Form Description for the Information Collection "National Disease Surveillance Program - II. Disease Summaries," OMB No. 0920-0004

OVERVIEW OF RESPIRATORY AND ENTERIC VIRUS SURVEILLANCE

National Respiratory and Enteric Virus Surveillance System (NREVSS) - Forms Laboratory Assessment 55.83, Antigen Detection Worksheet 55.83A, Virus Isolation (Culture)Worksheet 55.83B, Polymerase Chain Reaction (PCR)Worksheet 55.83D

Respiratory viruses reported using these forms include respiratory syncytial virus, human parainfluenza viruses, respiratory adenovirus, rhinovirus, enterovirus, human metapneumovirus, human coronaviruses, and influenza, and enteric viruses include rotavirus, enterovirus, and adenoviruses 40 and 41. Respiratory syncytial virus (RSV) is the most important viral respiratory tract pathogen of infants and young children, and may cause serious disease in immunocompromised patients and the elderly. Annual epidemics are associated with increased rates of pneumonia and bronchiolitis hospitalization among infants and young children. The human parainfluenza viruses (HPIV) are also important respiratory pathogens in children, and epidemics are associated with increases in physician visits for bronchiolitis, croup, and pneumonia. RSV, HPIV, and adenoviruses are important causes of nosocomial pneumonia and other lower respiratory tract illness. Rotavirus is the most common cause of severe diarrhea in children in the United States, with an estimated 3 million cases and 70,000 hospitalizations per year.

Since January 1989, selected clinical and public health laboratories have reported to CDC the number of specimens tested and number of specimens positive for RSV, HPIV, adenovirus, and rotavirus. The purpose of this surveillance system is to track temporal and geographic trends for these viruses and to make the findings available to public health care professionals and health-care providers in a timely fashion. The primary objective of the system is to identify epidemics geographically, and not to enumerate cases.

In July 1990 the reporting was changed from monthly to weekly reporting with a computerized telephone polling system and results were collected by diagnostic testing method (antigen detection testing, virus isolation, electron microscopy and PCR added in 2004). In 2002, the system was changed again to transfer all data entry to the online

system. Weekly electronic reporting allows immediate processing and analysis of national trends and allows for data correction by participating centers. Influenza data collection was added July 1997 to increase reporting to influenza surveillance systems, and allows the reporting of influenza during non-influenza surveillance season. To reflect ongoing technical developments and increasingly routine use of assays and multiplex PCR panels for detection of respiratory virus, in 2007, rhinovirus, human metapneumovirus, and enteric enteroviruses were added to the forms for data collection. In 2013, the electron microscopy form was removed since it had become obsolete as a method of routine viral detection, and a form for annual assessments of laboratory practices among participating laboratories was added. Most recently, in 2014 human coronaviruses were added to the data collection for form PCR testing.

Annual summaries and alerts are published periodically in the *MMWR* and in medical journals. NREVSS data have been used to better define the epidemiology of RSV, HPIV, and rotavirus. Compiled data are made available over the Internet for infection control practitioners and other health care providers to use in planning and implementing effective control measures, and for researchers to assess in the effectiveness of new vaccines.
(URL: http://www.cdc.gov/surveillance/nrevss/).

Adenovirus Typing Report Form

The Division of Viral Diseases is developing a passive surveillance mechanism in the US to enhance adenovirus circulation data already being collected by NREVSS. Currently there is no national adenovirus typing surveillance system that monitors both civilian and military populations. Adenoviruses are important causes of pneumonia and other lower respiratory tract illness in children, the immunocompromised and military recruits. The majority of adenovirus epidemiological studies were conducted over 30 years ago. Since then, new molecular methods for adenoviral identification and genetic characterization have been developed to give epidemiologists better tools to identify outbreaks or emergent and more virulent strains. Our objective is to document the types of adenovirus circulating in the US and identify any emergent or severe adenovirus infections by using a simple, voluntary reporting mechanism.

