Influenza Hospitalization Surveillance during Circulation of Novel Influenza A (H1N1) among non-EIP Sites, 2009-2010

CDC ROLES

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SUMMARY

This data collection project, "Influenza Hospitalization Surveillance for Novel Influenza A (H1N1) among non-EIP Sites, 2009-2010," is time limited and intended to systematically collect information about influenza and novel influenza hospitalized cases during a pandemic, beginning in the Fall, 2009. Collectively, the shared information can be used to describe influenza-associated hospitalization, a severe manifestation of influenza disease, from a larger geographic area and with an increased representation of the United States population. Interested

states, which are not currently participating in the Emerging Infections Program (EIP), as well as cities, are welcome to participate. Agreed upon standards include:

- pre-identified catchment area (counties or cities from which population estimates can be obtained for rate calculations)
- hospitals in which eligible cases will be identified need to be chosen carefully to avoid missed cases and underestimation of age-specific hospitalization rates
- data entry into a standardized data collection database provided by CDC or data extracts that match the format of the standardized database; local data will always be available to each participating site
- collection of no less than the minimum dataset (i.e, the five pre-identified data elements) for persons meeting the case definition
- no less than weekly reporting

BACKGROUND

The Emerging Infections Program (EIP) Influenza Hospitalization Surveillance Project, a population- and case-based program, began in 2004, amid a severe pediatric influenza season, to collect information on children (<18 years of age) hospitalized with laboratory-confirmed influenza. In early 2006, surveillance activities expanded to include adults so that currently all-age hospitalization surveillance is being conducted in 11 metropolitan areas in 10 EIP states that represent 7% of the US population.

Influenza Hospitalization Surveillance uses hospital laboratory, admissions, infection control practitioner databases/logs, or review of reportable conditions databases to identify cases. Cases are residents of pre-identified catchment areas (counties or cities) with community-acquired laboratory confirmed influenza infection who are hospitalized during influenza season. Medical chart reviews of all cases are conducted to collect clinical and epidemiologic

information. Influenza vaccination status is obtained through a hierarchical review of sources: medical chart, vaccination registries, primary care provider records and lastly by interview of patient, proxy or parents (Figure 1).

Since March 2009 a novel influenza A (H1N1) virus has emerged and infected people in North America [1]. The first human case of novel influenza A infection identified in the US occurred in Southern California which was quickly followed by hospitalized cases [2]. The virus spread rapidly and although associated with a relatively mild illness course, severe disease including hospitalization and death has been noted [9-16]. Those caring for the ill, namely health care workers, have experienced secondary transmission [3, 4]. Other occupational groups which are yet to be identified may also be at increased risk for novel influenza A transmission. Additionally pregnant women, who have been a group recognized to be at risk for seasonal influenza complications have been notably affected by novel H1N1 [2, 5, 6]. On June 11, the WHO announced the global spread of novel influenza A (H1N1) was a pandemic.

Early case reports of novel influenza A in North America noted that a number of severely affected cases were obese [2]. It is unknown whether this represents a new risk group or if specific to novel influenza infection. One recent publication has suggested that hospitalized patients who are obese receive a higher dosage of oseltamivir or be treated for a longer duration [7]. Another recently published study has suggested that viral shedding of seasonal influenza virus may be much longer than believed for adults [8] and also suggested that a longer treatment course may be beneficial to controlling nosocomial spread.

Additionally, recent, but limited reports of oseltamivir resistance have emerged [9] which in addition to the recognized oseltamivir resistance of seasonal H1N1 [10] highlights the importance of surveillance and documenting multiple antiviral medications, possibly even in nonstandard doses.

Seasonal influenza vaccine will be available in the Fall 2009 and a novel influenza A (H1N1) vaccine may also be available as early as October 2009. The novel H1N1 vaccine will require two doses—priming and boosting—to generate an immunologic response. Persons recommended to receive the novel H1N1 vaccine included pregnant women, healthcare and emergency medical services workers, persons aged ≥6 months of age through 24 years as well as persons with medical conditions that place them at higher risk for influenza complications and caregivers for children <6 months of age [11]. There is great likelihood that in the fall five influenza viruses will be circulating and the impact of vaccination, both seasonal and pandemic, will be important to assess. Laboratory testing, especially PCR that will help identify influenza subtypes will be especially important to monitor during the fall and throughout the pandemic period.

"Influenza Hospitalization Surveillance for Novel Influenza Among non-EIP Sites, 2009-2010" is time limited and intended to systematically collect information about influenza and novel influenza hospitalized cases during a pandemic, beginning in the Fall 2009. The data collected will be based on EIP's case report forms so that data can be merged when possible. Collectively, the shared information can be used to better describe influenza-associated hospitalization, a severe manifestation of influenza disease, from a larger geographic area than what is currently covered by EIP and with an increased representation of the US population.

Year-round surveillance for hospitalized cases is currently ongoing. Beginning 12 May 2009 (week 19), cases have been reported weekly to CDC (by COB every Tuesday). The pediatric and adult case report forms have been modified to collect salient information that will be needed for the Fall 2009. Additionally, participating sites should strive to have influenza subtype information available for each hospitalized case such that the burden of influenza hospitalization attributable to novel H1N1, seasonal H1N1, seasonal H3N2, and B influenza viruses can be estimated.

Objectives

Primary Objectives

1. Estimate the age-specific hospitalization rates.
2. Describe the temporal trends of laboratory-confirmed influenza hospitalization, including by influenza subtype.
3. Describe characteristics of persons hospitalized with severe influenza illness.
4. Describe the clinical features and course of influenza disease (e.g., severe illness and influenza-associated complications) among persons hospitalized with influenza.

Secondary Objectives

5. Examine risk and protective factors for severe sequelae of influenza infections, including co-morbid conditions and statin medications.
6. Examine etiologic agents associated with pneumonia among influenza-infected adults.

METHODS

Case Definition

For the purposes of this surveillance system, a case patient is defined as a person who is/has:

- A resident of a pre-identified geographic area (i.e., county or city)
- Admitted to a hospital where catchment area residents are likely to receive care in 2009-2010 (the hospital may be located outside the catchment area)
- Admission date: 14 days or less *after* a positive influenza test
  or
  3 days or less *before* a positive influenza test
- Evidence (i.e., a laboratory report in the current hospital record, a written note in the admission H&P of an influenza positive test before admission, a laboratory report from another hospital, report from infection control practitioner, or a verbal report from a

primary care provider's office) of a positive influenza test by at least one of the following methods:

a. Viral culture
b. Immunofluorescence antibody staining (Direct [DFA] or indirect [IFA])
c. Reverse transcriptase polymerase chain reaction (RT-PCR)
d. A commercially available rapid diagnostic test for influenza
e. Serologic testing

OR

e. A positive, unspecified influenza test noted in the medical chart (e.g., a written note in the admission H&P or discharge summary)

Hospitalization is defined as an admission to an inpatient ward of the hospital. Patients who are admitted to and discharged from the hospital on the same day are considered hospitalized. An overnight stay is not required. Emergency room and outpatient visits are not hospitalizations. However, if the person is admitted to an inpatient ward directly following an emergency room or outpatient visit then he/she should be considered hospitalized. In this situation, date of admission should be the date the patient was admitted to the ward, not first seen in the emergency department or outpatient clinic.

