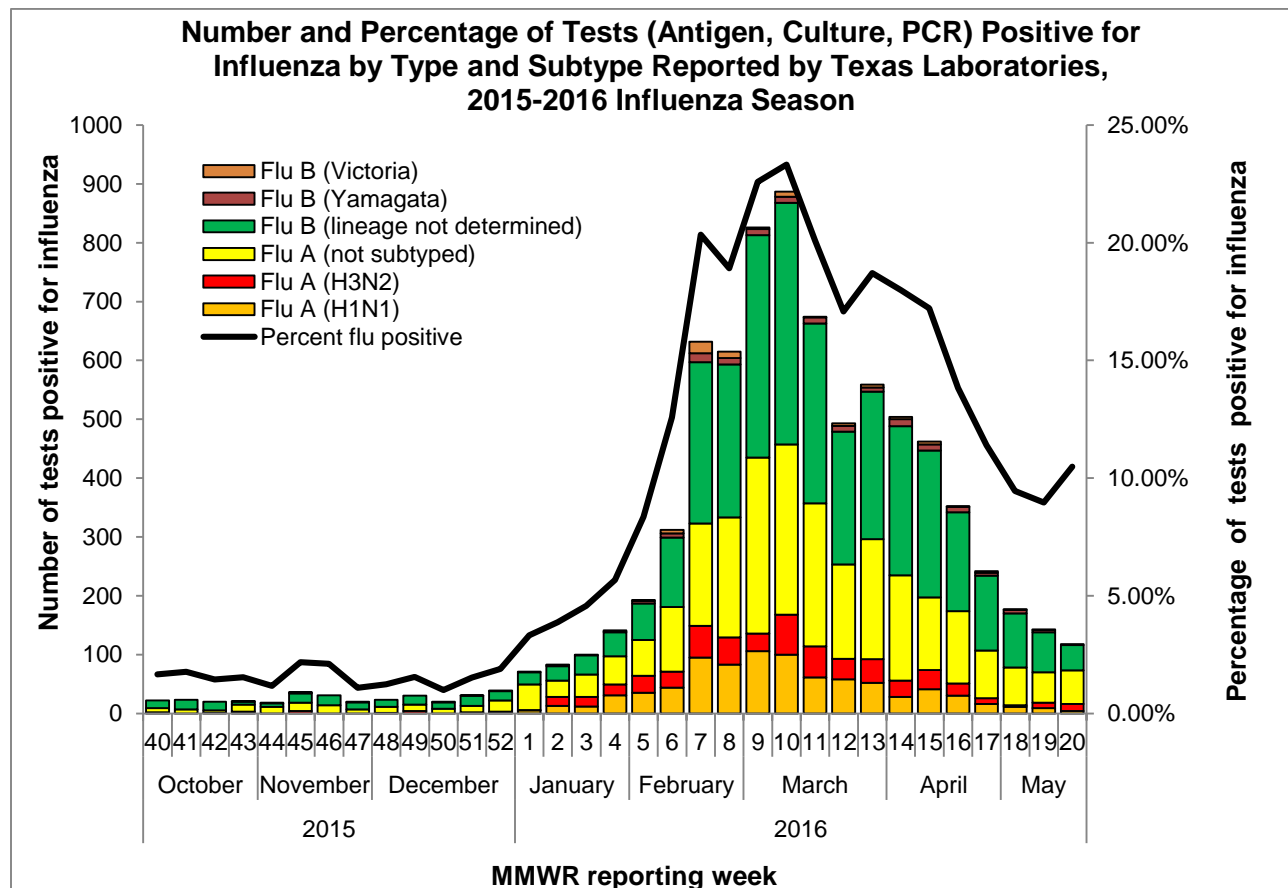


Influenza Surveillance Activities – Laboratory Surveillance

Laboratory Surveillance Overview

Laboratory surveillance for influenza is conducted year-round at the DSHS Austin and Laboratory Response Network (LRN) laboratories. The objectives of laboratory surveillance for influenza include detecting where viruses are circulating, which viruses are circulating, if circulating influenza viruses match the vaccine strains and if the influenza viruses are changing in any important ways (e.g., new strains or strains demonstrating antiviral resistance). Laboratory surveillance is an essential component of influenza surveillance. Volunteer healthcare providers at clinics and hospitals collect specimens from patients who have symptoms of influenza and ship those specimens to DSHS Austin and the LRN laboratories for testing. RT-PCR testing at Texas public health laboratories is the primary screening method for these specimens; a sample of these specimens is tested further by DSHS and CDC to determine strain characterization and antiviral resistance properties. Patient specimens are tested at DSHS Austin and the LRNs to determine if they are positive for influenza types and subtypes; RT-PCR results are reported to submitters and are available to epidemiologists through the DSHS laboratory information system, PHLIMS/LabWare. A graph displaying influenza data including data from the DSHS Virology Laboratory is included below.