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Reports will generally be sent directly from the laboratory to CDC by fax or e-mail. Information solicited on the report form include demographic data (age, sex, state, year); laboratory data (adenovirus group or type, specimen type, specimen collection data); and optional clinical data (hospitalization, outcome, part of an outbreak).

The present reporting form has been developed in Microsoft Excel to reduce the reporting burden. Clinical data are optional, because in most cases this information is not available to the reporting laboratories, and the date of specimen collection is requested in lieu of onset date. Ultimately, these data may provide insight leading to better control and prevention practices. Results of these reports may be published periodically in the *MMWR* and peer-reviewed journals.

Middle East Respiratory Syndrome Coronavirus Patient Under Investigation Surveillance

Due to the emergence of a novel coronavirus associated with severe acute respiratory illness and death among individuals in the Middle East in 2012, the Middle East Respiratory Coronavirus Patient Under Investigation (MERS-CoV PUI) form was developed. This form gathers basic demographic and clinical information on individuals under investigation for possible MERS-CoV infection. As part of the requirements for using the CDC's MERS-CoV testing assay, state, local, and territorial public health departments are to consult with the CDC on MERS-CoV PUI and send the MERS-CoV PUI form to CDC. Partners have the option of faxing or emailing this form to the CDC's Emergency Operations Center or reporting data over the Internet. The web interface is identical to the fax form.

NATIONAL ENTEROVIRUS SURVEILLANCE SYSTEM (CDC 55.9)

Since 1964, participating public and private laboratories have reported to CDC enteroviruses that they isolate. This project, known as the National Enterovirus Surveillance System (NESS), was initially under the auspices of the Joint Committee of the Conference of State and Territorial Public Health Laboratory Directors. Reports are sent directly from the laboratories to CDC. Information solicited on the

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previously approved reported form (CDC 55.9) include demographic data (age, sex, state); clinical data (outcome); and laboratory data (specimen collection date, enterovirus type isolated, specimen type tested) on all cases with one or more enterovirus isolated.

The present reporting form has been developed in Microsoft Excel to reduce the reporting burden. These same data may also be reported through a secure web-based platform, NESSweb.

Enteroviruses are associated with a wide spectrum of disease, including severe clinical illness. NESS allows CDC to better characterize temporal and geographic trends in enterovirus activity, assess and monitor epidemics, guide in outbreak investigations, and identify targets for developing diagnostic assays and antivirals.

Findings from NESS are published periodically in the *MMWR* and peer-reviewed journals.

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FOODBORNE DISEASE TRANSMISSION (CDC 52.13)

This report provides for the systematic entry of basic data from an epidemiologic investigation of an acute foodborne disease outbreak of any etiology, including bacterial, parasitic, viral or chemical causes. Foodborne illnesses are due to a multitude of pathogens, toxins, and chemicals that may contaminate food. Outbreaks occur in a variety of population groups such as schools, camps, general dining halls, institutions of various types, as well as in the general community. This report form also serves as a training device and a guide to health departments that routinely investigate foodborne outbreaks. State and local health departments send completed reports on outbreaks they have investigated to CDC to be tabulated and analyzed and summarized. Historically, use of data collected by this system was slowed due to the time required for data entry and coding once the forms were received. In 2001, CDC introduced electronic reporting of foodborne outbreak data through the Electronic Foodborne Outbreak Reporting System (EFORS). EFORS is a web-based reporting system that collects the same information as the paper forms, and can be used by local, county, or State organizations to enter, edit and analyze data as well as transmit data electronically to other State or Federal offices. In 2009, National Outbreak Reporting System (NORS) was established. NORS will allow the continual reporting of foodborne-associated illnesses, in addition to the following modes of transmission: person-to-person, animal contact, and environmental contamination other than food/water. The burden increased slightly due to the number of responses per respondent increasing and a slight increase in time for the response.

Data are published periodically in the *MMWR* and the *Foodborne Disease Surveillance Report*.

