Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN–MADISON

Laboratory-Based Surveillance Plan 2016-2017

Information, Forms and Instructions

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Laboratory-based Surveillance in Wisconsin

Background

Laboratory-based surveillance for influenza is coordinated by the Wisconsin State Laboratory of Hygiene (WSLH), in collaboration with the Wisconsin Division of Public Health.
This multi-element laboratory-based surveillance program has enabled us to achieve the four key objectives of routine influenza surveillance that include:

- Providing situational awareness:
  - When season begins/ends
  - types/subtypes/strains of influenza circulating
  - when and where circulating
  - clinical severity
  - community impact
  - age groups targeted
  - # tests performed/positivity rate
  - reliability of diagnostic methods
- Detecting novel or reassortant viruses
- Informing vaccine strain selection by CDC
- Detecting and monitoring antiviral resistance

Surveillance plans will be modified as the level of influenza activity changes and other circumstances require. Changes in the plans will be announced in the bi-weekly "Laboratory Surveillance Report" which is posted at the Wisconsin State Laboratory of Hygiene (WSLH) website.

Following is a description of the contributing elements of the laboratory-based influenza surveillance plan for Wisconsin:

Rapid Influenza Testing Sites: Rapid testing sites are asked to provide weekly reports of their testing data (number tested,

number positive) and to provide specimens to the WSLH (Table 1).

PCR Laboratories: PCR testing sites are requested to provide weekly reports of their testing data (number tested, number positive) and to provide specimens to the WSLH, based on WSLH requests (Table 1).

Enrolled Surveillance Sites: Surveillance also includes testing sites that are enrolled by the WSLH to provide a consistent supply of specimens from all areas of the state.

Healthcare Provider Sites: In addition, surveillance includes a small number of healthcare providers/sites who are enrolled to submit a limited number of specimens directly to the WSLH.

All sites are provided with customized forms, instructions, specimen collection and transport supplies, and transport to the WSLH at no cost to them. Please contact our Clinical Orders department at **800-862-1088 to order shipping supplies.**

In addition to influenza testing data, the WSLH also requests laboratory testing data for other bacteria and viruses as part of the laboratory-based surveillance system (Table 1).

Weekly web-based and FAX reporting is now available for PCR testing data. Confirmatory testing at WSLH is NOT available unless requested by WSLH. Confirmatory testing, when requested, is available at NO cost.

Information collected will be updated weekly on the WSLH website: http://www.slh.wisc.edu/wcln-surveillance/surveillance/virology-surveillance/

Laboratory-based Surveillance Plans, Wisconsin, 2016-2017

Table 1

Pathogen	Testing Data requested	Frequency	Confirmatory testing available at WSLH
Rapid Testing/Antigen Detection			
Influenza A/B	Number detected and number tested	Weekly	**ALL** early season positives. Limited to first **two** confirmed A & B positives at WSLH. Additionally, please send positive specimens from patients with: 1. Hospitalization 2. International travel history 3. Swine exposure
Rotavirus			Send **one** positive/week
RSV			No
Strep A (rapid tests only)			
PCR			
Influenza A/B	Number detected and number tested	Weekly	**ONLY** send the following specimens: 1. Unable to subtype (InfA Ct<35.0) if subtyping was attempted. 2. Hospitalized patients 3. Patients with nternational travel history 4. Patients with swine exposure
Respiratory viruses & Gastrointestinal pathogens			Yes (gastropathogens only)
B. pertussis			
Other viruses (e.g., VZV)			
Enterovirus*	Number detected & number tested	Weekly	Yes*

* Enterovirus typing is performed on CSF specimens or specimens submitted related to clusters of severe respiratory disease, paralysis, death or those collected on infants <2 months of age if requested by the Wisconsin Division of Public Health.

Wisconsin Acute Diarrheal Illness Surveillance (WADIS)

The WSLH, in collaboration with other public health stakeholders, has recently developed a statewide gastrointestinal pathogen surveillance program in Wisconsin. This program is set-up similar to the influenza surveillance program whereby randomized specimens and PCR testing data are collected from geographically distributed sentinel sites. Testing is performed on solicited specimens at WSLH for enteric targets including bacterial, parasitic and viral pathogens.

The overarching aim of this surveillance program is to gain awareness of the gastrointestinal pathogens effecting community health in Wisconsin.

If your laboratory is performing PCR for gastrointestinal pathogens, please contact **Erik Reisdorf** at **608-224-4261** or erik.reisdorf@slh.wisc.edu.

If you have questions regarding the reporting of surveillance data to WSLH, please contact **Mary Wedig** at **608-224-4274** or mary.wedig@slh.wisc.edu

WISCONSIN STATE LABORATORY OF HYGIENE

Influenza Surveillance Requisition Form [rev. 9/2015]

Patient Information	**Submitter Information**
Name (Last, First):	(Your Institution's Agency Number If Known)
Address:	(Your Institution's Name)
City: State: Zip:	(Your Institution's Address)
Age or Date of Birth:	(City, State, Zip Code)
Gender: ☐ **M** ☐ **F**	(Telephone Number)
Patient Telephone Number:	Health Care Provider Full Name:
Your Specimen ID Number (optional):	*WSLH Use Only*: VI X SURV / Bill To: Account # **74201**

Date Collected:

Specimen Type:
☐ Nasopharynx Swab (in VTM) ☐ Throat Swab (in VTM)
☐ Combined Throat/Nasopharynx Swab (in VTM) ☐ Other _____
☐ Cell Culture Isolate (Cell Line: _____ Specimen Source:_____)

Reason for submission: **[ ] Influenza Surveillance**

Your Test Results

[ ] Positive Influenza A
[ ] Positive Influenza B
[ ] Positive Influenza A and B
[ ] Positive Influenza (Unknown Type)
[ ] Negative Influenza A
[ ] Negative Influenza A and B
[ ] Not Tested
[ ] Other (specify):_____

Please mark the test used:

Antigen Detection
[ ] BD Veritor Influenza A+B
[ ] BinaxNOW Influenza A&B
[ ] Directigen EZ Flu A+B
[ ] QuickVue Influenza A&B
[ ] TRU FLU
[ ] Xpect Flu A & B
[ ] Sofia Flu A&B
[ ] Other (specify): _____

PCR
[ ] 3M Focus Simplexa Flu/RSV
[ ] ProFlu+
[ ] ProFAST+
[ ] Cepheid Xpert Flu/RSV
[ ] Nanosphere Verigene RV+
[ ] Alere Flu
[ ] Other (specify): _____

[ ] Culture

***Additional Information*:**
[ ] **Hospitalized**
[ ] **Travel history (within 10 days of onset) (Places & Dates):** _____
[ ] **Swine contact**

WISCONSIN STATE LABORATORY OF HYGIENE USE ONLY

WSLH Test Code: To Be Determined On Receipt

Sample

Specimen Packaging (WSLH Kit # 18 or equivalent):

- **Triple package as "Biological substance, Category B / UN 3373"**
- Securely tape the cap of the specimen container, wrap specimen with absorbent material; place the specimen vial into a biohazard bag; place the completed requisition form into the outer pocket of the bag.
- Place the bagged specimen and form in the styrofoam mailer with a frozen kool-pak and cushioning.
- Replace lid on the styrofoam/cardboard box; close and securely tape the cardboard box shut.
- Attach the WSLH address label to the package: (***Beginning October 10, 2016***)

Wisconsin State Lab of Hygiene
Communicable Disease Division
PO Box 7904
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 (requirement) with the return address

Specimen Collection & Shipping Supplies:

- Specimen collection and shipping supplies are available at no cost to surveillance sites. Please contact the WSLH Clinical Orders dept. at **800-862-1088** to order supplies.

Shipping Arrangements:

- The WSLH has a contract with STATMEDEX for shipment of specimens to the WSLH, with charges billed to the WSLH. **You are not required to ship via STATMEDEX unless 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 the STATMEDEX scheduler.
- Specimens will be delivered to the WSLH the following day. **If you must ship on Fridays or on the day before a holiday, please include an extra coolant**.
- All package preparation should be completed before the courier arrives.
- Contact STATMEDEX directly to arrange for a pick-up
  CALL: **763-233-0099**
  Website: **http://statmedex.com/**

NOTE: THIS ACCOUNT IS FOR SURVEILLANCE SPECIMENS OR OTHERS REQUESTED BY WSLH! Funding is not available for transport of other samples.

Reporting Lab Test Results

Weekly reporting of diagnostic testing data to WSLH is important so that the public health stakeholders know what communicable diseases are impacting community health in Wisconsin.

WSLH highly encourages you to report your rapid antigen test and PCR data to the WSLH using the web-based reporting system. Alternatively, the paper-based FAX reporting system is also acceptable, according to your preference. These testing data are compiled weekly and made available on the WSLH website (graphs) and used in the bi-weekly Laboratory Surveillance Report.

Regardless of which reporting method you choose, we ask that you begin reporting as soon as possible and **continue reporting weekly throughout the year**. If you discontinue testing in the spring, please notify us so that our data accurately reflects testing in Wisconsin. Please also report the test method and your detailed test results (e.g. GeneXpert Flu: InfA+, 2009H1N1 +).

For Web-Based Reporting: Instructions for web-based reporting are included in this packet. Report the number of specimens tested and the number of specimens positive for influenza, RSV, rotavirus, and Group A streptococcus each week. If no tests were performed that week, simply report "0" for the number tested for each of the agent(s). You will need your "Lab ID", which is included in the FAX report form.

See Web Reporting Instructions

For FAX Reporting: A report form with faxing instructions is included in this packet. Report the number of specimens tested and the number of specimens positive each week for influenza, RSV, rotavirus, and streptococcus. If no tests were performed during a week, simply report "0" for the number tested for the agent(s).

Please FAX (**844-390-6233**) by noon Wednesday of each week to:
Erik Reisdorf or Mary Wedig
Wisconsin State Laboratory of Hygiene

Note: If you are reporting PCR test data by either web-based or FAX-based reporting, please include the number tested and the number positive for influenza & other respiratory pathogens, enteroviruses, vaccine preventable diseases, gastrointestinal pathogens and *B. pertussis/parapertussis*.

Questions or Problems?
Please email us at WCLN@mail.slh.wisc.edu
or call 800-862-1013

Please FAX by **noon Wednesday** of each week to:

Erik Reisdorf or Mary Wedig, Wisconsin State Laboratory of Hygiene at 844-390-6233

Contact Mary Wedig (608-224-4274) or Erik Reisdorf (608-224-4261) with questions.
Please report the number of specimens tested and the number of specimens positive for each **Sunday through Saturday week throughout the year even if no specimens were tested.**

WISCONSIN TESTING FAX REPORT

Identification Number: «Lab_ID»

Your Institution's Name, Address & Telephone Number:

«InstitutionName»
«Address»
«City», «St» «Zip»
«Telephone_»

Change of Institution Address: _____

Report For Week (Sunday through Saturday) Ending:_____

Rapid Testing - Virus / Bacteria	Number Tested	Number Positive					
		Influenza			RSV	Rota	Strep
		A	B	A & B			
Influenza A and B (Differentiated) *Testing provides 2 results – 1 result for A & 1 result for B*							
Influenza (Type Not Known) *Testing provides 1 result; could be A or B*				Unknown			
RSV							
Rotavirus							
Rapid Strep (Streptococcus Group A)							

PCR - Virus / Bacteria	Number Tested	Number Positive					
		Influenza			RSV	B pertuss	B para-pertuss
		A	B	A & B			
Influenza A and B (Differentiated)							
Influenza A (only)		A Only					
RSV							
Bordetella							
Gastrointestinal Pathogen Panel Test Used _____		# Positive / Positive Pathogen					
Other _____		**Number Positive**					

Please indicate the test used at your institution on the following page.

Thank you for your report!

Sample

Identification Number:	Your Institution's Name, Address & Telephone Number:
«Lab_ID»	«InstitutionName» «Address» «City», «St» «Zip»

Influenza Rapid Test Used: Please check all that apply.

- ☐ BD Veritor Influenza A+B
- ☐ BinaxNOW Influenza A&B
- ☐ Biostar Flu OIA A/B
- ☐ Directigen Flu A
- ☐ Directigen Flu A+B
- ☐ Directigen EZ Flu A+B
- ☐ OSOM Influenza A&B
- ☐ QuickVue Influenza
- ☐ QuickVue Influenza A+B
- ☐ SAS Influenza A&B
- ☐ 3M Rapid Detection Influenza A+B
- ☐ Xpect Flu A&B
- ☐ ZstatFlu
- ☐ Sofia Flu A&B
- ☐ Other (specify):_____

RSV Rapid Test Used: Please check all that apply.

- ☐ BD Veritor RSV
- ☐ Binax NOW RSV
- ☐ Biostar RSV OIA
- ☐ Clearview RSV
- ☐ Directigen RSV
- ☐ Directigen EZ RSV
- ☐ Pathfinder RSV
- ☐ QuickVue RSV
- ☐ SAS RSV
- ☐ Sofia RSV
- ☐ Sure-Vue RSV
- ☐ Xpect RSV
- ☐ Other (specify):_____

Rotavirus Rapid Test Used: Please check all that apply.

