Influenza Antiviral Testing and Surveillance Overview

2011-2012 Season

Routine National Surveillance

- **Purpose:** Influenza virus isolation and neuraminidase inhibition testing on viral isolates. Identifies resistance and reduced susceptibility in all virus types and subtypes and new or rare mutations.
- **Priority:** Top priority
- **Sumission:** Submit viruses and clinical specimens according to CDC guidelines.* Use the 2011-2012 Influenza Specimen Submission form, and under "reasons for submission," select "surveillance".
- **Results:** Aggregate results will be reported to submitting labs monthly. All specimens submitted to CDC and designated contract laboratories for routine national surveillance will be tested for neuraminidase inhibition after propagation.

Pyrosequencing Antiviral Resistance Surveillance

- **Purpose:** Identify H275Y mutation in influenza 2009 A/H1N1 viruses with pyrosequencing. H275Y is associated with oseltamivir resistance. This high through-put assay monitors trends in oseltamivir-resistant 2009 H1N1 viruses.
- **Priority:** Secondary priority after 2009 H1N1 specimens are submitted to routine national surveillance.
- **Submission:** Only strongly positive influenza 2009 A/H1N1 original clinical specimens that were NOT submitted for routine surveillance (InfA Ct≤29). Use the 2011-2012 Influenza Specimen Submission form, and under "reason for submission," select "antiviral surveillance."
  - **Labs <u>without</u> pyrosequencing capability:** Submit up to 5 2009 H1N1 specimens every 2 weeks to the contract laboratory (New York State Department of Health).**
  - **Labs <u>with</u> pyrosequencing capability:** Test 2009 H1N1 specimens not submitted to Routine Surveillance (minimum 5 per recommendation above) and report results to CDC every 2 weeks so results can be added to FluView. Contact CDC for technical advice if your laboratory becomes backlogged or is having technical difficulties with the assay.
  - **Data Submission**: Use the Pyrosequencing Results Submission form to send results to pyrodata@cdc.gov.
- **Results:** Aggregate results will be reported to submitting labs monthly.

Clinical Care Antiviral Resistance Testing for 2009 H1N1 viruses

- **Purpose:** Oseltamivir resistance testing for specimens from patients with 2009 H1N1 virus infection when the clinician suspects oseltamivir resistance. The testing information should be used for clinical care decisions.
- **Submission:** Submit 2009 H1N1-confirmed specimens to CDC via state laboratory or directly to CDC. Use the 2011-2012 Influenza Specimen Submission form, and under "reason for submission," select "antiviral Dx testing"
  - Send <u>electronic copy</u> of the 2011-2012 Influenza Specimen Submission form to fluantiviral@cdc.gov, and include a <u>hard copy</u> in the shipment.
- **Shipping address:**
  - Dr. Alexander Klimov,
    Centers for Disease Control and Prevention, c/o DASH, MS G-16
    ATTN: Dr Larisa Gubareva
    1600 Clifton Road, NE
    Atlanta, Georgia 30333 USA
    Phone: 404-639-3591, Fax: 404-639-0080
- **Results:** Results for 2009 A/H1N1 viruses should be returned within 48 hours.
- For requests to test H3N2 or influenza B viruses contact CDC epidemiologist-on-call at: 404-639-3747

* Detailed specimen submission guidelines for routine national surveillance can be found in the Revised Guidelines for Submitting Influenza Virus Isolates to the WHO Collaborating Center for Influenza, CDC 2011-2012 Influenza Season.

**The pyrosequencing contract laboratory (New York State Dept. of Health) shipping address can be found in the Pyrosequencing Specimen Referral Chart.