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WATERBORNE DISEASES OUTBREAK REPORT FORM (CDC 52.12)

The Waterborne Disease Outbreak Surveillance System is collaboration between CDC, the Council of State and Territorial Epidemiologists, and the Environmental Protection Agency (EPA). This system is the only surveillance system for tracking and analyzing waterborne disease outbreaks in the United States and it has compiled data on over 1300 outbreaks since 1971. The data are used routinely to inform CDC recommendations and the system supplies critical data for EPA decision-making regarding existing and new regulations related to drinking water safety.

This form is used to summarize the data collected in investigations of waterborne disease outbreaks caused by drinking water or recreational water. The form captures the etiologic agents responsible for the outbreaks and identifies the water system deficiencies associated with outbreaks in order to improve prevention efforts. Data collected include: type of exposure, location of outbreak, date of outbreak, number of persons exposed and ill, symptoms, incubation period, duration of illness, etiologic agent, epidemiologic results such as attack rates, laboratory results of human specimens and water samples, characteristics of the water system and its deficiencies, and factors contributing to the contamination of the water. The form ensures the systematic collection of data by state and local health departments, which routinely investigate these outbreaks. No personally identifiable data are collected on this form. The data collected on this form are maintained in a database which resides on a CDC server and access is restricted.

Data on reported waterborne outbreaks are analyzed and published every two years in the Morbidity and Mortality Weekly Report Surveillance Summaries (MMWR-SS). These Surveillance Summaries are the most comprehensive account of waterborne disease outbreaks in the United States and have been cited in scientific publications more than 450 times over the past 15 years.

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This has also been included in the National Outbreak Reporting System (NORS). This will simplify data collection and entry for state partners. Many of the waterborne outbreak disease coordinators already report foodborne disease outbreaks to CDC. It has been possible to develop a shared section of common outbreak questions. NORS has improved the quality of the data and its usability by local, state, and national partners.

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OVERVIEW OF CDC INFLUENZA SURVEILLANCE

This group contains descriptions of the following 16 forms:

1. WHO Collaborating Center for Influenza Surveillance, Influenza Virus Surveillance CDC 55.31
2. U.S. WHO Collaborating Laboratories Influenza Testing Methods Assessment CDC 55.31A
3. U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) Weekly, CDC 55.20
4. U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), CDC 55.20E
5. U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), daily ILINet Reports of Influenza-like Illness (ILI)
6. Influenza-Associated Pediatric Mortality Case Report Form
7. Human Infection with Novel Influenza A Virus Case Report Form
8. Human Infection with Novel Influenza A Virus with Suspected Avian Source
9. Human Infection with Novel Influenza A Virus Severe Outcomes
10. Novel Influenza A Virus Infection Contact Tracing Form
11. Novel Influenza A Virus Case Status Summary
12. Novel Influenza A Virus Case Screening Form
13. 122 CMRS – City Health Officers or Vital Statistics Registrars Weekly Mortality Report
14. 122 CMRS - City Health Officers or Vital Statistics Registrars Daily Mortality Report
15. Aggregate Hospitalization and Death Reporting Activity Weekly Report Form
16. Antiviral-Resistant Influenza Infection Case Report Form

The Centers for Disease Control and Prevention has responsibility for surveillance of influenza with the goal of determining the impact of the disease on the U.S. population and developing improved prevention and control measures. Influenza is an acute respiratory disease caused by infection with influenza viruses. Influenza types A and B viruses are responsible for epidemics of respiratory illness that occur almost every winter in temperate climates and are often associated with increased rates of hospitalization and death. Although the highest rates of illness occur among school-aged children, the highest rates