- ☐ Immunocard Stat!
- ☐ Pathfinder
- ☐ Premier RotaClone
- ☐ Sure-Vue
- ☐ Xpect
- ☐ Other (specify): _____

Strep Rapid Test Used: Please check all that apply.

- ☐ Acceava Strep A
- ☐ Beckman Coulter Icon SC Strep A
- ☐ Binax NOW Strep A
- ☐ Biostar Strep A OIA
- ☐ Clearview Strep A Exact II
- ☐ Directigen EZ Group A Strep
- ☐ GenProbe Group A Strep Direct
- ☐ ImmunoCard STAT! Strep A
- ☐ McKesson Strep A
- ☐ OSOM Strep A
- ☐ OSOM Ultra Strep A
- ☐ QuickVue Strep A
- ☐ SAS Strep A
- ☐ Sure-Vue Strep A
- ☐ Other (specify):_____

Influenza PCR Test Used: Please check all that apply.

- ☐ Cepheid Xpert Flu
- ☐ Luminex xTAG Respiratory Viral Panel
- ☐ Nanosphere Verigene RV+
- ☐ ProFAST+
- ☐ ProFlu+
- ☐ Other (specify):_____

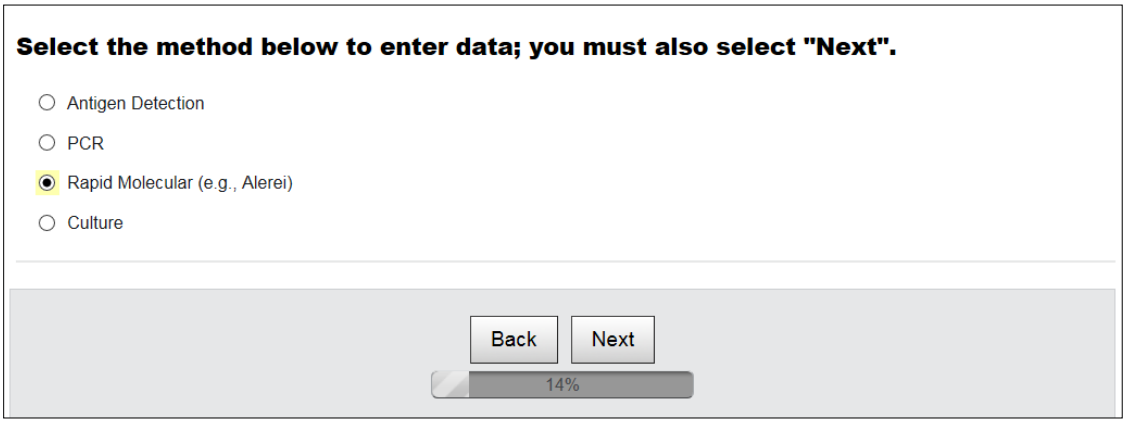
Sample

Web Based Reporting of Lab Test Results

New this Year!

Rapid Molecular reporting has changed.

We have added Rapid Molecular testing as an additional method for reporting this year. Please report any Rapid Molecular testing using the “Rapid Molecular Reporting” tab on the web.

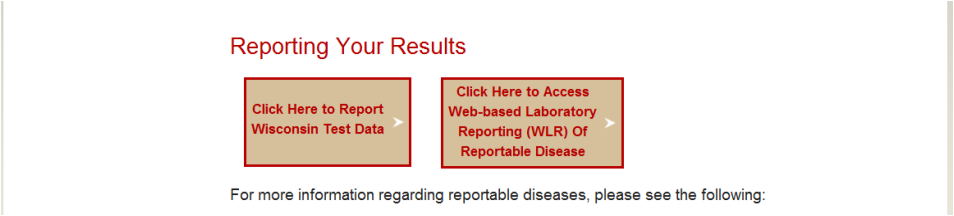


Rapid molecular tests are molecular detection assays designed for use at the “point of care”. Examples of these test instruments include the Alere i, Roche LIAT and Quidel Solana.

Web Based Reporting of Lab Test Results

If you have questions or problems reporting test data by either the web-based system or the fax system, please email us at WCLN@mail.slh.wisc.edu or call Mary Wedig at 608-224-4274.

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



OR

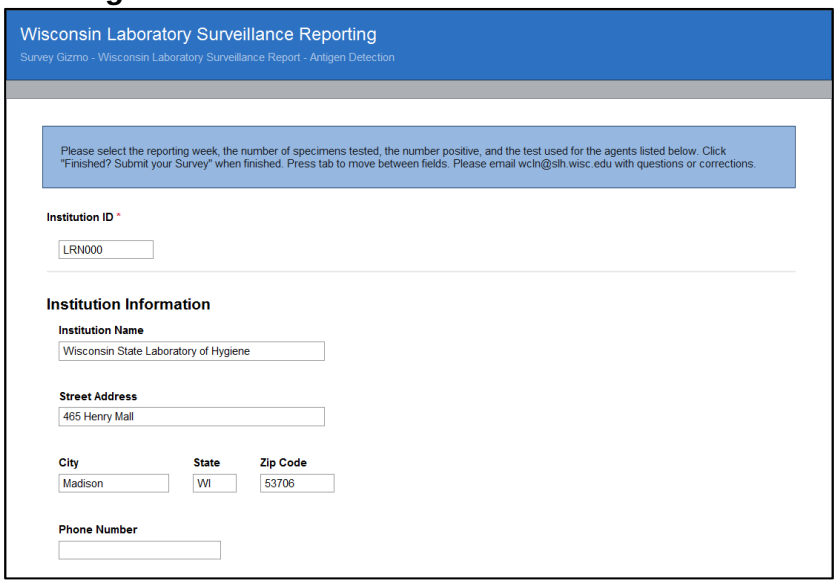
- Go directly to **http://www.surveygizmo.com/s3/389222/Wisconsin-Laboratory-Surveillance-Reporting**

❖ **Enter** your laboratory's identification number ("**Lab ID**"); ***this is a required field***.

- Your "**Lab ID**" is a series of letters and numbers that is included on the fax reporting form in this packet. The letters in your Lab ID must be capitalized.
- If you cannot find your "**Lab ID**", please contact us at WCLN@mail.slh.wisc.edu or call 800-862-1013.
- Your institution's name, address, city and telephone number will be entered automatically.

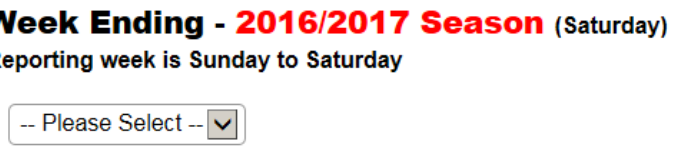
❖ **Review** the institution name, address and telephone number for accuracy.

- 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***".

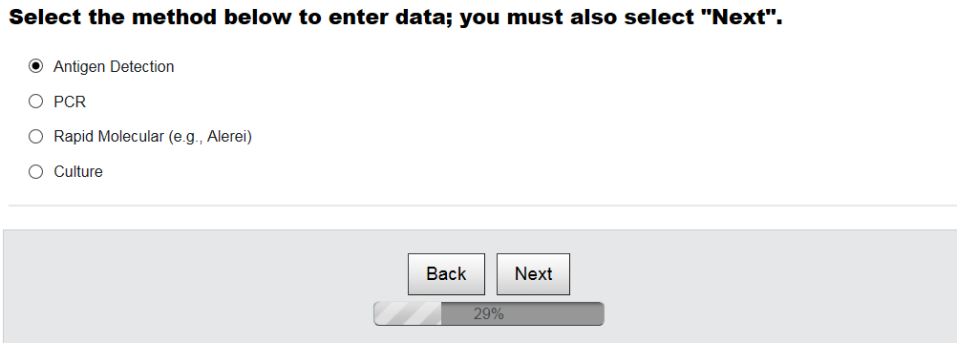


❖ **Select** the "***Week Ending Date***" for which you wish to report data.

♦ Click on the "∨" symbol; 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** "Antigen Detection", "PCR", "Rapid Molecular", or "Culture" method for the data you would like to enter and click "Next".



<u>If you chose Ag Det</u> (above or on page 5, page 6, or page 7):

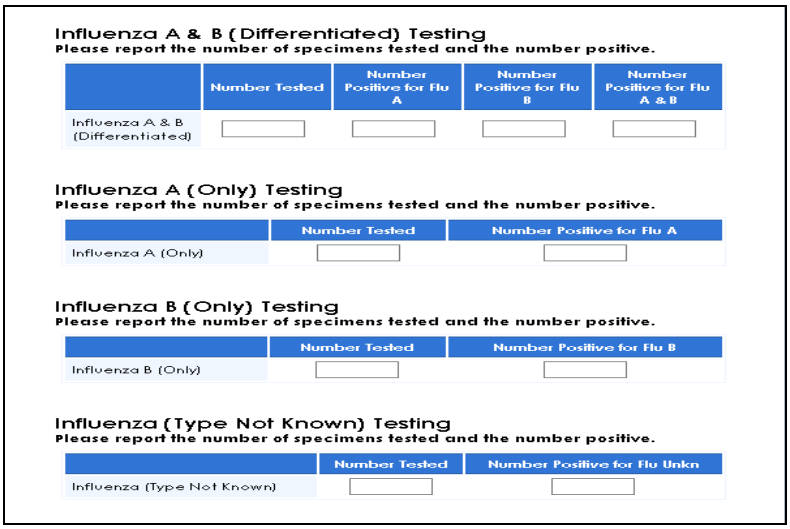
❖ **Report** the number tested and number positive for each of the listed agents for which you perform testing on-site. *There is no need to enter data for tests referred to in-state or out-of-state laboratories. There is also no need to enter data for confirmatory testing of rapid Strep tests.*

♦ ***If you do not perform a test on-site and/or refer specimens to another laboratory***, skip that agent/test section *<u>without entering any data</u>*.

♦ ***If you normally perform that testing on site, but did not test any specimens*** that week, *<u>enter zero "0" for the number tested</u>*. If the "number tested" is "0", you can skip the "number positive" field.

♦ ***For influenza,*** select the test for which you should report as follows:

- "**Influenza A & B (Differentiated)**": Report your data here if your influenza test provides a result for influenza A *<u>and</u>* a result for influenza B.
- **"Influenza A (Only)"**: Report your data here if your influenza test provides a result only for influenza A.
- **"Influenza B (Only)"**: Report your data here if your influenza test provides a result only for influenza B.
- "**Influenza (Type Not Known)"**: Report your data here if your influenza test provides a single test result, but does not specify influenza A or influenza B.



Influenza A & B (Differentiated) Testing
Please report the number of specimens tested and the number positive.

	Number Tested	Number Positive for Flu A	Number Positive for Flu B	Number Positive for Flu A & B
Influenza A & B (Differentiated)				

Influenza A (Only) Testing
Please report the number of specimens tested and the number positive.

	Number Tested	Number Positive for Flu A
Influenza A (Only)		

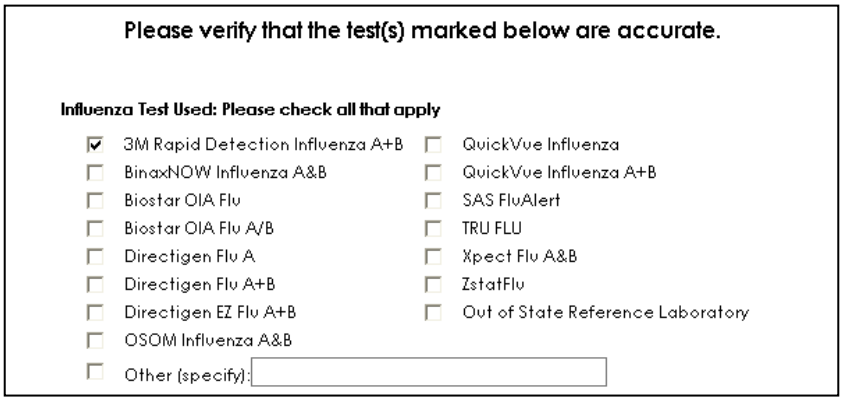
Influenza B (Only) Testing
Please report the number of specimens tested and the number positive.

	Number Tested	Number Positive for Flu B
Influenza B (Only)		

Influenza (Type Not Known) Testing
Please report the number of specimens tested and the number positive.

	Number Tested	Number Positive for Flu Unkn
Influenza (Type Not Known)		

❖ **Review** for accuracy the test(s) that have been pre-marked for your institution.

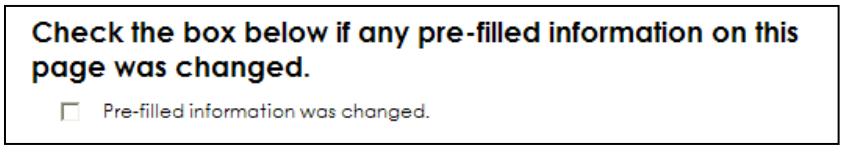


Please verify that the test(s) marked below are accurate.

