCLN Lab Message Sign-up" in the subject line.

WDHS Respiratory Illness Dashboard

A data summary of respiratory pathogens is also sent to the Wisconsin Department of Health Services for inclusion into their interactive **Respiratory Illness Dashboard.** www.dhs.wisconsin.gov/disease/respiratory-data.htm

Data Submission Requests

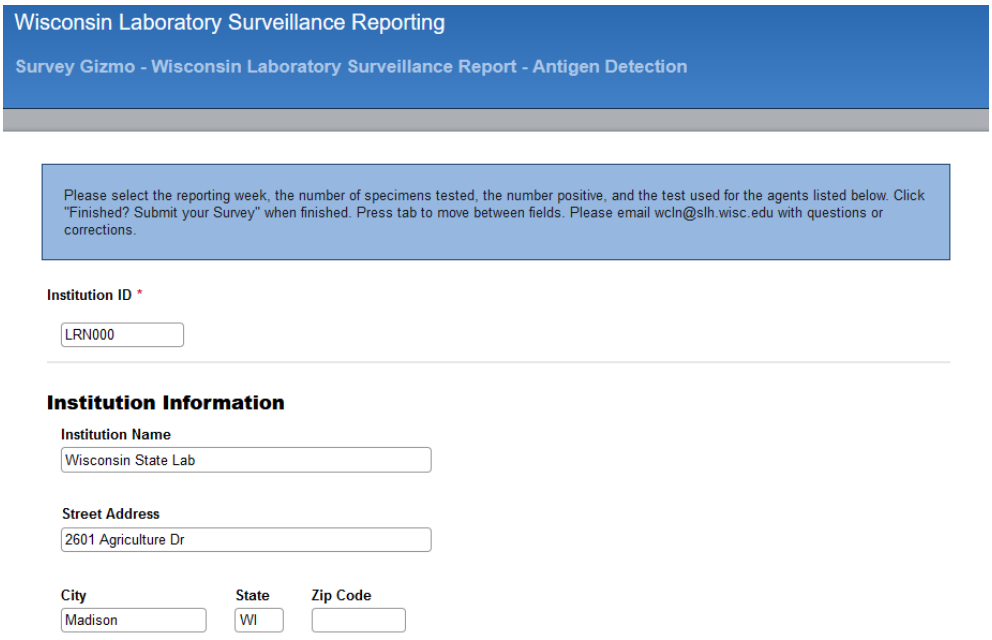
The WSLH requests that **all clinical labs** in Wisconsin performing PCR/molecular and/or rapid antigen testing for the following bacterial, parasitic and viral pathogens submit testing data (number tested and number positive) on a **weekly basis, all year round**.

Table 2. Laboratory Testing Data Requests		
Antigen Detection		
Rapid Strep (Group A *Streptococcus*)		
Respiratory Pathogens - PCR/Molecular Detection		
Influenza A/B	**SARS-CoV-2**	**RSV**
Seasonal Coronaviruses	**Human Metapneumovirus**	**Human Parainfluenza virus**
Rhinovirus/Enterovirus	**Adenovirus**	***B. pertussis* and *parapertussis***
Group A *Streptococcus*		
Gastrointestinal Pathogens - PCR/Molecular Detection		
Campylobacter	***Clostridioides difficile***	***Salmonella***
Shigella*/ Enteroinvasive *E.coli (EIEC)	**Shiga-like toxin-producing *E. coli (STEC)***	***Vibrio***
Yersinia enterocolitica	**Adenovirus 40/41**	**Astrovirus**
Norovirus	**Rotavirus**	**Sapovirus**
Cryptosporidium	***Cyclospora cayetanensis***	***Giardia lamblia***

Submission of Laboratory Testing Data

- **Access** the web reporting webpage:
  - Go to the WSLH website **http://www.slh.wisc.edu/wcln-surveillance/surveillance/** then click on **"*Click here to report Wisconsin Test Data*"** in the center of the page.

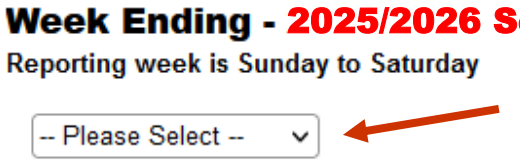
  - Go directly to **http://www.surveygizmo.com/s3/389222/Wisconsin-Laboratory-Surveillance-Reporting**
- **Enter** your laboratory's identification number ("**Institution ID**"); ***this is a required field***.
  - Your "**Institution ID**" is a series of letters (must be capitalized) and numbers (eg. LRN789). It has been added to your customized requisition form that is included with this mailing.
    - If you cannot find your "**Institution ID**", please contact us at WCLN@slh.wisc.edu or call 800-862-1013.
  - Your institution's name, address, city and telephone number will be entered automatically.
- **Review** the institution name, address and telephone number for accuracy.
  - If any of the information is not accurate, enter the correct information and check the box at the bottom of the form "***Check here if any pre-filled information on this page was changed***".



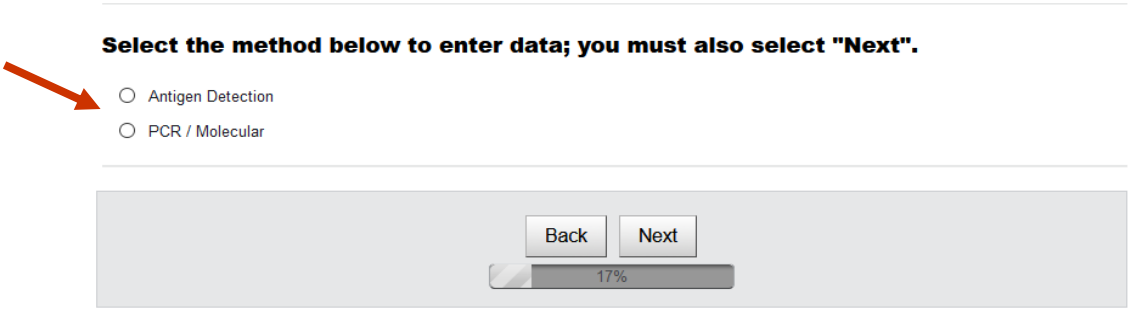
Submission of Laboratory Testing Data (cont'd)

- **Select** the "***Week Ending Date***" for which you wish to report data.
  - Click on the date in the drop-down list. ***This is a required field.***

    It is critical that you select the correct week ending date!

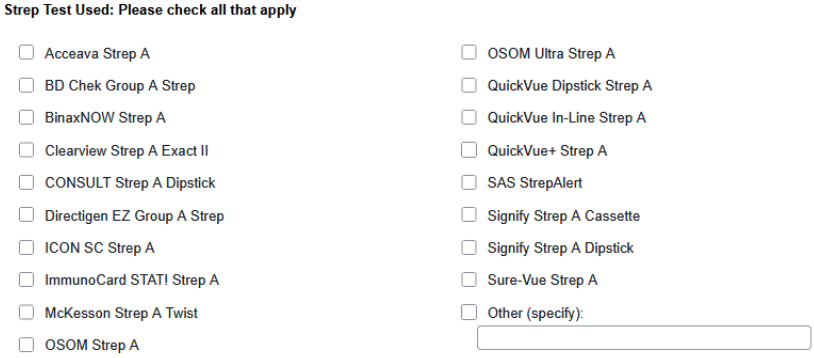


- **Check** either "Antigen Detection" or "PCR / Molecular" for the testing method for the data you would like to enter and click "**Next**".



If you chose Antigen Detection:

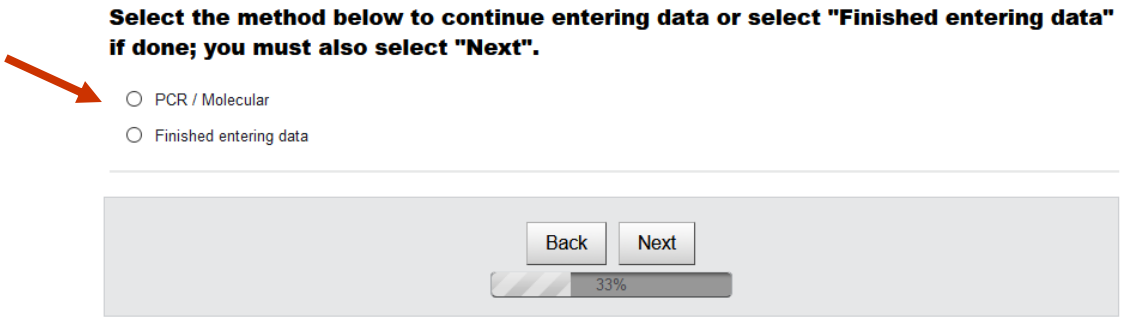
- **Report** the number tested and number positive for each of the listed agents for which you perform testing on-site.
- ***If you do not perform a test on-site and/or refer specimens to another laboratory***, skip that agent/test section *without entering any data*.
- ***If you normally perform that testing on site, but did not test any specimens*** that week, *enter zero "0" for the number tested*. If the "number tested" is "0", you can skip the "number positive" field.
  - ***If you discontinue testing for a season (summer), please notify us so that our data accurately reflects testing in Wisconsin.***
- ***Review*** *for accuracy the test(s) that have been pre-marked for your institution.*



Submission of Laboratory Testing Data (cont'd)

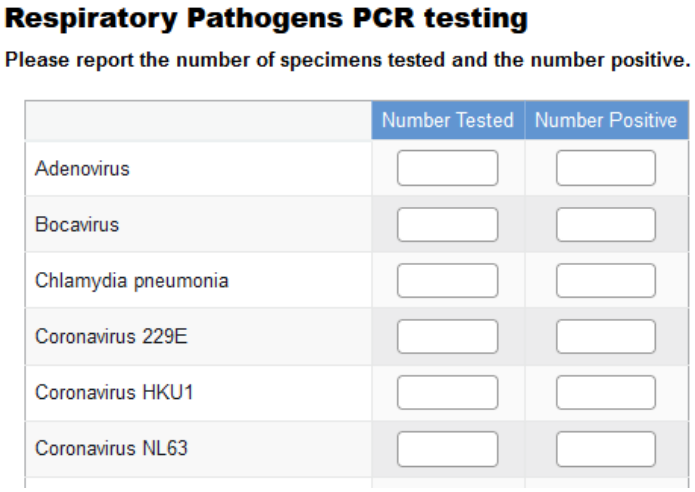
- If the marked test is **NOT** the test your facility used, click on the marked test to "un-check" it, then click on the correct test.
    - Please check the box at the bottom of the form "**Check the box below if any pre-filled information on this page was changed.**

- **Check "**PCR / Molecular" to enter more data or check "Finished entering data" to finish, and then click "**Next**".



If you chose PCR/Molecular :

- **Report** the number tested and number positive for each of the listed agents for which you provide testing on-site.
- ***If you do not perform a test on-site and/or refer specimens to another laboratory***, skip that agent/test section *without entering any data*.
- ***If you normally perform that testing on site, but did not test any specimens*** that week, *enter zero "0" for the number tested*. If the "number tested" is "0", you can skip the "number positive" field.



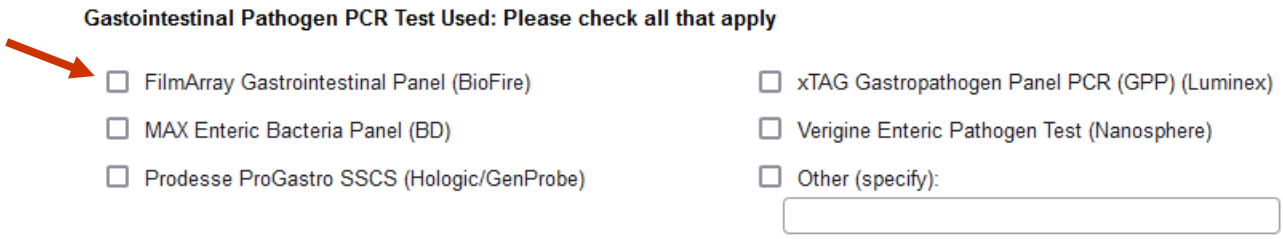
Respiratory Pathogens PCR testing

Please report the number of specimens tested and the number positive.

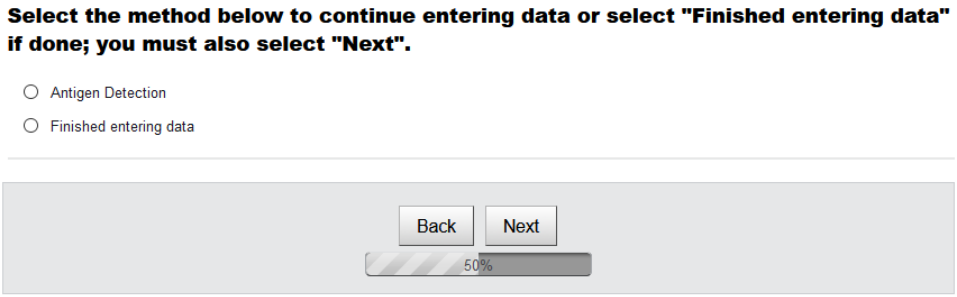
	Number Tested	Number Positive
Adenovirus		
Bocavirus		
Chlamydia pneumonia		
Coronavirus 229E		
Coronavirus HKU1		
Coronavirus NL63		

Submission of Laboratory Testing Data (cont'd)

- For each molecular/PCR testing that your laboratory performs, **"check"** the test(s) your laboratory used.

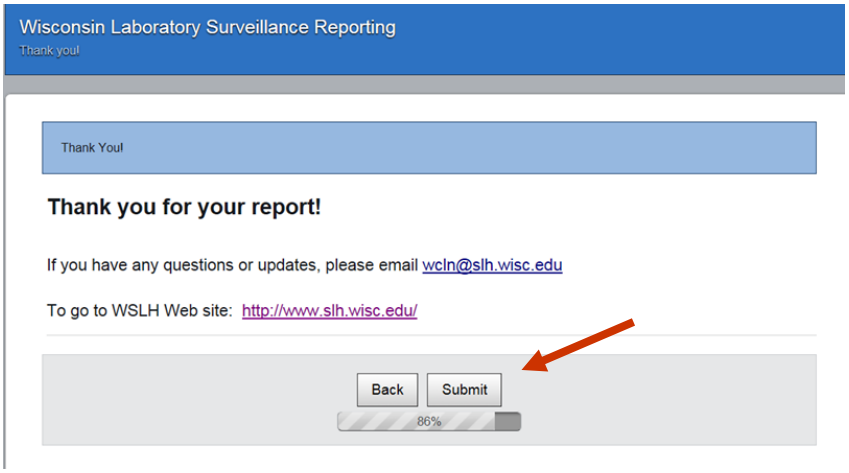


- Check "Antigen Detection" to enter more data or check "Finished entering data" to finish.
  - Click "Next".



If you chose "Finished entering data":

- To save and submit your data, click on "Submit". The data you entered will not be saved or transmitted until you click "Submit".



- If you want to report data for another week, return to **http://www.slh.wisc.edu/wcln-surveillance/surveillance/** and repeat the data entry process for the new week, starting with entering your Institution ID.

If you have questions please email WCLN@slh.wisc.edu or call WSLH customer service at 800-862-1013

Respiratory Pathogen Surveillance

Laboratory-based surveillance for influenza, SARS-CoV-2, and other respiratory pathogens is coordinated by the Wisconsin State Laboratory of Hygiene (WSLH), in collaboration with the Wisconsin Division of Public Health and the Centers for Disease Control and Prevention (CDC). This surveillance network utilizes a combination of laboratory testing data and respiratory specimens submitted to the WSLH for additional surveillance testing and characterization. Requests for influenza positive specimens are modified as the level of influenza activity changes and as other circumstances require. These changes will be communicated in the bi-weekly "Laboratory Surveillance Report" which is posted at the WSLH website (http://www.slh.wisc.edu/wcln-surveillance/surveillance/). Requests for other respiratory pathogens are static throughout the year and can be found in Table 3 on page 14.

The following is a description of the contributing elements of the laboratory-based respiratory surveillance plan for Wisconsin:

Data Submissions:

All Sites in Wisconsin performing PCR/molecular testing for respiratory pathogens are asked to submit their testing data on a weekly basis (number tested, number positive) as described in Table 2 found on page 6.

Specimen Submissions:

All Sites: Any Clinical Laboratory in Wisconsin performing testing for respiratory pathogens is requested to submit influenza, SARS-CoV-2, *Legionella* and TB positive specimens to the WSLH! The WSLH requests influenza and SARS-CoV-2 positive specimens from clinical laboratories performing testing using antigen and/or molecu- PCR methods as described in Table 3. In addition, these sites are asked to submit isolates or lower respiratory specimens (BAL, Sputum) from patients that test positive for *Legionella* by culture or urine antigen testing, and all TB isolates.