of hospitalizations from influenza-related causes occur among infants and young children, persons of any age with certain chronic medical conditions (including chronic pulmonary (including asthma), cardiovascular, renal, hepatic, neurologic hematologic, or metabolic disorders (including diabetes mellitus), and among those ≥ 65 years of age. The estimated rates of influenza-associated hospitalizations and influenza-related deaths vary substantially from one influenza season to the next, depending, in part, on the characteristics of the circulating influenza virus strains. During seasonal influenza epidemics from 1979-1980 through 2000-2001, the estimated annual overall number of influenza-associated hospitalizations in the United States ranged from approximately 55,000 to 431,000 per annual epidemic. Influenza-related deaths can result from pneumonia, exacerbations of existing cardiopulmonary conditions, or exacerbations of other chronic conditions. Over a period of 31 seasons between 1976 and 2007, estimates of influenza-associated deaths in the United States range from a low of about 3,000 to a high of about 49,000 deaths. The continuing emergence of new strains of influenza, such as influenza A (H1N1)pdm09 virus, variant influenza A viruses, and influenza A (H7N9) virus, necessitates annual virologic and epidemiologic surveillance.

Surveillance data are used to determine influenza vaccine composition for the following year and permits rapid detection of influenza virus circulation and the degree to which vaccine virus strains match circulating wild type virus strains. It provides data used in determining influenza-associated morbidity, mortality, and economic loss. Furthermore, it may assist in the control of the disease by affording the opportunity for rapid preventive action, for example, by chemoprophylaxis of high-risk persons who have not received vaccine. In addition to monitoring annual influenza epidemics, this system is in place to detect viruses with pandemic potential and track the course of the next influenza pandemic.

Influenza Virus Surveillance (CDC 55.31)

Form CDC 55.31 is used to collect summary influenza virus data from World Health Organization (WHO) collaborating laboratories in the United States who report their data using over the Internet. For laboratories that utilize the

electronic method of reporting data, there is no reporting form since a connection is established between the laboratory and a CDC server.

State, county, city, or university laboratories that collaborate with the U.S. WHO Influenza Surveillance Program report the number of respiratory specimens submitted for influenza diagnosis and the number positive for influenza. All laboratories report these data each week throughout the year. These reports are used to assess and report the distribution of influenza virus strains throughout the United States.

Weekly data are transmitted to CDC throughout the year over the Internet (35 laboratories) or electronically using the Public Health Information Network – Messaging System (PHIN-MS) (3 laboratories) and Public Health Laboratory Interoperability Project (PHLIP) (49 laboratories). Transmission of data via PHIN-MS and PHLIP, electronic systems that can be corrected and updated with the latest, most accurate influenza isolate information, improves the timeliness and quality of the data. All of the 52 laboratories using PHIN-MS and PHLIP have elected to develop an interface between their laboratory computer and PHIN-MS and PHLIP to transmit their data. In these instances, their previous weekly burden of summarizing this information and transmitting it by facsimile has been eliminated and transmitting it by Internet has been reduced.

Privacy Impact Assessment
No patient identifiers are received at CDC.

Changes to the form 55.31 include:

- The annualized total burden hours decreased from the previous approval. All virologic surveillance data is submitted electronically year-round. Therefore data is not submitted to CDC via facsimile and participating laboratories submit data year-round, and the option for reporting only during October through May has been removed. There was a large increase in the number of laboratories utilizing electronic methods (i.e. PHIN-MS or PHLIP) to submit their weekly report to CDC. The modifications to the number of respondents and responses were needed to more accurately portray the burden on respondents. The annualized burden to

complete one report form did not change from the previous approval.
- Modified interpretation of laboratory test results in PHIN-MS and PHLIP to account for collection of data for novel influenza A viruses

U.S. WHO Collaborating Laboratories Influenza Testing Methods Assessment (Form CDC 55.31A)

At the beginning of each influenza season, a survey is sent to each participating U.S. WHO laboratory to obtain information used in the analysis and interpretation of data obtained from year-to-year.

Changes to the form 55.31A include:
- The name of the survey has been modified to "U.S. WHO Collaborating Laboratories Influenza Testing Methods Assessment" to better account for the data being collected by the survey.
- The annualized burden to complete one report form did not change from the previous approval.

U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)

Form CDC 55.20 is a single form used to collect summary influenza-like illness data from participating healthcare providers. Providers have the option of faxing this data via a toll-free fax number or reporting data over the Internet. The web interface is identical to the fax form. The workfolder (CDC 55.20E) is used by the provider to track their own data submitted throughout the season.