Exclusion Criteria

- Initial hospital admission more than 14 days after positive influenza test
- Nosocomially-acquired influenza--defined as a positive influenza test from a specimen collected more than 3 days after initial hospital admission [Optional exclusion: sites may monitor the burden of nosocomial cases but those cases will not be included in the official case count.]
-

Eligibility of Vulnerable Populations for Inclusion

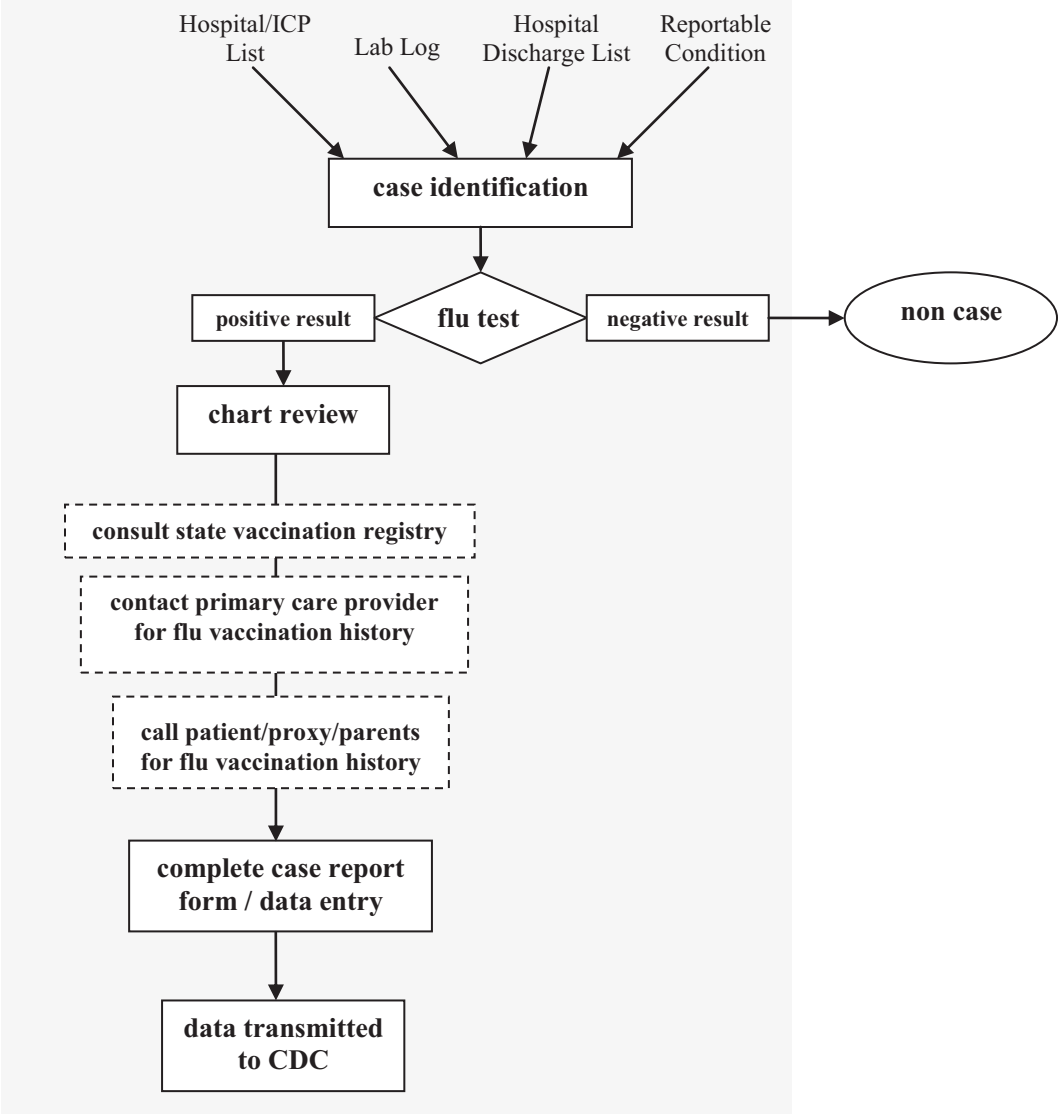
Pregnant women and prisoners may be included in this surveillance activity. Because pregnancy is a risk factor for severe influenza disease (i.e., hospitalization), there may incidentally be pregnant women included as case patients. Because this surveillance activity will draw from a population-based sample of the country, there may coincidentally be prisoners hospitalized with influenza at the hospitals under active surveillance during the project period. In that circumstance, a prisoner would be included as a case patient. For both pregnant women and prisoners, however, there is no effort to preferentially recruit such persons for this surveillance activity.

Project Design

Estimated Number of Participants

States may consider sampling across the catchment area or after further stratifying by age group and/or hospital if the number of cases exceeds the site's capacity for follow-up in a timely manner. All sites will, however, collect the minimum data (Case ID, admission date, evidence of influenza test result, sex, and date of birth or age) on all hospitalized cases. If sampling is undertaken to determine which cases will have a case report form completed, it will be necessary to develop a sampling strategy after some preliminary data are available which the minimum dataset will provide. For example, at a moderate to heavy case load, systematic sampling of 1 out every of 3 cases could be undertaken; if a heavy to extreme case load occurs systematic sampling of 1 out of every 5 cases could be undertaken. Depending on the age groups affected, it may be necessary to conduct age stratified sampling; age groups that are minimally represented among all hospitalized cases may require oversampling. The precise timing in which to institute sampling and the method by which sampling will occur will be determined with full agreement by all participating sites.

Figure 1. EIP Influenza Hospitalization Surveillance Project schematic



Case Report Form

For all persons meeting the case definition, a standardized case report form which has been modified for the 2009-2010 pandemic season will be completed using data obtained from the laboratory and medical chart review. To obtain influenza vaccine history, sites will either: 1) review medical chart, 2) consult state vaccination registry, or 3) contact primary care providers or long term care facilities from where a case resided prior to hospitalization. These extra measures for obtaining vaccination history are essential for this evaluation as this information aids in making better vaccination recommendations.

Contacting Primary Care Provider

Sites may contact primary care providers to obtain vaccination history. Appendix C includes a prototype of a vaccination history form that can be faxed to providers to obtain seasonal and novel H1N1 influenza vaccination history. If race/ethnicity or height/weight information was not available from the medical record, this information could also be requested from the primary care provider if vaccination history is also needed.

Instructions for contacting providers

Project personnel will call the primary care physician's office to confirm that the case patient is their patient. Project personnel will explain the purpose of the call and assure a confidential fax line. Project personnel will make up to 3 phone calls and send up to 3 faxes (Appendix C**)** to the primary care providers' office to try to obtain the information in the vaccine history section of the form. A physician, nurse, or other office staff may complete the form, and the information may be obtained over the phone or in person in lieu of sending a fax to the providers' office.

Phone Interview

All participating sites except Michigan will attempt to contact patients/patient's parents to obtain seasonal and novel (H1N1) influenza vaccination history for persons aged ≥6 months if this information is not available from medical chart review, state vaccination registry, or physician records. Parents of pediatric age patients aged ≥2 months may also be asked about pneumococcal vaccine receipt if this information is also missing from routine data sources. If patients are deceased or unable to answer for some reason an interview will be held with the patient's proxy (e.g., spouse, caregiver, or next of kin). (See Figure 1.) The need for a proxy will be ascertained during the phone interview, unless the medical record admission note indicates the need for and identifies a proxy.

Sites will use the following methods to try to locate patient/proxy/patient's families: 1) medical charts, 2) laboratory records, or 3) directory assistance ("411"), and 5) internet phone/address searches (including name and address/reverse directories). If the patient or parents cannot be interviewed, sites will try to identify the proxy/family member who is most familiar with the patient's medical history during the phone interview.

Once a correct phone number is identified, sites will make multiple attempts to reach the patient/proxy/family member. These attempts should include calling during different daytime periods during the week and weekend. Sites will stop trying to call a patient/proxy/family member if they cannot locate a correct phone number after using the search methods listed above or if successful contact is not made after multiple attempts at what appears to be a correct number.

Once a patient/proxy/family member is successfully contacted, a project staff member will use a script to explain the evaluation/surveillance project and will obtain verbal consent (Appendix D) to participate. A project staff member will then ask the patient/proxy/family member a series of questions (see phone interview script, Appendix E) about their/their family member's receipt of seasonal and novel (H1N1) influenza vaccine prior to their influenza hospitalization.