Enrolled Sentinel Surveillance Sites: 17 labs throughout the 5 public health regions of Wisconsin are enrolled as Sentinel Surveillance sites. This surveillance network is designed to provide a consistent and randomized supply of respiratory specimens from all areas of the state. These sites provide the first 3 specimens per week from patients presenting with respiratory symptoms (regardless of initial test results) as described in Table 3 (page 14).

University Health Clinics: This surveillance program is used to monitor respiratory pathogens impacting student health, including influenza, SARS-CoV-2, and adenovirus. University Health sites are requested to submit the first 3 specimens per week from patients presenting with respiratory symptoms (regardless of initial test results) as described in Table 3 (page 14). These specimens are tested at WSLH with an enhanced respiratory pathogen panel.

What Do We Do With These Specimens?

Respiratory surveillance specimens submitted to the WSLH for viral surveillance are tested with the CDC Influenza/SARS-CoV-2 multiplex RT-PCR assay.

Influenza Positive Specimens:

- WSLH performs the CDC influenza A subtyping and CDC B lineage PCRs on all influenza positive specimens received. Subtyping of influenza specimens from around Wisconsin monitors for the emergence of avian and novel influenza in humans.
- Whole genome sequencing is performed on a selection of influenza positive specimens received at the WSLH.
- WSLH submits a selection of influenza positive specimens from around the state to the national influenza surveillance pipeline. Viral culture and whole genome sequencing is performed on these specimens before they are submitted to the CDC.

Detect novel influenza viruses!

Subtyping is important for the detection of any variant or emerging influenza viruses with pandemic potential.

Participate in national influenza surveillance!

CDC uses influenza positive specimens to inform vaccine strain selection and provide vaccine candidates.

SARS-CoV-2 Positive Specimens:

- Whole genome sequencing is performed on SARS-CoV-2 positive specimens received at the WSLH.
- WSLH also submits specimens to the National SARS-CoV-2 Strain Surveillance (NS3) program to enhance national surveillance efforts. This program provides information guides anti-viral recommendations and vaccine selection.

Perform genomic surveillance!

Sequencing is useful to detect novel viral variants, monitor antiviral resistance, and aid in outbreak investigations.

Specimens Negative for Influenza and SARS-CoV-2:

- An enhanced respiratory pathogen panel is performed on a selection of surveillance specimens. This data is submitted to NREVSS and can aid public health personnel in determining which respiratory pathogens are circulating throughout the year.

Monitor for other respiratory pathogens!

Testing with an enhanced respiratory panel provides positivity data for less-commonly tested for respiratory pathogens.

Respiratory Specimens or Isolates from Patients with Legionella:

- These specimens/isolates are cultured and their identity confirmed with PCR. Confirmed positive isolates may undergo whole genome sequencing that can help identify the source of the outbreak.

Respiratory Specimen Submission Instructions:

For each viral surveillance specimen submitted, fill out a copy of your customized respiratory surveillance requisition form (included with your mailing packet). Please be sure to check the appropriate reason for submission on the requisition form.

For *Legionella* submissions, please fill out a WSLH General requisition form and check "*Legionella* Culture, Surveillance" (MP00420).

Specimen Collection:

All upper and lower respiratory specimens are acceptable for viral surveillance testing. Upper respiratory specimens should be collected with Dacron or polyester tipped plastic shafted swabs and placed in virus transport medium (VTM).

- If the swab was placed in virus transport medium or saline before a portion was removed for testing, submit remaining swab in virus transport medium.
- If the swab was collected and immersed in test reagent, collect a second sample for surveillance testing.

When selecting specimens to submit for influenza surveillance, please prioritize specimens from patients who are hospitalized, have international travel history or have had recent contact with cattle, swine or poultry.

CATTLE/BOVINE CONTACT	SWINE/PIG CONTACT	AVIAN/POULTRY CONTACT	INTERNATIONAL TRAVEL	HOSPITALIZED PATIENTS	INFLUENZA A UNSUBTYPABLE (Ct < 35)
					

Any clinical specimen that produces a positive result for influenza A by PCR, but fails to subtype as H3 or (H1N1)pdm09, has the potential to be a novel strain of influenza virus. **Repeat Testing is recommended in these situations.** If the influenza A specimen fails to subtype after repeat testing **AND** the influenza A Ct is <35, please send the sample to the WSLH for further testing.

Order:

Additional specimen requisition forms and supplies for collecting and shipping surveillance specimens are provided at **NO COST** and can be requested at 800-862-1088.

Ship:

Transport to the WSLH and testing of surveillance specimens is available at **NO COST** when you send specimens using **Purple Mountain Solutions** (PH: 800-990-9668). Detailed shipping instructions can be found on pages 27-28 of this packet.

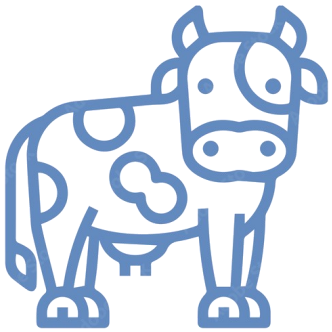
Respiratory Specimen Submission Instructions:

Table 3: Respiratory Specimen Submission Requests

<table>
<tr><th colspan="3">Pathogen Specific Respiratory Surveillance</th></tr>
<tr><th colspan="3">Influenza Surveillance</th></tr>
<tr><th rowspan="2">Submitter Testing Method:</th><th colspan="2">Season</th></tr>
<tr><th>Off Season (June-October)</th><th>Influenza Season (Winter/Spring*)</th></tr>
<tr><td>PCR/Molecular OR Antigen</td><td>ALL influenza positive specimens</td><td>One influenza-related hospitalization per week
AND
Unsubtypable influenza A positives
(If subtyping is attempted, Ct < 35)
AND
Influenza A positive specimens with:
• International travel history
• Bovine, swine or avian exposure</td></tr>
<tr><th colspan="3">SARS-CoV-2 Surveillance</th></tr>
<tr><td>PCR/Molecular OR Antigen</td><td colspan="2">Five positive SARS-CoV-2 samples per week for genomic surveillance</td></tr>
<tr><th colspan="3">Legionella Surveillance</th></tr>
<tr><td>Culture, PCR OR Urine Antigen</td><td colspan="2">Specimens from all Legionella positive patients:
• Sputum or BAL from Urine Antigen positive patients (NOT URINE)
• Isolates</td></tr>
<tr><th colspan="3">Mycobacteria Surveillance</th></tr>
<tr><td colspan="3">The WSLH requests that clinical laboratories submit one Mycobacterium tuberculosis complex (MTBC) isolate from each patient identified as having a MTBC infection.</td></tr>
<tr><th colspan="3">Site Specific Respiratory Surveillance</th></tr>
<tr><td>University Health</td><td colspan="2">The first 3 respiratory specimens per week from symptomatic patients (regardless of initial test results, all year round)</td></tr>
<tr><td>Sentinel Surveillance</td><td colspan="2">The first 3 respiratory specimens per week from symptomatic patients (regardless of initial test results, all year round)</td></tr>
</table>

*Refer to the WSLH bi-weekly “Laboratory Surveillance Report” for current influenza activity in Wisconsin

Avian Influenza Update



In the spring of 2022, H5N1 avian influenza emerged in wild birds worldwide, including in North America. This outbreak continues, and has affected many wild birds and poultry farms in Wisconsin and across the US.

On March 25, 2024, H5N1 avian influenza was detected in a dairy cow in Texas. Since that first detection, H5N1 avian influenza has been found in almost 1,000 cattle herds across 16 states. On April 1, 2024, the Centers for Disease Control and Prevention (CDC) announced that H5N1 avian influenza had been detected in a person with exposure to dairy cattle in Texas. Since then, an additional 70 human cases of H5N1 have been detected in the U.S. including one fatality.

Although CDC's Risk Assessment for the general population remains LOW, additional precautions are being taken to enhance influenza surveillance across the country. In Wisconsin, there have been no documented dairy cattle cases of avian influenza. People who have close contact with poultry or dairy cattle infected with H5N1 avian influenza are at increased risk for infection.

Clinicians who suspect influenza virus infection in symptomatic patients with known exposure to the following should contact the Wisconsin Division of Public Health (WDPH)

- **Ill or dying animals or their products**
- **Confirmed H5N1 positive flock/herd**
- **Person with a probable or confirmed case of H5N1**

♦ ***Weekdays during business hours* — call *608-267-9003***

♦ ***After-hours* — call 608-258-0099 and ask for "the communicable disease epidemiologist on-call"**

Specimen Collection and Submission:

- Collect **one nasopharyngeal (NP) swab** and place in a tube of viral transport medium (VTM).
- For patients with **conjunctivitis**, additionally, obtain a conjunctival swab and place in a tube of VTM.
    - Use swabs with a Dacron or polyester tip with an aluminum or plastic shaft.
- For patients with lower respiratory illness, collect a lower respiratory tract specimen (e.g. BAL).
- After gaining approval from WDPH, an "Enhanced Surveillance" requisition form should be requested from the WSLH, and filled out for each submitted specimen.
    - **Please check "Avian Influenza Suspect" under reason for submission.**

Avian Influenza Update (Cont'd)

Shipping of Avian Influenza Suspect Specimens to WSLH

- Arrange transport so that specimens arrive at the WSLH within 24 hours of collection.
    - Avian influenza suspects can be shipped Category B.
    - Specimens can be transported to the WSLH by a carrier of your choice, or at NO COST when using Purple Mountain Solutions (PH: 800-990-9668).
    - Detailed shipping instructions can be found on pages 27-28 of this packet.
- Testing is usually completed within 1-2 business days of the specimen receipt at WSLH. There is no charge for this testing.
- Please contact the **WSLH Customer Service Department** at 800-862-1013 if you have questions regarding laboratory testing.

Suspect Avian Influenza Testing at the WSLH

- Suspect avian influenza specimens that are submitted to the WSLH for testing **will first be tested with the CDC influenza A/influenza B/SARS-CoV-2 multiplex PCR assay.**
- If a specimen is positive for influenza A, it will also be **tested with a seasonal influenza A subtyping PCR.**
- If a specimen is **positive for influenza A and "unable to subtype"** with the seasonal influenza A subtyping PCR, then it will be tested with the **influenza A – H5 specific subtyping PCR**.
- Visit the WSLH Website for additional information: https://www.slh.wisc.edu/clinical/diseases/h5n1-highly-pathogenic-avian-influenza-update/

Influenza A Swine Variant Virus Testing

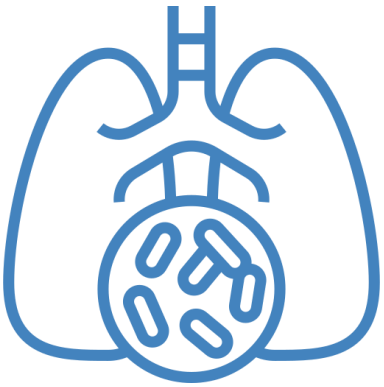
Influenza viruses from swine normally do not infect humans; however, cases do occur sporadically in humans and are typically associated with close contact with infected pigs. There have been no reports of sustained human transmission of these variant viruses as of June 2025.

Clinicians who suspect influenza virus infection in patients with close contact to swine should contact the Wisconsin Division of Public Health at 608-258-0099 for subtype-specific PCR testing at WSLH.

Specimen Submission:

- Specimen requirements for Influenza A swine variant suspects are the same as described on page 13.
- After gaining approval from WDPH, an "Enhanced Surveillance" requisition form should be requested from the WSLH, and filled out for each submitted specimen.
    - **Please check "Swine Contact" under reason for submission.**
- Please contact the **WSLH Customer Service Department** at 800-862-1013 if you have questions regarding laboratory testing.

Wisconsin Mycobacteriology Surveillance



WSLH leads the state-wide surveillance and antimicrobial susceptibility testing program for *Mycobacterium tuberculosis* complex (MTBC) specimens identified in Wisconsin, with the support of the WI Mycobacteriology Laboratory Network (WMLN). The WMLN was developed in 1998 with a goal to assure excellence in TB laboratory testing, support TB control efforts by the WI Tuberculosis Program through the state Division of Public Health, and drive surveillance for non-tuberculous mycobacteria (NTM) identified among WI residents. The WMLN provides a laboratory-based mechanism for monitoring the incidence of *M. tuberculosis* isolation, drug resistance rates and works to ensure that mycobacteriology testing in Wisconsin is meeting the needs of Wisconsin residents.

Mycobacterium Tuberculosis Complex (MTBC) Surveillance:

- The WSLH requests that clinical laboratories submit one MTBC isolate from each patient identified as having a MTBC infection.
    - WSLH performs rapid rifampin susceptibility testing and phenotypic susceptibility testing for first-line MTBC antimicrobials on one isolate from each patient.
    - In conjunction with the WI TB Program, WSLH ensures that any additional susceptibility testing necessary will be performed at the Centers for Disease Control and Prevention or one of our other national partner laboratories.
    - WSLH performs genotyping on one isolate from each MTBC-positive patient. Genotype data, coupled with the CDC Tuberculosis Genotyping Information Management System (TB-GIMS), helps identify state- and nation-wide TB transmission links.
    - WSLH provides a state repository for MTBC isolates for the purpose of universal drug susceptibility testing and genotyping.

Non-Tuberculous Mycobacteria Surveillance:

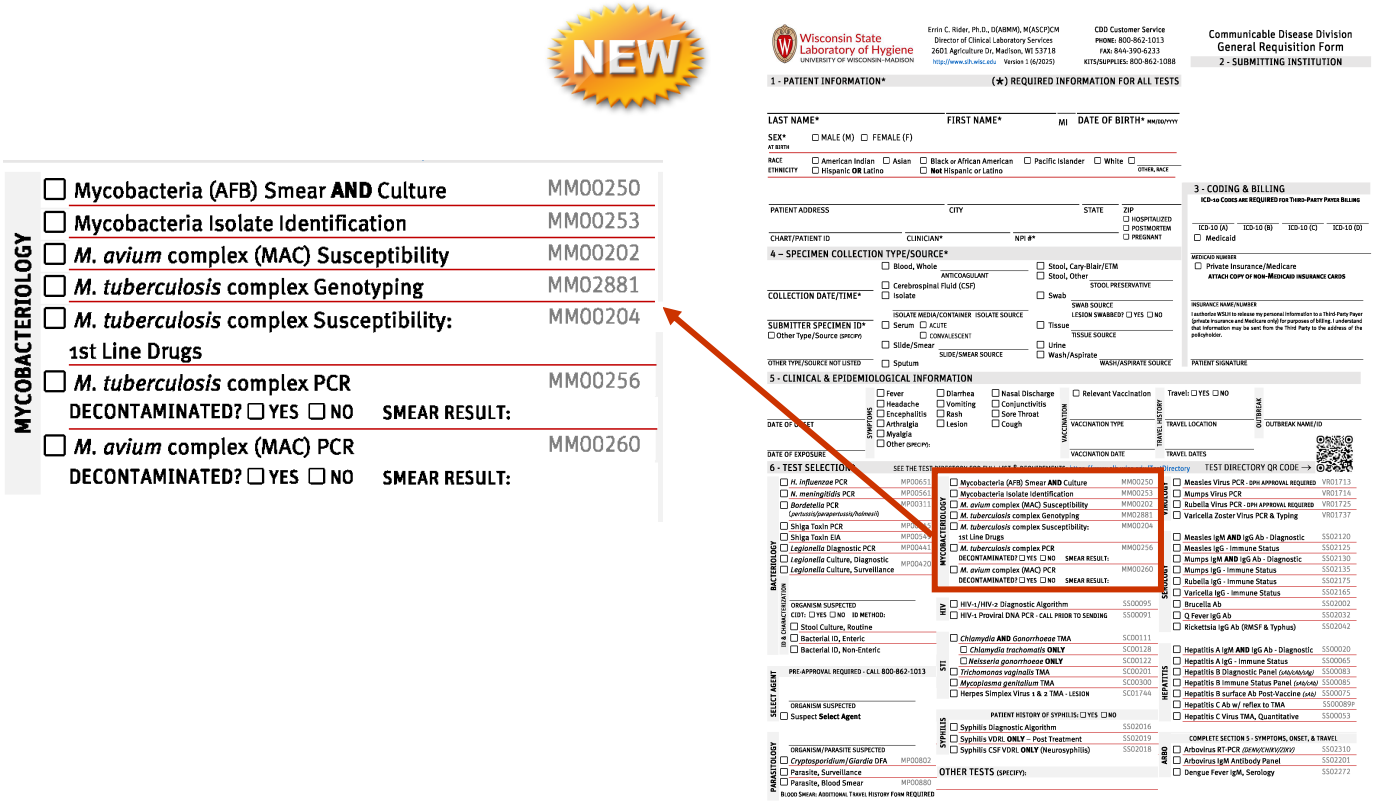
- WSLH organizes surveillance for non-tuberculous mycobacteria (NTM) identified from Wisconsin residents.
    - WSLH requests that all clinical laboratories performing mycobacteria testing (AFB smear/culture, mycobacteria-specific NAAT testing, mycobacterial identification) submit NTM isolation **data** to the WMLN Coordinator annually.
    - WSLH generates an annual NTM isolation report which is distributed to network members and state and local public health departments.
    - Clinical laboratories interested in participating in NTM surveillance or receiving the annual WMLN Mycobacteria Surveillance Report can contact WSLH at 800-862-1013 for more information.