Influenza Test Used: Please check all that apply

- ☑ 3M Rapid Detection Influenza A+B
- ☐ BinaxNOW Influenza A&B
- ☐ Biostar OIA Flu
- ☐ Biostar OIA Flu A/B
- ☐ Directigen Flu A
- ☐ Directigen Flu A+B
- ☐ Directigen EZ Flu A+B
- ☐ OSOM Influenza A&B
- ☐ Other (specify):
- ☐ QuickVue Influenza
- ☐ QuickVue Influenza A+B
- ☐ SAS FluAlert
- ☐ TRU FLU
- ☐ Xpect Flu A&B
- ☐ ZstatFlu
- ☐ Out of State Reference Laboratory

♦ 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.***



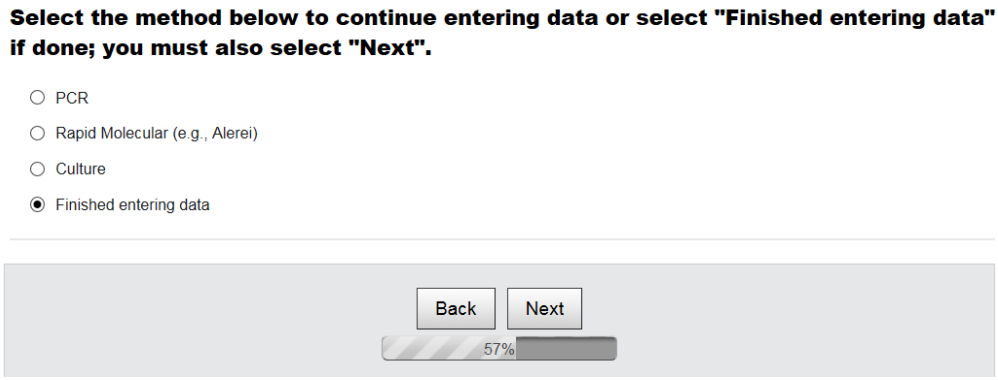
Check the box below if any pre-filled information on this page was changed.

☐ Pre-filled information was changed.

❖ **To make a copy of the data you have entered, you must do so *before you leave the page*.**

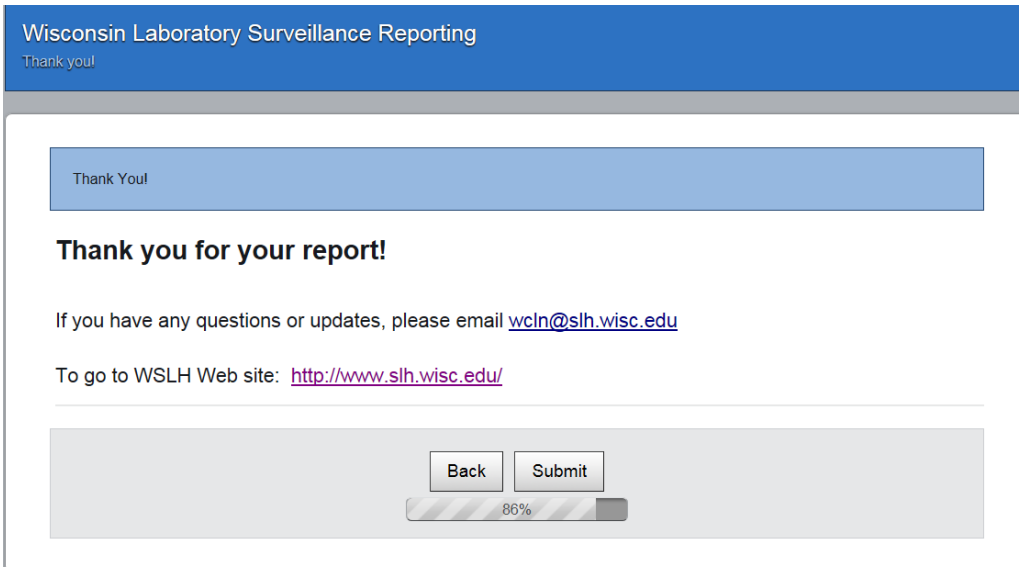
- Right-click the computer mouse and left-click on "Select All" in the drop-down list
- Right-click the computer mouse on any highlighted area and left-click on "Copy" in the drop-down list.
- Open a Word document and right-click to see the drop-down list, then left-click on "Paste".
- Edit the document and save or print.

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



If you chose "Finished entering data" (above or on page 5, page 6, or page 7):

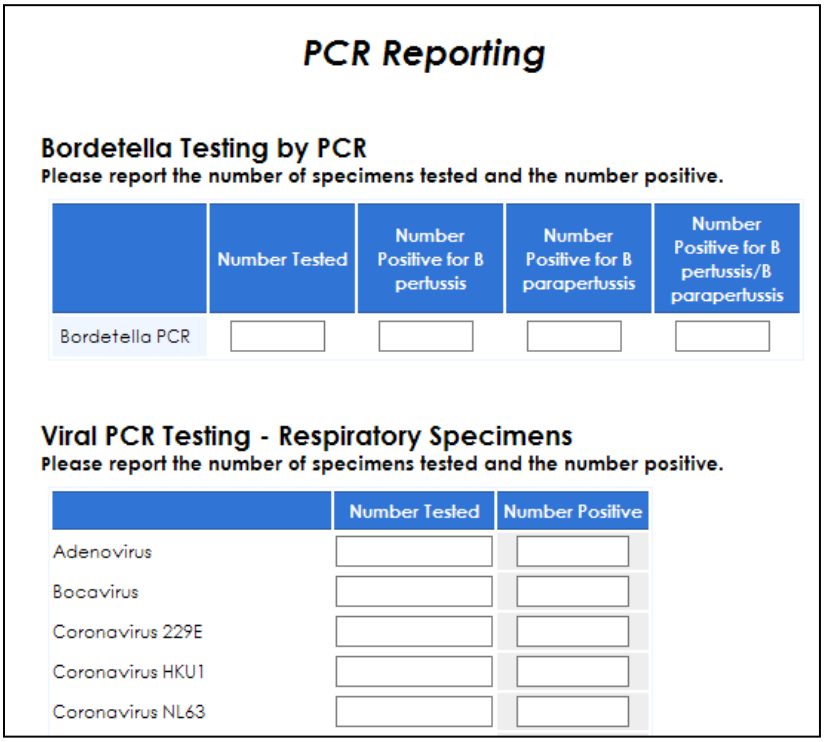
- **To save and submit your data**, click on "***Submit"***. You will be returned to the WSLH Laboratory-Based Surveillance web page. **The data you entered will <u>not be saved or transmitted</u> until you click "Submit**". ***Do not use the red "X" button to close*** or the data you entered will not be saved or submitted.



- **If you want to report data for another week**, you must access the website again, enter your "Lab ID" again, and repeat the data entry process for the new week. **To save and submit your data** report for the additional week, again click on "***Submit***". You will again be returned to the WSLH Laboratory-Based Surveillance web page.

***If you chose PCR* (on page 2, page 4, page 6, or page 7):**

- **Report** the number tested and number positive for each of the listed agents for which you provide on-site tests. *There is no need to enter data for tests referred to in-state or out-of-state laboratories. There is also no need to enter data for confirmatory testing of rapid Strep tests.*
  - ***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.



PCR Reporting

Bordetella Testing by PCR

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

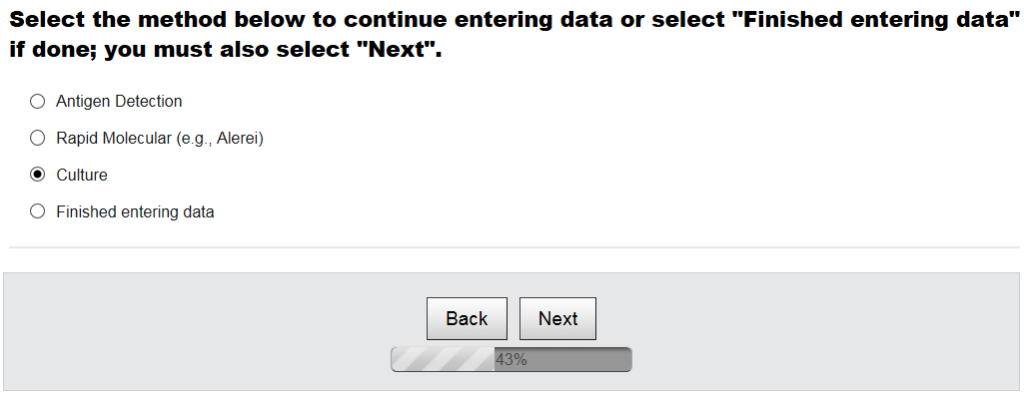
	Number Tested	Number Positive for B pertussis	Number Positive for B parapertussis	Number Positive for B pertussis/B parapertussis
Bordetella PCR				

Viral PCR Testing - Respiratory Specimens

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

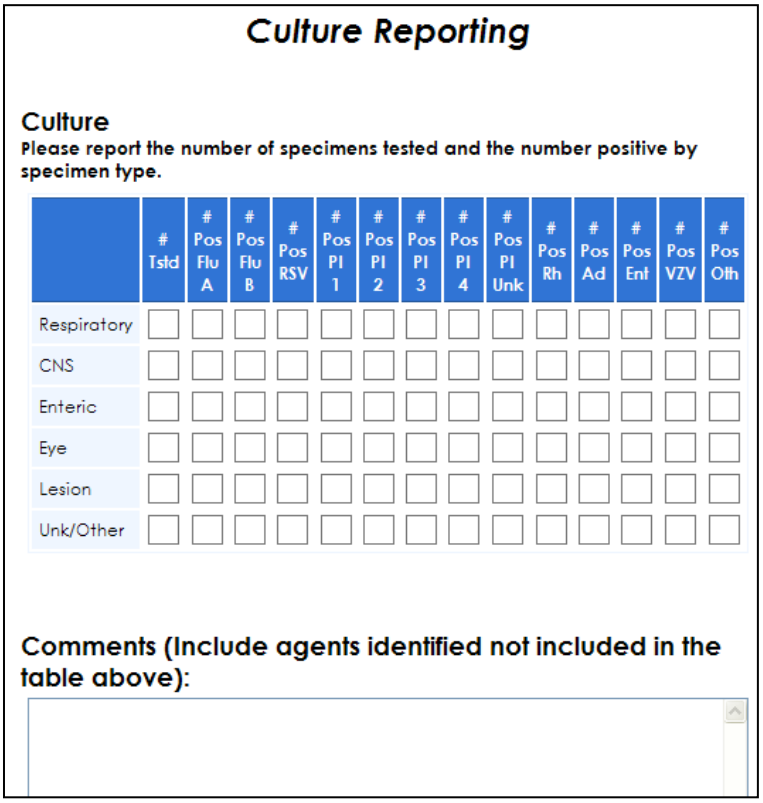
	Number Tested	Number Positive
Adenovirus		
Bocavirus		
Coronavirus 229E		
Coronavirus HKU1		
Coronavirus NL63		

- **Check "**Antigen Detection", "Rapid Molecular", or "Culture" to enter more data or check "Finished entering data" to finish and then click "Next".



If you chose Culture (from above, page 2, page 4, or page 7):

- **Report** the number tested and number positive (according to the specimen source) for each of the listed agents for which you provide on-site tests. *There is no need to enter data for tests referred to in-state or out-of-state laboratories. There is also no need to enter data for confirmatory testing of rapid Strep tests.*
  - ***If you do not offer a test 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.



Culture Reporting

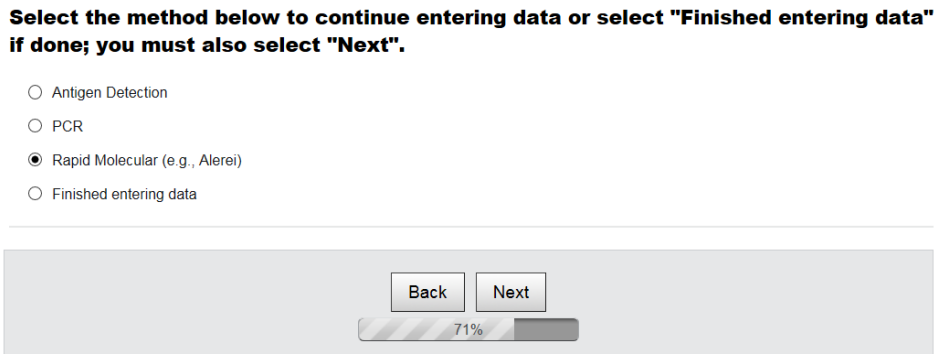
Culture

Please report the number of specimens tested and the number positive by specimen type.

	# Tstd	# Pos Flu A	# Pos Flu B	# Pos RSV	# Pos PI 1	# Pos PI 2	# Pos PI 3	# Pos PI 4	# Pos PI Unk	# Pos Rh	# Pos Ad	# Pos Ent	# Pos VZV	# Pos Oth
Respiratory	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CNS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Enteric	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Eye	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Lesion	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Unk/Other	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments (Include agents identified not included in the table above):

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



Select the method below to continue entering data or select "Finished entering data" if done; you must also select "Next".

