

Pandemic Influenza Plan

SURVEILLANCE

Louisiana Department of Health and Hospitals
Office of Public of Health

2009



Background - Epidemiology of Pandemic Influenza

Influenza viruses are unique in their ability to cause infection in all age groups on a global scale. In addition to the highly transmissible nature of influenza, the virus can change its antigenic structure, resulting in novel sub-types that have never affected humans before. Major shifts in the viral sub-types are associated with influenza pandemics. The 1918 influenza pandemic caused more than 20 million deaths worldwide while the pandemics of 1957 and 1968 resulted in lower mortality rates due in part to antibiotic therapy for secondary bacterial infections and more effective supportive care. They both, however, were associated with high rates of morbidity and social disruption.

Pandemic influenza is a unique public health emergency and community disaster. It is considered a highly probable, if not inevitable, event but no one can predict when it will occur. There may be little warning, but most experts agree that there will be one to six months between identification of a novel virus and widespread outbreaks in the U.S. It is widely hypothesized that outbreaks will occur simultaneously throughout the U.S., and the effect on individual communities will last at least from six to eight weeks or more.

Certain conditions make an influenza pandemic more likely:

- A new influenza A virus arising from a major genetic change, i.e., an antigenic shift.
- A susceptible population with little or no immunity;
- A virus that is transmitted efficiently from person to person; and
- A virulent virus with the capacity to cause serious illness and death.

Pandemic Phase Chart

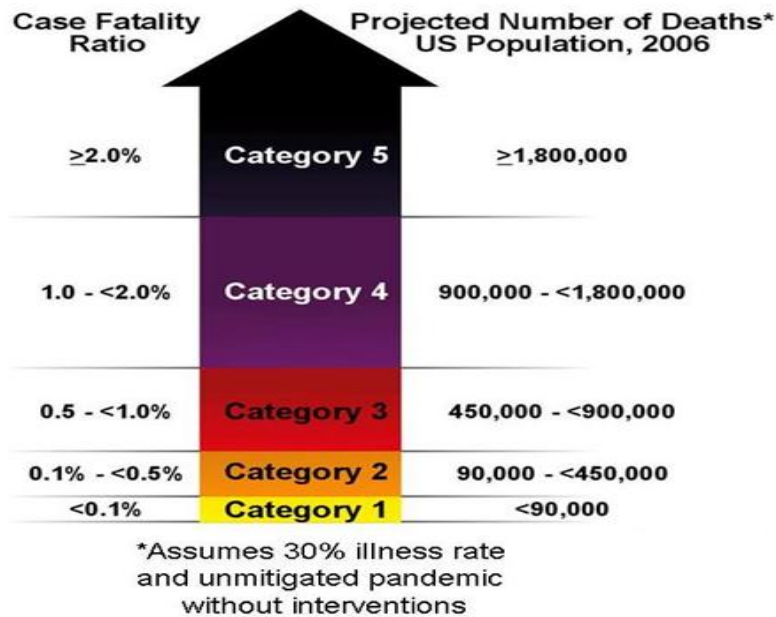
National pandemic planning is divided into several phases, from early identification of a novel virus to resolution of pandemic cycling. These phases are determined and announced by the Centers for Disease Control and Prevention (CDC) in collaboration with the World Health Organization (WHO). These declared and defined phases will help ensure a consistent and coordinated response by national, state, and local agencies in the event of a pandemic influenza occurring. The intent is for all activities listed in this document to be initiated during the assigned pandemic phase. Some activities will, of course, continue during subsequent phases.