Specimen Submissions:

Specimen submission instructions:

WSLH requests that clinical laboratories submit MTBC isolates for universal drug susceptibility testing and genotyping. **MTBC isolates MUST be submitted using Category A packaging and shipping requirements**.

- Fill out a WSLH General Requisition Form with each specimen submitted
  - For isolates for which susceptibility testing **has not been performed** at another reference laboratory, please select test *M. tuberculosis* Susceptibility: 1st- Line Drugs [MM00204].
  - For isolates for which susceptibility testing **has already been performed and reported to WI DHS/WI TB Program**, please select test *M. tuberculosis* genotyping [MM02881].
- Specimen requisition forms and supplies for shipping surveillance specimens are provided at **NO COST** and can be requested at 800-862-1088.
- Transport to the WSLH is available at **NO COST** when you send specimens using **Purple** Mountain Solutions (PH: 800-990-9668). Detailed shipping instructions can be found on pages 27-28.



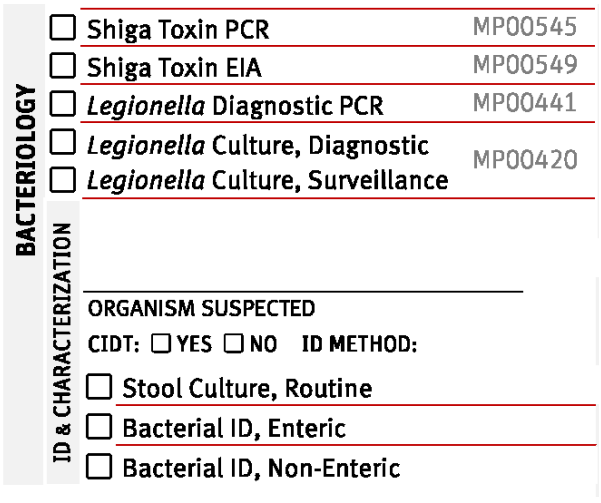
Wisconsin Enteric Pathogen Surveillance

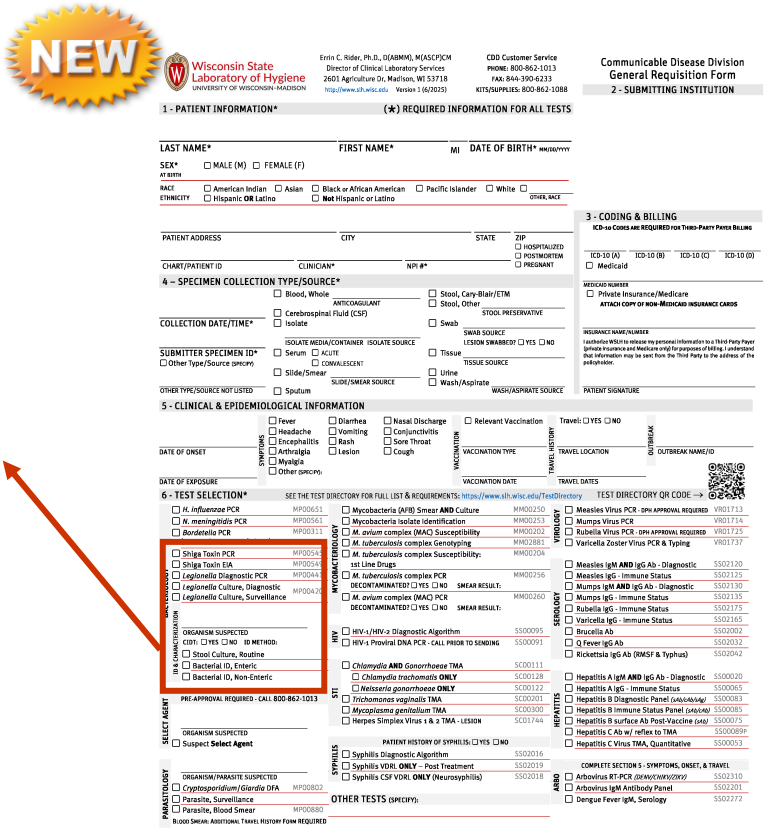
The WSLH requests that clinical laboratories submit isolates, enrichment broths, or stools in enteric transport medium that were positive using a culture-independent diagnostic test (CIDT). These isolates and samples undergo testing such as whole-genome sequencing at the WSLH to generate data that is critical to the ability to recognize and respond to clusters and outbreaks of gastropathogens in Wisconsin. The resulting laboratory data is used by epidemiologists at the WDPH to rapidly determine linkage to potential food and environmental point sources.

Specimen submission instructions:

WSLH requests that clinical laboratories submit the pathogens listed in Table 4 **As Detected**.

- Fill out a **WSLH General requisition form** with each specimen submitted:
  - For all enteric submissions, indicate the **Organism(s) Suspected**, whether a CIDT (Culture independent diagnostic test) was used and the ID method performed.
    - For isolates, select **Bacterial ID, Enteric**
    - For Stool, select **Stool Culture, Routine**
- Specimen requisition forms and supplies for shipping surveillance specimens are provided at **NO COST** and can be requested at 800-862-1088.
- Transport to the WSLH is available at **NO COST** when you send specimens using **Purple Mountain Solutions** (PH: 800-990-9668). Detailed shipping instructions can be found on pages 27-28.





Wisconsin Enteric Pathogen Surveillance Submissions

Table 4. Enteric Pathogen Specimen Submissions*		
Pathogen	**Specimen Type**	**Testing Performed at WSLH**
***Campylobacter* species**	Isolates or stool	Identification, antimicrobial susceptibility testing and molecular subtyping (WGS) will be performed as necessary
Enterohemorrhagic/Shiga Toxin-Producing *E. coli* (EHEC/STEC)	Isolates, stool or enrichment broth	Identification, serotyping and molecular subtyping (WGS)
***Salmonella* species**	Isolates or stool	Identification, serotyping, antimicrobial susceptibility testing and molecular subtyping (WGS)
***Shigella* species and *Enteroinvasive E.coli* (EIEC)**	Isolates or stool	*Shigella* identification, serogrouping, antimicrobial susceptibility testing, and molecular subtyping
***Vibrio* Species**	Isolates or stool	Identification and referral to CDC
***Yersinia* species**	Isolates or stool	Identification
***Cryptosporidium* species**	Stool	Identification** and genotyping (and/or referral to CDC)
Cyclospora cayetanensis	Stool	Molecular subtyping and/or referral to CDC
Rotavirus	Stool	One positive per week for molecular subtyping/genotyping (performed at CDC)

*Consult with the Wisconsin Division of Public Health Foodborne Disease Epidemiologists to inquire about testing of any other organisms that are suspected of being in a cluster or outbreak of public health significance.

**Stool specimens positive for *Cryptosporidium* by PCR-based methods will not be confirmed.

Antimicrobial Resistance Monitoring

The WSLH is the Midwest Regional Laboratory for the CDC-coordinated Antimicrobial Resistance Laboratory Network (AR Lab Network). The overarching goal of AR Lab Network testing is rapid identification and containment of resistant pathogens. Data compiled from the AR Lab Network is shared with CDC and Wisconsin Clinical Laboratory Network partners. A summary can be found on pages 35-38.

Specimen Submission instructions:

WSLH requests that clinical laboratories submit the isolated pathogens listed in Table 5.

- One isolate per patient with the same organism and mechanism will be tested per 12 month period.
- If more than one isolate per patient is received at the same time, the more invasive isolate will be tested.
- If your facility performs carbapenemase testing (e.g.,mCIM, Carba-NP®, NG CARBA 5®, Cepheid CARBA-R®) on Enterobacteralaes and *Pseudomonas aeruginosa* isolates, only submit isolates that test positive for a carbapenemase.

Please fill out a **WSLH ARLN Requisition form** (included with your mailing packet) with each isolate submitted and include:

- AST results and any relevant phenotypic or molecular test results.
- Specimen requisition forms and supplies for shipping surveillance specimens are provided at **NO COST** and can be requested at 800-862-1088.
- Transport to the WSLH is available at **NO COST** when you send specimens using **Purple Mountain Solutions** (PH: 800-990-9668). Detailed shipping instructions can be found on pages 27-28.

Antimicrobial Resistant Isolate Characterization Version 2 (06/2024)

WSLH WISCONSIN STATE LABORATORY OF HYGIENE 2601 Agriculture Dr Madison, WI 53718 800-862-1013

Submitter Information

Patient Information

Name (Last, First):
Address:
City: State: Zip:
Date of Birth: Gender: M F
(Telephone Number)
Your Patient ID Number:
Laboratory Contact Name
Your Specimen ID Number:
Submitter CLIA or NPI Number (facility):
CC Result Report to:
WSLH Use Only
Study: ARLN CRE/CRPA/CANDIDA

Originating Facility (where specimen was collected):

Name: _____
City and Zip Code _____

Results and Tests Performed in Your Laboratory:

[ ] OXA____	☐ Negative	☐ Positive	[ ] Carba-NP	☐ Negative	☐ Positive
[ ] IMP	☐ Negative	☐ Positive	[ ] mCIM	☐ Negative	☐ Positive
[ ] KPC	☐ Negative	☐ Positive			
[ ] VIM	☐ Negative	☐ Positive	[ ] Other (specify):_____		
[ ] NDM	☐ Negative	☐ Positive	☐ Negative	☐ Positive	

Organism (Your Test Results):

[ ] Acinetobacter baumannii
[ ] Candida (species: _____)
[ ] Enterobacter (species: _____)
[ ] Escherichia coli
[ ] Klebsiella pneumoniae
[ ] Klebsiella oxytoca
[ ] Pseudomonas aeruginosa
[ ] Other (specify):_____

Date Collected:
Time Collected:
Specimen Type:
☐ Isolate, source: _____

Please include AST Results performed at your laboratory with the specimen

WSLH Test Request:

[ ] MP00580 Bacterial Characterization
[ ] MP00900 Fungal Characterization
[ ] MP00696 Aztreonam-Avibactam (ExAST)
(Prior approval required)

WISCONSIN STATE LABORATORY OF HYGIENE USE ONLY

Antimicrobial Resistance Specimen Submissions

Table 5. Antimicrobial Resistance Specimen Submissions		
Pathogen	**Resistance Traits**	**Testing Performed at WSLH**
Pan-resistant organisms	Resistant to all drugs tested in your laboratory	Identification, antimicrobial susceptibility testing, AR-targeted PCR and referral to CDC as necessary
Candida auris	N/A	• Identification • Molecular subtyping • Antimicrobial susceptibility testing (performed on invasive and urine isolates. Other isolates upon request)
Enterobacterales	Resistant to any carbapenems **(CRE)****	Identification, antimicrobial susceptibility testing, carbapenemase screen, AR-targeted PCR and molecular subtyping
Staphylococcus aureus	Non-susceptible to vancomycin **(VRSA)**	Identification, antimicrobial susceptibility testing and referral to CDC as necessary
Pseudomonas aeruginosa*	• Resistant to carbapenems other than ertapenem **AND** • Non-susceptible to cefepime and/or ceftazidime **OR** • Resistant to ceftolozane/ tazobactam	Identification, antimicrobial susceptibility testing, carbapenemase screen, AR-targeted PCR and molecular subtyping
Acinetobacter baumanii	Resistant to any carbapenems **(CRAB)**	Identification, antimicrobial susceptibility testing, AR-targeted PCR and molecular subtyping
Aspergillus fumigatus isolates from invasive infections	N/A	Isolates will be forwarded to the Maryland Department of Health for surveillance of azole resistance

** Exception: Proteus spp., Providencia spp., and Morganella spp., that are resistant to imipenem only but are not resistant to meropenem or doripenem. These isolates may have elevated imipenem MICs by mechanisms other than production of carbapenemases. These isolates will also be susceptible to other beta-lactams.

***Exception: Do not submit resistant Pseudomonas aeruginosa isolates from cystic fibrosis patients or mucoid isolates due to difficulties in testing.

Wisconsin Invasive Pathogen Surveillance

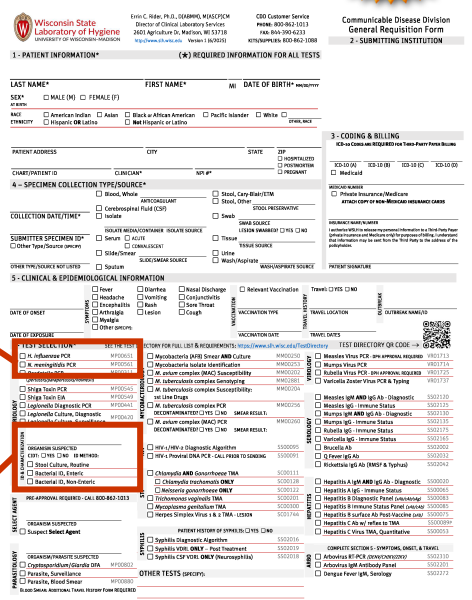
The Wisconsin Invasive Pathogen Surveillance program is a partnership between WSLH and other public health and clinical partners, and monitors invasive infections in the state. The WSLH requests the submission of isolates and specimens of invasive pathogens listed in Table 6 **As Detected.**

Specimen submission instructions:

Isolates should be from **sterile body sites** (CSF, Blood, etc…).

- In the absence of an isolate, please submit CSF specimens which have been determined to contain these pathogens by a culture-independent diagnostic test (CIDT).
- If the specimen is an isolate, please indicate the source (CSF, Blood, etc…).
- For **invasive bacterial** submissions, Please fill out a WSLH **General requisition** with each specimen submitted and indicate the pathogen isolated/detected.
    - Place a check mark next to the pathogen detected or isolated.

☐ *H. influenzae* PCR MP00651
☐ *N. meningitidis* PCR MP00561

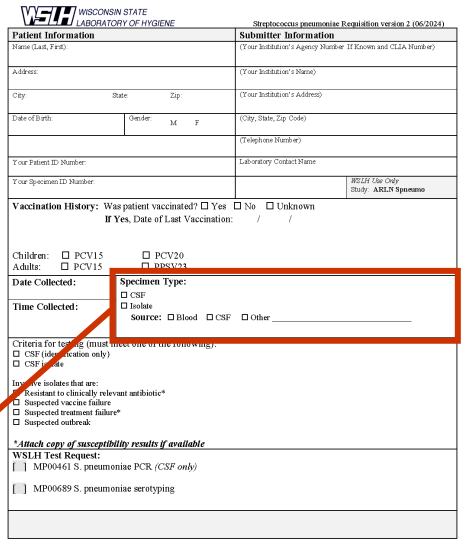


- For *Listeria monocytogenes* isolates, please select **Bacterial ID, Non-Enteric,**

ID & CHARACTERIZATION
ORGANISM SUSPECTED
CIDT: ☐ YES ☐ NO ID METHOD:
☐ Stool Culture, Routine
☐ Bacterial ID, Enteric
☐ Bacterial ID, Non-Enteric

- For ***Streptococcus pneumoniae*** specimens, please fill out the *Streptococcus pneumoniae* Requisition form (included with your mailing packet). Attach a copy of the susceptibility results if available.
    - Check the appropriate specimen type:
    - If submitting an isolate, indicate the source (must be a sterile body site)

Specimen Type:
☐ CSF
☐ Isolate
Source: ☐ Blood ☐ CSF ☐ Other _____



Wisconsin Invasive Pathogen Surveillance Submissions

- Select one or more criteria for testing (REQUIRED)

Criteria for testing (must meet one of the following):
☐ CSF (identification only)
☐ CSF isolate

Invasive isolates that are:
☐ Resistant to clinically relevant antibiotic*
☐ Suspected vaccine failure
☐ Suspected treatment failure*
☐ Suspected outbreak

- At the bottom of the page, indicate the testing being requested.

- Specimen requisition forms and supplies for shipping surveillance specimens are provided at **NO COST** and can be requested at 800-862-1088 .
- Transport to the WSLH is available at **NO COST** when you send specimens using **Purple Mountain Solutions**. Detailed shipping instructions can be found on pages 27-28.