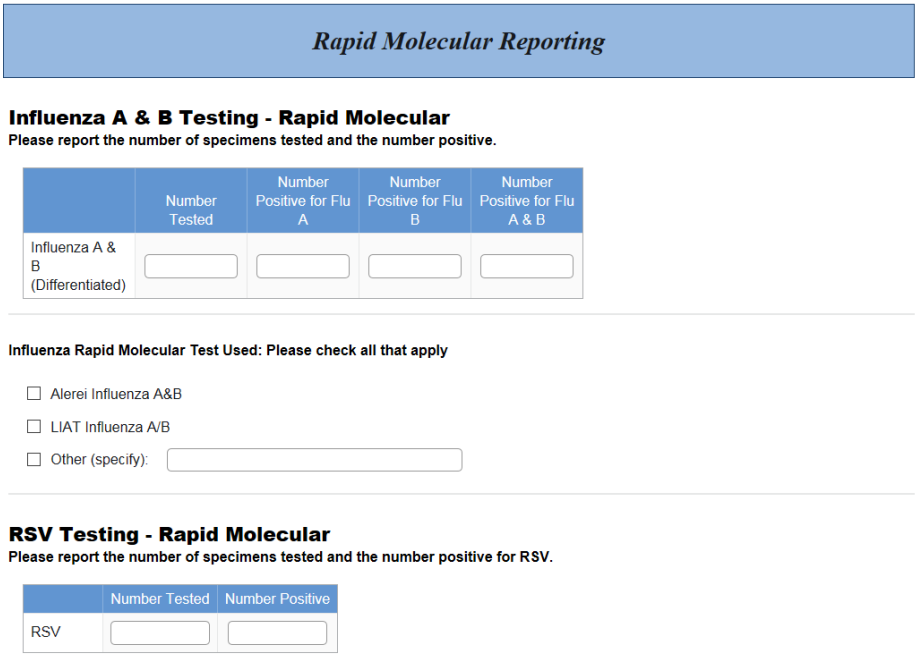
- ○ Antigen Detection
- ○ PCR
- ◉ Rapid Molecular (e.g., Alerei)
- ○ Finished entering data

Back Next

71%

***If you chose Rapid Molecular* (above, page 2, page 4, page 5, or page 6):**

- **Report** the number tested and number positive for each of the listed agents for which you provide on-site tests. *There is no need to enter data for tests referred to in-state or out-of-state laboratories. There is also no need to enter data for confirmatory testing of rapid Strep tests.*
  - ***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.



Rapid Molecular Reporting

Influenza A & B Testing - Rapid Molecular

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

	Number Tested	Number Positive for Flu A	Number Positive for Flu B	Number Positive for Flu A & B
Influenza A & B (Differentiated)				

Influenza Rapid Molecular Test Used: Please check all that apply

☐ Alerei Influenza A&B

☐ LIAT Influenza A/B

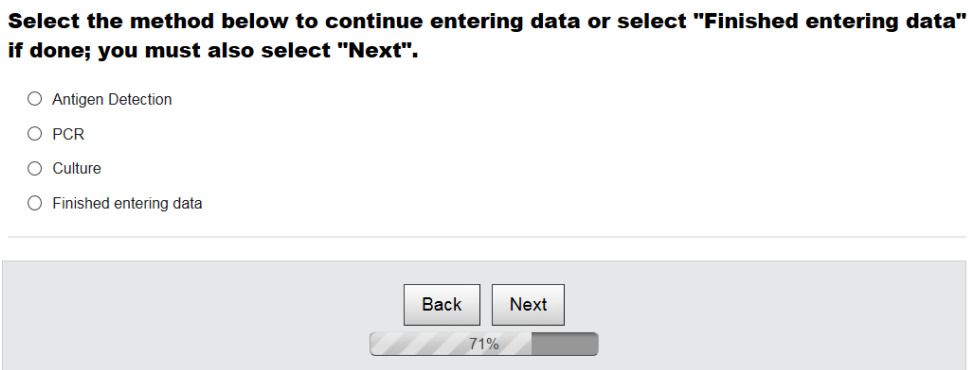
☐ Other (specify):

RSV Testing - Rapid Molecular

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

	Number Tested	Number Positive
RSV		

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



Select the method below to continue entering data or select "Finished entering data" if done; you must also select "Next".

○ Antigen Detection

○ PCR

○ Culture

○ Finished entering data

Back Next

71%

Factors to Consider When Interpreting RIDT Results

Background

Rapid influenza diagnostic tests (RIDTs) are "EIA-like" tests that can detect influenza A and influenza B. They can provide quick test results, are simple to perform and can be valuable for patient management decisions. The data generated from RIDT's are also a valuable component of the influenza laboratory surveillance program in Wisconsin. As with any diagnostic assay there are benefits and limitations. Factors to be considered when interpreting RIDT results are listed in Table 1.

Table 1

Circulating Influenza Virus Activity	RIDT Results	Interpretation	Actions
High	**Positive** for Influenza A, B, or A and B	Influenza virus infection is ***likely***	• Additional testing to confirm results, for sub typing of results. • Additional diagnostic testing for other respiratory pathogens may be useful.
High	**Negative** for Influenza A, B, or A and B	False negative result ***is more likely*** Influenza virus infection ***cannot*** be ruled out	• Clinicians should not use negative results alone for clinical decision making or for decisions on infection control measures. • Consider additional more sensitive influenza testing if indicated. • Additional diagnostic testing for other respiratory pathogens may be useful.
Low	**Positive** for Influenza A, B, or A and B	False positive result is ***more likely***	• Additional testing to confirm results, for sub typing of results. • Additional diagnostic testing for other respiratory pathogens may be useful.
Low	**Negative** for Influenza A, B, or A and B	Influenza virus infection ***unlikely***	• Additional diagnostic testing for other respiratory pathogens may be useful.

Source: The Joint Commission. *Guide for Interpretation of Rapid Influenza Diagnostic Tests*. Accessed on: 28 August 2013. Available at: http://www.jointcommission.org/siras.aspx

There are some additional limitations that should be taken into consideration when interpreting RIDT results:

1. The accuracy of the results is dependent upon specimen type, age of the patient and the time after onset of specimen collection. Specific information can be found on the CDC website: http://www.cdc.gov/flu/professionals/diagnosis/clinician_guidance_ridt.htm

2. Patients recently vaccinated with the live attenuated influenza vaccines (LAIV) such as FluMist® may produce a false positive result.

Influenza Confirmatory Testing at WSLH

The WSLH recommends the following actions when performing rapid "EIA-like" tests for influenza:

1. Confirmatory testing for **ALL influenza positive specimens** during the **summer** and early fall.

2. During the respiratory virus season, confirm the first influenza A positive specimens and your first influenza B positive specimens until
   - **Two consecutive positive specimens are confirmed; OR**
   - **Influenza activity has increased in your region** (as reported in the "*Laboratory Surveillance Report*" or on the WSLH website).

- Confirmatory testing may require collection of a second specimen. See your kit insert and these examples to see if you should collect a second specimen for confirmatory testing.
  - ***Wash or aspirate samples***: submit remaining portion of sample for confirmatory test.
    - If sample was collected in saline, add an equal volume of virus transport medium before submitting to the WSLH for confirmatory testing.
  - ***Swab samples:***
    - If swab was collected and immersed in test reagent, collect a second sample for confirmatory testing. Alternatively, swabs may be transferred to VTM. **Swabs should be polyester with plastic shafts**.
    - If swab was diluted in virus transport medium or saline before a portion was removed for testing, submit remaining swab in virus transport medium.

Reporting Rapid Test Results to WSLH

The WSLH recommends weekly reporting of the number of tests performed and the number of positives and negative results.

- Report the number of specimens tested and the number of specimens positive for **influenza, RSV, rapid strep** and **rotavirus** **each week** throughout the year.
- Please report weekly even if no tests were performed.
- If you discontinue testing in the spring, please notify us so that our data accurately reflects testing in Wisconsin.
- We encourage web-based reporting; instructions are provided in this packet. Alternatively, a FAX reporting is also included in this packet.
- Contact your local health department and ask if they would like you to report your first positives to them.

Contact Mary Wedig (608-224-4274, email WCLN@mail.slh.wisc.edu) you have questions.

Biosafety Considerations

The WSLH recommends the following actions when performing rapid "EIA-like" tests for influenza:

1. **Evaluate biosafety at your testing site**:

Due to increased awareness of and concern about novel and emerging respiratory diseases (e.g., H3N2v, avian influenza, etc.), we recommend that rapid influenza testing sites do the following:

- **Collect recent history of travel including that of outside the U.S**.
    - Communicate to your healthcare providers the need for patient travel history to minimize staff exposure to possible emerging respiratory infections. This information allows the laboratory staff to evaluate the need for additional precautions or forwarding the specimen to a laboratory that can apply additional precautions during testing.
    - **If there is a history of travel to a country with human cases of avian influenza within 10 days prior to onset of illness**, contact the Wisconsin Division of Public Health (WDPH) to evaluate the need to submit the specimen to the WSLH for fee-exempt avian influenza testing.
    - Contact WDPH at 608-266-5326 (during business hours) or at 608-258-0099 (after business hours) to receive prior approval for testing.

- Collect one throat swab and one /nasopharyngeal swab in a single vial of viral transport medium for testing. Maintain the sample at refrigerator temperature (4^0C to 8^0C) during transport.
- Arrange transport of the specimens on a priority basis, to be received at the WSLH **within 24 hours of collection** to assure a timely diagnosis. Call the WSLH emergency number at 608-263-3280 if you need assistance in arranging prompt delivery of the specimens.

➢ **Perform a risk assessment**:

- Review your testing practices and lab environment and consider the following strategies to minimize potential staff exposures to aerosols when performing rapid influenza tests.
  - Use a biosafety cabinet or benchtop splatter-shield;
  - Use personal protective equipment (e.g., face shield, gloves, lab coat);
  - Locate your testing in a less-heavily trafficked area to sequester the testing and reduce potential exposures.

Resources

For additional information regarding the use of rapid diagnostic testing for influenza, please consult the current CDC information available at:
http://www.cdc.gov/flu/professionals/diagnosis/clinician_guidance_ridt.htm

Centers for Disease Control and Prevention (CDC). Evaluation of 11 commercially available rapid influenza diagnostic tests - United States, 2011-2012. MMWR Morb Mortal Wkly Rep. 2012 Nov 2;61:873-6.

The Joint Commission (2013) Guide for Interpretation of Rapid Influenza Diagnostic Tests. Available at:
http://www.jointcommission.org/assets/1/6/Guide_for_Interpretation_of_Rapid_Influenza_Diagnostic_Tests.pdf

The Joint Commission (2013) Characteristics of FDA-Cleared Rapid Influenza Diagnostic Tests. Available at:
http://www.jointcommission.org/assets/1/6/Characteristics_of_FDA_cleared_RIDTS.pdf

Unsubtypable Influenza A Notification Guidance (8/2016)

Background: Any clinical specimen that produces a positive result for influenza A, but fails to subtype as seasonal H3 or 2009 H1N1, may signal the emergence of a novel strain of influenza A virus. It is recommended that laboratories encountering an unsubtypable influenza A virus when subtyping for both 2009H1N1 and seasonal H3 was attempted:

(a) Repeat testing to verify results;

(b) Notify the Wisconsin State Laboratory of Hygiene if the influenza A fails to subtype after repeat testing and the influenza A Ct <35.

Please send the sample to the WSLH, according to instructions provided in this packet.

Example Test Results:

Inf A result	Seasonal H3	2009 A/H1N1	Action
+ (Ct<35)	**Neg**	**Neg**	**Notify WSLH**

Notification: If you encounter an influenza A virus which fails to subtype (InfA Ct <35) **please notify the WSLH Virology Laboratory by email virus@slh.wisc.edu or call 800-862-1013.**

Shipping: ***There is NO cost for shipping influenza surveillance specimens, including specimens which fail to subtype, when the instructions included in this packet are followed.*** Please follow the shipping guidelines included in this packet.

Packages should be addressed to:

Wisconsin State Laboratory of Hygiene
Communicable Disease Division
2601 Ag Dr. WSLH 2601 Agriculture Dr, PO Box 7904
Madison, WI 53718

Specimen Collection for Avian Influenza Testing (9/2016)

Situational Update:

In late 2014, avian influenza H5N2 and H5N8 emerged in North America commercial poultry flocks. In 2015, numerous Wisconsin commercial poultry farms were infected. Although there have been no documented human cases, people that have close contact with sick poultry infected with avian influenza (H5Nx) may be at increased risk for severe disease.

If you suspect a patient is at increased risk for acquiring Avian Influenza notify the

Wisconsin Division of Public Health (WDPH)

***7:45 AM - 4:30 PM Monday-Friday,* call 608-266-5326**

***After-hours,* ask for "Communicable Disease Epidemiologist on-call" at 608-258-0099**

***Specimen Collection Recommendations*:**

- Obtain one oropharyngeal (throat) swab AND one nasopharyngeal swab; place in the same tube of viral transport medium (VTM). Use swabs with a Dacron or polyester tip and aluminum or plastic shaft.
- For patients with lower respiratory illness, a lower respiratory tract specimen is also recommended (e.g. BAL).
- Place specimens at 4°C (40°F) immediately, and maintain specimens at refrigerator temperatures during transport.