WHO Phases		Federal Government Response Stages	
INTER-PANDEMIC PERIOD			
1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human disease is considered to be low.	0	New domestic animal outbreak in at-risk country
2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.		
PANDEMIC ALERT PERIOD			
3	Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.	0	New domestic animal outbreak in at-risk country
		1	Suspected human outbreak overseas
4	Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.	2	Confirmed human outbreak overseas
5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).		
PANDEMIC PERIOD			
6	Pandemic phase: increased and sustained transmission in general population.	3	Widespread human outbreaks in multiple locations overseas
		4	First human case in North America
		5	Spread throughout United States
		6	Recovery and preparation for subsequent waves

Pandemic Severity Index

In February 2007, the CDC released “Interim Pre-Pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States – Early, Targeted, Layered Use of Nonpharmaceutical Interventions” to provide community guidance that focused on measures other than vaccination and drug treatment that may be useful during an influenza pandemic. The Pandemic Severity Index was also introduced to help local decision-makers with recommendations that are matched to the severity of future pandemics. Based on case fatality ratio (the proportion of deaths among those infected), which will be available early in a pandemic, the Pandemic Severity Index uses 5 categories to recommend which NPIs should be used and for what duration they should be implemented. The CDC’s director is responsible for designating the category of the emerging pandemic.

Pandemic Severity Index



Surveillance

Influenza surveillance requires global and national monitoring both for virus strain and disease activity. Timely identification of circulating or novel virus strains includes detection from animal (avian and other) sources as well as human cases. Monitoring influenza disease activity is important to facilitate resource planning, communication, intervention, and investigation. The essential requirement for effective state pandemic surveillance is a well-functioning inter-pandemic system that includes Louisiana's participation in all aspects of influenza surveillance as outlined by the CDC. In the event of an influenza pandemic, surveillance systems shall be flexible and be rapidly adapted to respond to the challenges of a pandemic in order to assess and monitor the pertinent epidemiology of the pandemic influenza virus.

Components of the Louisiana Office of Public Health (LA OPH) Surveillance Plan Include:

- 1- **Virologic surveillance** by the OPH State Laboratory in collaboration with CDC Laboratories
- 2- **Epidemiologic Surveillance in Humans** by the Infectious Disease Epidemiology Section and Regional Epidemiology Teams
 - Active Influenza-Like Illness (ILI) Surveillance by the Sentinel Provider Network (SPN)
 - State Level Assessment of Influenza Activity
 - Hospital Surveillance
 - Mortality Monitoring
 - Investigation of ILI clusters
- 3- **Veterinary Surveillance**
- 4- **Communication**

1-Virologic Surveillance

In order to identify and characterize circulating strains of the influenza viruses, which in turn will help inform annual vaccine formulation and to characterize strains with pandemic potential at the national level, eight laboratories in Louisiana are part of the National Respiratory and Enteric Virus Surveillance System (NREVSS). NREVSS laboratories report the total number of respiratory specimens tested and the number positive for influenza types A and B each week to CDC. Some of the influenza viruses collected by collaborating laboratories are sent to CDC for further characterization, including gene sequencing, antiviral resistance testing and antigenic determination. The Louisiana Office of Public Health Laboratory is capable of conducting real time reverse transcriptase polymerase chain reaction (RT-PCR) for influenza and differentiating between H1, H3, H5, B, and novel H1N1. More detailed information about laboratory surveillance can be found in the laboratory section.

1.1-Interpandemic Virologic Surveillance

The CDC laboratories perform the characterization of strains for specimens submitted by the state.

Specimens may be submitted when:

- Increases in ILI are detected by sentinel and non-sentinel sites,
- Clinical virology laboratories submit influenza virus isolates for viral subtyping
- Outbreaks/Clusters are investigated
- Control of transmission is evaluated

More detailed information about laboratory surveillance during the interpandemic period may be found in the laboratory section.

1.2-Pandemic Alert Virologic Surveillance

The virologic surveillance system is enhanced. Novel influenza strains might include avian influenza viruses that can infect humans, other animal influenza viruses (such as swine influenza viruses), or new or re-emergent human influenza strains that cause outbreaks of human disease.

The specific recommendations will depend on the epidemiology of the virus and the clinical characteristics of the human cases as they are known at the time, and will most likely focus on severely ill, hospitalized, or ambulatory patients who meet certain epidemiologic and clinical criteria.