Table 6. Invasive Pathogen Specimen Submission Requests

Pathogen	Specimen Type	Testing Performed at WSLH
Haemophilus influenzae	Isolates or CSF	Identification and serotyping
Listeria monocytogenes	Isolates	Identification and molecular subtyping (WGS)
Neisseria meningitidis	Isolates or CSF	Identification, antimicrobial susceptibility testing and serogrouping

Streptococcus pneumoniae	Isolates or CSF	Identification, antimicrobial susceptibility testing and serotyping performed on:
		• CSF (Identification PCR only)
		• CSF isolates
		• Non-CSF invasive isolates that are:
		  • Non-susceptible to clinically relevant antibiotics
		  • Suspected vaccine failure
		  • Suspected treatment failure
		  • Outbreak related isolates

Vector-borne Pathogen Surveillance

The WSLH works with WDPH to monitor cases of vector-borne diseases in our state. WSLH will confirm species identification of key blood borne pathogens and submit specimens to CDC to monitor for drug resistance and emergence of novel pathogens. Please submit the organisms listed in Table 7 **As Detected**.

Specimen Submission instructions:

- Please fill out a WSLH General requisition form with each specimen submitted.
  - Indicate the pathogen detected in the "Other Tests" field in the bottom right.
- Specimen requisition forms and supplies for shipping surveillance specimens are provided at **NO COST** and can be requested at 800-862-1088.
- Transport to the WSLH is available at **NO COST** when you send specimens using **Purple Mountain Solutions**. Detailed shipping instructions can be found on pages 27-28.

Table 7. Vector-borne Pathogen Specimen Submission Requests

Pathogen	Specimen Type	Testing Performed at WSLH
Malaria	Positive thick and thin blood smears or residual EDTA blood	Species confirmation via microscopy and PCR.
Babesia	Positive thick and thin blood smears or residual EDTA blood	Confirmation of *B. microti* by PCR. Unknown species forwarded to CDC for confirmation
Ehrlichia (species unknown)	Residual blood and/ or nucleic acid	Forwarded to CDC for species identification (if speciation not available at your lab)

Other Pathogens of Public Health Significance

WSLH also requests the following specimens for state-wide surveillance purposes. These specimens help to monitor circulating strains, and identify potential outbreaks or emerging pathogens.

Specimen Submission instructions:

- Please fill out a WSLH General requisition form with each specimen submitted.
    - Indicate the pathogen detected in the "Other Tests" field in the bottom right.
- Specimen requisition forms and supplies for shipping surveillance specimens are provided at **NO COST** and can be requested at 800-862-1088.
- Transport to the WSLH is available at **NO COST** when you send specimens using **Purple Mountain Solutions**. Detailed shipping instructions can be found on pages 27-28.

Table 8. Other Pathogens of Public Health Significance Submission Requests

Pathogen	Specimen Type	Testing Performed at WSLH
Hepatitis C Virus	Serum	All new positives, molecular subtyping (WGS)
***Cronobacter* spp.**	Isolates from infants	Identification and molecular subtyping (WGS)
Enterovirus	CSF	Molecular typing
Blastomyces	Isolates	Species identification
Other organisms suspected of being part of a cluster or outbreak of public health significance	Isolates or specimens	Consult with Wisconsin Division of Public Health Epidemiologists to inquire about testing (608-267-9003)

Shipment of Specimens

Order Supplies:

Specimen collection and shipping supplies including:

- Requisition sheets
- Specimen collection kits
- Mailers and ice packs

Supplies are available at **NO COST** for surveillance submissions. Please contact the WSLH Clinical Orders department at **800-862-1088** or to order supplies.

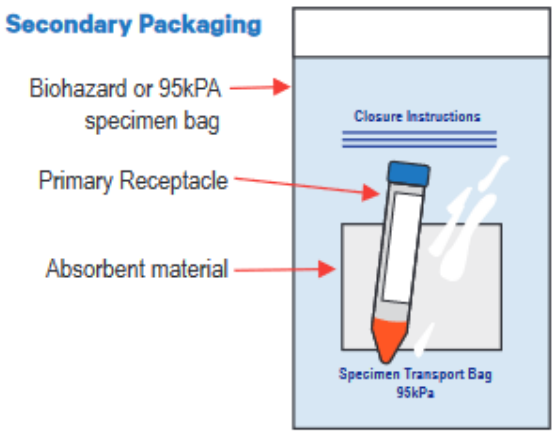
Shipping Resources

Guidance and training materials for the shipping of category B biological substances can be found on the WSLH website: www.slh.wisc.edu/clinical/diseases/packaging-and-shipping/

Mycobacterium tuberculosis complex (MTBC) isolates MUST be submitted using Category A packaging and shipping requirements. Guidance for shipping Category A can be found on the Department of Transportation website: www.phmsa.dot.gov/

Category B Specimen Packaging:

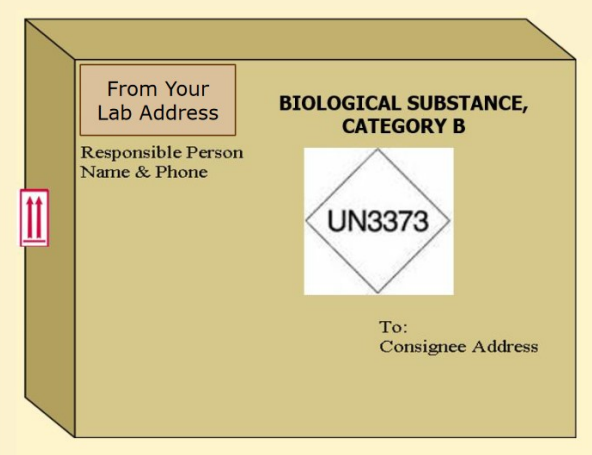
If classified as Category B, specimens should be triple packaged and shipped as:
"Biological substance, Category B / UN 3373"



- Label each specimen with patient name (First and Last) and date of birth, and the specimen source.
- Ensure the specimen cap is on tight and the specimen is not leaking.
- Securely tape the cap of the specimen container, and wrap specimen with absorbent material.
- Place the specimen vial into a biohazard bag.

- Place the completed requisition form into the **outer** sleeve of the bag.
- Place the bagged specimen and form in the Styrofoam mailer with a **frozen** cold pack and cushioning.
- Replace lid on the Styrofoam box. Close and securely tape the cardboard box shut.

Shipment of Specimens (Cont'd)



- Attach the WSLH address label to the package:

Wisconsin State Lab of Hygiene
Specimen Receiving, Communicable Disease Division
2601 Agriculture Drive
Madison, WI 53718

- Attach the "*Biological substance, Category B / UN 3373*" label to the package.
- Attach your return address label
- **Include the name and telephone number** of the person who knows the content of the package **(REQUIRED)**

Shipping Arrangements:

Transport of surveillance specimens or other specimens requested by WSLH is available at **NO COST** when you send specimens using **Purple Mountain Solutions** (https://purplemountainsolutions.com/)

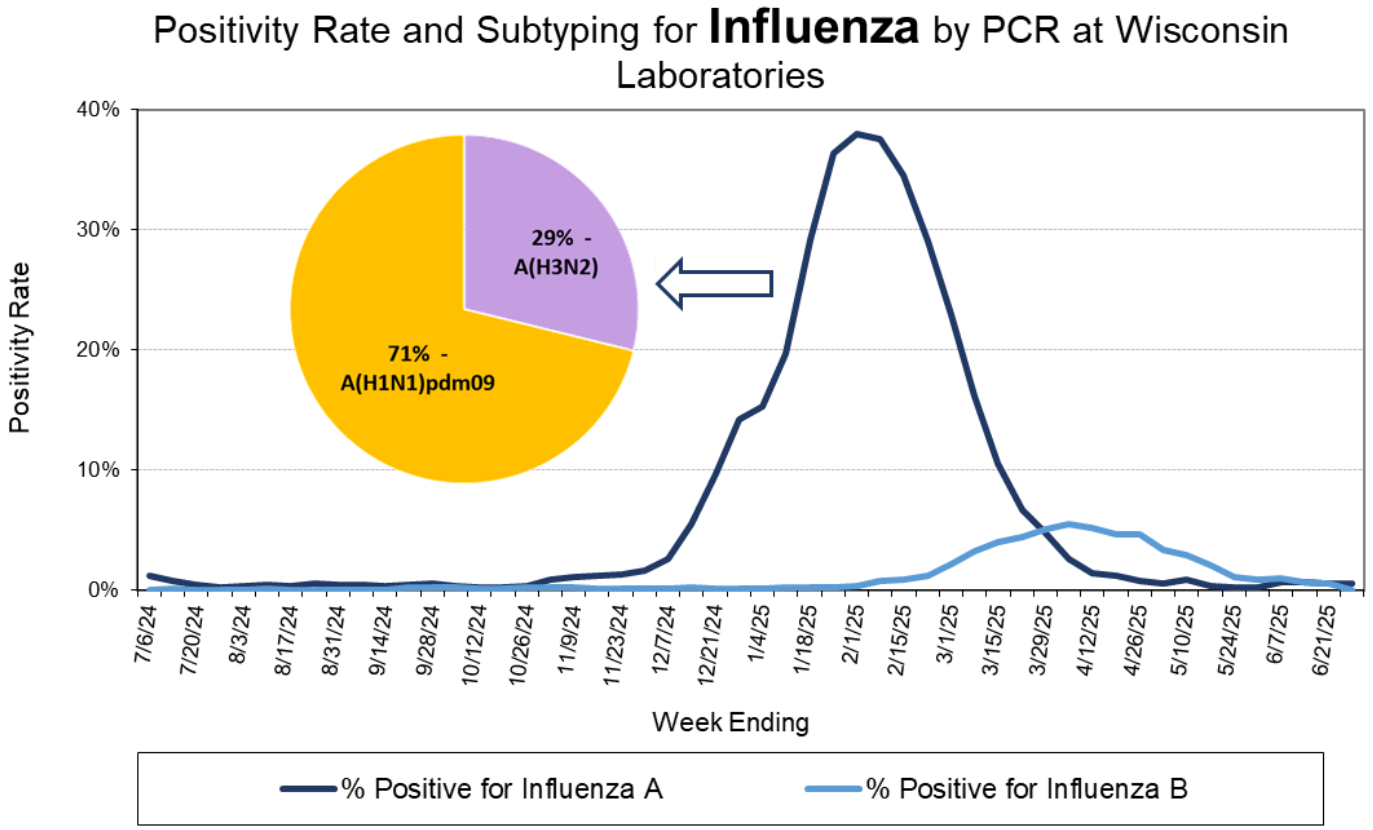
- The WSLH has a contract with Purple Mountain Solutions for shipment of specimens to the WSLH, with charges billed to the WSLH.
- This account is for surveillance specimens or others requested by WSLH. Funding is not available for transport of other samples.
- You are not required to ship via Purple Mountain Solutions, only if you wish to have the transport charges billed to the WSLH.
- Specimens will be picked up during regular working hours, but you must confirm the time with Purple Mountain Solutions.
- Specimens will be delivered to the WSLH the following day. **Ensure to include enough coolant to preserve items during shipment.**
- All package preparation should be completed before the courier arrives.
- Contact Purple Mountain Solutions directly to arrange for a pick-up. Orders must be placed by noon for same day pickup.

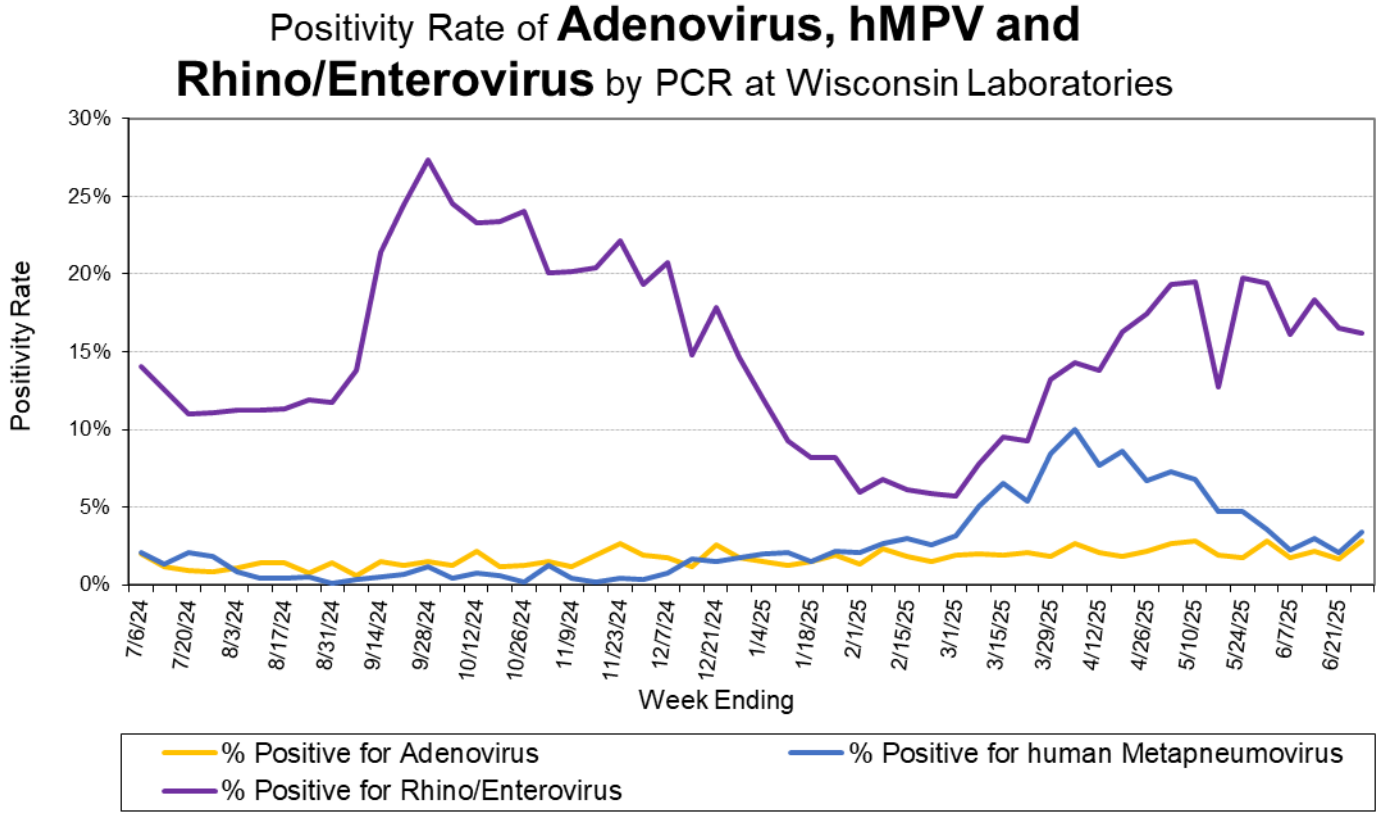
Phone #: 800-990-9668

Purple Mountain Solutions, Inc.