  - Complete Wisconsin State Lab of Hygiene (WSLH) ***OUTBREAK INVESTIGATION FORM*** found on the WSLH website: http://www.slh.wisc.edu/wcln-surveillance/surveillance/virology-surveillance/

- Arrange transport so that specimens arrive at the WSLH within 24 hours of collection. Testing is usually completed within 24 hour after receipt.

There is NO cost for specimen shipping or testing for WDPH-approved specimens.

Please contact **Erik Reisdorf** at 608-224-4261 or the **WSLH Customer Service Department** at 800-862-1013 or if you have questions regarding laboratory testing for swine or avian influenza.

Additional Information:

Wisconsin Division of Public Health (2015). Avian Influenza (H5N2)-Bird Flu General Information. Available at: https://www.dhs.wisconsin.gov/influenza/avian-h5n2.htm

CDC (2013) *Interim Guidance for Specimen Collection, Processing, and Testing for Patients Who May be Infected with Novel Influenza* ***A (e.g. H5N1 & H7N9)*** *Virus.* Updated June 7, 2013 available at: http://www.cdc.gov/flu/avianflu/h7n9/specimen-collection.htm

Centers for Disease Control. (2016). Four Variant Virus Exposures Linked to Pig Exposure. Available at: http://www.cdc.gov/flu/news/variant-virus-pig-exposure.htm Accessed on: 7 September 2016

Influenza A (H3N2v) Variant Virus Testing (9/2016)

NEW! Situational Update

In 2016, sporadic cases of influenza "variant" viruses were also detected in Wisconsin, Minnesota, Michigan and Ohio. All of these cases were directly related to swine exposure. If a patient with suspected influenza has come in contact with swine, please contact the Wisconsin Division of Public Health for guidance.

Background

Influenza viruses normally circulate in pigs and are referred to as swine influenza viruses. When one of these swine influenza viruses infects a human it is termed a **variant** influenza virus. On occasion, influenza viruses from pigs can infect humans as was the case with the emergence of influenza H3N2v in 2011 and in subsequent years. These variant viruses are denoted with a "v" at the end of the name (e.g. H1N1v and H3N2v).

Transmission

Influenza viruses from swine normally do not infect humans; however, cases do occur sporadically and are typically associated with close contact with infected pigs as has occurred with the H3N2v cases. There have been no reports of sustained human transmission of the H3N2v as of August 2016. Public health officials are closely monitoring the current situation through enhanced surveillance activities.

Human cases

According the Centers for Disease Control and Prevention (CDC), there have been sporadic human cases of H3N2v in the US since 2012 including some identified in Wisconsin. The majority of cases have occurred in children.

Specimen Collection

There are no special requirements for specimen collection from suspect cases. Nasopharyngeal (NP) and/or oropharyngeal (Throat) specimens should be collected with Dacron or polyester tipped plastic shafted swabs respectively and placed together in virus transport medium (VTM) for PCR testing at WSLH. Specimens should be refrigerated after collection and transported using cold packs to maintain the cold chain.

Transport

WSLH provides no cost specimen transport if your facility does not have a courier system. Shipping instructions using Dunham Express can be found in this packet.

Specimen collection supplies (e.g. VTM) and specimen shippers are also available at no cost. Orders can be placed by contacting the WSLH Clinical Orders department at **800-862-1088** or email HMspecimenreceivingclinicalordersstaff@slh.wisc.edu.

Laboratory Diagnostic Testing

Rapid Influenza Diagnostic Tests (RIDTs):

The CDC has evaluated the performance characteristics of some of the commercial RIDTs to detect the H3N2 variant viruses. The result of this study are published in the Morbidity and Mortality Weekly Report (MMWR) and are available at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6132a4.htm?s_cid=mm6132a4_w

PCR Tests:

The performance characteristics of commercial PCR assays to detect the H3N2v virus have not been evaluated at this time. However, clinical laboratories performing PCR may not be able to distinguish seasonal H3 from the H3N2v virus. The PCR assay that WSLH and other public health labs use provided by the CDC has the capability to distinguish these viruses. Clinicians that suspect H3N2v from patients with close contact to swine should contact their local health departments or the Wisconsin Division of Public Health for approval for testing at WSLH.

Additional Information

The WSLH provides weekly updated information throughout the year on influenza activity on our website:

Laboratory Surveillance Data: http://www.slh.wisc.edu/wcln-surveillance/surveillance/virology-surveillance/

The CDC also has many guidance documents and information pertaining to the H3N2v outbreak on its website:

Influenza A (H3N2)v Information: http://www.cdc.gov/flu/swineflu/variant.htm

Contact Information

Please contact **Erik Reisdorf** at 608-224-4261 or the **WSLH Customer Service Department** at 800-862-1013 or if you have questions regarding laboratory testing for the H3N2v virus.

Middle Eastern Respiratory Syndrome-Coronavirus (MERS-CoV) Testing (8/2015)

Background

Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV) poses a significant risk to public health. The virus was first reported in Saudi Arabia in 2012. Many of the infected patients have had a severe illness with symptoms including fever, cough, and shortness of breath. The MERS-CoV is genetically different from other common coronaviruses and the SARS-Coronavirus that emerged in 2003.

Transmission

The MERS-CoV has been shown to spread from person-to-person through close contact. Public health officials are closely monitoring the current situation through enhanced surveillance activities.

Human cases

According the World Health Organization as of August 31, 2016 a total of 1,800 cases have been confirmed in people worldwide with 640 deaths.

UPDATED! Specimen Collection (HAN00380)

To date, little is known about pathogenicity and transmission dynamics; therefore the CDC recommends collecting multiple specimen types from suspect patients. These can include the following:

1. Nasopharyngeal and oropharyngeal (throat) swabs combined in virus transport medium (VTM).
2. Lower respiratory tract (e.g. BAL)
3. Serum

Specific specimen collection guidance is available from the CDC at http://www.cdc.gov/coronavirus/mers/guidelines-clinical-specimens.html

Specimens should be refrigerated after collection and expeditiously transported to WSLH using cold packs to maintain the cold chain.

Transport

WSLH provides no cost specimen transport if your facility does not have a courier system. Shipping instructions using Dunham Express can be found in this packet.

Specimen collection supplies (e.g. VTM) and specimen shippers are also available at no cost. Orders can be placed by contacting the WSLH Clinical Orders department at **800-862-1088** or email HMspecimenreceivingclinicalordersstaff@slh.wisc.edu.

Laboratory Diagnostic Testing

PCR Test:

In June of 2013, the US Food and Drug Administration (FDA) granted an emergency use authorization (EUA) for the CDC novel coronavirus 2012 rRT-PCR assay for in-vitro diagnosis of MERS-CoV. Testing is now available at the WSLH.

Clinicians that suspect MERS-CoV from patients should contact their local health departments or the WDPH for approval for testing.

Wisconsin Division of Public Health (WDPH)

***7:45 AM - 4:30 PM Monday-Friday,* call 608-266-5326**

***After-hours,* ask for "Communicable Disease Epidemiologist on-call" at 608-258-0099**

Additional Information

Wisconsin Division of Public Health. *Middle East Respiratory Syndrome Coronavirus*. Available at: http://www.dhs.wisconsin.gov/communicable/DiseasePages/MERS.htm Accessed on: 4 September 2013.

CDC. *Middle East Respiratory Syndrome*. Available at: http://www.cdc.gov/coronavirus/mers/ Accessed on: 28 August 2013.

WHO. *Global Alert & Response: Coronavirus*. Available at: http://www.who.int/csr/don/archive/disease/coronavirus_infections/en/index.html Accessed on: 28 August 2013.

US Food & Drug Administration (FDA). *Emergency Use Authorizations.* Available at: http://www.fda.gov/MedicalDevices/Safety/EmergencySituations/ucm161496.htm . Accessed on: 28 August 2013.

Contact Information

Please contact **Erik Reisdorf** at 608-224-4261 or the **WSLH Customer Service Department** at 800-862-1013 or if you have questions regarding laboratory testing for MERS-Coronavirus.

Zika Virus Testing in Wisconsin (8/2016)

Background

In the summer 2016, Zika virus emerged in the United States with limited local transmission in Florida. Though the number of case has been very low, Zika virus still poses a risk to public health.

Transmission

The virus is spread through **a bite from an infected mosquito and through sexual contact with an infected individual.** Zika virus is **not** spread through the air or by food or water. The mosquito species that are known to transmit Zika virus have not been found in Wisconsin.

Suspect Human Cases

Detailed guidance for Wisconsin clinicians regarding possible Zika virus infections among travelers to areas of active transmission is available from the Wisconsin Division of Public Health (WDPH) at https://www.dhs.wisconsin.gov/arboviral/zika.htm

Report suspect cases immediately to the (WDPH).

- Call 608-267-9003 during business hours (M-F 7:45 AM to 4:30 PM) or
- Call 608-258-0099 after hours and weekends.

NOTE: Testing for Zika virus must be approved by the WDPH.

It is important to **collect detailed information on patient travel history** including dates and locations and other risk factors. This information should be shared with the clinical laboratory.

Specimen Collection and Storage

- Instructions for specimen collection and submission are provided at time of testing approval.
- Types of specimens that are currently acceptable for Zika virus diagnostic testing include: serum, urine (if collected within 21 days of symptom onset), CSF, amniotic fluid (collected after 15 weeks of gestation), placental, fetal and umbilical cord tissues (formalin fixed and frozen samples) and cord blood.
- Additional information on specimen collection and biosafety is available on the CDC website http://www.cdc.gov/zika/laboratories/lab-guidance.html

Packaging and Transport

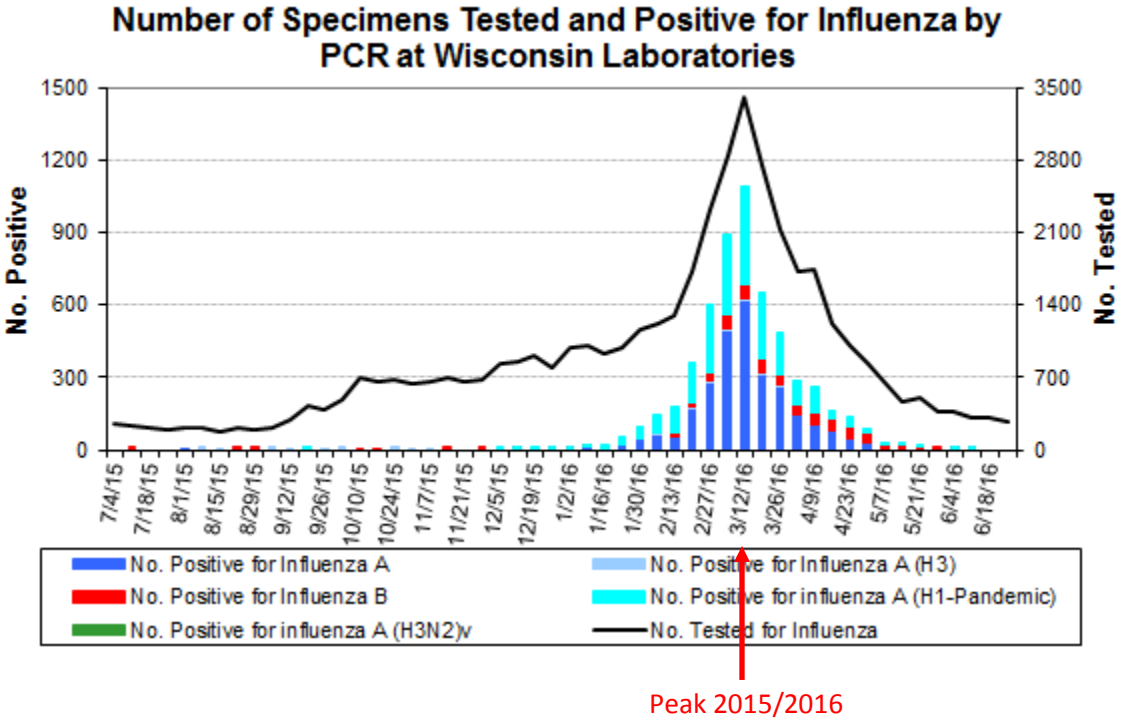
- Complete the WSLH arbovirus specimen submission form provided by the WDPH and submit with the specimens.
- Specimens approved for testing by WDPH may be transported to the WSLH by calling STATMEDEX for free pick-up if the lab does not have a courier system.
- Specimens should be triple packaged as a Category B, Biological Substance.

Diagnostic Testing

- The WSLH is performing polymerase chain reaction (PCR) assays for detection of Zika, dengue, and chikungunya viral nucleic acid in serum, and an IgM antigen-capture (MAC) ELISA assay for detection of Zika IgM antibody in serum. Additionally, urine specimens can now be submitted for the Zika PCR assay if they are accompanied by serum specimens.