Specimens may be requested from patients who present with severe ILI and one of the following:

- Travel history to a region where a novel strain of influenza has been identified;
- History of influenza vaccine within the previous year;
- Unusually severe symptoms of ILI regardless of their travel history;
- Suspected to be part of an ILI cluster.

Sentinel providers may conduct enhanced virologic surveillance by submitting specimens on all patients presenting with ILI to help detect the introduction of the virus in the state.

More detailed information about laboratory surveillance during the pandemic alert period may be found in the laboratory section.

1.3-Pandemic Virologic Surveillance

During an influenza pandemic, the volume of requests for laboratory testing is expected to increase dramatically. For specifics on how the LA OPH laboratory has made preparations to meet these demands, see the laboratory section.

The most intense testing will be necessary during the early stages of a pandemic, when detecting the introduction of the virus into a state or community is the primary goal. Once the virus has been identified throughout the state, diagnosis of individual cases becomes less important. Most cases will be diagnosed clinically. The level of testing can be decreased to a level more like that of a non-pandemic influenza season and the role of the laboratory is limited to identifying new strains that may appear. As part of the effort to monitor antigenic and genetic changes and changes in antiviral resistance patterns in the pandemic virus, the laboratory will continue to forward a subset of positive specimens to CDC.

2 -Epidemiologic Surveillance in Humans

The coordination of epidemiologic activities for seasonal and pandemic influenza is performed by the Influenza Surveillance Team that is comprised of the State Epidemiologist, Infectious Disease Epidemiologist Manager, Public Health Veterinarian, Bioterrorism Surveillance and Epidemiology Response Coordinator, two Infectious Disease Epidemiologists, and an administrative assistant. The Influenza Surveillance Team meets regularly to plan, revise, and continually enhance the influenza surveillance program. Ongoing duties of the Influenza Surveillance Team include:

- Strongly encouraging current sentinel sites to participate in year-round reporting
- Distributing on a weekly basis an electronic copy of a summary of flu activity in Louisiana to sentinel providers
- Evaluating, improving and updating the state influenza website
- Investigating and recording clusters of influenza-like illness (ILI) in institutions, including long term care facilities, as well as in the community
- Interfacing with external providers to facilitate syndromic surveillance
- Conducting weekly assessments during flu season of overall flu activity in the state for the Activity Level Assessment for the State and Territorial Epidemiologists report and submit that data to CDC each by noon on Tuesday each week
- Contributing to state pandemic planning activities
- Maintaining a strong working relationship with the LA OPH Laboratory
- Summarizing current flu seasons and compare to previous years in annual report
- Distributing influenza viral testing kits free of charge to sentinel sites throughout the year
- Encouraging sentinel providers to submit specimens for influenza virus identification and sub-typing
- Monitoring sentinel provider data weekly for completeness and errors and follows up on unusual reports
- Conducting site-visits to sentinel sites to provide continued education as well as to facilitate site's weekly ILI reporting
- Maintaining the Influenza Surveillance Database

2.1-Interpandemic Epidemiologic Surveillance in Humans

2.1.1-Active ILI Surveillance by the Sentinel Provider Network (SPN)

Surveillance for outpatient visits for ILI is conducted via the Sentinel Provider Network (SPN), a collaborative effort among states, healthcare providers and CDC. The Louisiana SPN has 61 private providers, or 1 / 70,000 population, that regularly contribute weekly the total number of patient visits and number of patient with ILI; this exceeds the recommended 1 site per 250,000 population by CDC. Additional efforts related to the SPN include:

- Recruitment for new sites, particularly from parts of the state or risk groups that are under-represented.
- Facilitating reporting of data directly to CDC and assists with resolving any difficulties reporting.
- Providing ongoing feedback to health care providers in the form of weekly email reports.
- Encouraging sentinel providers to actively submit ILI specimens collected from patients at the beginning, middle, and end of the season to the state laboratory for testing at no charge to the provider.