Because state health department morbidity estimates are imprecise and generally untimely, a system was developed in 1982 to collect influenza-like illness data directly from practicing family physicians who voluntarily participated without remuneration. Prior to 1997, CDC and state health departments' maintained separate influenza sentinel provider surveillance systems. In 1997, CDC collaborated with state health departments to reduce duplication of efforts and allow resources to be focused on expanding the number of providers reporting in order to improve the geographic representation and completeness of the data. Over the years, the system has continued to evolve and expand. For

the 2013-14 season, approximately 1,800 health care providers in all 50 states regularly reported to CDC.

Participating providers report the following data each week of the year: influenza-like illnesses by age group (0-4 years, 5-24 years, 25-49 years, 50-64 years, and >64 years) and the total number of patients seen for any reason. These data are shared by CDC and state health departments. Year-round influenza surveillance data typically provides a baseline level of influenza activity during the summer months and are essential components of seasonal and pandemic influenza surveillance and are used to detect other unusual occurrences of influenza-like illness.

The primary method of reporting is Internet (95%) using form 55.20E as a work folder. A few providers still prefer to transmit their data via facsimile (5%) (CDC55.20). The facsimile form is part of the work folder.

In 2009, enhanced surveillance efforts were recommended by CDC in response to the emergence of the influenza A (H1N1)pdm09 virus in the United States. The CDC pandemic surveillance plan calls for increasing the frequency of surveillance reporting from weekly to daily in sites where that is feasible. Daily influenza-like illness reporting will result in more timely data collection and accelerate the implementation of public health responses. The Daily ILINet Reports of Influenza-like Illness (ILI) is a single fax form used to collect daily summary influenza-like illness data from participating healthcare providers. Providers have the option of faxing this daily ILI data in via a toll-free fax number or reporting data over the Internet. The web interface is identical to the fax form. Daily ILINet reporting will only be implemented in the event of public health emergency.

Privacy Impact Assessment
No patient identifiers are received at CDC.

Changes to the form 55.20E and 55.20 include:

- The annualized total burden hours decreased from the previous approval. All ILI surveillance data is submitted year-round and the option for reporting only during October through May has been removed. The modifications to the number of respondents and responses were needed to more accurately portray the

burden on respondents. The annualized burden to complete one report form decreased from 15 to 10 minutes from the previous approval.

Influenza-Associated Pediatric Mortality (case report form)

In 2004, the Council of State and Territorial Epidemiologists (CSTE) adopted a position statement making influenza-associated deaths in children (persons less than 18 years) a nationally notifiable condition. The Influenza-associated Pediatric Mortality case report form, a standardized case questionnaire which contains detailed questions on relevant clinical and epidemiologic features of influenza, was developed by CSTE and CDC. State or territorial influenza surveillance epidemiologists report these data over the Internet on the Secure Data Network (SDN) or Secure Access Management Services (SAMS). Each week, limited data on laboratory-confirmed influenza-associated deaths in children is transmitted from the CDC/Influenza Division to the Nationally Notifiable Disease Surveillance System (NNDSS). Data obtained from this form has led to the modification of influenza vaccine recommendations.

Privacy Impact Assessment

Personal identifiers are collected by state or local public health officials; this information is removed from the form and maintained at the state or local health department before submission to CDC.

Changes to the form include:

- A question was added to the case report form capture the patient's usual country of residence
- Questions regarding sex, ethnicity, and race were re-worded to be consistent with OMB guidelines
- A question regarding the submission of *Staphylococcus aureus* isolates to CDC was removed from the form because the CDC/Division of Healthcare Quality and Promotion is no longer interested in receiving these specimens for testing
- Questions regarding influenza vaccine history were updated to include the new vaccines that are available beginning in the 2013-14 influenza season
- The annualized total burden hours did increase from the previous approval. A significant increase in the number of influenza-associated pediatric deaths has

occurred since 2009. The increase in the number of responses per respondent was needed to more accurately portray the burden on respondents. The annualized burden to complete one case report form did not change from the previous approval.