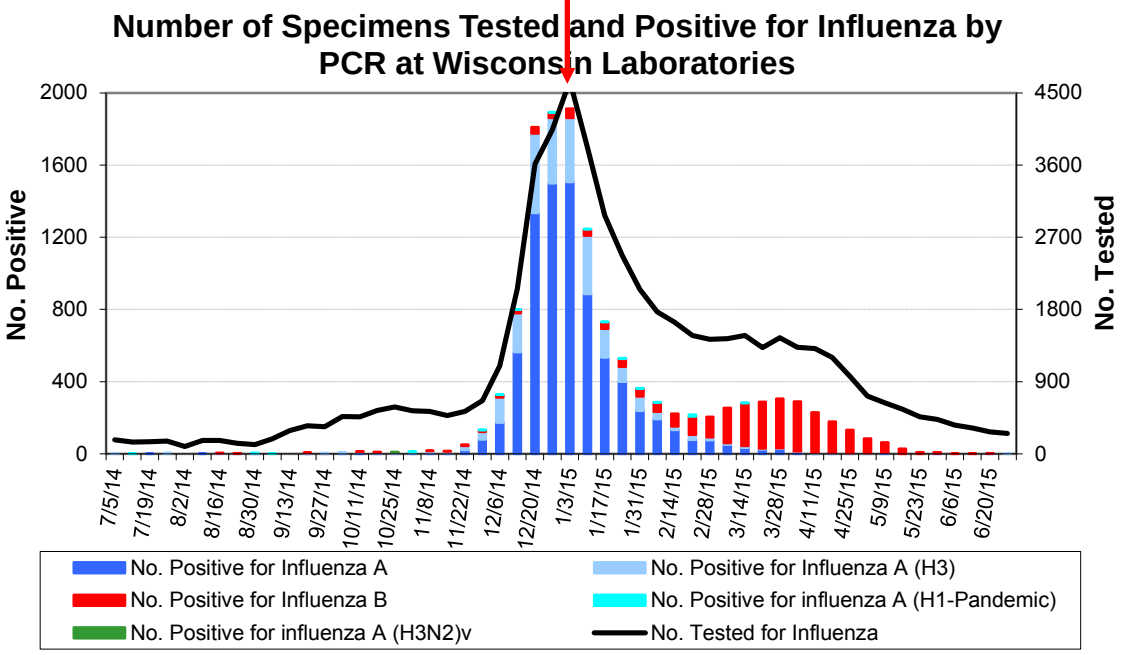
NOTE: Specimens testing positive or equivocal for Zika virus IgM will still need to be forwarded to the CDC for confirmatory plaque-reduction neutralization (PRNT) testing because of the significant cross-reactivity between Zika and other Flaviviruses in the MAC ELISA assay. Also, requests for IgM testing for dengue and chikungunya viruses will continue to be sent to CDC.

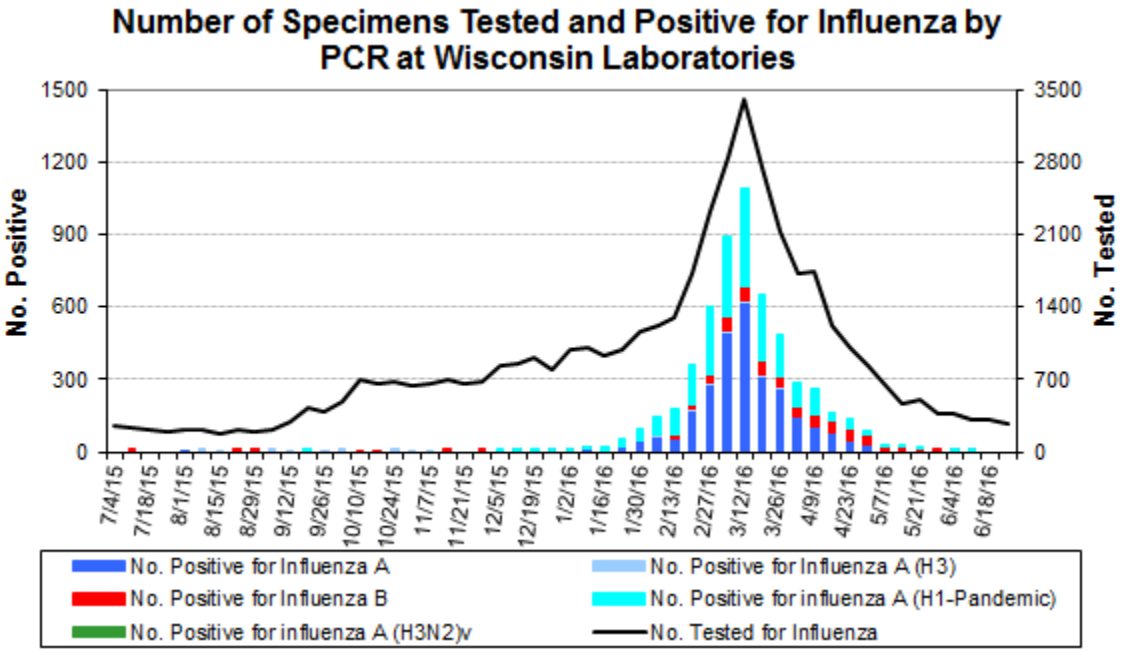
Comparison 2015/2016 and 2014/2015 Season

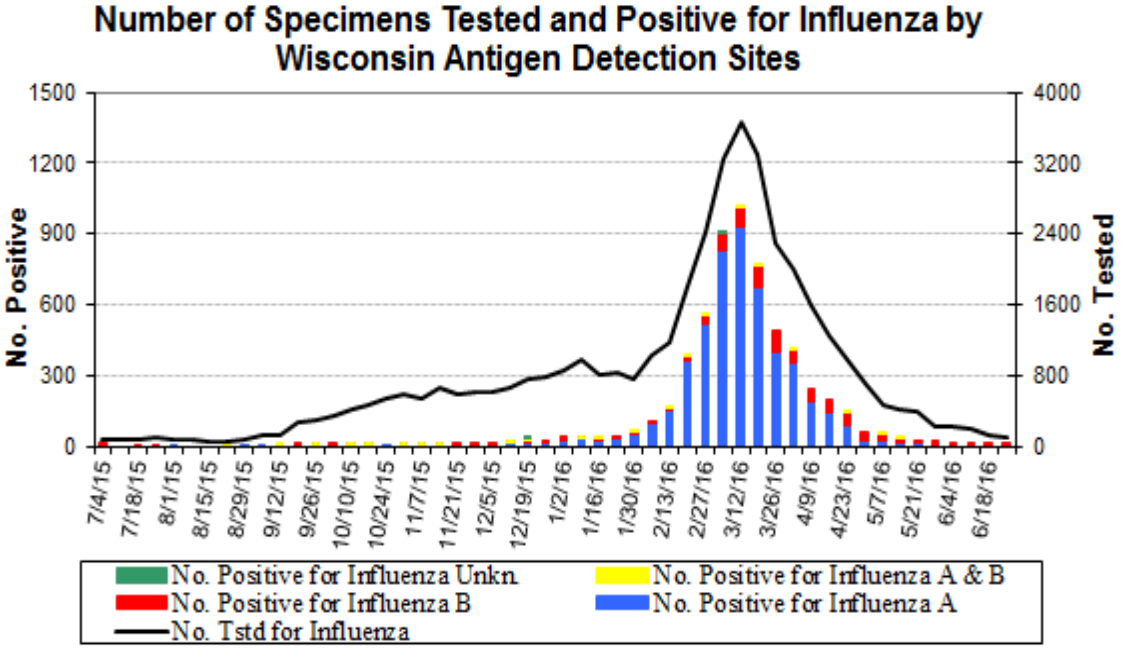


Peak 2015/2016

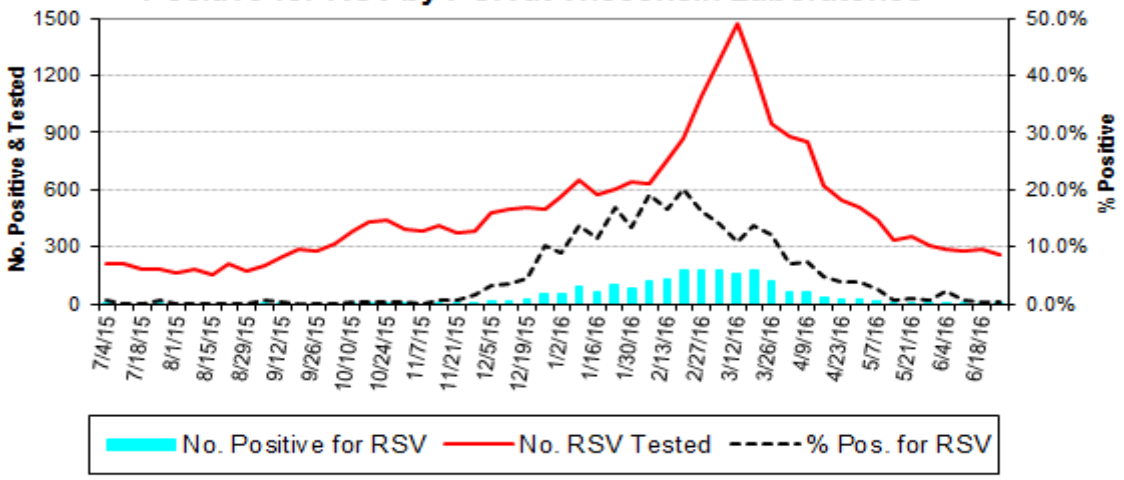
Peak 2014/2015



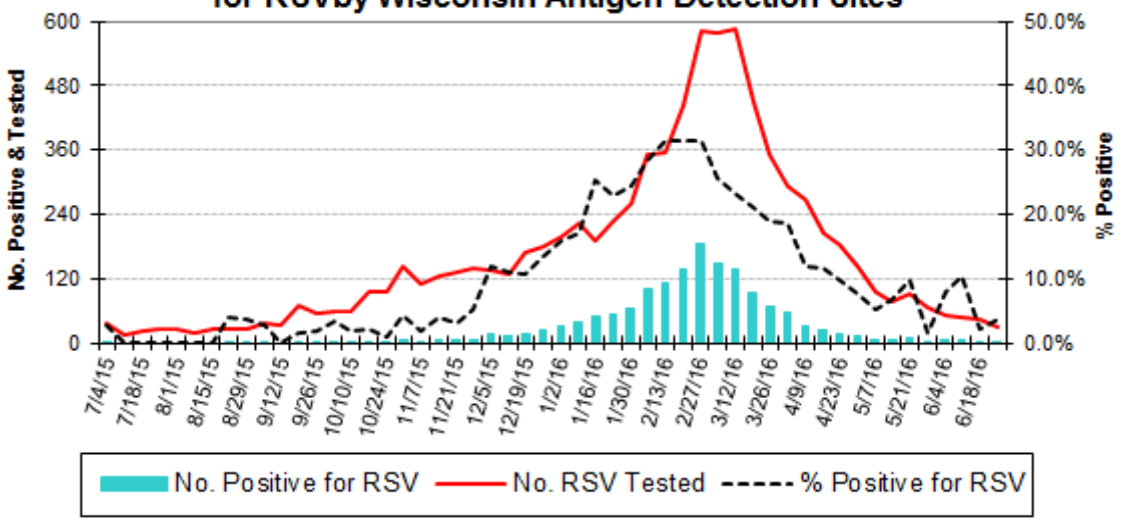

Number of Specimens Tested and Positive for Influenza by PCR at Wisconsin Laboratories
No. Positive
No. Tested
1500
1200
900
600
300
0
3500
2800
2100
1400
700
0
7/4/15
7/18/15
8/1/15
8/15/15
8/29/15
9/12/15
9/26/15
10/10/15
10/24/15
11/7/15
11/21/15
12/5/15
12/19/15
1/2/16
1/16/16
1/30/16
2/13/16
2/27/16
3/12/16
3/26/16
4/9/16
4/23/16
5/7/16
5/21/16
6/4/16
6/18/16
No. Positive for Influenza A
No. Positive for Influenza A (H3)
No. Positive for Influenza B
No. Positive for influenza A (H1-Pandemic)
No. Positive for influenza A (H3N2)v
No. Tested for Influenza


Number of Specimens Tested and Positive for Influenza by Wisconsin Antigen Detection Sites
No. Positive
No. Tested
1500
1200
900
600
300
0
4000
3200
2400
1600
800
0
7/4/15
7/18/15
8/1/15
8/15/15
8/29/15
9/12/15
9/26/15
10/10/15
10/24/15
11/7/15
11/21/15
12/5/15
12/19/15
1/2/16
1/16/16
1/30/16
2/13/16
2/27/16
3/12/16
3/26/16
4/9/16
4/23/16
5/7/16
5/21/16
6/4/16
6/18/16
No. Positive for Influenza Unkn.
No. Positive for Influenza A & B
No. Positive for Influenza B
No. Positive for Influenza A
No. Tstd for Influenza