2.1.2-State Level of Influenza Activity

Based on data collected, the Influenza Surveillance Team conducts weekly assessments of the overall influenza activity level in the state each week and reports this level to CDC through the State and Territorial Epidemiologists Report. Influenza activity is reported as no activity, sporadic, local, regional, or widespread. These levels are defined as follows:

- **No Activity:** No laboratory-confirmed cases of influenza and no reported increase in the number of cases of ILI.
- **Sporadic:** Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.
- **Local:** Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.
- **Regional:** Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.
- **Widespread:** Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

This assessment is the only state-level influenza surveillance data that CDC makes publicly available.

2.1.3-Hospital Surveillance

The Early Aberration Reporting System (EARS) is used in seven Louisiana hospital emergency rooms in three regions of the state. Influenza like illness is one of the six syndromes tracked through EARS. The syndromic data captured through EARS is incorporated into the Influenza Sentinel Surveillance program. Although based on chief complaint data, the system can capture ILI data based on the text strings that are associated with the syndrome. To capture the patient as a case of ILI, the physician does not have to list “influenza” as the diagnosis.

Louisiana Early Event Detection System (LEEDS) is a new system that is slated to replace EARS in late summer/early fall 2009. LEEDS will track 35 syndromes across 4 categories based on symptoms that are pre-defined text strings. This system will allow expansion of syndromic surveillance for influenza to each

region of the state. Plans also include a module in LEEDS to institute Intensive Care Unit (ICU) Surveillance to monitor severe cases of influenza.

Reports of individual cases of severe illness and death will be investigated by regional Office of Public Health personnel and the Infectious Disease Epidemiology Section. Demographic case information and clinical history will be collected.

Hospital Infection Control Practitioners (ICPs) report clusters of illnesses including upper/lower respiratory diseases as mandated by the Sanitary Code. In-depth epidemiologic investigations are carried out on patients hospitalized who have unusual clinical syndromes or severe morbidity associated with influenza.

The Louisiana Hospital Inpatient Discharge Database (LAHIDD) will be used to monitor influenza hospitalization data.

2.1.4-Mortality monitoring

Each week, the vital statistics offices of 122 cities report the total number of death certificates received and the number of those for which pneumonia and influenza was listed as the underlying or contributing cause of death by age group. The percentage of all deaths due to pneumonia and influenza are compared with a seasonal baseline and epidemic threshold value calculated for each week. On average, there is a 15-day lag from death to report to CDC. Three cities: New Orleans, Baton Rouge, and Shreveport are the participating sites in Louisiana. Data can be monitored through the website: <http://wonder.cdc.gov/mmwr/mmwrmort.asp>.

Within the next year, Louisiana will be implementing a system for electronic death certificates which will allow more rapid reporting of influenza associated mortality.

Influenza-associated mortality is a Class A reportable disease in Louisiana requiring a report by telephone immediately to Infectious Disease Epidemiology. Pediatric associated influenza mortality will continue to be reported to CDC using the Secure Data Network (SDN).

2.1.5-Investigation of ILI Clusters

Long-term care facilities, day care facilities, schools and other institutional care facilities report outbreaks of diseases as mandated by the Sanitary code. These include gastro-enteric diseases, food borne outbreaks and upper/lower respiratory tract diseases including ILI.

Investigations of reported ILI clusters at long term care facilities and other institutions will be conducted by the Infectious Disease Epidemiology Section in accordance with the *CDC Guidelines for Pneumonia/Influenza Outbreaks or Clusters in Long Term Care Facilities*.

2.2-Pandemic Alert Epidemiologic Surveillance in Humans

All Activities described in Section 2.1. Interpandemic Epidemiologic Surveillance in Humans will continue.

The Influenza Surveillance Team will review and implement contingency plans for enhancing influenza surveillance if efficient person-to-person transmission of a novel virus is confirmed. The number of epidemiologists working on influenza will increase to meet the need. Staff from within the Infectious

Disease Epidemiology Section as well as Regional Epidemiologists and Disease Surveillance Specialists will assist in surveillance efforts as needed.