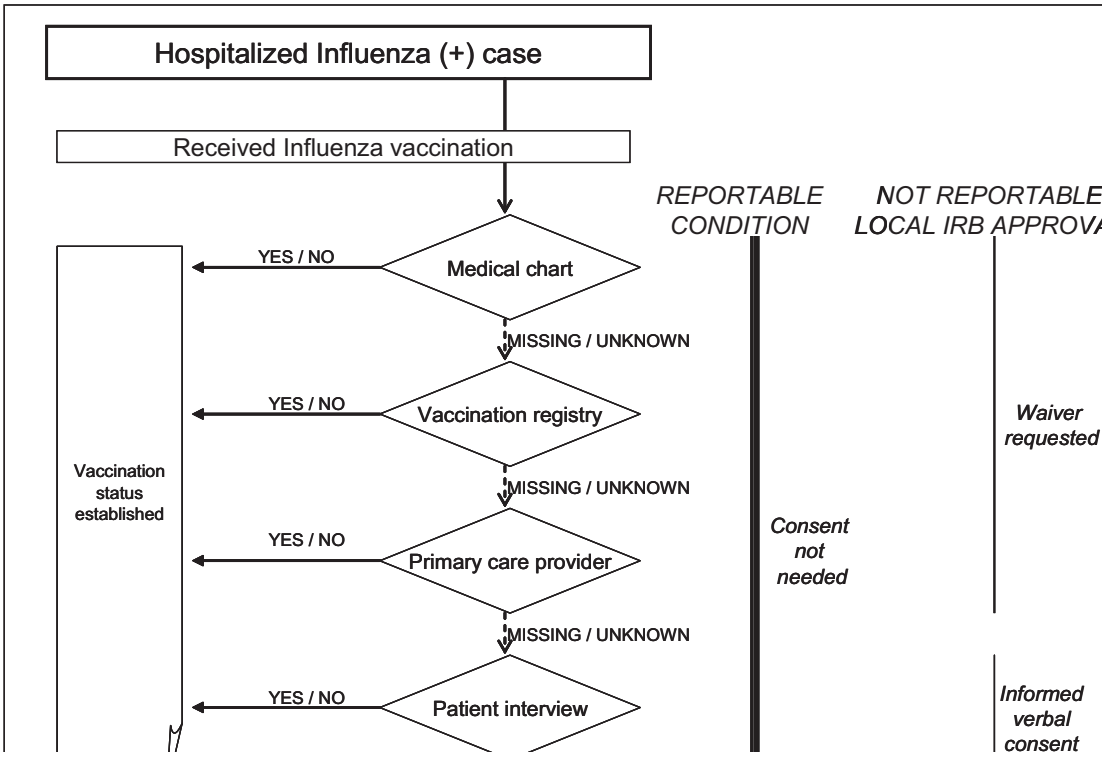
If the patient's race/ethnicity, or height/weight information is unknown after reviewing the medical record and contacting the provider and sites are planning to interview the patient/proxy/family member to collect vaccination history already, sites may elect to include optional questions about the patient's race/ethnicity and height/weight during the phone interview. (See Appendix E.)

Waiver of Informed Consent

Surveillance cases will not be contacted. Surveillance data will be obtained from medical record review, vaccination registries or provider officers. A waiver of consent is requested for the following reasons:

- The research poses no more than minimal risk to the subjects—because the primary human subjects contact for this surveillance activity is with the patient's medical chart and the research presents no more than minimal risk of harm to subjects and does not involve a procedure when done outside of the research context that would require written consent.
- The waiver will not adversely affect the rights and welfare of the subjects - most localities view collection of the proposed data elements as public health practice/surveillance, others who do not have statutory authority will have to submit this protocol to their local IRB and will be required to obtain informed consent. Personal identifying information such as name, medical record number and address will be removed before data submission to CDC. CDC will identify each case using a unique Case Identification Number. Only the local investigators collecting the case information will be able to link personal identifiers with case information. Project paperwork maintained by each participating site/physician should never be submitted to CDC and should reside in a locked, secure location, available only to a minimum number of local staff. Additionally, original paperwork should not be reused or disclosed to any other person or entity except as required by law.
- The research could not be practically carried out without the waiver— If a waiver of informed consent is not granted, local sites would have to track down hundreds of persons to obtain consent, including those whose residence may have changed since hospitalization. If this waiver is not granted, the surveillance cases represented would likely be biased toward healthier persons who are more likely to be found and provide consent to participate.
- Providing pertinent information after "participation" to subjects—The project results and addition information will not be shared individually with patients because it will not influence or benefit the project participants hospitalization or their future medical history following hospitalization. The only persons who might benefit from the project participant's experience are other persons hospitalized in the future. This will occur as aggregated data (from which individuals cannot be identified) and results are made publicly available as quickly as possible, as the circumstances dictate.

Figure 2. Informed Consent/Waiver Request Schematic



Human Subjects Consideration

The Influenza Hospitalization Surveillance protocol in use among the EIP sites that includes statin medication collection has been IRB approved by CDC and local EIP sites. This project will not seek CDC IRB approval and is being promulgated under a public health response. Therefore to avoid any IRB conflict, the statin medication use data element will not be collected as part of this surveillance activity. Individual states and cities may need to consult their local human subjects contact to assess their need for IRB approval or to limit their data collection.

Protection of Privacy and Confidentiality

There are no personal identifiers in the dataset submitted to CDC. Thus, the subjects whose charts are reviewed will remain anonymous to CDC.

Each hospital where charts are abstracted will be given a unique identification string of letter and numbers can be linked to hospital name only by participating states' staff.

Data Entry and Management

CDC will provide to each surveillance site an Access database that mirrors the case report form. Surveillance staff at each participating site will enter data from the case report form into the database and submit the data, stripped of identifiers, to CDC each week during the season. Alternatively, sites that use an alternate data system do not need to use the Access database but must send to CDC a dataset that matches the output of the Access database. At CDC, data from all sites will be concatenated and exported into SAS.

Data Analysis

The primary outcome is the age-specific rate of laboratory-confirmed, influenza-associated hospitalizations in multiple states. Secondary outcomes include the rate of serious influenza-associated complications (e.g., secondary bacterial infections, ICU admissions, prolonged length of hospitalization), and risk factors associated with serious influenza-associated complications, and death.

Age-specific rates of laboratory-confirmed influenza-associated hospitalizations and influenza-associated severe complications will be calculated using population denominators from the most recent census data available.

Quality Control/Assurance

Interim analyses of aggregate data will be conducted periodically throughout the active surveillance season to determine if any risk factors or influenza-associated complications are

occurring in unexpected frequencies. Feedback reports will be generated and sent back to the surveillance site to identify data anomalies in need of correction.

