

Swine Influenza Messages, April 28, 2009

Public Health Labs play a critical role in influenza surveillance and detection. Lab confirmation drives public health response and patient treatment.

Seasonal Surveillance: State and local public health laboratories routinely conduct surveillance to monitor new flu strains entering the country and report the results to CDC. This information is used to develop the vaccine for the following year and to shape the public health response in the current year. Specimens are forwarded to public health laboratories by clinical labs for subtyping. This is particularly important early and late in the season to determine if flu has emerged/is diminishing in local communities.

Surveillance in Swine Outbreak: The surveillance system worked: the swine flu virus was picked up in routine surveillance, which demonstrates the critical importance of this public health lab function in protecting the public's health. The public does not often hear about surveillance but its value cannot be overstated.

Resources for Surveillance Vary by State: States are conducting surveillance based on state priorities and on available resources, which may come from local, state, or federal sources.

Confirmatory Testing: Public health laboratories subtype specimens received from clinical and hospital labs using special reagents and report this information to CDC, state epidemiologists, and the clinician. Normally, only CDC fully characterizes novel flu strains. Public health labs will have the capability to fully characterize the swine flu virus when the CDC assay is deployed in the last week of April (date to be announced).

Caveat: Seasonal flu is still circulating. Hence, some new cases will be caused by other circulating strains and not by the swine flu virus.

Five years of planning and preparations have paid off. CDC and public health labs are better prepared to respond effectively to a novel influenza outbreak.

Currently all state public health labs and many city/county labs with high complexity testing capability have CDC-approved tests for influenza A and B and can subtype for human H1 and H3 viruses. The tests can differentiate between seasonal viruses and a potential novel virus (not subtypable). All states have completed at least one CDC training on detection of novel influenza viruses within the past couple of years.

The FDA approved an emergency use authorization (EUA) for the new swine flu strain assay on April 27, 2009. This EUA gives CDC the ability to distribute the PCR primers and probes to state and local public health laboratories (N=65) the week of April 27. This is a remarkable achievement by CDC and the FDA that speaks to the value of advance planning.

All states and the federal government have completed Influenza plans for potential surge situations such as this. They have conducted national, regional and local drills with health partners and practiced with table top exercises. Additionally, APHL member labs participated in development of CDC's national pandemic flu plan, and each has developed their own response plans.

APHL initiated the PHLIP project to develop nationwide laboratory capability for online reporting of influenza test results and associated data. APHL is collaborating with CDC to develop PHLIP, which offers a rapid and robust system for bidirectional, online exchange of influenza data using a standardized messaging format (HL7).

- Six state public health labs can exchange bidirectional flu messages with CDC. (not all 6 can exchange data with each other). These six states are currently developing a messaging format for swine flu. Two cohorts of 10 states each are working in parallel tracks to be able to send and receive data with CDC.
- However, other states (not involved in PHLIP) must rely on CDC's web-based system for flu surveillance. The system requires more work to send less information and does not utilize standardized messaging formats.

We are concerned about the potential impact of the economic downturn on laboratory capability and capacity—particularly in a surge event.

Minimal federal funding for influenza surveillance and detection: Public health labs received approximately \$7 million in FY 2008 through the Epidemiology and Laboratory Capacity Grant (ELC). These funds were divided among 65 jurisdictions. Some states received funding via the pandemic flu supplemental appropriation in FY 2006, while some have used Public Health Emergency Preparedness (PHEP) grant funding to strengthen influenza capability and capacity. Public health laboratories received no funding through the 2009 stimulus bill for Influenza testing.

Cutbacks in State and Local PHLs: State and local public health laboratories have been severely affected by budget cuts resulting from the economic downturn. Results of a first quarter 2009 APHL survey document the impact of the economic downturn on member labs. The survey shows significant cuts to lab budgets--sometimes requiring the elimination of entire public health programs--reductions in staff positions, mandatory furloughs and cuts in funding for essential equipment and supplies.

The survey indicates that in recent months the public health laboratory workforce has been reduced by at least 500 out of a total of 6500. These reductions are not only in lab staff but also in staff that provide administrative and IT support. More reductions are anticipated based on initial responses to APHL's second quarter 2009 survey.

Additional resources must be provided to support laboratory surveillance and diagnostics.

Lab personnel, reagents, equipment and outreach to clinical test sites all require steady funding to protect the public during emergencies and assure ongoing support for basic

public health functions, e.g., newborn screening and food safety testing. Additional resources are critically needed to cover the cost of surveillance, testing and real-time online reporting.

A small investment in public health laboratories can pay huge dividends. For example, the \$10 million that was allocated to diagnostics development and distribution in the pandemic influenza supplemental supported development and distribution of the FDA-approved assay that will be used to fully characterize swine flu isolates in patient samples (make a final diagnosis). Also included in the \$10 million was funding for other diagnostic Influenza work.

APHL is working to support members, federal and international partners, and the public's health by:

- Coordination with CDC, DHS, HHS headquarters and other federal agencies
- Conference calls with state labs, public health partners
- Collaborating with laboratory suppliers to expedite deployment of assays and platforms: eg, ABI platform
- Working closely with Canadian Public Health Laboratory Network via a standing MOU. Held meeting in Ottawa in 2008 on cross-border collaboration for influenza.
- Identifying any shortages in supplies and forwarding the information to CDC
- Training on use of the new FDA-approved assay for swine flu.