Activities will attempt to contain introduction of novel influenza strains to the community as much as possible. These activities will focus on case based surveillance to detect suspect cases of individual ILI that meet a specific set of criteria, established by CDC, confirm whether they are due to the novel pandemic strain of influenza virus and take appropriate control measures to limit the spread of infection.

The specific recommendations will depend on the epidemiology of the virus and the clinical characteristics of the human cases as they are known at the time, and will most likely focus on the following:

- Clinical characteristics such as severity of illness, hospitalization, or ambulatory patients who meet certain epidemiologic and clinical criteria,
- Travel or residence history in area known to be a focus of pandemic influenza,
- Exposure to affected population groups, and
- ILI in spite of adequate prior immunization.

CDC will notify LA OPH of current recommendations via the Health Alert Network (HAN) and Epi-X. LA OPH will further distribute the recommendations to healthcare providers and will be responsible for receiving initial reports of suspected cases in their jurisdictions.

Suspected and confirmed cases of novel influenza will be reported to CDC by Infectious Disease Epidemiology at the time intervals specified in enhanced surveillance protocols. During the pandemic alert period it is likely that all cases will be reported to CDC in a line list.

The following is an example of recommendations issued for a novel flu strain:

Enhanced US Surveillance and diagnostic evaluation to identify cases of human infection with novel influenza A (H5N1)

Enhanced surveillance efforts by health departments, hospitals, and clinicians are needed to identify patients at increased risk for influenza A (H5N1).

Interim recommendations are as follows:

- Testing for novel influenza A (H5N1) is indicated for **hospitalized** patients with:
- Radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternative diagnosis has not been established, **and**
- **History of travel within 10 days** of symptom onset to a country with documented novel influenza A (H5N1) infections in poultry and/or humans.

OR

- Testing for novel influenza A (H5N1) should be considered on a case-by-case basis in consultation with state health department for **hospitalized or ambulatory** patients with:
- Documented temperature of $>100.4^{\circ}\text{F}$ ($>38^{\circ}\text{C}$); **and**
- One or more of the following: cough, sore throat, or shortness of breath; **and**
- **History of contact with poultry** (e.g., visited a poultry farm, a household raising poultry, or a bird market) **or a known or suspected human case of influenza A (H5N1) in an H5N1-affected country** within 10 days prior to onset of symptoms.

2.2.1-Enhanced ILI Surveillance by the SPN

- Immediately recruit new sites for geographic areas that are under-represented.
- Initiate direct reporting of daily ILI data to CDC for a subset of providers. All other providers will continue to report data weekly.
- Continue to provide ongoing feedback to health care providers in the form of weekly email reports.
- Request that all providers submit specimens on any patient that presents with ILI.
- Provide supplies and transportation for ILI specimens.

2.2.2-State Level of Influenza Activity

State level weekly assessments of influenza activity will be reported to CDC throughout the year and not only during influenza season.

2.2.3-Hospital Surveillance

Enhanced surveillance using the syndromic surveillance systems EARS or LEEDS can be accomplished by monitoring daily ILI data. Enhanced surveillance may also include refining or adding additional chief complaints to the syndromes based on epidemiologic criteria of the novel virus. The syndromic surveillance systems will be implemented in areas (other than emergency departments) that admit patients to the hospital. Thus the syndromic surveillance system will capture the total number of visits and the proportion due to ILI without intervention from hospital staff. Thus, data collected from each participating hospital will include information on both patients evaluated in the ER and patients admitted due to ILI.

As described in section 2.2.1, EARS or LEEDS may be quickly adapted to track newly created syndromes. For example, if pneumonia becomes a priority based on the epidemiology of the novel virus a symptom can be used to build a syndrome and tracking becomes automatic.