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Appendix A:

Pediatric Case Report Form

Pediatric Case Report Form

Case ID_____

PATIENT IDENTIFIERS AND OTHER INFORMATION (GRAY FIELDS NOT FOR TRANSMISSION TO CDC)

Last Name:	*First Name:*	*Name Emergency Contact 1:*	*Name Emergency Contact 2:*
_____	_____	_____	_____
Phone No.:	*Chart Number:*	Additional Numeric ID(State/Local):	Additional Numeric ID(State/Local):
_____	_____	_____	_____
Address:		*City:*	*Zip:*
_____		_____	_____
Primary provider name:		*Provider Phone No.:*	*Provider Fax No.:*
_____		_____	_____

Open text field for site use:
_____

Name of person reporting this case:

Last Name:	First Name:	Date Reported:
_____	_____	_____-_____-_____ MM-DD-YYYY

Enrollment Information

1. State (residence of patient):	2. County:	3. Case I.D.:
____ ____	_____	____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

4. Hospital I.D. Where Patient Treated: ____ ____ ____ ____ ____

a) Admission Date: _____-_____-_____ (MM-DD-YYYY)

b) Discharge Date: _____-_____-_____ (MM-DD-YYYY)

5. Was patient transferred from another hospital: ☐ Yes ☐ No

a) If **YES**, Hospital I.D.: ____ ____ ____ ____ ____

b) Admission Date: _____-_____-_____ (MM-DD-YYYY)

c) Transfer Date: _____-_____-_____ (MM-DD-YYYY)

6a. Date of Birth: _____-_____-_____ (MM-DD-YYYY) 6b. Age: ____years ____ months	7. Sex: ☐ Male ☐ Female 8. Height: ____ ☐ In ☐ Cm ☐ Height Unknown 9. Weight:____ ☐ Lbs ☐ Kg ☐ Weight Unknown	10. Ethnicity: ☐ Hispanic or Latino ☐ Non-Hispanic or Latino ☐ Not Specified	11. Race (**check all that apply**): ☐ White ☐ Asian ☐ Black or African American ☐ Native Hawaiian or Other Pacific Islander ☐ American Indian or Alaskan Native ☐ Multiracial, unspecified ☐ Not Specified

POSITIVE Laboratory Testing Results for Influenza

1. How was the diagnosis of influenza confirmed **(check all positive tests for influenza)**:

☐ Fluorescent antibody (Direct or Indirect FA) ☐ RT-PCR ☐ Serology

☐ Viral culture ☐ Test method unknown

☐ Rapid Influenza test …Please record name of test: _____

2. Date of first positive influenza test: _____-_____-_____ (MM-DD-YYYY)

3. Influenza virus identification (**check only one type**): ☐ Flu A ☐ Flu B ☐ Flu A&B ☐ Other combinations ☐ Type unknown

a) If **Influenza A subtype**, please select if known: ☐ H1 ☐ H3 ☐ Novel H1N1 ☐ Unsubtypable ☐ Unknown ☐ Other Specify:_____

4. Hospital/lab/office ID where positive result was identified (If done in a doctor's office, use the code **MDTST** or if site of flu testing is unknown, use **UNKLB) :** _____ _____ _____ _____ _____

5. Was a positive influenza test result noted in the medical chart (i.e., admission H&P or discharge note? ☐ Yes ☐ No

From the face sheet, list ICD-9 discharge diagnoses (if available)

1. ☐☐☐☐☐ 4. ☐☐☐☐☐ 7. ☐☐☐☐☐
2. ☐☐☐☐☐ 5. ☐☐☐☐☐ 8. ☐☐☐☐☐
3. ☐☐☐☐☐ 6. ☐☐☐☐☐ 9. ☐☐☐☐☐

From the Admission History and Physical

1. Date of onset of acute illness episode resulting in hospitalization : _____-_____-_____ (MM-DD-YYYY) ☐ Unknown

2. Did the patient have any of the following conditions? ☐ Yes ☐ No

a) If **YES**, please check all that apply:

☐ Asthma (including reactive airway disease)
☐ Cystic fibrosis
☐ Other chronic lung disease (Specify)_____
☐ Chronic cardiovascular disease (Specify)_____
☐ Chronic metabolic disease (including Diabetes) (Specify) _____
☐ Renal disease (Specify) _____
☐ Hemoglobinopathy (including Sickle Cell Disease)
☐ Neuromuscular disorder (including Cerebral Palsy) (Specify) _____
☐ Immunosuppressive condition (Specify)_____
☐ Seizure disorder
☐ History of febrile seizures
☐ Premature (gestational age <37 weeks at birth for patients <2 yrs of age) (Specify gestational age at birth, in weeks): _____ _____ ☐ Unknown
☐ Developmental delay
☐ Pregnant (Specify gestational age in weeks): ____ ☐ Unknown
☐ Long-term aspirin therapy
☐ Abnormality of the upper airway (Specify) _____
☐ Obesity ☐ Morbid Obesity
If Obesity or Morbid Obesity, please specify source:_____

Chest Radiograph during the Hospital Stay

1. Chest X-Ray (within 24 hrs of admission): ☐ Yes ☐ No _____-_____-_____ (MM-DD-YYYY)

a) If YES, please transcribe the impression/conclusion of the radiology report:_____

b) If YES, please check all that apply:

☐ Bronchopneumonia/pneumonia
☐ Pleural effusion
☐ Interstitial infiltrate
☐Cannot rule out pneumonia
☐ Air space density/opacity
☐ Consolidation
☐ Multiple lobar infiltrate (unilateral)
☐ Report not available
☐ Cavitation
☐ Single lobar infiltrate,
☐ Multiple lobar infiltrate (bilateral),
☐Other (specify):_____

Tests, Procedures, and Interventions during the Hospital Stay

3. Mechanical ventilation ☐ Yes ☐ No

4. Extracorporeal Membrane Oxygenation (ECMO or 'on bypass') ☐ Yes ☐ No

Culture Confirmation of Bacterial Pathogens (STERILE OR RESPIRATORY SITE)

1. Was there culture confirmation of bacterial infection? ☐ Yes ☐ No

2. Date of first positive culture _____-_____-_____ (MM-DD-YYYY)

3. Specify the pathogen identified **(check only one)**:

☐ *Streptococcus pneumoniae*

☐ Group A *Streptococcus*

☐ *Haemophilus influenzae:* If **YES**, type b? ☐ Yes ☐ No ☐ Unknown

☐ *Staphylococcus aureus* If **YES**, a) methicillin **resistant (MRSA)**? ☐ Yes b) methicillin **sensitive (MSSA)**? ☐ Yes

c) sensitivity unknown? ☐ Yes

☐ *Neisseria meningitides (specify serogroup if known):*_____

4. Specify the site(s) in which the pathogen was identified **(check all that apply)**:

☐ Blood ☐ Cerebrospinal fluid (CSF) ☐ Endotracheal Aspirate

☐ Bronchoalveolar lavage (BAL) ☐ Pleural Fluid ☐ Sputum

Please specify any other sterile or respiratory sites not listed above:_____

5. If other pathogens were isolated from **sterile or respiratory** sites **within 3 days of hospital admission**, please specify: 1) pathogen name; 2) first culture date; 3) site in which pathogen was identified:_____

Viral Pathogens

1. Did the patient test positive for any of the viral pathogens below (check all that apply)?

RSV……..	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Adenovirus……..	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Parainfluenza 1……...	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Parainfluenza 2……...	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Parainfluenza 3……...	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Other: Specify_____ …..	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)

Treatment of Influenza

1. Did the patient receive treatment with an antiviral medication for influenza at any time during the course of this illness? ☐ Yes ☐ No

a. If **YES,** indicate which antiviral medications were used:

	Series 1			**Series 2**		
	Start Date: MM-DD-YYYY	**End Date:** MM-DD-YYYY	**Dose**	**Start Date:** MM-DD-YYYY	**End Date:** MM-DD-YYYY	**Dose**
☐ Amantadine (Symmetrel)						
☐ Rimantadine (Flumadine)						
☐ Zanamivir (Relenza)			**Dose**____ ☐ QD ☐ BID ☐ TID			**Dose**____ ☐ QD ☐ BID ☐ TID
☐ Oseltamivir (Tamiflu)			**Dose**____ ☐ QD ☐ BID ☐ TID			**Dose**____ ☐ QD ☐ BID ☐ TID
☐ Other, specify_____			**Dose**____ ☐ QD ☐ BID ☐ TID			**Dose**____ ☐ QD ☐ BID ☐ TID
☐ Unknown						

From the Discharge Summary

1. Was this patient admitted to an intensive care unit (ICU)? ☐ Yes ☐ No

2. Did the patient have any of the following diagnoses at discharge (**check all that apply**)?

Pneumonia	☐Yes	☐No	Bronchiolitis	☐Yes	☐No	Encephalopathy/encephalitis	☐Yes	☐No
Seizures	☐Yes	☐No	Reye's syndrome	☐Yes	☐No	Hemophagocytic Syndrome	☐Yes	☐No

