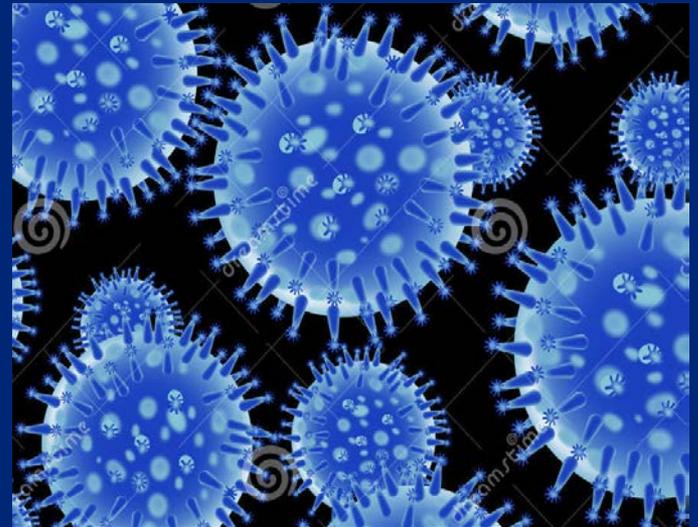


# Influenza Surveillance: Laboratory Specimen Collection, Submission, and Testing with Q&A

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# Objective

- ❖ *Explain the process for flu surveillance specimen collection and submission to a Texas public health laboratory*
  - Collection
  - Submission
  - Packaging and Shipping
  - Testing
  - Reporting

# Before Collection

- Collection device
  - Swab, viral transport media tube
- Specimen submission form
  - DSHS Austin: G2V
- Packaging supplies
  - Secondary container
    - Plastic conical vial or liners
  - Shipping boxes
  - Shipping labels
  - Dry ice or cold packs

# Order Collection Supplies

- Flu kit
  - **DSHS** Viral Transport Media
    - Store frozen @ -20 °C if possible
    - Keep refrigerated for up to 1 month
  - **Commercial** Media (EX: REMEL): Store per manufacturer's instructions. Does not change collection/shipping instructions
  - NP swab (1 per tube)
  - Secondary shipping containers (conical vials or tubes)
- Order Shipping boxes ("cold boxes")
  - Two cold/freezer packs per box
  - Fed-Ex waybills for pre-paid shipping (for specimens submitted to the Austin lab only)
    - 1 per shipping box, or can be ordered separately
- Send requests to [flutexas@dshs.state.tx.us](mailto:flutexas@dshs.state.tx.us)
- Reorder as necessary throughout the season

# Submission Form

- Contact Lab Reporting: 512-776-7578
- *New*: Initial account set up/G2V form
- *Returning*: Update contact information
- Submission form Information:  
[http://www.dshs.state.tx.us/lab/MRS\\_forms.shtm](http://www.dshs.state.tx.us/lab/MRS_forms.shtm)
- Updated G2V submission form effective 9-1-15
  - Will be sent out to all of the current submitters

# Submission Form

- ❑ Section 1: Submitter information
- ❑ Section 2: Patient Information
  - **Date *and* time of collection**
  - **Name and DOB**
- ❑ Section 3: Specimen Source:
  - ❑ Nasopharyngeal swab, Please check both "NP" and "Swab".
- ❑ Section 4: Virology
  - ❑ Influenza Surveillance
  - ❑ Travel history and/or animal contact
  - ❑ Vaccine information
- ❑ Section 5: Ordering physician
- ❑ Section 6: Payor source

# Collection Devices

- Use synthetic/plastic swabs
- Do not use cotton or wooden swabs!!
- Viral transport media: any media labeled for the use of transport of viruses is acceptable. Ex: Remel M4RT, DSHS VTM, etc.
- Allow VTM to thaw before collection
- Leave swab in the media; do not need to remove it
- Be aware of expiration dates for both commercial and DSHS media.
  - 2015-2016 DSHS media expiration date will be 9-30-16.
  - Throw out expiring media when new batch arrives.

# Collection: Acceptable Specimens

## ■ Upper Respiratory

### ❖ **Nasopharyngeal swab**

- Generally preferred

- Nasal Swab
- Throat swab
- Nasal aspirate
- Nasal wash
- Dual NP/throat swabs

## ■ Lower Respiratory

- Bronchoalveolar lavage (BAL)
- Bronchial wash
- Tracheal aspirate
- *Sputum*
- *Lung Tissue*

### **NP Specimen Collection Videos:**

<http://www.cdc.gov/pertussis/clinical/diagnostic-testing/specimen-collection.html>

<http://www.copanusa.com/index.php/education/videos/>

# AFTER COLLECTION...

- Store cold @ 4 °C
- Or frozen @ -70 °C
- If the specimen is received @ testing laboratory *within* 72 hours of collection...ship cold on ice packs.
- If the specimen is received @ testing laboratory *after* 72 hours from collection, ship frozen on dry ice.
- Any expected delays...store frozen and ship on dry ice.
- If frozen, do not allow to thaw.
- Do not ship on Fridays or for Weekend/Holiday delivery!!

# Ask these questions before packaging and shipping!!!!

- Does the name on the tube match the specimen submission form?
- Is there a specimen collection date on the form?
- When will the specimen arrive at the lab? Should I ship frozen on dry ice?
- Have I listed the correct address on the package? Is "Laboratory Services" included in the address?

# Testing

- **CDC FDA Approved Real Time RT-PCR Assay:**
  - Influenza A/B
  - Subtype: Pdm A/H1, Seasonal H3, Seasonal H1,
  - Flu B lineage: Victoria, Yamagata
  - Novel/Variants: H5/H7/H3v, Flu A unsubtypeable
    - Preliminary: Send to CDC for confirmation
    - Pre-authorization required: Notify EAIDB
  - Can detect all influenza A
  - 4-6 hours required depending on number of samples and when they are received.
  - Results are reported to the submitter.

# Testing

## ■ Cell Culture

- Subset of positive influenza specimens
- Send to CDC for further studies
  - Antigenic characterization: Strain id
  - Anti-viral resistance testing
  - Vaccines
- Results are not reported out to submitters. They are reported to EAIDB.

# Testing

## ■ Respiratory Virus Panel

- All RVSP/IISP specimens
- All Negative Influenza specimens
- Resource dependent
- NP Swabs only
- GenMark
  - Influenza pdm A/H1, S H3, S H1
  - Influenza B
  - RSV A and B
  - hMPV
  - Rhinovirus
  - Adenovirus B/E, Adenovirus C
  - Parainfluenza 1,2,3
- Results are not reported to submitter. They are reported to EAIDB.

# Testing

- **Pyrosequencing**
- All positive pdm A/H1 samples with Ct value <30.
- Known mutation: Oseltamivir
- Did not run any 2014-2015 season.
- Results are not sent to submitter.  
They are reported to EAIDB.

# Reporting

- Final Reports are usually available within 24 hours after the testing is completed.
- Final TAT: within 72 hours of specimen receipt
- Reports are sent out via the method originally set up by the submitter
- Reporting group: 512-776-7578
- G2V will be updated 9-1-15

# Contact Information

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**QUESTIONS?**