In case of a public health emergency such as novel influenza, it will be necessary to create one or several new reportable conditions, post case definitions, collect detailed information on the case, list the contacts and even collect information on the contacts. Creation of a new reportable condition and associated case detail information can be accomplished in a matter of minutes using the Infectious Disease Reporting Information System (IDRIS). In a novel influenza situation the following measures will be implemented:

- Create new conditions: Novel Influenza case, Contact of a Novel Influenza case
- Create a Laboratory Data Entry screen to document laboratory tests performed on NI cases and contacts
- Use a Supplementary Case Investigation Form to document:
 - Changes in case status
 - Isolation and/or quarantine
 - Monitoring of suspect case
 - History of hospitalization
 - Preventive or curative treatment
 - Complications
 - Deaths

2.2.4-Mortality Monitoring

The Infectious Disease Reporting Information System (IDRIS) will be used to create supplementary reporting forms for the reporting of pneumonia and influenza deaths.

2.2.5- Investigation of ILI Clusters

As long as it is possible, contact investigations will be carried out around confirmed cases of novel influenza. Identification of contacts will be based on epidemiologic criteria. Priority will be given for the contacts at high risk of exposure to droplets, with a long time common exposure in enclosed areas. A second tier will be constituted by those exposed to by contact with infected cases or contaminated fomites. Clusters will be defined as 3 cases with a common exposure such as attending the same school or participating in a common extracurricular activity.

Descriptive epidemiology will be available from information collected on confirmed cases. Attack rates for investigated clusters will be calculated when possible. For example, if an outbreak is investigated associated with a meeting where 60 people were in attendance and 12 of them became ill – the attack rate for that cluster investigation would be 17%. Household contacts of confirmed cases will be monitored for ILI symptoms to obtain an attack rate among household contacts. If 80 of 382 household contacts for 95 cases become sick, this represents an attack rate of 21%.

2.3-Pandemic Epidemiologic Surveillance in Humans

All Activities described in Section 2.1-Interpandemic Epidemiologic Surveillance in Humans and Section 2.2-Pandemic Alert Epidemiologic Surveillance in Humans will continue.

A pandemic declaration would indicate that a novel virus has been identified, human to human transmission is taking place and several outbreaks are occurring in multiple countries in multiple areas of the world.

The focus of surveillance during the initial phase of a pandemic will be on detecting individual cases with specific characteristics that indicate likely infection by a new strain. The surveillance systems will need to have the sensitivity to detect and characterize circulating strains of influenza virus as well as early human cases of a novel virus in the state. The epidemiologic surveillance is focused on detection of unusual cases and identifying new strains. The focus of disease control is on stamping out transmission around individual cases.

Epidemiologic surveillance will shift to a Community Based Model. Epidemiologic surveillance will focus on:

- Identification of population groups at risk of transmitting infections,
- Quantification of health care needs, severe morbidity
- Quantification of mortality.

Surveillance activities will need to assimilate large amounts of data to determine age-specific, population specific attack rates, morbidity, and mortality. The focus of disease control will shift to identify best community preventive actions and direct health care resources towards the neediest population.

Suspected and confirmed cases of pandemic influenza will be reported to CDC by Infectious Disease Epidemiology at the time intervals specified in enhanced surveillance protocols. During the pandemic period it is likely that data will be transferred in an aggregate report.

Prior to the Immunization Phase it is expected that vaccines will be in short supply and priorities will be established. Epidemiologic surveillance will provide data useful to identify priorities in immunization strategies. Immunization programs may aim at 1-immunizing groups of high transmitters, or 2-immunizing groups at high risk of severe morbidity and mortality which may be the elderly or a younger population group. In deciding which groups will be given the vaccine, the focus may be on saving lives or on saving years of life.

During the mass immunization phase, epidemiologic surveillance will be geared at evaluating the response to immunization and virologic surveillance at identifying any new strains that affect properly immunized individuals.

During recovery, epidemiologic surveillance aims at detecting continuous foci of infection.