Guillain-Barre Syndrome (GBS) ☐Yes ☐No Acute Respiratory Distress Syndrome (ARDS) ☐Yes ☐No

3. What was the outcome of the patient?

☐ Died ☐ Alive

a) **If discharged alive**, please indicate to where:

☐ Home ☐ Hospice
☐ Other hospital ☐ Other
☐ Long-term care facility/rehabilitation center ☐Unknown

4. If the patient was pregnant on admission, please indicate the following:

4a. Pregnancy status at discharge:

☐ Still pregnant ☐ No longer pregnant ☐ Unknown

4b. Pregnancy outcome at discharge:

☐ Miscarriage ☐ Healthy newborn ☐ Ill newborn ☐ Newborn Died ☐ Unknown

Case Identification Method

1. Specify case finding source (**check all that apply**): ☐ Hospital log ☐ Laboratory list ☐ Reportable Disease ☐ Discharge Database

2. **If other case finding sources were used**, please list: _____

Vaccination History

1. Did the patient receive any **influenza vaccine** during fall or winter of the current influenza season (i.e., at least 2 weeks prior to hospitalization)? ☐ Yes ☐ No ☐ Unknown

2. If Yes, indicate which vaccine(s) (**check only one**): ☐ Seasonal ☐ Novel H1N1 ☐ Both ☐ Unknown

3. If **seasonal,** please specify vaccine type (**check all that apply**):
☐ *Injected* vaccine --Trivalent inactivated influenza vaccine (TIV)
☐ *Nasal spray* -- Live-attenuated influenza vaccine (LAIV)
☐ *Unknown*

3a) If seasonal, indicate number of doses: ☐ 1 ☐ 2 ☐ Unknown
3b) For each dose, specify the date given
1) _____-_____-_____ (MM-DD-YYYY)
2) _____-_____-_____ (MM-DD-YYYY)

4. If **novel H1N1** vaccine was received , please indicate the following:

4a) Indicate number of doses: ☐ 1 ☐ 2 ☐ Unknown
4b) For each dose, specify the date given
1) _____-_____-_____ (MM-DD-YYYY)
2) _____-_____-_____ (MM-DD-YYYY)
4c) Manufacturer:_____ Lot no. _____

5. Did the patient receive any seasonal **influenza vaccine** in previous seasons? ☐ Yes ☐ No ☐ Unknown

6. Did the patient receive **pneumococcal conjugate vaccine** at any age (for children born in or after 1998)? ☐ Yes ☐ No ☐ Unknown

6a) **If YES**, please complete the list below.

Dose	Date Given (MM-DD-YYYY)	Dose	Date Given (MM-DD-YYYY)
1	_____-_____-_____	3	_____-_____-_____
2	_____-_____-_____	4	_____-_____-_____

7. What was the source of vaccination history (**check all that apply**)?

☐ Medical chart ☐ Primary care provider ☐ Vaccine Registry
☐ Interview ☐ Patient Refused/Lost

COMMENTS:_____

_____

_____

_____

_____

_____

APPENDIX B.

Adult Case Report Form

Case ID_____

Adult Influenza Hospitalization Surveillance Project Case Report Form

PATIENT IDENTIFIERS AND OTHER INFORMATION (GRAY FIELDS NOT FOR TRANSMISSION TO CDC)

Last Name: _____ *First Name:* _____ *Name Emergency Contact 1:* _____ *Name Emergency Contact 2:* _____

Phone No.: _____ *Chart Number:* _____ *Additional Numeric ID (State/Local):* _____ *Additional Numeric ID (State/Local):* _____

Address: _____ *City:* _____ *Zip:* _____

Primary Provider Name: _____ *Provider Phone Number:* _____ *Provider Fax Number:* _____

Open text field for site use: _____

Name of person reporting this case:

Last Name: _____ First Name: _____ Date Reported: _____-_____-_____ MM-DD-YYYY

Enrollment Information

1. State (residence of patient): ____ ____

2. County: _____

3. Case I.D.: ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

4. Hospital I.D. Where Patient Treated: ____ ____ ____ ____ ____

a) Admission Date: _____-_____-_____ (MM-DD-YYYY)

b) Discharge Date: _____-_____-_____ (MM-DD-YYYY)

5. Was patient transferred from another hospital: ☐ Yes ☐ No

a) If **YES**, Hospital I.D.: ____ ____ ____ ____ ____

b) Admission Date: _____-_____-_____ (MM-DD-YYYY)

c) Transfer Date: _____-_____-_____ (MM-DD-YYYY)

6. Was patient a resident of nursing home or other chronic care facility prior to this hospitalization? ☐ Yes ☐ No

a) If **YES**, indicate name of facility: _____

7a. Date of Birth: ____-____-_____ (MM-DD-YYYY)

7b. Age ____ years

8. Sex: ☐ Male ☐ Female

9. Height: ____ ☐ In ☐ Cm ☐ Height Unknown

10. Weight:____ ☐ Lbs ☐ Kg ☐ Weight Unknown

11. Ethnicity:
☐ Hispanic or Latino
☐ Non-Hispanic or Latino
☐ Not Specified

12. Race (**check all that apply**):
☐ White
☐ Asian
☐ Black or African American
☐ Native Hawaiian/Other Pacific Islnd
☐ American Indian or Alaskan Native
☐ Multiracial, unspecified
☐ Not Specified

13. Occupation_____

14. Is patient a healthcare worker?
☐ Yes ☐ No ☐ Unknown
If Yes, please specify?
☐ Nurse
☐ Physician
☐ Respiratory Therapist
☐ Other, specify_____
☐ Unknown

POSITIVE Laboratory Testing Results for Influenza

1. How was the diagnosis of influenza confirmed **(check all positive tests for influenza)**:
   - ☐ Fluorescent antibody (Direct or Indirect FA)
   - ☐ RT-PCR
   - ☐ Serology
   - ☐ Viral culture
   - ☐ Test method unknown
   - ☐ Rapid Influenza test….Please record name of test:_____

2. Date of first positive influenza test: _____-_____-_____ (MM-DD-YYYY)

3. Influenza virus identification (**check only one type**): ☐ Flu A ☐ Flu B ☐ Flu A&B ☐ Other combination ☐ Type unknown

a) If **Influenza A subtype**, please select if known: ☐ H1 ☐ H3 ☐ Novel H1N1 ☐ Unsubtypable ☐ Unknown ☐ Other, specify____

4. Hospital/lab/office ID where positive flu test was identified (If done in doctor's office, use the code **MDTST**: _____ _____ _____ _____ _____ or if site of flu testing is unknown,use **UNKLB)**

5. Was a positive influenza test result noted in the medical chart (i.e.:admission H&P or discharge note? ☐ Yes ☐ No

Case ID_____

Adult Influenza Hospitalization Surveillance Project Case Report Form

From the face sheet, list ICD-9 discharge diagnoses (if available)

1. ☐☐☐☐☐	4. ☐☐☐☐☐	7. ☐☐☐☐☐
2. ☐☐☐☐☐	5. ☐☐☐☐☐	8. ☐☐☐☐☐
3. ☐☐☐☐☐	6. ☐☐☐☐☐	9. ☐☐☐☐☐

From the Admission History and Physical

1. Date of onset of acute illness episode resulting in hospitalization : _____-_____-_____ (MM-DD-YYYY) ☐ Unknown

2. Did the patient have any of the following conditions? ☐ Yes ☐ No

a) If **YES**, please check all that apply:

☐ Asthma (including reactive airway disease)

☐ Cystic fibrosis

☐ Other chronic lung disease
(Specify)_____

☐ Chronic cardiovascular disease
(Specify)_____

☐ Chronic metabolic disease (including Diabetes)
(Specify) _____

☐ Renal disease
(Specify) _____

☐ Hemoglobinopathy (including Sickle Cell Disease)