Human Infection with Novel Influenza A Virus

- Human Infection with Novel Influenza A Virus Case Report Form, Human Infection with Novel Influenza A Virus with Suspected Avian Source, Human Infection with Novel Influenza A Virus Severe Outcomes, Novel Influenza A Virus Infection Contact Tracing Form, Novel Influenza A Virus Case Status Summary, and Novel Influenza A Virus Case Screening Form

In 2007, the Council of State and Territorial Epidemiologists (CSTE) adopted a position statement making human infection with a novel influenza A virus a nationally notifiable condition. Novel influenza A virus infections include all human infections with influenza A viruses that are different from currently circulating human influenza H1 and H3 viruses. These viruses include those that are subtyped as nonhuman in origin and those that are unsubtypable with standard methods and reagents. Human infections with novel influenza A viruses that can be transmitted from person to person may signal the beginning of an influenza pandemic. Rapid detection and reporting of human infections with novel influenza A viruses – viruses against which there is little to no preexisting immunity – will facilitate prompt detection and characterization of influenza A viruses with pandemic potential and accelerate the implementation of effective public health responses.

From 2005 to early 2012, only 36 cases of variant (v) influenza virus infection were reported to the Centers for Disease Control and Prevention (CDC). From July–December 2012, however, 309 cases of H3N2v were reported in 11 states, representing the largest outbreak of human infections with a variant influenza virus since the 2009 H1N1 pandemic. In 2013, 19 cases of H3N2v were reported in 5 states. A majority of cases had self-limited illness, but hospitalizations were more prevalent among those with young age and the presence of underlying medical conditions. Most cases reported prolonged and direct exposure to swine at an agricultural fair, suggesting that was the primary risk factor for illness. These outbreaks highlight the assertion

that every case of variant influenza virus infection has epidemic potential and must be investigated thoroughly and rapidly.

The Human Infection with Novel Influenza A Virus Case Report Form should be used by state health departments to report cases of confirmed novel influenza A virus infection to CDC. The Novel and Pandemic Influenza A Virus Infection Contact Trace Back Form and Novel and Pandemic Influenza A Virus Infection Contact Trace Forward Form were combined into one form (the Novel Influenza A Virus Infection Contact Tracing Form) that is used to identify and follow contacts of persons with suspected or confirmed novel influenza A virus infection and determine the source of infection. The Novel and Pandemic Influenza A Virus Infection Case Investigation Form has been renamed to the Novel Influenza A Virus Case Screening Form and may be used by local or state health departments for cases under investigation for possible human infection with novel influenza A viruses. The Novel Influenza A Virus Case Status Summary form should be used by state health departments to report aggregate numbers of suspected, probable, or confirmed cases of novel and pandemic influenza A virus infection to CDC. The form, Human Infection with Novel Influenza A Virus with Suspected Avian Source, will be critical to the collection of information from novel influenza A cases where an avian species is suspected as the source of their infection. The Human Infection with Novel Influenza A Virus Severe Outcomes form will be used on patients that became severely ill (i.e. hospitalized or died) after an infection with a novel influenza A virus. These forms contain detailed questions on relevant clinical and epidemiologic features of influenza, were developed by CSTE and CDC.

Each week, limited data on human infections with novel influenza A viruses is transmitted from the CDC/Influenza Division to the Nationally Notifiable Disease Surveillance System (NNDSS).

Privacy Impact Assessment

Personal identifiers are collected by state or local public health officials and maintained at the state or local health department before submission to CDC.

Changes to the forms include:

- These additional data elements will accelerate the

understanding of the basic epidemiology of new variant influenza viral infections and the implementation of effective public health responses, thereby preventing additional morbidity and mortality.