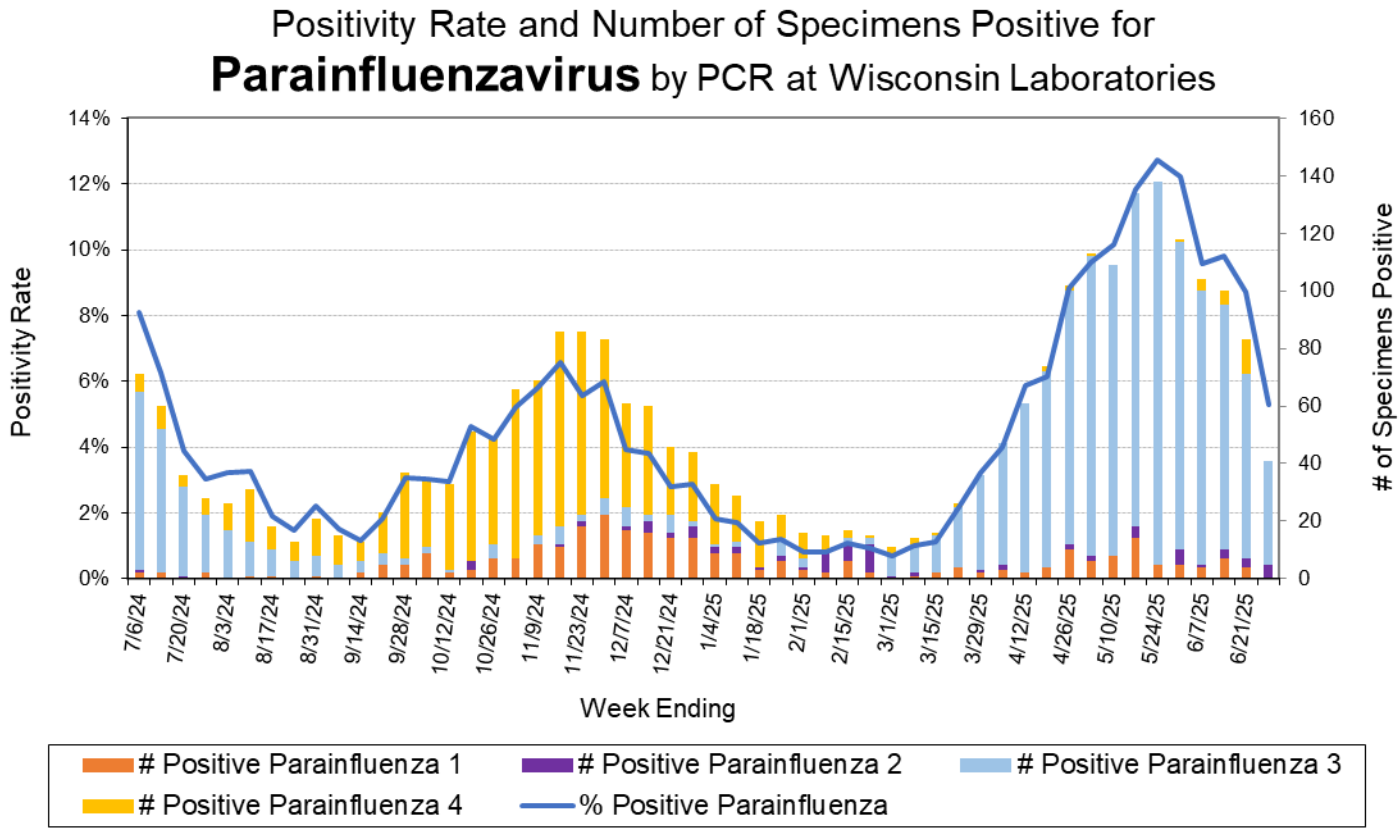
- Same day delivery may be available for specific high priority specimens. However, **pre-approval from WSLH is necessary for same day delivery.**