Coordinating Laboratory Surveillance

The EAIDB Influenza Surveillance Coordinator at DSHS Austin coordinates the state's laboratory surveillance program, receives and processes viral transport medium (VTM) and supply orders and forwards these to the DSHS Container Preparation Group for completion, and monitors specimen submissions to the DSHS Austin Virology Laboratory throughout the season. Local and regional health departments recruit providers prior to and throughout the season to participate in laboratory surveillance by forwarding specimens to Texas public health laboratories. See the recruitment section of this handbook (Section V) for tips on encouraging providers to participate in laboratory surveillance. See the laboratory support section (Section VI) for details on surveillance conducted at the DSHS Austin and LRN laboratories.

Beginning with the 2013-2014 influenza season, each Health Service Region is asked to ensure submission of a minimum number of specimens per week to Texas public health laboratories (PHLs). The number of specimens required is determined by regional population and the number of specimens needed to maintain situational awareness for influenza at the state level as specified by the Influenza Virologic Surveillance Right Size guidelines. For the 2016-2017 season, the minimum weekly number of specimens required from all submitters in each region is shown below:

HSR	Minimum <u>weekly</u> specimen submission to a Texas PHL for Right Size objectives
Region 1	4
Region 2/3	40
Region 4/5N	8
Region 6/5S	36
Region 7	17
Region 8	14
Region 9/10	8
Region 11	12
Texas	138*

*Overall weekly Texas specimen submission required to maintain situational awareness for influenza at the state level with a 95% confidence level and 5% margin of error. Regional populations for specimen submission calculations are an average of the projected populations for each year in the influenza season

A surveillance protocol is sent to healthcare providers who agree to support DSHS influenza laboratory surveillance along with their first viral transport medium (VTM) order. The following items are included in this protocol:

- Storage of sterile viral transport medium vials
- Specimen collection
- Specimen storage
- Specimen labeling and DSHS G-2V laboratory submission form completion
- Packaging specimens for shipment
- Shipping specimens to DSHS

It is important to encourage participating providers to submit specimens throughout the entire influenza season.

- Pre-season specimens and early season specimens: These specimens can provide important information regarding circulation of strains as compared to the previous season, information on the match between vaccine and circulating strains and information necessary for the vaccine formulation for the next year.
- Representative number of specimens collected during peak activity: These specimens provide information on which strains are likely driving the peaks.
- Late season specimens collected after the majority of peak activity is finished: Occasionally secondary, smaller waves of influenza illness can occur. Late season specimens help identify if different strains of influenza are circulating.
- Specimens obtained during outbreaks: Outbreaks may occur in immunized populations or in non-immunized populations.

In addition to specimen submission for the aforementioned reasons, all healthcare providers should be encouraged to submit specimens from:

- Persons in which antiviral resistance is suspected such as anyone who did not recover from their influenza illness after receiving antiviral therapy and their close contacts who also become ill
- Persons with suspected animal-to-human transmission of influenza viruses
- Persons with extremely severe or unusual presentations of influenza-like illness

How to Obtain Laboratory Data

Laboratory data from the DSHS Austin Laboratory and most LRN laboratories are available through PHLIMS/LabWare. LabWare access is available to DSHS Austin and DSHS Health Service Region staff. Local health department staff can also access results for their jurisdiction in LabWare.

To gain access to LabWare or the Public Health Web Portal, please send an email requesting access to flutexas@dshs.state.tx.us.

Users will have to fill out the following forms to access PHLIMS:

- Facility Security Agreement
- Web User Access Agreement for each user account

These forms are located at <https://www.dshs.texas.gov/lab/remotedata.shtm> under the heading “Forms to Apply for a Remote Data Systems Account”. It also may be helpful to visit the frequently asked questions page at <https://www.dshs.texas.gov/lab/rdsFAQ.shtm>.

Please see <https://www.dshs.texas.gov/lab/remotedata.shtm> for more information on accessing PHLIMS.