- The Novel and Pandemic Influenza A Virus Infection Contact Trace Back Form and Novel and Pandemic Influenza A Virus Infection Trace Forward Form have been consolidated into one form (Novel Influenza A Virus Infection Contact Tracing Form) resulting in a decrease on the burden on respondents.
- The Novel and Pandemic Influenza A Virus Infection Case Investigation Form was renamed to the Novel Influenza A Virus Case Screening Form.
- The Daily Novel and Pandemic Influenza A Virus State Case Status Summary Update form was renamed to Novel and Pandemic Influenza A Virus Case Status Summary. The form was simplified resulting in a decrease in the burden on respondents.

122 Cities Mortality Reporting System Weekly Mortality Report (CDC 43.5)

The weekly mortality report is made by city health officers or vital statistics registrars from 122 major cities and metropolitan areas, using CDC 43.5. All reporters submit their weekly mortality report via the Internet using form CDC 43.5.

It is a report in which total deaths by age categories are cross-classified by number of deaths assigned to pneumonia and influenza. In preparing the report, the number of total deaths for all causes is entered for each age category: less than 28 days of age, 28 days to 1 year, and for succeeding age groupings; then the number of pneumonia and the number of influenza deaths are entered for each age category. Thus, the total number of deaths shown for any age category includes the number of deaths assigned to pneumonia and/or influenza. The weekly mortality report from 122 U.S. cities covers a period of 7 days. The beginning and ending dates of the reporting week are established by the city or county health officer or vital statistics registrar, preferably dates which correspond with the usual work week. Their reporting period should be constant from week to week. The report should be received in Atlanta as soon as possible after the close of each weekly reporting period, and no later than noon on the following Tuesday. If a city's

weekly mortality report is not received in Atlanta by Tuesday noon, a staff member from the Influenza Division (ID) in NCIRD telephones that city's reporter and collects the necessary data, as available. The data collected by Tuesday noon are published electronically on Thursday in the *Morbidity and Mortality Weekly Report (MMWR)* with a publication date of Friday.

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 or influenza was listed as the underlying or contributing cause of death by age group. The percentage of all deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week. The seasonal baseline of P&I deaths is calculated using a periodic regression model that incorporates a robust regression procedure applied to data from the previous five years. An increase of 1.645 standard deviations above the seasonal baseline of P&I deaths is considered the "epidemic threshold," i.e., the point at which the observed proportion of deaths attributed to pneumonia or influenza was significantly higher than would be expected at that time of the year in the absence of substantial influenza-related mortality.

Weekly reporting of mortality data by health officers and vital registrars in 122 U.S. cities and metropolitan areas is used with data reported from collaborating laboratory and epidemiologic surveillance to identify national and regional influenza outbreaks.

In 2009, enhanced surveillance efforts were recommended by CDC in response to the emergence of the influenza A (H1N1)pdm09 virus in the United States. The CDC pandemic surveillance plan calls for increasing the frequency of surveillance reporting from weekly to daily in sites where that is feasible. Daily mortality reporting will result in more timely data collection and accelerate the implementation of public health responses. The daily mortality report is a form used to collect the total deaths by age categories that are cross-classified by number of deaths assigned to pneumonia and influenza from participating city health officers or vital statistics registrars. Participants report data over the Internet.

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Daily mortality reporting will only be implemented in the event of public health emergency.

Privacy Impact Assessment
No patient identifiers are received at CDC.

Changes to the form 43.5 include:

- No revisions

Aggregate Hospitalization and Death Reporting Activity

The Aggregate Hospitalization and Death Reporting Activity (AHDRA) Weekly Report Form is a single form used to collect summary data from the New York City, state, and territorial health departments regarding influenza-associated hospitalizations and deaths. State or territorial influenza surveillance epidemiologists report these data over the Internet on the Secure Data Network (SDN).

In 2009, to supplement data from established influenza surveillance systems, improve surveillance timeliness, and expand geographic coverage to meet specific needs of the influenza A (H1N1)pdm09 pandemic response, the Centers for Disease Control and Prevention (CDC) and the Council for State and Territorial Epidemiologists (CSTE) established AHDRA . AHDRA provides timely and representative notification of severe outcomes associated with influenza infection by providing CDC with the ability to: (i) track severe disease within states and territories in order to better capture the focal nature of the pandemic, (ii) track disease trends over brief periods of time in order to facilitate rapid public health responses to changes in influenza epidemiology, and (iii) accommodate variation in local resources by providing a simple, flexible method that allowed reliable reporting by all states and territories without overwhelming health departments during the course of the pandemic response.