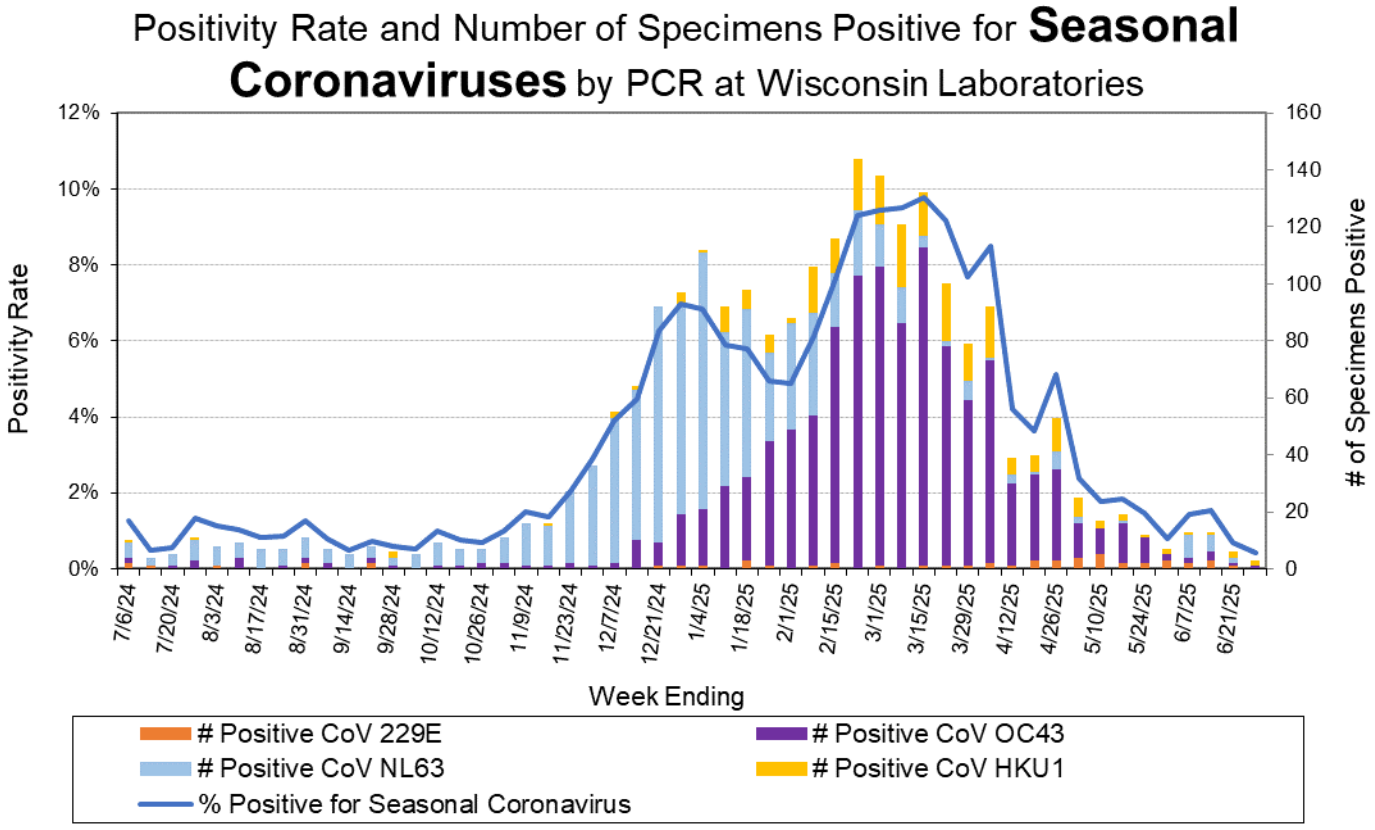
Surveillance Graphs for 2024-25 Season



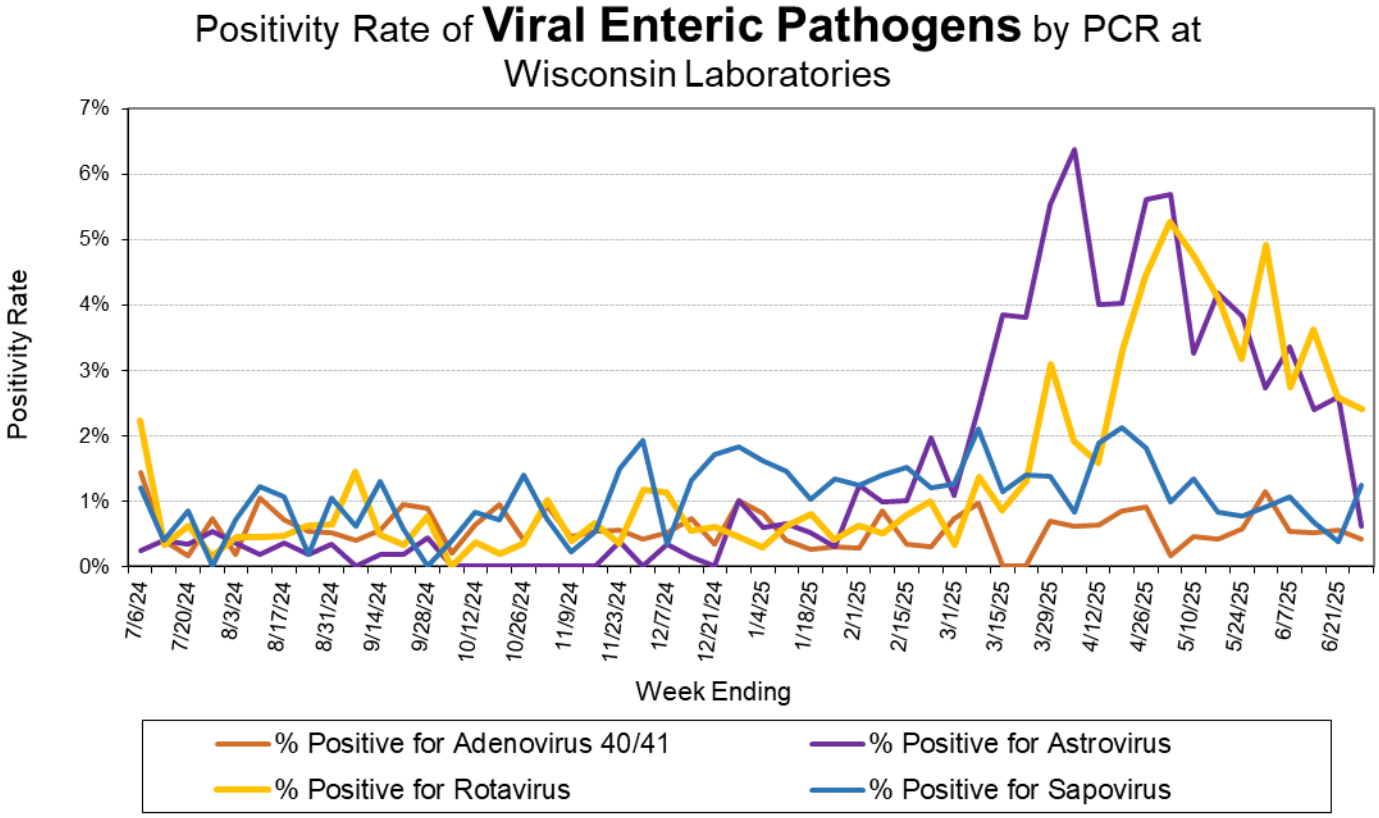


Surveillance Graphs for 2024-25 Season

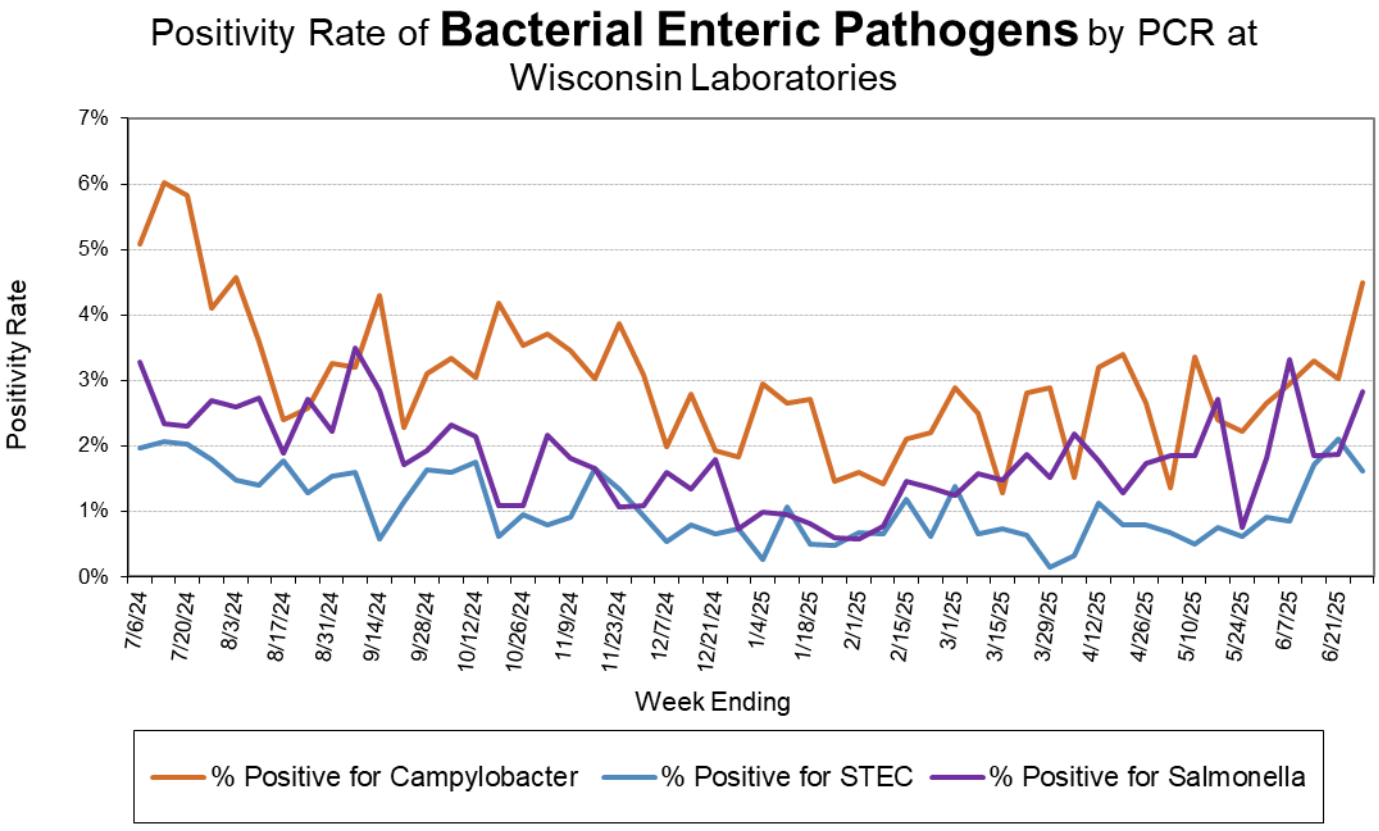




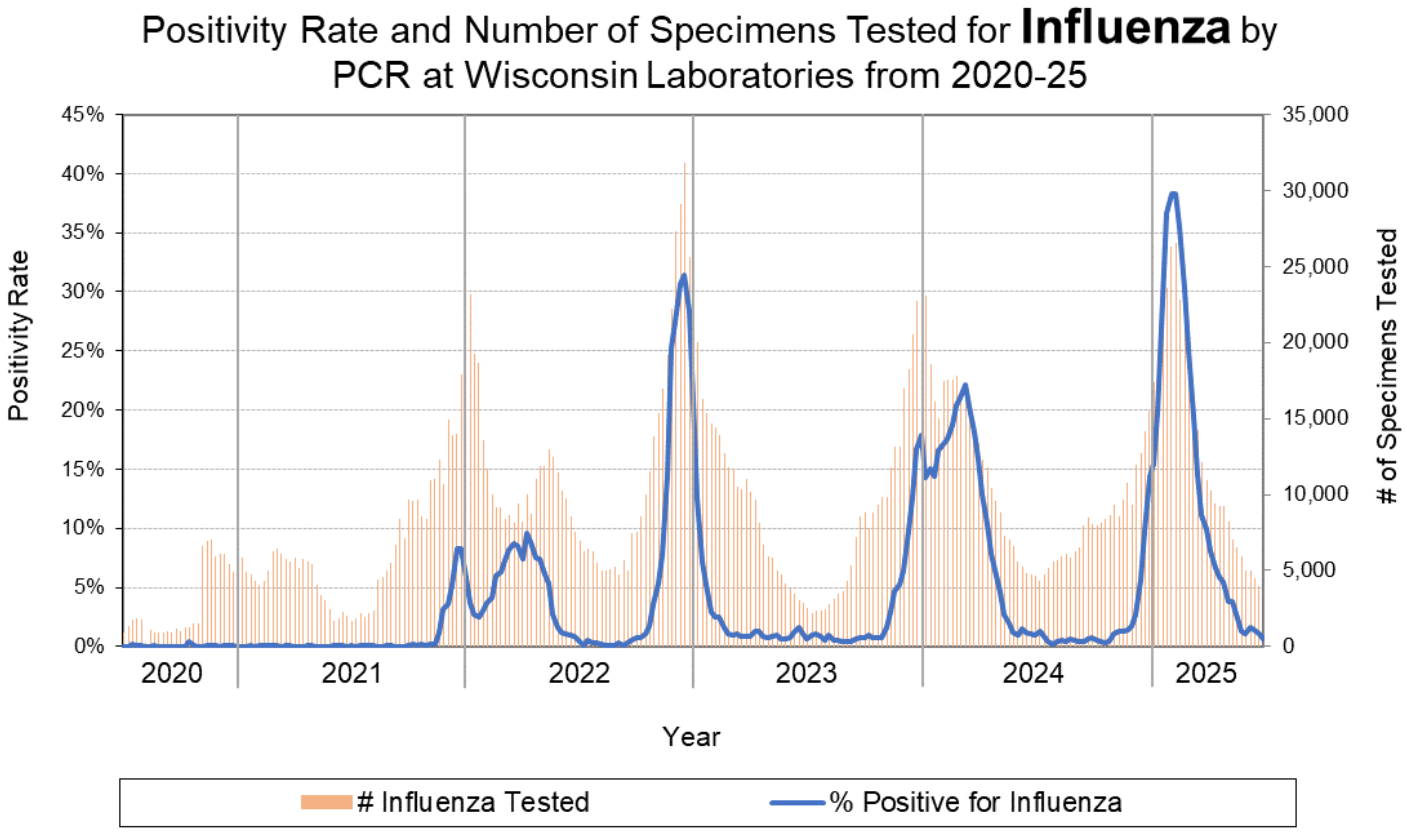
Surveillance Graphs for 2024-25 Season

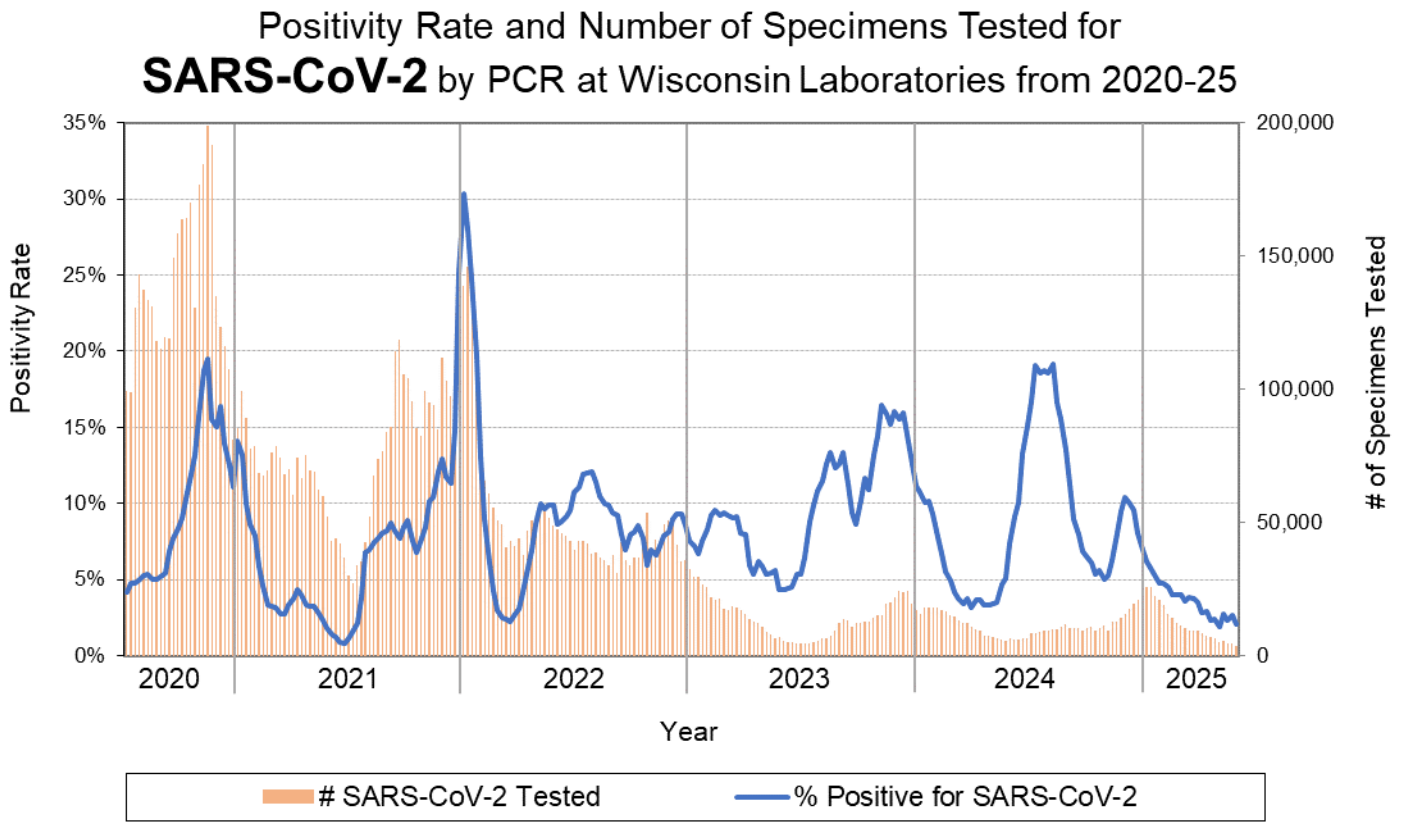


* Norovirus data is included on page 34.

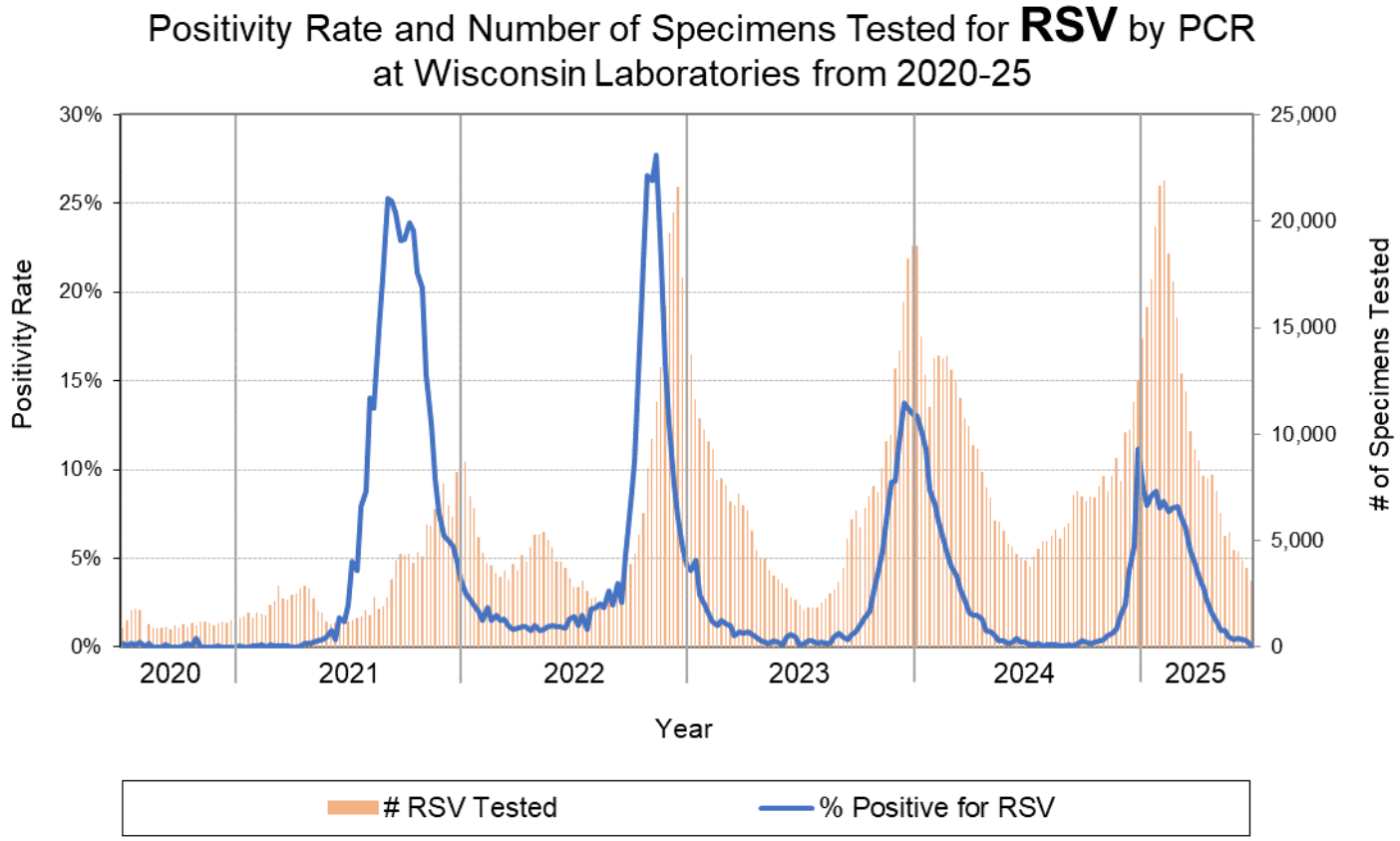


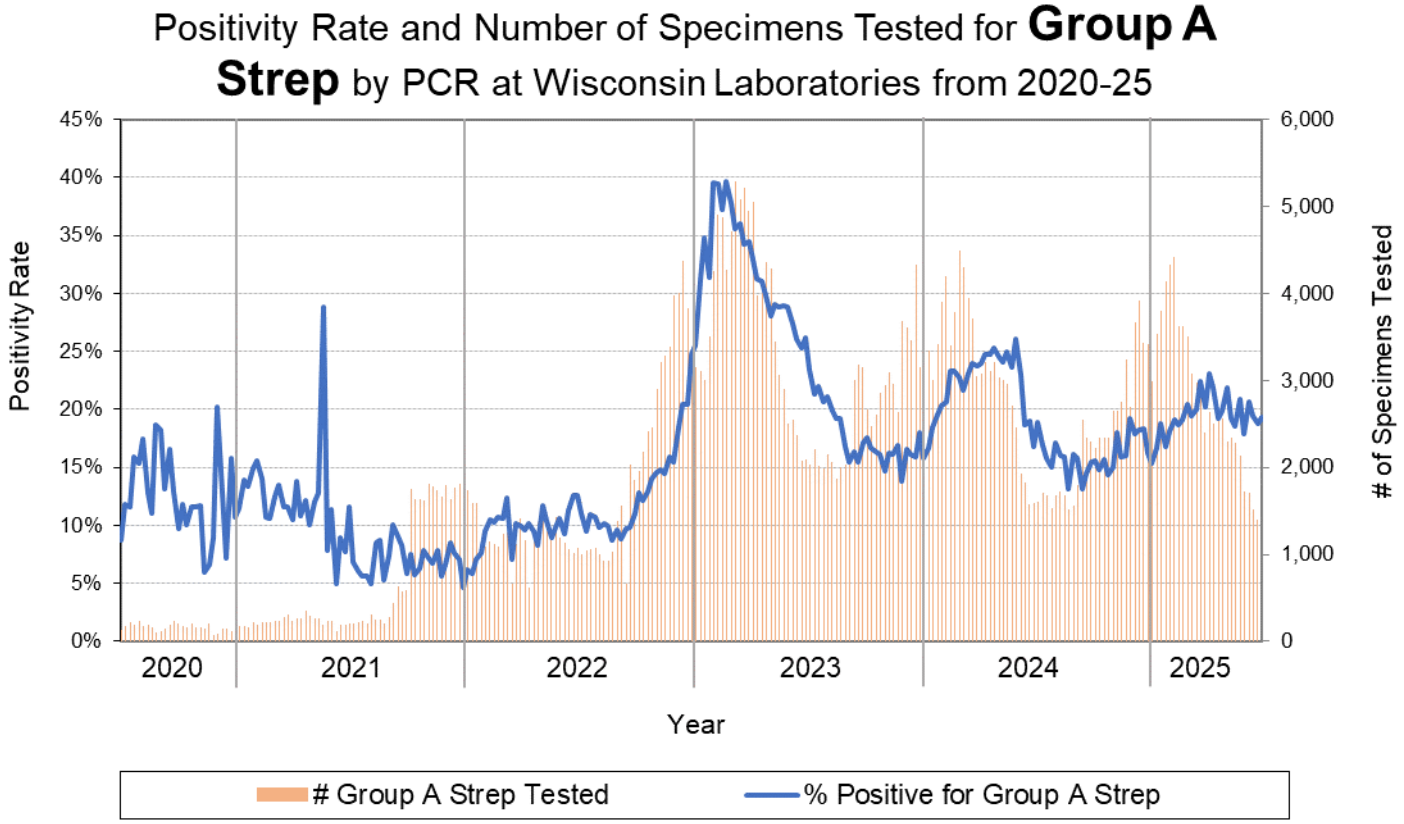
Surveillance Graphs - 5 Year Summary





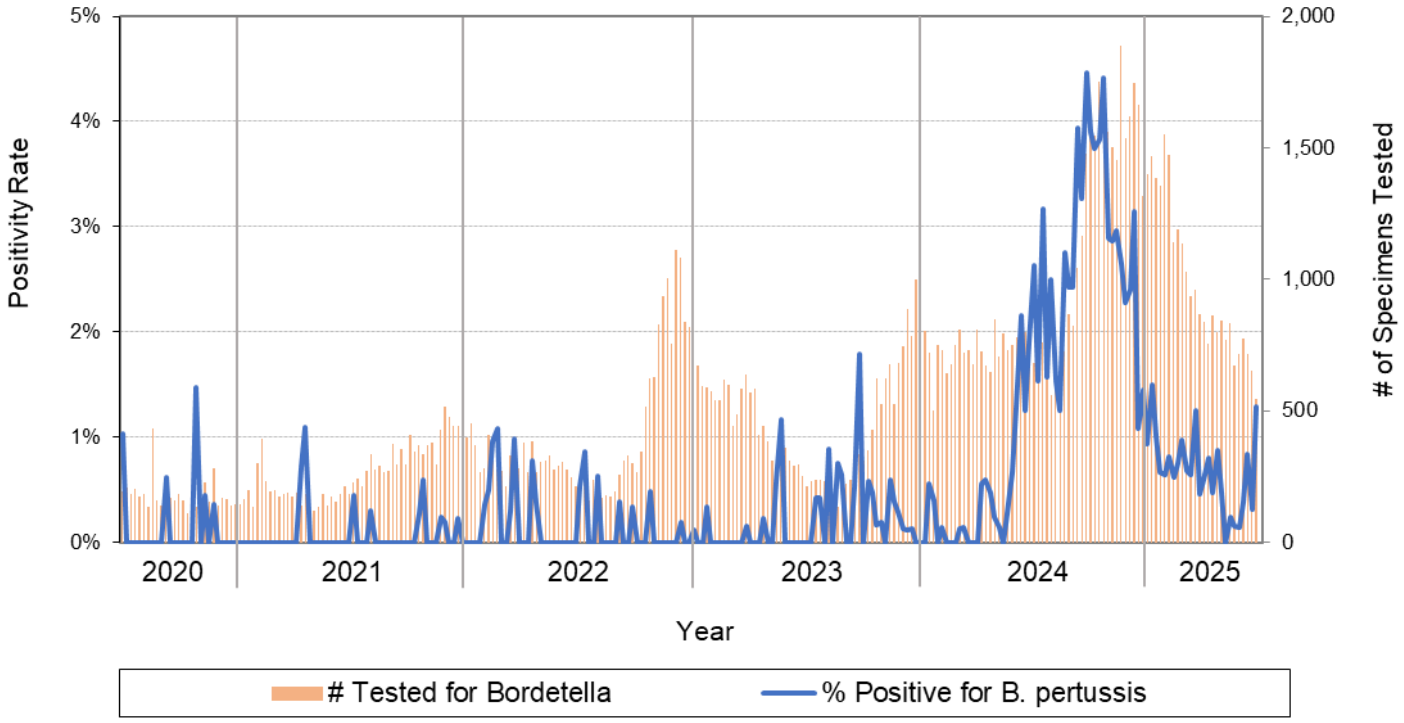
Surveillance Graphs - 5 Year Summary



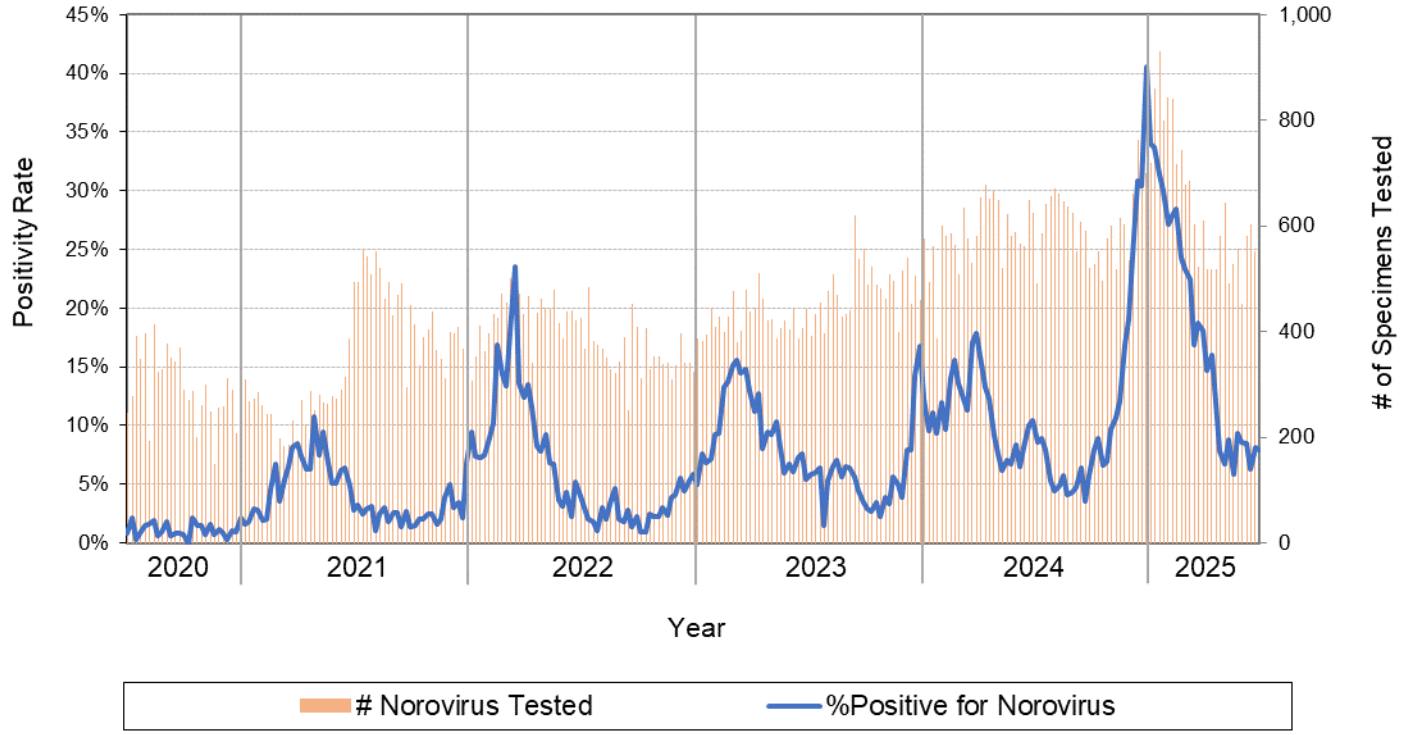


Surveillance Graphs - 5 Year Summary

Positivity Rate and Number of Specimens Tested for ***B. pertussis*** by PCR at Wisconsin Laboratories from 2020-25