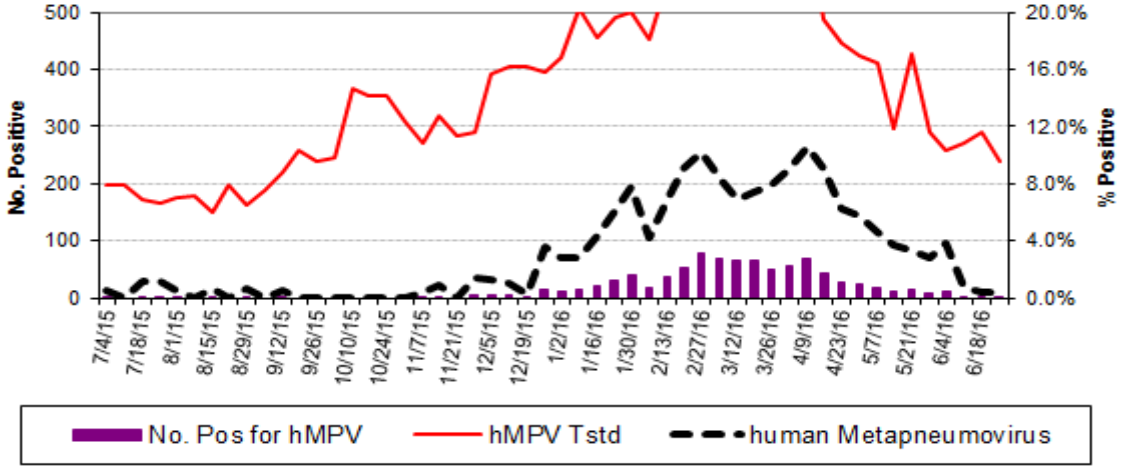
Number of Specimens Tested, Positive and the Percent Positive for RSV by PCR at Wisconsin Laboratories

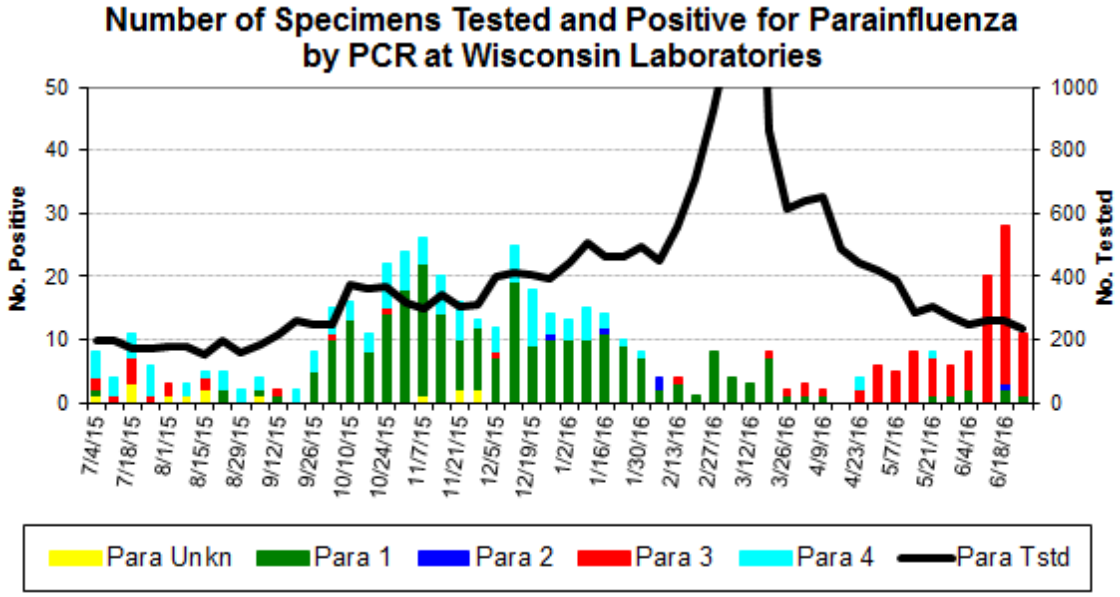


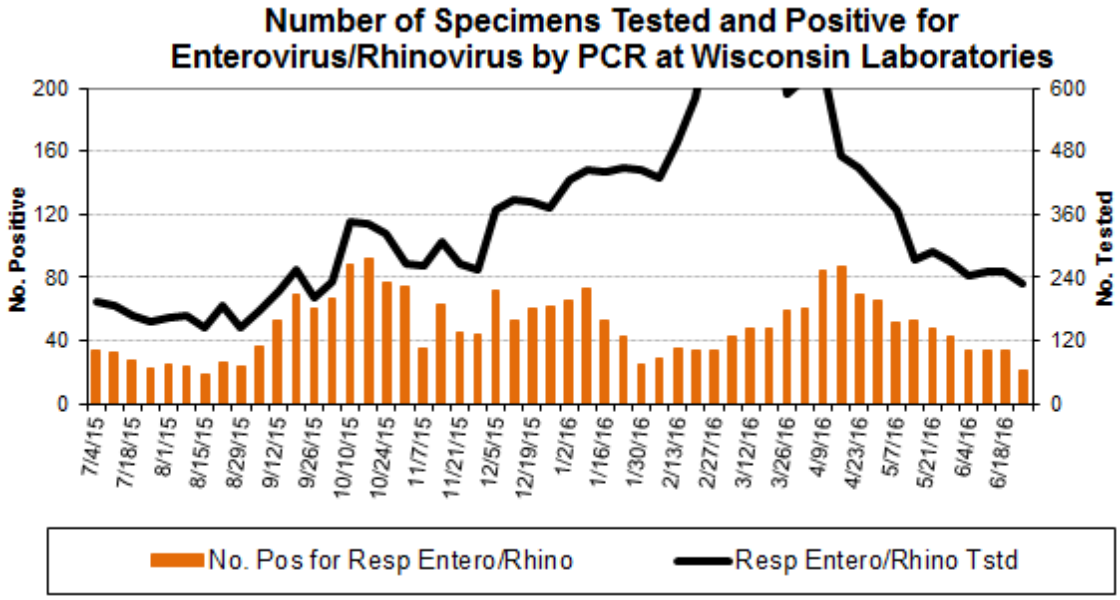
Number of Specimens Tested, Positive and Percent Positive for RSVby Wisconsin Antigen Detection Sites



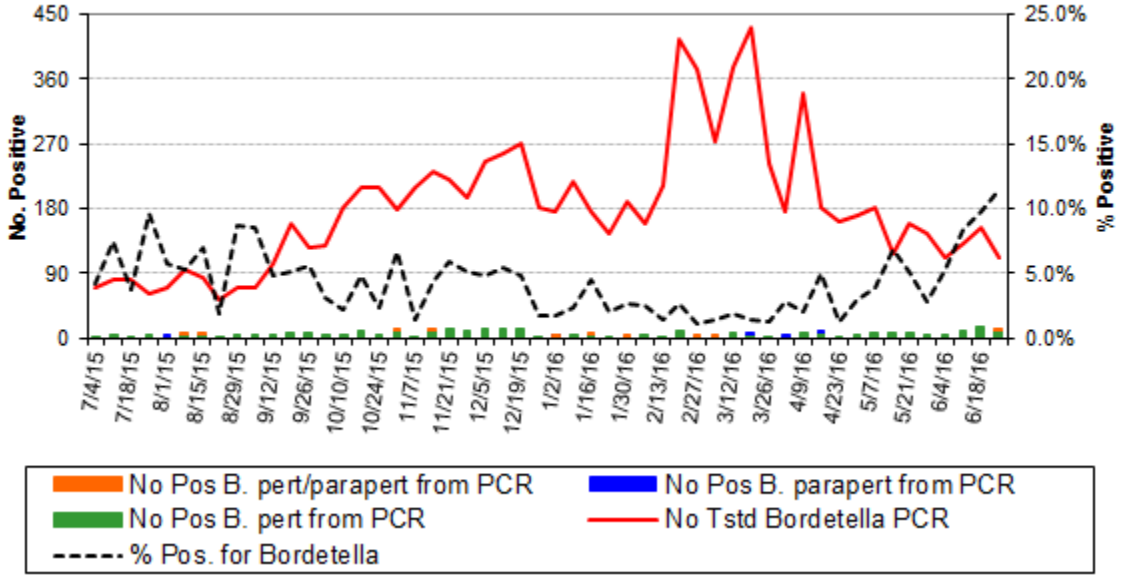
Number of Specimens Tested, Positive and the Percent Positive for hMPV by PCR at Wisconsin Laboratories



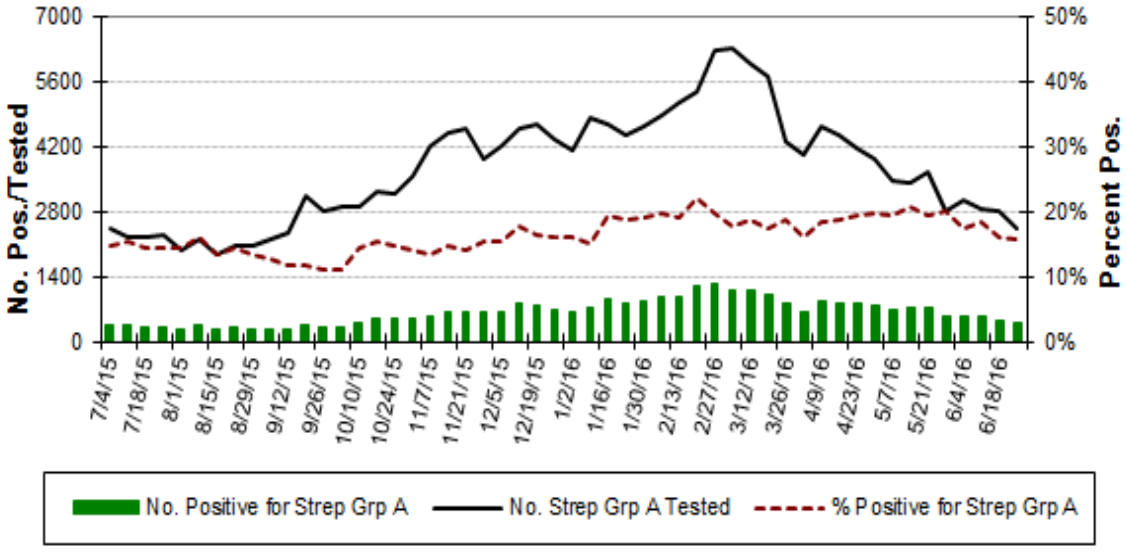

Number of Specimens Tested and Positive for Parainfluenza by PCR at Wisconsin Laboratories
No. Positive
No. Tested
0
10
20
30
40
50
0
200
400
600
800
1000
7/4/15
7/18/15
8/1/15
8/15/15
8/29/15
9/12/15
9/26/15
10/10/15
10/24/15
11/7/15
11/21/15
12/5/15
12/19/15
1/2/16
1/16/16
1/30/16
2/13/16
2/27/16
3/12/16
3/26/16
4/9/16
4/23/16
5/7/16
5/21/16
6/4/16
6/18/16
Para Unkn
Para 1
Para 2
Para 3
Para 4
Para Tstd


Number of Specimens Tested and Positive for Enterovirus/Rhinovirus by PCR at Wisconsin Laboratories
No. Positive
No. Tested
0
40
80
120
160
200
0
120
240
360
480
600
7/4/15
7/18/15
8/1/15
8/15/15
8/29/15
9/12/15
9/26/15
10/10/15
10/24/15
11/7/15
11/21/15
12/5/15
12/19/15
1/2/16
1/16/16
1/30/16
2/13/16
2/27/16
3/12/16
3/26/16
4/9/16
4/23/16
5/7/16
5/21/16
6/4/16
6/18/16
No. Pos for Resp Entero/Rhino
Resp Entero/Rhino Tstd

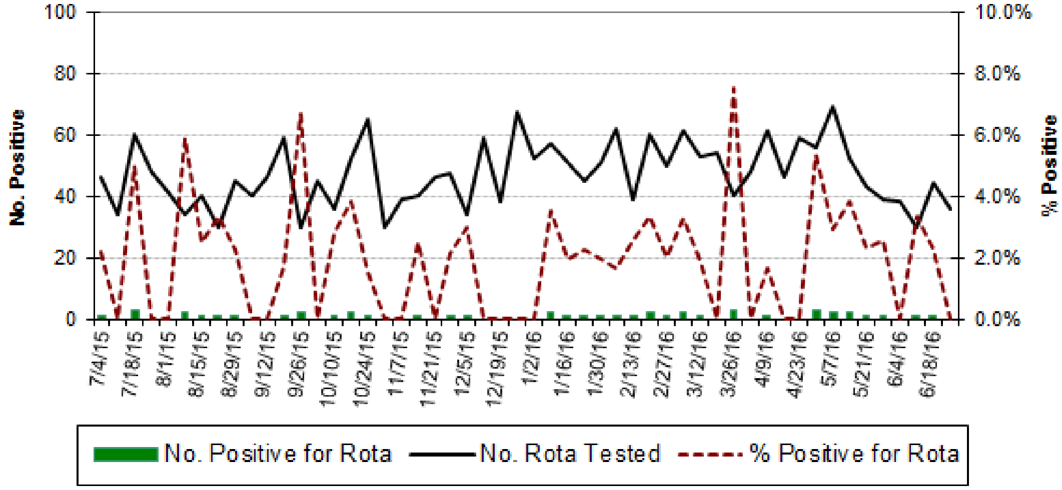
Number of Specimens Tested, Positive and Percent Positive for Bordetella by PCR at Wisconsin Laboratories