☐ Neuromuscular disorder (including Cerebral Palsy)
(Specify) _____

☐ Cancer diagnosis in last 12 months, excluding non-melanoma skin cancer

☐ Immunosuppressive condition
(Specify) _____

☐ Seizure disorder

☐ History of -Guillain-Barre Syndrome

☐ History of lymphoma, leukemia

☐ Cognitive dysfunction

☐ Pregnant (Specify gestational age in weeks): ____ ☐ Unknown

☐ Obesity or ☐ Morbid Obesity

If Obesity or Morbid Obesity, please specify source:_____

Chest Radiograph during the Hospital Stay

1. Chest X-Ray (within 24 hrs of admission): ☐ Yes ☐ No ___-___-_____(MM-DD-YYYY)

a) If YES, please transcribe the impression/conclusion of the radiology report:_____
_____
_____
_____
_____
_____
_____
_____

b) If YES, please check all that apply:

☐ Bronchopneumonia/pneumonia
☐ Pleural effusion
☐ Interstitial infiltrate
☐Cannot rule out pneumonia
☐ Air space density/opacity
☐ Consolidation
☐ Multiple lobar infiltrate (unilateral)
☐ Report not available
☐ Cavitation
☐ Single lobar infiltrate
☐ Multiple lobar infiltrate (bilateral)
☐Other (specify):_____

Tests, Procedures, and Interventions during the Hospital Stay

1. Mechanical ventilation: ☐ Yes ☐ No

2. Extracorporeal Membrane Oxygenation (ECMO or 'on bypass') ☐ Yes ☐ No

Adult Influenza Hospitalization Surveillance Project Case Report Form

Culture Confirmation of Bacterial Pathogens (STERILE OR RESPIRATORY SITE)

1. Was there culture confirmation of a bacterial infection? ☐ Yes ☐ No

2. Date of first positive culture _____-_____-_____ (MM-DD-YYYY)

3. Specify the pathogen identified **(check only one)**:

☐ *Streptococcus pneumoniae*

☐ Group A *Streptococcus*

☐ *Haemophilus influenzae* If **YES**, type b? ☐ Yes ☐ No ☐ Unknown

☐ *Staphylococcus aureus* If **YES**, a) methicillin **resistant (MRSA)**? ☐ Yes b) methicillin **sensitive (MSSA)**? ☐ Yes

c) sensitivity unknown? ☐ Yes

☐ *Neisseria meningitidis (specify serogroup if known):*_____

4. Specify the site(s) in which the pathogen was identified **(check all that apply)**:

☐ Blood ☐ Cerebrospinal fluid (CSF) ☐ Endotracheal Aspirate

☐ Bronchoalveolar lavage (BAL) ☐ Pleural fluid ☐ Sputum

Please specify any other **sterile or respiratory** sites not listed above:_____

5. If other pathogens were isolated from **sterile or respiratory** sites **within 3 calendar days of hospital admission**, please specify 1) pathogen name; 2) first culture date; 3) site in which pathogen was identified: _____

Viral Pathogens

1. Did the patient test positive for any of the viral pathogens below (check all that apply)?

RSV……..	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Adenovirus……..	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Parainfluenza 1……...	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Parainfluenza 2……...	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Parainfluenza 3……...	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)
Other: Specify_____ …..	☐ Yes	☐ No	☐ Unknown	Date ___-___-_____ (MM-DD-YYYY)

Use of Statins (cholesterol lowering medicine)

1. Was the patient taking a statin *before* hospital admission? **(check only one)** ☐ Yes ☐ No ☐ Refused/Declined ☐ Unknown

a. If **YES**, specify name of statin: _____

2. Did the patient receive statins any time *during* hospitalization? **(check only one)** ☐ Yes ☐ No ☐ Refused/Declined ☐ Unknown

a. If **YES,** specify name of statin: _____

Treatment of Influenza

1. Did the patient receive treatment with an antiviral medication for influenza at any time during the course of this illness? ☐ Yes ☐ No

a. If **YES,** indicate which antiviral medication were used or check unknown:

	Series 1			Series 2		
	Start Date: MM-DD-YYYY	**End Date:** MM-DD-YYYY	**Dose**	**Start Date:** MM-DD-YYYY	**End Date:** MM-DD-YYYY	**Dose**
☐ Amantadine (Symmetrel)						
☐ Rimantadine (Flumadine)						
☐ Zanamivir (Relenza)			**Dose**____ ☐ QD ☐ BID ☐ TID			**Dose**____ ☐ QD ☐ BID ☐ TID
☐ Oseltamivir (Tamiflu)			**Dose**____ ☐ QD ☐ BID ☐ TID			**Dose**____ ☐ QD ☐ BID ☐ TID
☐ Other, specify_____			**Dose**____ ☐ QD ☐ BID ☐ TID			**Dose**____ ☐ QD ☐ BID ☐ TID
☐ Unknown						

Case ID_____

Adult Influenza Hospitalization Surveillance Project Case Report Form

From the Discharge Summary

1. Was this patient admitted to an intensive care unit (ICU)? ☐ Yes ☐ No

2. Did the patient have any of the following diagnoses at discharge (**check all that apply**)?

Pneumonia	☐Yes	☐No	Stroke (CVA)	☐Yes	☐No
Acute encephalopathy/encephalitis	☐Yes	☐No	Guillain-Barre Syndrome (GBS)	☐Yes	☐No
Acute Respiratory Distress Syndrome (ARDS)	☐Yes	☐No			

3. What was the outcome of the patient?

☐ Died ☐ Alive

a) **If discharged alive**, please indicate to where:

☐ Home ☐ Hospice

☐ Other hospital ☐ Other

☐ Long-term care facility / rehabilitation center ☐ Unknown

4. If the patient was pregnant on admission, please indicate the following:

4a. Pregnancy status at discharge:

☐ Still pregnant ☐ No longer pregnant ☐ Unknown

4b. Pregnancy outcome at discharge:

☐ Miscarriage ☐ Healthy newborn ☐ Ill newborn ☐ Newborn Died

☐ Unknown

Case Identification Method

1 Specify case finding source (**check all that apply**): ☐ Hospital log ☐ Laboratory list ☐ Reportable disease ☐ Discharge Database

2 **If other case finding sources were used**, please list: _____

Influenza Vaccination History

1. Did the patient receive *any* **influenza vaccine** during fall or winter of the current influenza season (i.e., at least 2 weeks prior to hospitalization)? ☐ Yes ☐ No ☐ Unknown

2. If Yes, indicate which vaccine(s) (**check only one**): ☐ Seasonal ☐ Novel H1N1 ☐ Both ☐ Unknown

3. If **seasonal vaccine** was received, please specify vaccine type:

☐ *Injected* vaccine --Trivalent inactivated influenza vaccine (TIV)

☐ *Nasal spray* -- Live-attenuated influenza vaccine (LA

☐ Unknown

4. If **novel H1N1 vaccine** was received, please indicate the following:

4a. Number of doses: ☐ 1 ☐ 2 ☐ Unknown

4b. For each dose, specify the date given: 1) ___-___-_____ (MM-DD_YYYY)

2) ___-___-_____ (MM-DD_YYYY)

4c. Manufacturer_____ Lot no. _____

5. What was the source of seasonal vaccination history (**check all that apply**)? ☐ Medical chart ☐ Primary care provider ☐ Vaccine Registry ☐ Interview ☐ Patient Refused/Lost

5a) If vaccination history obtained by phone interview, specify source of interview: ☐ Patient ☐ Proxy Specify relationship (**enter code**): ___

COMMENTS:_____

_____

_____

_____

_____

_____

APPENDIX C. Vaccination History Fax Form for contacting providers

Date: [**current date**]

Dear **Dr.** [**LastName**]:

The [**State/Local Health Department**], in collaboration with the Centers for Disease Control and Prevention, are tracking patients who have been hospitalized with influenza. A patient from your clinic, **Patient Name (DOB: MM/DD/YYYY)**, was reported to us as having been hospitalized with influenza beginning on MM-DD-YYYY. We are trying to obtain immunization history on all hospitalized patients and would appreciate your help in completing the information below for this patient. **If this was not a patient seen by you or another provider at your clinic, please mark "Unknown" for question 1 below.**

Please fax the completed form to **XXX-XXX-XXXX**. For any questions, please contact <**PI/SO**>, at **XXX-XXX-XXXX**. Thank you in advance for your help.