Reporting jurisdictions are permitted to submit using a laboratory-confirmed or syndromic definition and are instructed to report aggregate counts for both outcomes on a weekly basis throughout the influenza season (October through mid-May of the following year). These data are shared by CDC and state health departments. The method of reporting is via a web-based data entry screen. Only

aggregate data are reported and no patient identifiers are received by CDC. AHDRA reporting will only be implemented in the event of a public health emergency.

Privacy Impact Assessment
No patient identifiers are received at CDC.

Changes to the form include:

- No revisions

Antiviral Resistant Influenza Infection Case Report Form

Antiviral drugs are the second line of defense against influenza viruses. Currently, only two drugs are licensed for use and active against circulating viruses, oseltamivir and zanamivir; oral oseltamivir is used for almost all infections in the US. There are limited treatment options for an infection with an oseltamivir-resistant viruses, experimental drug use would e required; thus widespread circulation of resistant viruses is a public health emergency requiring special guidance and testing. After a resistant virus is identified by the laboratory, it is necessary to obtain key information from the infected patient to determine whether the resistant virus was circulating in the community or whether the resistant virus developed during treatment. This information is critical to antiviral recommendations and guidance. Over the past several seasons since the pandemic, we have seen a small but steady increase in the circulation of oseltamivir-resistant viruses. Any additional and significant increase will require new guidance and health alerts. This form, Antiviral Resistant Influenza Infection Case Report Form, will be critical to the collection of information that is essential to antiviral use guidance. Since circulating viruses are constantly changing, annual monitoring is needed

Privacy Impact Assessment
Personal identifiers are collected by state or local public health officials and maintained at the state or local health department before submission to CDC.

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Outbreak Report of Suspected Viral Gastroenteritis

(Outbreaks of viral gastroenteritis are usually caused by norovirus or sapovirus which collectively are referred to as caliciviruses)

Noroviruses are estimated to cause 23 million cases (33%) of all cases of gastroenteritis annually. Norovirus disease occurs as sporadic disease or as outbreaks of diarrhea and vomiting, in all age groups.

Noroviruses can be transmitted via contaminated food, contaminated water or directly from person to person. Many outbreaks involve several modes of transmission such as initial foodborne followed by person to person. In many cases the source of infection is unknown. The diverse modes of transmission are reflected in the diverse settings in which outbreaks occur such as restaurants, nursing homes, hospitals and schools. Historically however, diagnosis of noroviruses has been very difficult. Recent development of RT-PCR techniques has revolutionized the detection and characterization of norovirus strains, and testing for norovirus in outbreaks of gastroenteritis is gradually becoming more frequent.

CDC has been testing outbreaks for noroviruses for over 10 years, most recently using RT-PCR. Increasingly state public health laboratories have been testing for noroviruses and currently three quarters of all norovirus outbreaks are diagnosed by the states and a quarter by CDC. RT-PCR has allowed for norovirus strains to be sequenced and the development of CaliciNet, a nationwide database of norovirus sequences has allowed comparison of norovirus sequences from different outbreaks.

For effective interpretation of the significance of similar sequences, however, some epidemiological information is required. Currently, epidemiological information on norovirus outbreaks that are linked to food contamination is reported to the foodborne branch electronically via EFORS. However, there is no collection of epidemiological data of non-foodborne outbreaks of norovirus.

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Data collected will include suspected source, setting, number exposed, and number of cases. This will allow CDC to link outbreaks together and assist in the development of control measures. This information will eventually be collected through a web-based reporting system which is being developed. The information will be accessible to states investigating outbreaks, initially by contact with the viral gastroenteritis section at CDC, and in the future via the Internet.