Surveillance activities will be carried out on a regional basis by Regional Epidemiologists and Regional Disease Surveillance Specialists with support from Disease Investigation Specialists from the Sexually Transmitted Disease and Tuberculosis Control Programs. All data will be consolidated in the Infectious Disease Epidemiology Section.

2.3.1-Enhanced ILI Surveillance by the SPN

Surveillance activities will continue as feasible for providers to participate. Testing on ILI specimens from the SPN would continue as long as possible, then would shift to a defined number of samples collected per week per site.

2.3.2-State Level of Influenza Activity

State levels of influenza activity will continue to be reported to CDC year-round.

2.3.3-Hospital Surveillance

The total number of hospitalizations due to influenza will be calculated for each hospital and aggregates will be done by geographic areas.

2.3.4-Mortality Monitoring

Hospitals and physicians will be required to report influenza deaths through IDRIS until the time a Statewide Electronic Death Reporting System is in place. IDRIS requires a minimum of information so that reporting of influenza deaths would not be a burden.

Death certificate information will be checked against the Immunization Registry to identify fatalities that occurred among immunized individuals and delays between immunization and death.

Case Fatality Rate: From the number of admissions for ILI and the number of deceased, it will be possible to estimate the case fatality rate. This rate will be an estimate since the denominator will be constituted by ILI and not confirmed influenza cases. It is expected that during a severe pandemic, cases will be diagnosed on clinical grounds rather than laboratory testing. If the pandemic is light, there will be an attempt made to obtain the total number of lab confirmed cases pandemic influenza.

2.3.5-Investigation of ILI Clusters

Regional epidemiologists, Disease Surveillance Specialists, Disease Investigation Specialists and Immunization Consultants will participate in the investigations, collect laboratory results, and complete investigation forms.

Clusters of influenza-like illness will be documented in “Epi-Stories”, a web based system used to track infectious cases of importance, clusters and outbreaks. These will include numbers of newly isolated and quarantined cases. These epi-stories will then be summarized in an outbreak investigation database.

Cases of severe illness and deaths associated with influenza will be reviewed. Demographics (particularly age) occupational and residential patterns will be evaluated. Any unusual patterns will be investigated. A special focus will be placed on pediatric influenza.

3-Veterinary surveillance

A pandemic influenza virus strain is likely to arise from re-assortment of animal and human influenza viruses. Therefore, coordination of surveillance with the U.S. Department of Agriculture (USDA) is critical, given USDA’s responsibility to conduct influenza surveillance in domestic animals. The LA Department of Agriculture & Forestry (LDAF), Office of Animal Health Services State Veterinarian in close association with USDA Animal and Plant Health Inspection Service (APHIS) Veterinary Services (VS) is generally responsible for the development and implementation of surveillance programs that are consistent with the size and complexity of the resident commercial and backyard poultry industry. Establishing communication links between USDA APHIS VS, LDAF and LA OPH regarding avian and swine influenza surveillance is necessary to exchange information as a means to implement early identification and intervention measures. The USDA APHIS VS is monitoring for the presence of avian influenza viruses that may pose a threat to commercial poultry.

Testing for influenza in poultry and swine is conducted by the LA Department of Agriculture & Forestry and the respective industries. The requirement for the reporting of contagious (animal) diseases follows the protocol described in Title 7 XXI: §121. The plenary power to deal with contagious diseases of animals is within Title 3: chapter 16, Part 1: §2095. The State Veterinarian, as an employee and executive secretary of the Livestock Sanitary Board has plenary power to deal with any contagious disease involving animals.

If an animal owner, parish agent, or veterinarian suspects a disease, they are required to report it within 24 hours by several means (phone, fax, email, etc). A list of diseases, including Highly Pathogenic Avian Influenza (high path AI), is included in Title 7 XXI: §121. All public practice veterinarians, including state and federal, are trained at Plum Island to be foreign animal disease diagnosticians. They are trained to collect and submit samples to the National Veterinary Medical Disease Laboratory in Ames, IA if there is a high index of suspicion. If the sample is determined to be positive, the USDA APHIS VS area veterinarian in charge (AVIC) and the State Veterinarian would begin a unified command system. Quarantine measures would have been implemented and enhanced surveillance with testing would simultaneously occur. The USDA would be the lead agency in collaboration with the state in the operational management for the public health response to novel viruses identified in the animal population.