Investigation of these cases falls within the scope of public health surveillance. The Health Insurance Portability and Accountability Act (HIPAA) does NOT prohibit your reporting this information to public health authorities (see http://aspe.hhs.gov/admnsimp/PL104191.htm, Section 1178 (b)).

<table>
<tr><td colspan="2">1. Did the patient receive any influenza vaccine during fall or winter of the current influenza season, at least 2 weeks prior to their hospitalization? ☐Yes ☐ No ☐ Unknown</td></tr>
<tr><td>For ADULT</td><td>2. If YES, please specify vaccine type:
☐ Injected vaccine --Trivalent inactivated influenza vaccine (TIV)
☐ Nasal spray -- Live-attenuated influenza vaccine (LAIV)</td></tr>
<tr><td>For CHILD</td><td>2. If YES, please specify vaccine type (check all that apply):
☐ Injected vaccine --Trivalent inactivated influenza vaccine (TIV)
☐ Nasal spray -- Live-attenuated influenza vaccine (LAIV)
a) Indicate number of doses: ☐ 1 ☐ 2 ☐ Unknown
b) For each dose, specify the date given
1) _____-_____-_____ (MM-DD-YYYY)
2) _____-_____-_____ (MM-DD-YYYY)
2A. Did the patient receive influenza vaccine in any previous seasons? ☐ Yes ☐ No ☐ Unknown</td></tr>
<tr><td colspan="2">3. Did the patient receive any doses of the novel influenza A (H1N1) vaccine ? ☐Yes ☐ No ☐ Unknown

4. If YES, please indicate the number of doses and when administered:
☐ 1 dose administered: _____/_____/_____ (mm/dd/yyyy)
☐ 2 doses administered: _____/_____/_____ (mm/dd/yyyy)</td></tr>
<tr><td colspan="2">To help us complete the medical information about your patient, could you please provide us with their height and weight if this information was obtained within 6 months before their hospitalization.
5. HEIGHT: _____ ☐ inches ☐ centimeters</td></tr>
</table>

WEIGHT: _____ ☐ pounds ☐ kilograms

To help us complete the demographic information about your patient, could you please provide us with their race and ethnicity.

6. Race (check all that apply):

☐ White ☐ Black or African American ☐ Asian ☐ Native Hawaiian or Other Pacific Islander

☐ American Indian or Alaska Native ☐ Multiracial, unspecified ☐ Not specified

7. Ethnicity (check one) ☐ Hispanic or Latino ☐ Non-Hispanic or Latino

☐ Not Specified

Consent Form (for patient/proxy interview ONLY)

Influenza Hospitalization Surveillance Project
VERBAL CONSENT FORM

Hello. My name is _____ from the _____[state] Department of Public Health. May I speak to _____ . We are working with the Centers for Disease Control and Prevention and other health departments to learn more about influenza disease or the flu. To do this, we are talking to people who have been in the hospital with the flu. We want to look at things that may affect their illness and whether they were vaccinated against the flu, including novel or swine flu.

Because you/your child [or NAME if speaking with proxy] were in the hospital for the flu beginning on _____[day admitted], I would like to ask you a few questions about whether you received the flu vaccine this season. This will take about five minutes. Your participation is voluntary and if you choose to refuse it will not affect any medical care or benefits you receive. All of your responses will be kept confidential as much as the law allows. You may refuse to answer any questions and may stop at any time. This information will help [State/Local Health Department] and CDC better describe influenza-associated hospitalizations. Additionally, this information may help us improve vaccination recommendations for flu and better protect the public's health. There is no other benefit to you for answering these questions. There is also no risk to you. If you have any questions about the study, you may call _____[state contact] at the Department of Public Health at XXX-XXX-XXXX. Do you have any questions before I begin?

May I continue with this interview? ☐ Yes ☐ No

If YES, go to Appendix E.
If NO: Thank you for your time. Have a good day.

Name of person obtaining verbal consent: _____
Date: _____

Flesch-Kincaid: 7.7

Case and Proxy Identifying Information

Influenza Hospitalization Surveillance Project

Patient's:

Last name_____ First name_____ Initial__

Date of birth: ____/____/_____

Phone_____

Proxy's:

Last name_____First name_____ Initial__

Phone_____

Relationship to case patient _____

Note to collaborators: This is for your records only. Do not send this information to CDC. Keep this information in a secure locked place.

APPENDIX D (Spanish) Case ID _____

Formulario de Consentimiento
(Para paciente, apoderado, para los padres/guardian entrevista SOLAMENTE)

Gripe Hospitalización en El Proyecto de Vigilancia
Formulario de Consentimiento Verbal

Hola. Mi nombre es _____, trabajo con el departamento de Salud Pública del estado de ___. ¿Puedo hablar con ___/uno de los padres de [nombre de niño/a]? Estamos trabajando con los Centros para el Control y la Prevención de Enfermedades y otros departamentos de salud para aprender más acerca de la gripe. Para hacer esto, estamos hablando con gente que ha estado en el hospital con la gripe. Deseamos averigual más sobre las cosas que pueden afectar la enfermedad, incluyendo las medicinas que toma, y si usted fue vacunado contra la gripe.

Ya que usted/ su hijo/a (o nombre de la persona si es un apoderado) estuvo en el hospital con la gripe empezando _____ (fecha de hospitalización). Me gustaría preguntar si ha recibido la vacuna contra la gripe durante esa temporada. Estas preguntas tomarán aproximadamente cinco minutos. Su participación es voluntaria y si usted decide negarse no afectará ninguna atención médica o beneficios que usted recibe. Todas sus respuestas se mantendrán confidencialmente en la medida que lo dispone la ley. Usted puede negarse responder a cualquier pregunta y parar en cualquier momento. Ésta información ayudará al Departamento de Salud Pública y CDC describir hospitalizaciones asociadas con la influenza. Además esta información puede ayudarnos crear recomendaciones para vacunaciones para la influenza y proteger la salud de la pública. No hay otro beneficio para usted por contestar a estas preguntas. Tampoco hay riesgo alguno para usted. Si tiene alguna pregunta sobre el estudio ponerse en contacto con el Dr. [fill in] en el Departamento de Salud Pública al teléfono (xxx) xxx-xxxx. ¿Usted tiene alguna pregunta antes de que comience?

¿Puedo seguir con la entrevista? □ Si □ No

If YES, go to Appendix E.
If NO: Muchas gracias por su tiempo.

Name of person obtaining verbal consent: _____

Date: _____

Case and Proxy Identifying Information

Influenza Hospitalization Surveillance Project

Patient's:

Last name_____ First name_____ Initial_____

Date of birth: ____/____/_____

Phone_____

Proxy's:

Last name_____First name_____ Initial__

Phone_____

Relationship to case patient _____

Note to collaborators: This is for your records only. Do not send this information to CDC. Keep this information in a secure locked place.

A**PPENDIX E:** Phone script (English version)

CaseID _____

Birth date: ___/___/_____
MM/DD/YYYY

Obtain verbal consent, Appendix D, before proceeding.

I'd like to ask you a few questions about _____[patient's name/ child's name]'s vaccination history before [he/she] was hospitalized for influenza or the flu. These questions will take less than ten minutes to answer.