Positivity Rate and Number of Specimens Tested for **Norovirus** by PCR at Wisconsin Laboratories from 2020-25



BioMerieux has announced an increased risk of false positive norovirus results with the BioFire FilmArray GI panel, which may increase the statewide norovirus percent positivity

AR Lab Network State-wide Surveillance

Carbapenem Resistant *Acinetobacter baumannii*

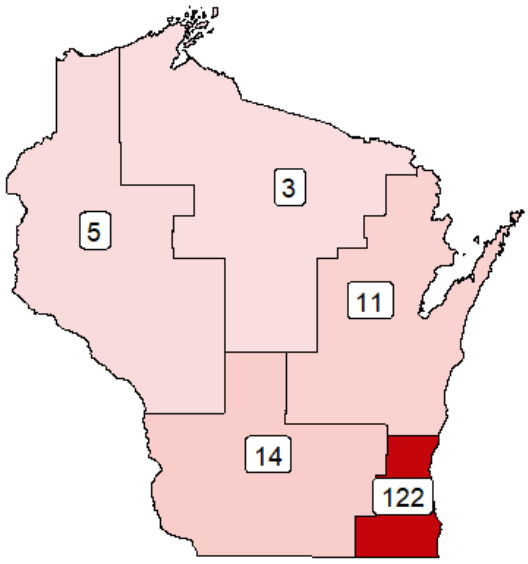
Nearly all carbapenem-resistant *Acinetobacter baumannii* (CRAB) infections occur in patients who recently received care in a healthcare facility. In 2017 CRAB infections attributed to $281 million in healthcare costs (2019 AR Threats Report; https://www.cdc.gov/antimicrobial-resistance/media/pdfs/2019-ar-threats-report-508.pdf). CRAB can survive in the environment for a long time and some CRAB isolates are resistant to nearly all antibiotics available, with few new drugs in development. CRAB can carry carbapenemases, which are encoded on mobile genetic elements and are easily shared between bacteria. 98% of all CRAB isolates submitted from Wisconsin carried a carbapenamase.

WSLH requests isolates of Acinetobacter baumannii that are resistant to any carbapenems to be submitted for surveillance testing. Testing performed at the WSLH includes identification, antimicrobial susceptibility testing, AR-targeted PCR and molecular subtyping. AR-targeted RT-PCR includes testing for 8 unique carbapenamase genes.

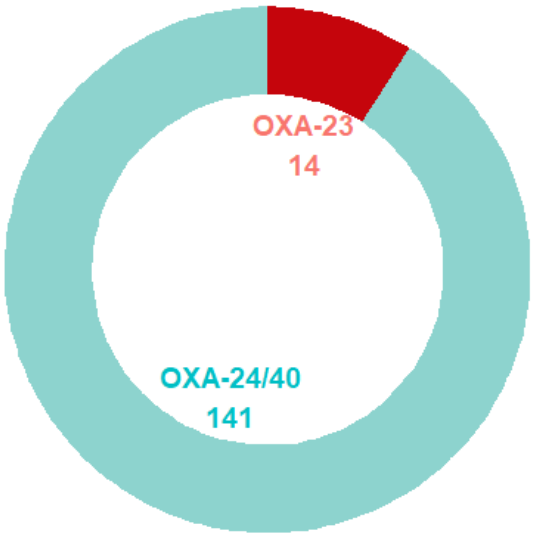
2024:

- WSLH received 158 CRAB isolates from Wisconsin laboratories in 2024.
    - Carbapenemase genes were detected by AR-targeted RT-PCR in 155 isolates (98.1%).
    - 45 CRAB isolates were non-susceptible to all antibiotics tested (28.5%), an 8 percent increase from 2023.

Carbapenemases detected at WSLH in clinical CRAB isolates from Wisconsin laboratories in 2024



Carbapenamase detections in CRAB isolates, by region of the state.



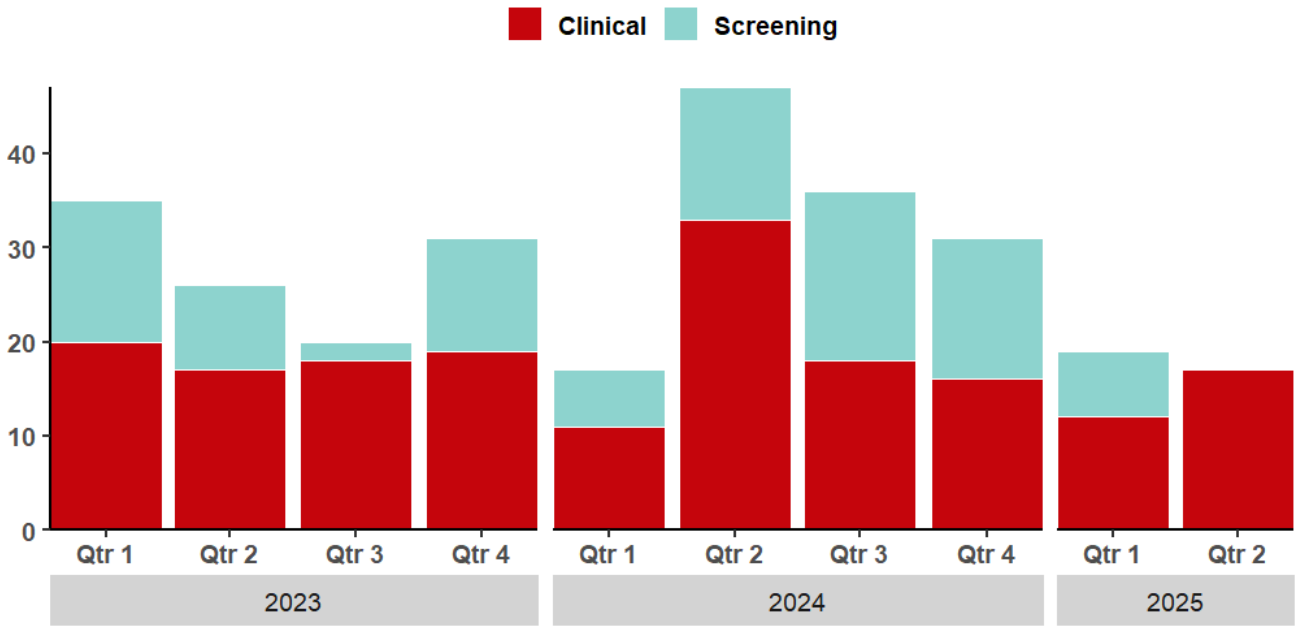
Carbapenamase genes detected in CRAB isolates by AR-targeted RT-PCR.

AR Lab Network State-wide Surveillance (Cont'd)

Colonization Testing for CRAB in Wisconsin

- WSLH performed screening on 1717 specimens in 2024 from 15 Wisconsin facilities.
    - CRAB was detected in 74 screening specimens (4.3%).

CRAB Cases Detected in Wisconsin from Clinical Cases (Infections) and Colonization Screenings



Carbapenem-Resistant *Pseudomonas aeruginosa* (CRPA)

Pseudomonas aeruginosa causes many types of healthcare-associated infections. Some *P. aeruginosa* are resistant to nearly all antibiotics, including carbapenems, and are known as multidrug-resistant (MDR) *P. aeruginosa*. In 2017, MDR *P. aeruginosa* caused an estimated 32,600 infections among hospitalized patients and 2,700 estimated deaths in the United States (2019 AR Threats Report).

WSLH requests *Pseudomonas aeruginosa* isolates that are resistant to carbapenems other than ertapenem AND non-susceptible to cefepime and/or ceftazadime. Testing performed at the WSLH includes identification, antimicrobial susceptibility testing, carbapenemase screening, AR-targeted PCR and molecular subtyping.

2024:

- WSLH received a total of 427 P. aeruginosa isolates from Wisconsin Laboratories in 2024.
    - No carbapenemase genes were detected by AR-targeted RT-PCR.
    - 3 CRPA isolates were non-susceptible to all antibiotics tested (0.7%), a decrease of 2 percent.

AR Lab Network State-wide Surveillance (Cont'd)

Carbapenem-Resistant *Enterobacterales*

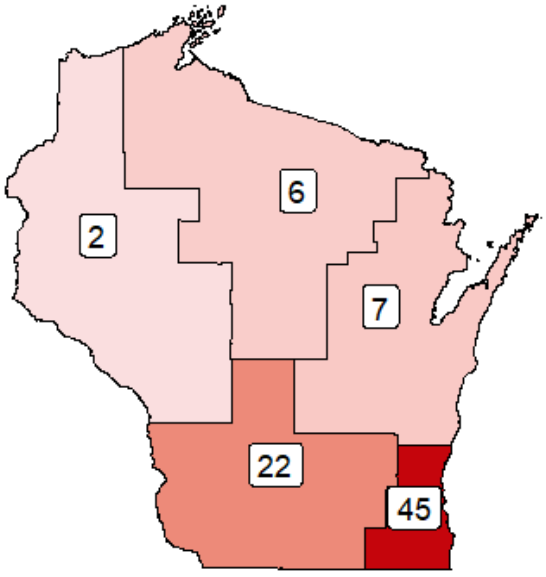
Carbapenem-resistant *Enterobacterales* (CRE) are a major concern for patients in healthcare facilities. In 2017, CRE caused an estimated 13,100 infections in hospitalized patients and about 1,100 deaths in the United States (2019 AR Threats Report). CRE can carry carbapenemases, an antibiotic resistance mechanism which makes carbapenam antibiotics ineffective. Carbapenamases are encoded on mobile genetic elements that are easily shared between bacteria. This increases the risk that antibiotic resistance will spread to other bacteria and/or other patients.

WSLH requests isolates of *Enterobacterales* that are resistant to any carbapenems to be submitted for surveillance testing. Testing performed at the WSLH includes identification, antimicrobial susceptibility testing, carbapenemase screening, AR-targeted PCR and molecular subtyping. AR-targeted RT-PCR includes testing for 5 unique carbapenamase genes.

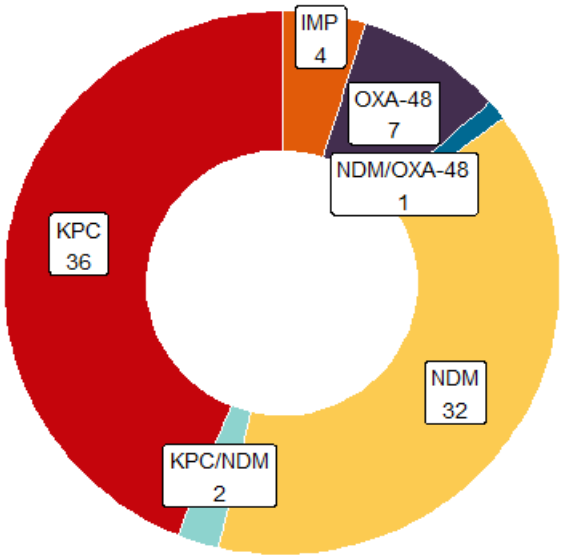
2024:

- WSLH received 423 CRE isolates from Wisconsin laboratories in 2024.
- Carbapenemase genes were detected by AR-targeted RT-PCR in 82 isolates (19.4%).
- 4 CRE isolates were non-susceptible to all antibiotics tested (0.9%)

Carbapenemases detected at WSLH in CRE Isolates from Wisconsin laboratories in 2024



Carbapenamase detections in CRE isolates, by region of the state.



Carbapenamase genes detected in CRE isolates by AR-targeted RT-PCR.

AR Lab Network State-wide Surveillance (Cont'd)

Candida auris

Candida auris is an emerging multi-drug resistant yeast that can cause severe, life-threatening infections. *C. auris* affects ill or immunocompromised patients and is highly transmissible in healthcare settings. Patients can also be colonized with *C. auris* without having symptoms. Colonized patients can easily spread *C. auris* to other patients, and once a patient is colonized with *C. auris*, they are considered colonized for life! Early detection of clinical and colonized cases, followed by measures like colonization screening and infection control, can limit the spread of *C. auris*. The first Wisconsin resident with a *C. auris* infection was identified in 2021.

WSLH requests all *C. auris* isolates for identification, antimicrobial susceptibility testing and molecular subtyping. WSLH also performs *C. auris* colonization screening in response to positive cases or outbreaks at the discretion of the DPH.

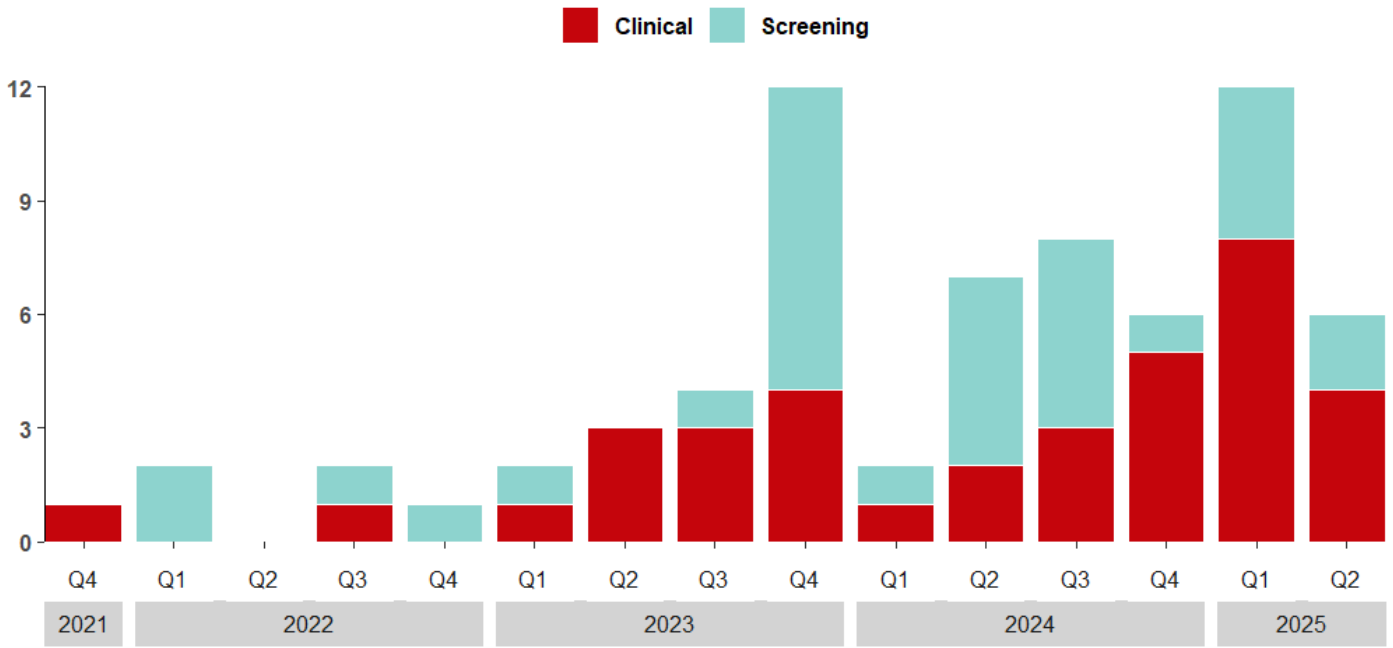
2024:

- WSLH received a total of 18 *C. auris* clinical isolates from Wisconsin Laboratories in 2024.
    - All isolates were susceptible to echinocandins and Amphotericin B
    - 66.7% of C. auris isolates from Wisconsin were resistant to azole antifungals.