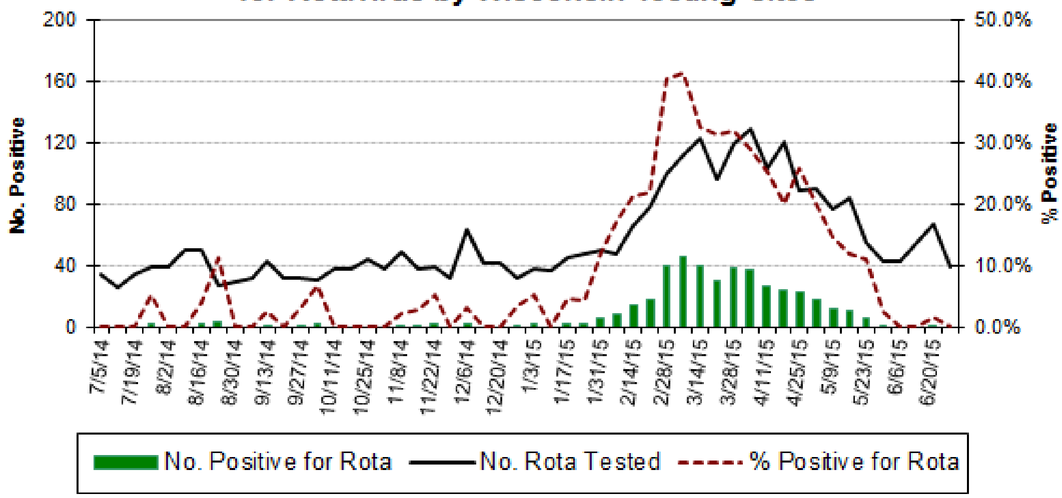
Number of Specimens Tested, Positive and Percent Positive for Streptococcus Group A by Wisconsin Rapid Testing Sites



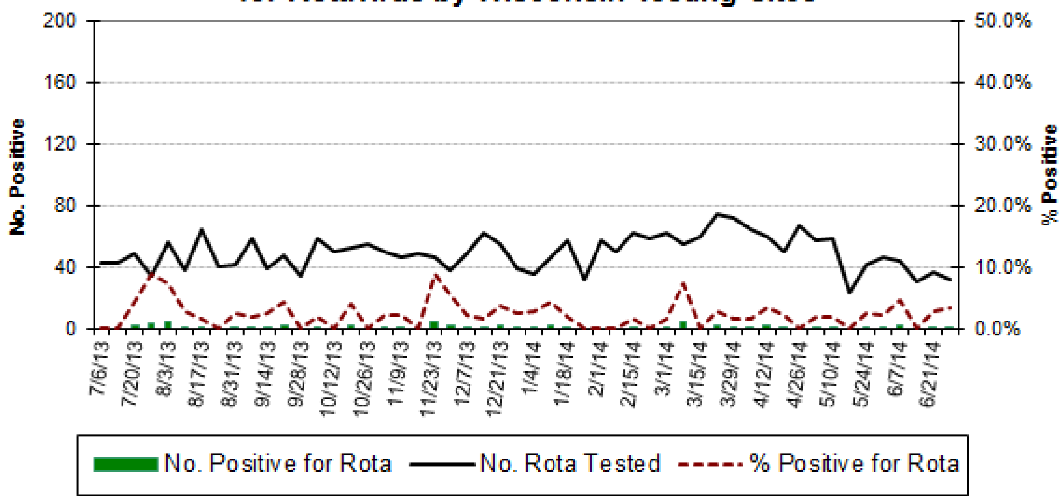
Number of Specimens Tested, Positive and Percent Positive for Rotavirus by Wisconsin Testing Sites



Number of Specimens Tested, Positive and Percent Positive for Rotavirus by Wisconsin Testing Sites



Number of Specimens Tested, Positive and Percent Positive for Rotavirus by Wisconsin Testing Sites



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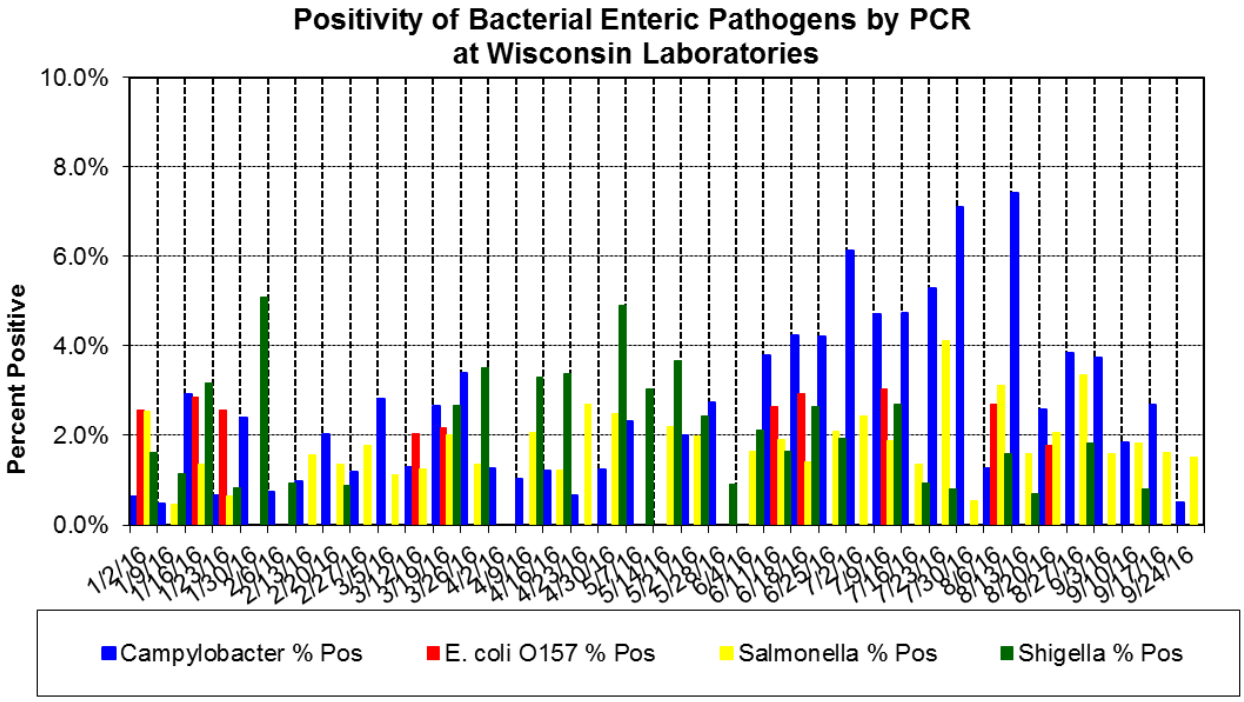
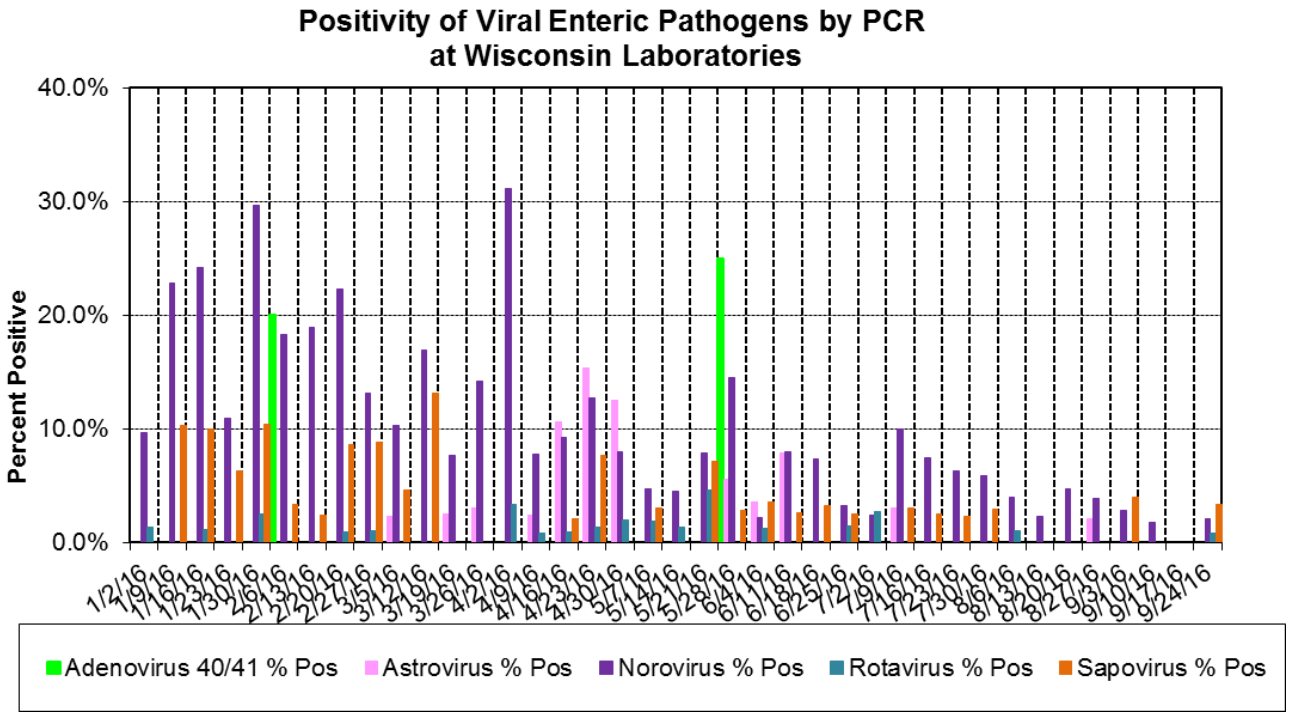
Laboratory Surveillance Graphs, 2016





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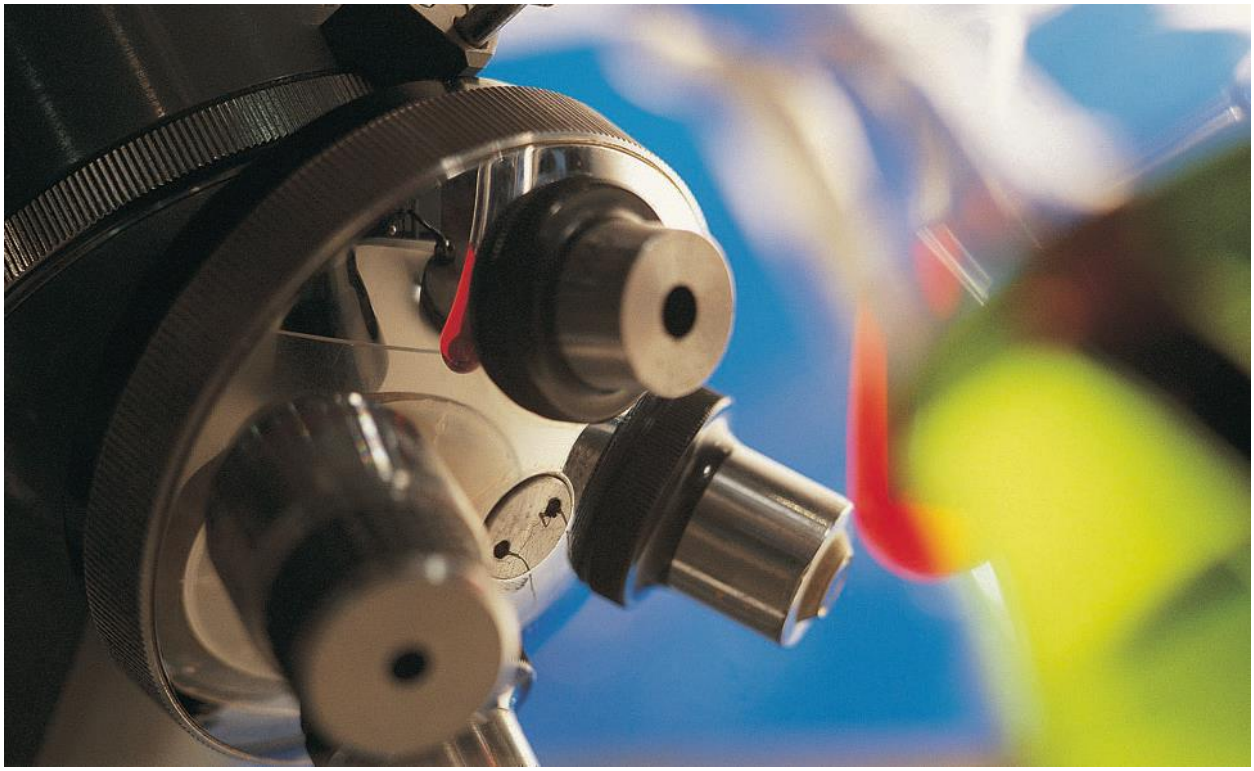
Communicable Disease Division
2601 Agriculture Drive
Madison, WI 53718
Customer Service: 800-862-1013



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