1. Since September [flu season year], did ___[you / child's name] receive a flu shot or flu vaccine before they were hospitalized [ie, received at least 2 weeks prior to hospitalization]? This vaccine is offered every year to protect against the flu.
   ☐ Yes ☐ No (if child, skip to #C2; if adult, skip to #4) ☐ Unknown

.FOR CHILD:

If **YES** C1) Can you tell me the number of doses your child received? ☐ 1 ☐ 2 ☐ Unknown

C1A). Did your child receive a shot or was it sprayed into their nose?
[check all that apply] ☐ Shot [*Injected* vaccine --Trivalent inactivated influenza vaccine (TIV)]
☐ Spray [*Nasal spray* -- Live-attenuated influenza vaccine (LAIV)]
☐ Unknown

C1B) For each dose received, can you tell me the date your child received flu vaccine?
1) _____-_____-_____ [MM-DD-YYYY]

2) _____-_____-_____ [MM-DD-YYYY]

C2. Did your child receive influenza vaccine in any previous seasons?
☐ Yes ☐ No ☐ Unknown

C3. At any time, did your child receive the pneumonia vaccine [*may need to read*: pneumococcal, PCV(7), Prevnar®]?
☐ Yes ☐ No ☐ Unknown

If **YES** a) Can you tell me the dates your child received the pneumonia vaccine?

Dose	Date Given (MM-DD-YYYY)
1	_____-_____-_____
2	_____-_____-_____
3	_____-_____-_____
4	_____-_____-_____

FOR ADULT:

If **YES** A1. Did [you/patient's name] receive a shot or was it sprayed into your nose?
☐ Shot [*Injected* vaccine --Trivalent inactivated influenza vaccine (TIV)]
☐ Spray [*Nasal spray* -- Live-attenuated influenza vaccine (LAIV)]
☐ Unknown

FOR ADULTS AND CHILDREN

4. This season another flu vaccine for novel influenza A or swine flu is being offered. Have __[you / your child received this vaccine?

¨ **Yes** ¨ **No** *(skip to end)* ¨ **Unknown**

5. How many doses did [you / your child] receive and when they receive them?

☐ 1 dose Dose 1 received: ____- _____- _____ (MM-DD-YYYY)
[use 15 for day if only month and year are known]

☐ 2 doses Dose 1 received: ____- _____- _____ (MM-DD-YYYY)
[use 15 for day if only month and year are known]

[If medical record is incomplete then ask race/ethnicity; otherwise skip to 7. THE END]

6. Can you tell me what is your / your child's race (check all that apply)?

☐ White
☐ Black or African American
☐ Asian
☐ Native Hawaiian or Other Pacific Islander
☐ American Indian or Alaska Native
☐ Multiracial, unspecified
☐ Not specified (refused)

Are you / they….? ☐ Hispanic or Latino ☐ Non-Hispanic or Latino ☐ Not Specified (refuse to answer)

[If medical record is incomplete to calculate BMI, then ask height and weight; Only ask for hospitalized patients aged 2 years or older; otherwise skip to THE END]

7. Can you tell me your / your child's height and weight?

HEIGHT: _____☐ inches ☐ centimeters ☐ unknown height
WEIGHT: __ __☐ pounds ☐ kilograms ☐ unknown weight

THE END. These are all my questions. Do you have any questions for me? **[If yes, answer.]** Thank you for your time.

APPENDIX E: Phone script (Spanish version)

CaseID _____

Birth date: ___/___/_____

MM/DD/YYYY

Obtain verbal consent, Appendix D, before proceeding.

Me gustaría preguntarle unas preguntas acerca de la historia de vacunación de [nombre de hijo/a] antes de que ingresara al hospital con el virus de la gripe. Contestar estas preguntas tomará menos de 10 minutos.

1. ¿Desde septiembre [flu season year], ha recibido [usted/nombre de hijo/a] una inyección de la gripe o una vacuna contra la gripe antes de que fuera hospitalizado/a? [recibida dos semanas antes de hospitalización]? Esta vacuna se ofrece cada año para proteger contra la gripe.

   □ Si □No (si es menor, vaya a #C2; adulto, vaya a #4) □ Desconocido

PARA MENORES:

Si la respuesta es **SI**

C1) Puede usted decirme el número de dosis que su hijo/a recibió?

□ 1 □ 2 □ Desconocido

C1A) ¿Recibió [nombre de hijo/a] la vacuna como una inyección o en la forma de atomizador nasal?

☐ Inyección (Vacuna inyectada-Trivalent inactivated influenza vaccine (TIV)]
☐ Atomizador Nasal [Vacuna viva atenuada-Live attenuated influenza vaccine (LAIV)]
☐ Desconocido

C1B) ¿Para cada dosis recibida, puede usted decirme la fecha en que su hijo/a recibió la vacuna contra la gripe?

1) _____-_____-____ [MM-DD-AAAA]
2) _____-_____-____ [MM-DD-AAAA]

C2. ¿Recibió su hijo/a la vacuna contra la gripe en alguna temporada anterior?

□ Si □ No □ Desconocido

C3. ¿En cualquier momento de su vida, recibió su hijo/a la vacuna contra neumococo (neumonía)?

□ Si □ No □ Desconocido

Si la respuesta es SI a) ¿Puede usted decirme las fechas de que su hijo/a recibió la vacuna contra neumococo?

Dosis	Fecha Recibida
1)	_____-_____-____ [MM-DD-AAAA]
2)	_____-_____-____ [MM-DD-AAAA]
3)	_____-_____-____ [MM-DD-AAAA]
4)	_____-_____-____ [MM-DD-AAAA]

PARA ADULTOS:

Si la respuesta es SI:

A1. ¿Recibió [usted/nombre del paciente] la vacuna como una inyección o en la forma de atomizador nasal?

☐ Inyección (Vacuna inyectada-Trivalent inactivated influenza vaccine (TIV)]
☐ Atomizador Nasal [Vacuna viva atenuada-Live attenuated influenza vaccine (LAIV)]
☐ Desconocido

4. Esta temporada está siendo ofrecida otra vacuna contra la influenza A, también conocida como gripe porcina. ¿Ha recibido [usted/su hijo/a] esta vacuna?

□ Si □ No □ Desconocido

5. . ¿Cuantas dosis recibió [usted/su hijo/a] y cuando las recibió?

☐ 1 dosis Dosis #1 recibida ___-___-___ (MM-DD-AAAA)
[Use 15 para el día si sólo el mes y año son conocidos]
☐ 2 dosis Dosis #1 recibida ___-___-___ (MM-DD-AAAA)
[Use 15 para el día si sólo el mes y año son conocidos]

[If medical record is incomplete then ask race/ethnicity; otherwise skip to THE END]

6. ¿Puede usted decirme cual es la raza [suya/de su hijo/a]?
   - ☐ Blanca
   - ☐ Negra o afroamericana
   - ☐ Asiática
   - ☐ Nativa de Hawai o de otra isla del Pacífico
   - ☐ Indioamericana o nativa de Alaska
   - ☐ Multirracial
   - ☐ Se negó a contestar

   ¿Es usted/su hijo/a…? ☐ Hispano o Latino ☐ No Hispano o Latino ☐ Se negó a contestar

[Si los registros médicos son incompletos y no permiten calcular el índice de masa corporal (BMI), entonces pregunte por la estatura y peso; únicamente haga estas preguntas a pacientes hospitalizados y de edad mayor o igual a 2 años; en cualquier otro caso, vaya al FINAL.]

7. ¿Puede decirme su estatura y peso?

   ESTATURA ____ ☐ pulgadas ☐ centímetros ☐ no sabe
   PESO ____ ☐ libras ☐ kilogramos ☐ no sabe

El fin. Estas fueron todas mis preguntas. ¿Tiene usted alguna pregunta? [If yes, answer]. Muchas gracias por su tiempo.