Colonization Testing for *C. auris* in Wisconsin

- WSLH performed screening on 1547 specimens in 2024 from 15 Wisconsin facilities.
    - *C. auris* was detected in 17 screening specimens (1.1%).

Candida auris Cases Detected in Wisconsin from Clinical Cases (Infections) and Colonization Screenings



Wisconsin Mycobacteriology Data —2024

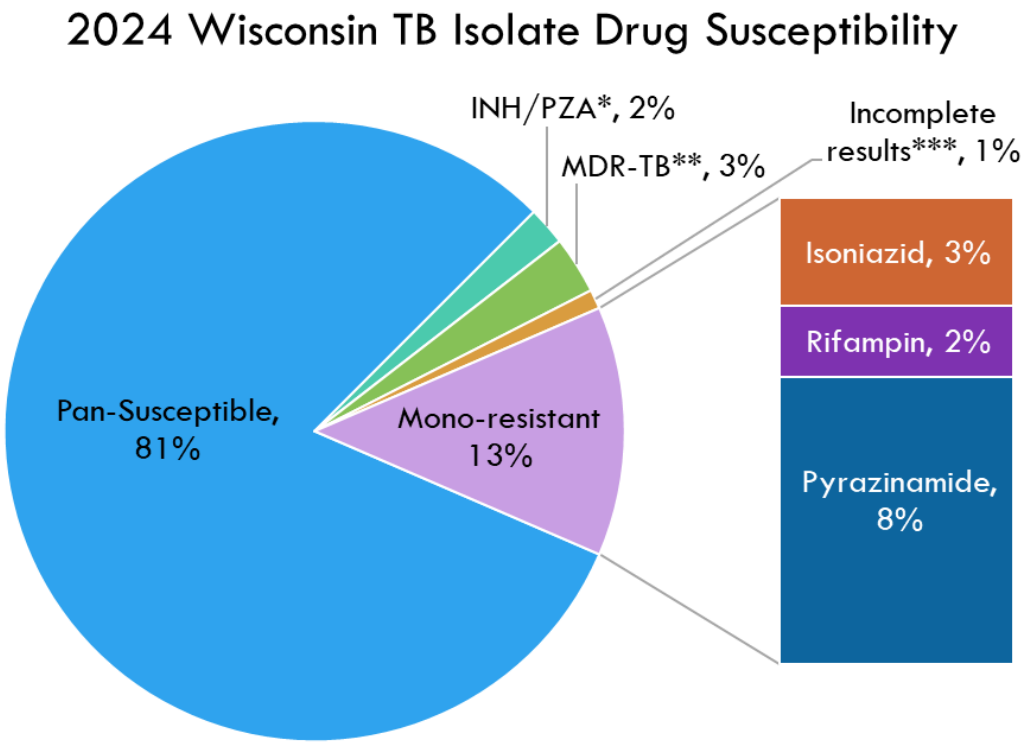
There were 71 new Report-Verified Cases of Tuberculosis in Wisconsin in 2024. 62 Wisconsin patients had culture-confirmed tuberculosis with susceptibility testing performed‡.

Wisconsin Patients with New Isolations of *Mycobacterium tuberculosis* complex

County of Residence	Barron	Brown	Dane	Dodge	Iowa	Kenosha	Marathon	Milwaukee	Ozaukee	Pierce	Portage	Price	Rock	Sheboygan	Trempealeau	Waukesha	Winnebago	TOTALS
Pulmonary	1	4	10		1	2	3	14	1	1	1	1	1	2	3	2	1	48
Extra-pulmonary*	1	2	1	1				6								2	1	14
Totals	**2**	**6**	**11**	**1**	**1**	**2**	**3**	**20**	**1**	**1**	**1**	**1**	**1**	**2**	**3**	**4**	**2**	**62**

(‡) 9 cases were clinically diagnosed with no culture growth

(*)Extra-pulmonary sources of isolation: 3 lymph node, 3 neck, 3 pleural fluid, 2 peritoneal fluid, 1 abscess, 1 gastric aspirate, 1 colon



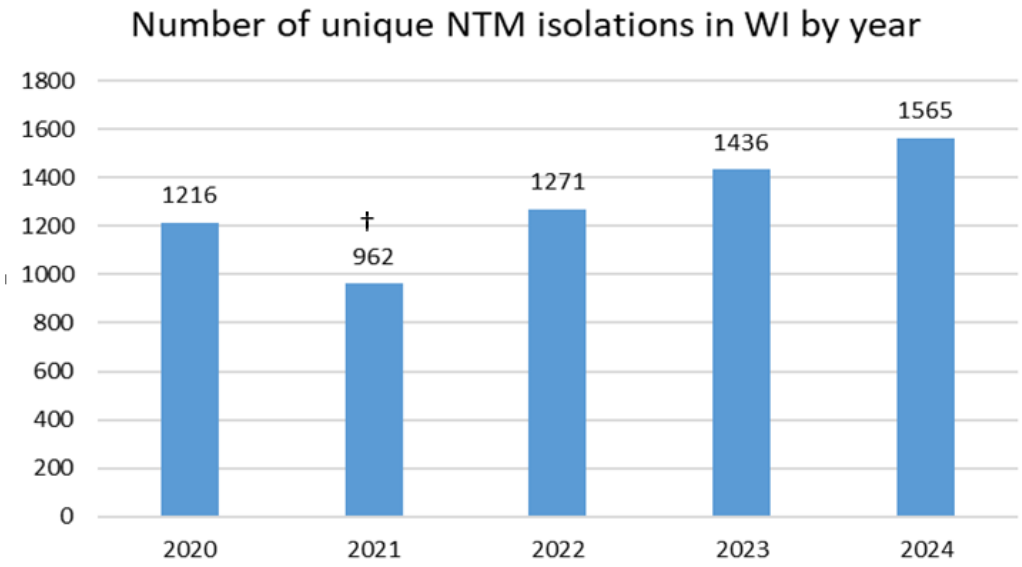
*One isolate was resistant to both Isoniazid and Pyrazinamide

**MDR-TB refers to specimens that are resistant to both Isoniazid and rifampin

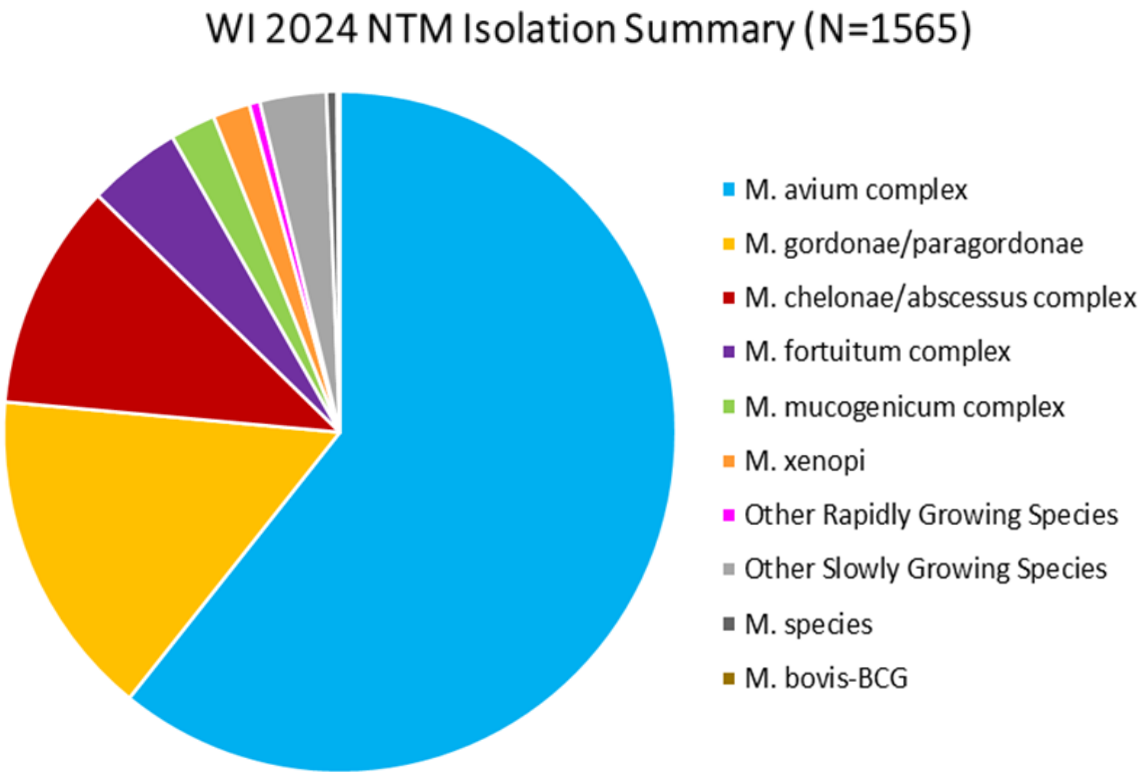
***One specimen was mixed in culture with a rapidly growing non-tuberculous mycobacteria species. Pure MTBC growth was unable to be isolated for phenotypic susceptibility testing.

Wisconsin Mycobacteriology Data —2024

Non-tuberculous mycobacteria (NTM) isolations are self-reported to the Wisconsin State Laboratory of Hygiene (WSLH) by mycobacteriology labs in the state of Wisconsin. These data represent one unique isolation per organism per patient. Subsequent cultures and isolations are not included in this summary. The figures on this page depict NTM isolation trends over the past five years as well as a breakdown of the most common NTM identifications for 2024.



†Isolate data for 2021 is incomplete, as one WMLN lab was unable to submit NTM isolation data that year.



2024 *Legionella* Investigation

2024 Legionnaires' Disease Community Cluster Investigation

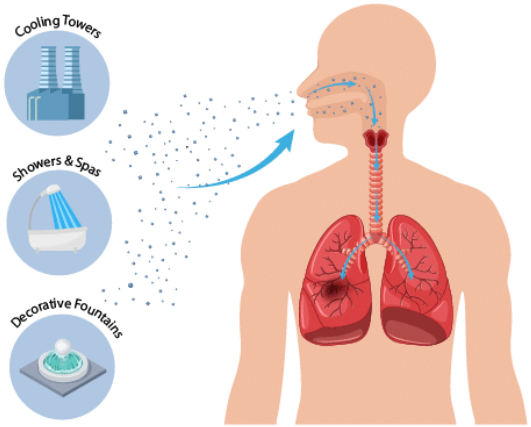
In September 2024, the Wisconsin Department of Health Services (DHS) collaborated with WSLH and the Department of Agriculture, Trade, and Consumer Protection (DATCP) to investigate a cluster of six Legionnaires' disease cases.

- All six case-patients worked or traveled to the same downtown community within the month of September 2024.
- All case-patients were diagnosed by Legionella urine antigen tests, which detects illnesses caused by Legionella pneumophila serogroup 1.

A bronchoalveolar lavage (BAL) specimen was collected from two of the six case-patients. Legionella pneumophila serogroup 1 was isolated by culture from both specimens.

Further investigation revealed that all six case-patients visited locations within 0.5 miles of one another in 14 days prior to illness onset.

- While two patients visited the same lodging facility, there were otherwise no common facility visits between the cases.
- DHS and DATCP collected water samples from the lodging facility's potable water system, as well as cooling towers from six buildings within two city blocks of the lodging facility.
- Samples were analyzed for environmental *Legionella* PCR and culture.
- Cooling towers from five of the six buildings tested were positive for *Legionella;* two of the buildings tested positive for *Legionella pneumophila* serogroup 1.



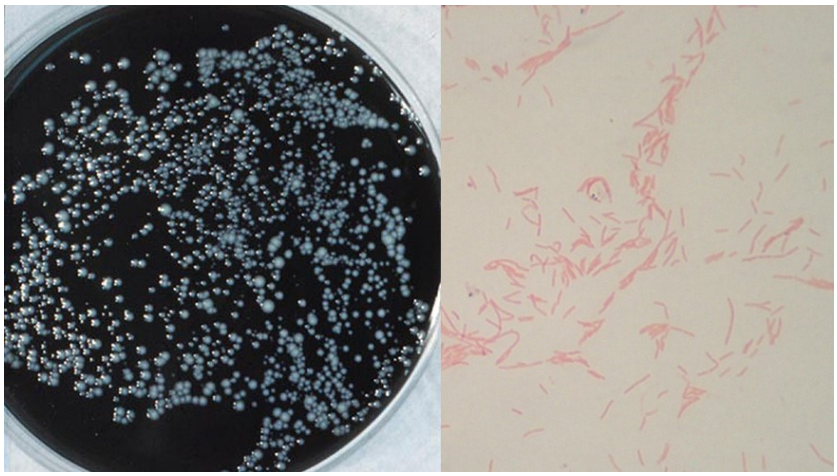
Source: https://www.kurita.eu/legionella/

2024 Legionella Investigation (Cont'd)

Because both a clinical isolate and two environmental isolates for *Legionella pneumophila* serogroup 1 were stored at WSLH, further characterization was possible. To identify the link between the clinical specimen and a specific cooling tower, sequence-based typing was performed on all three isolates.

- The clinical isolate and one of the cooling towers both resulted with the same, uncommon sequence type.
- The other cooling tower resulted with a different, more common sequence type.
- All cooling towers that tested positive for *Legionella* through public health investigation were either remediated by online disinfection or were shut down for the season.

Laboratorians play a pivotal role in community cluster investigations of Legionnaires' disease. Since 2023, 92% of all Legionnaires' disease cases in Wisconsin have been diagnosed by a urine antigen test. However, a urine antigen test result cannot be directly compared to environmental samples. *Legionella* isolates from a sputum or BAL specimen can be directly compared, with sequence-based typing or whole genome sequencing, to clinical isolates from epidemiologically-linked patients and environmental isolates, aiding in the investigation of suspect clusters of community-acquired Legionnaires' disease.

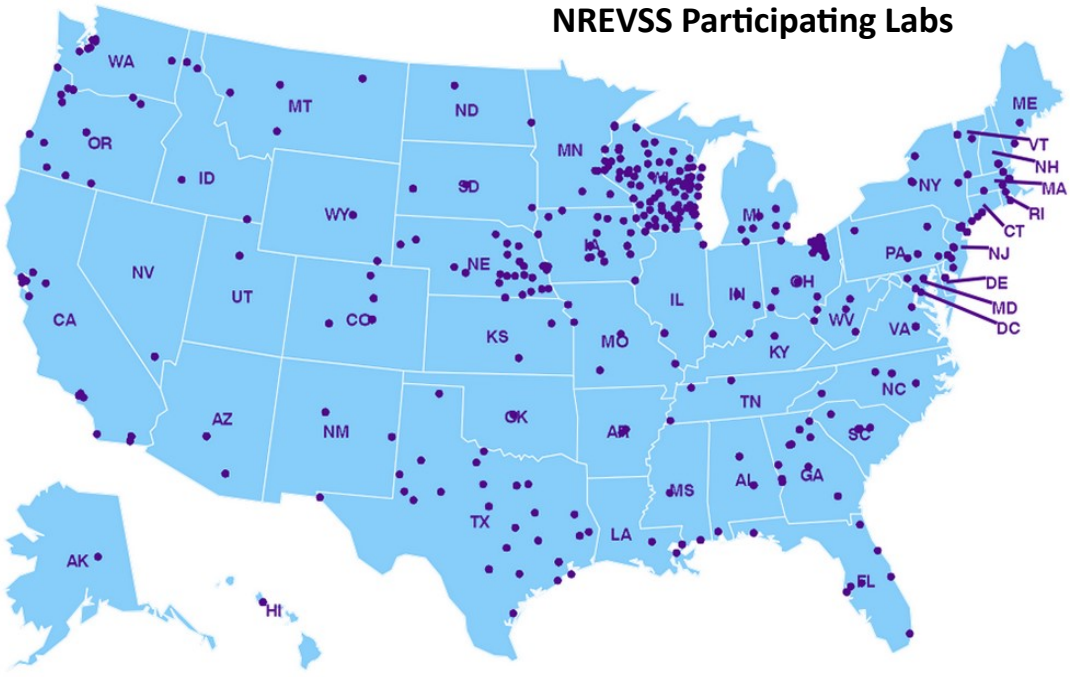


https://asm.org/articles/2021/march/cooling-tower-of-terror-legionella-s-public-health

In an effort to obtain more clinical isolates, fee-exempt *Legionella* culture is available at WSLH for patients that have tested positive using a *Legionella* urine antigen or PCR test. If *Legionella* is isolated from a clinical specimen, the isolate should be sent to WSLH for storage. Suspect community clusters of Legionnaires' disease can occur over an extended period of time.

THANK YOU FOR YOUR PARTICIPATION IN LABORATORY-BASED SURVELLANCE!!

NREVSS Participating Labs



Wisconsin State Laboratory of Hygiene

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