The Louisiana State Public Health Veterinarian is an integral part of the Influenza Surveillance Team. This position serves as the link between Infectious Disease Epidemiology and external partners conducting Veterinary Surveillance for Influenza.

4-Communication

4.1- Health Care Providers (HCP)

A robust two-way communication with HCP is essential to ensure the success of the pandemic influenza control program.

Surveillance, testing and reporting recommendations will change according to the pandemic phases as described on page three. The following methods are routinely used to communicate with HCP for influenza and other public health issues:

- Blast fax to hospitals, large medical groups and selected private practitioners
- E-mail to all medical practitioners from a list obtained from the Board of Medical examiners. This list is updated yearly.
- E-mail to all Infection Control Practitioners (ICP) and Infectious Disease Specialists in the state. These lists are updated regularly.
- Posting on the public website.
- Posting on the OPH portal. Hospitals and large medical groups are already reporting through IDRIS, which is a web based program. To access this program the users go through the OPH portal with single sign on. On the portal webpage restricted to HCP, technical information is displayed in fuller details than on the public web.
- The Laboratory Information Management System (LIMS) allows ICP to electronically submit information on the samples submitted and to receive results (already implemented in a few pilot parishes).
- The OPH Infectious Disease Epidemiology Section has a 24 hour 800 number well known by most HCPs. Calls are answered by an epidemiologist with a 24 hour access to epidemiologic, preventive care and laboratory experts. Calls are received at all hours. For example this number is used by Emergency Departments and physicians to obtain counseling on rabies prophylaxis, exposure to blood and body fluids and information on laboratory testing available from the State Public Health Laboratories as well as by school nurses to report outbreaks or ask for exclusion recommendations.

4.2- Health Departments

In Louisiana the state system covers all the parish health units throughout the state except for some programs specific the City of New Orleans and the Parish of Plaquemine. The state is divided in 9 regions. Infectious Disease Epidemiology already communicates regularly with Regional Epidemiologists and Disease Surveillance Specialists for disease surveillance and outbreaks. Regional Administrators and Medical Directors are available as needed. The regional office will ensure the communication down to the level of the Parish Health Units.

Hospitals may contact the Health Department either through their Regional Office phone contacts (the Disease Surveillance Specialists who are in daily communication with the Hospital ICPs) or through reporting a case with questions through the Portal and the Infectious Disease Reporting System or through a 24 hr phone number staffed by a Central Office Epidemiologist.

4.3-Coroners and Medical Examiners

The Bioterrorism Surveillance Epidemiologic Response Coordinator maintains the coordination programs with coroners and medical examiners. A Coroners Education Program was designed to meet the dual needs of increasing awareness and knowledge among coroners and increasing their utilization of the surveillance system. The program demonstrated that coroners could play an active role in disease surveillance and early bioterrorism detection. Including coroners in surveillance activities strengthens the public health infrastructure and serves the public good. This program was started in 2002 and continues to this day. The communication is maintained by phone, e-mails and newsletter.

4.4-Animal Care Community

The State Public Health Veterinarian maintains regular contacts with the Louisiana Department of Agriculture State Veterinarian and its Deputy, the Department of Wildlife & Fisheries, the Louisiana State University School of Veterinary Medicine and its laboratory, Veterinarians from the US Department of Agriculture and the Louisiana State Veterinary Association. They all have access to the Veterinary Surveillance page of the OPH website.

4.5-Other Stakeholders

The Vital Statistics Office is part of the LA OPH. Communications between the Infectious Disease Epidemiology Section and the Vital Statistics is on-going.

The ESF 8 State Liaison Officer has permanent representation at the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) Emergency Operating Center (EOC) at all times.