Update: Influenza Activity—United States, 1998-99 Season

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This report summarizes influenza activity in the United States from October 4, 1998, through February 27, 1999. It also presents results of an investigation of an influenza outbreak among staff and residents at one long-term-care facility (LTCF), and estimates the 1998-99 influenza vaccine effectiveness against the circulating influenza A(H3N2) viruses at that facility.

Based on influenza surveillance data, influenza activity in the United States began to increase in mid-January 1999 and remained elevated in most regions of the country through the week ending February 27.

The percentage of patient visits to approximately 350 sentinel physicians for influenza-like illness (ILI) increased from baseline levels of 0-3% during the week ending January 23 and has remained elevated for 6 consecutive weeks. For the week ending February 27, 4% of patient visits were for ILI. Visits for ILI were above baseline levels in all influenza surveillance regions for the week ending February 27 except the mid-Atlantic and east south central regions, which had levels of 1% and 3%, respectively.

Since the week ending January 23, at least 25 states have reported either widespread or regional activity each week (Figure). The highest number of states reporting either widespread or regional activity during any 1 week was 43 during the week ending February 13. State and territorial epidemiologists in 41 states and the District of Columbia reported either widespread or regional influenza activity* for the week ending February 27.

The percentage of deaths attributed to pneumonia and influenza (P&I) among 122 U.S. cities was 8.1% for the week ending February 27, which is above the epidemic threshold† of 7.5%. Mortality from P&I exceeded the epidemic threshold for 3 consecutive weeks beginning the week ending February 13.

From October 4, 1998 through February 27, 1999, the World Health Organization and the National Respiratory Enteric Virus Surveillance System collaborating laboratories in the United States reported detection of influenza in 6529 (12%) of 52,355 clinical specimens submitted for respiratory virus testing. Of the influenza-positive specimens, 5170 (79%) were type A and 1359 (21%) were type B. Of the 5170 influenza A isolates, 1275 (25%) were H3N2 viruses, 12 (0.2%) were H1N1 viruses, and 3883 (75%) were not subtyped. In the west north central, east north central, and east south central regions, 35%-46% of the influenza isolates were type B.

Of 169 influenza A(H3N2) isolates collected during October 4, 1998-February 27, 1999, that were antigenically characterized at CDC, all were characterized as A/Sydney/5/97-like viruses, the H3N2 virus strain contained in the 1998-99 influenza vaccine. Two influenza A(H1N1) isolates were characterized as A/Bayern/7/95-like viruses, antigenically distinct from A/Beijing/262/95, the 1998-99 H1N1 vaccine strain; however, A/Beijing/262/95 produced high titers of antibodies that cross-react with A/Bayern/7/95. All 51 influenza type B isolates were antigenically similar to B/Beijing/184/93, the recommended type B vaccine strain.

Long-Term–Care Facility Outbreak

The California Department of Health Services (CDHS) requires that all LTCFs report respiratory illness outbreaks to the state or local health department. As of February 27, CDHS had received five reports of culture-confirmed influenza outbreaks among the approximately 1200 LTCFs in the state. Fol-
lowing is a result of an investigation of one of these outbreaks. On December 31, 1998, a LTCF notified the Santa Clara County Public Health Department of an ILL outbreak among residents of two units in one of the facility’s four buildings. Nasopharyngeal swab specimens from eight of 10 ill residents were positive for influenza A by direct fluorescent antibody testing. The outbreak investigation included active surveillance for ILL (temperature ≥100 F [≥38 C] and cough or sore throat or rhinitis), viral culture of nasopharyngeal swab samples collected from selected ill residents and staff, and collection of vaccination and illness histories from residents and staff in the two affected units. Vaccine effectiveness against ILL was calculated as 1 minus relative risk.

Residents in this facility are assigned to different buildings according to the level of care required. The most debilitated residents, most of whom are bedridden and require complete care, reside in Building 1. During the fall, residents in all four buildings (n = 524) received influenza vaccination, except residents with medical contraindications. Of the 1200 staff members offered vaccine, approximately 200 (17%) were vaccinated at the facility, and some may have been vaccinated by outside providers. The first cases of ILL occurred during December 21-December 28, 1998, among five unvaccinated nurses who worked in two adjacent units in Building 1. From December 29, 1998, through January 17, 1999, additional ILL cases developed among residents and staff from those two units and others in Building 1. Thirty-four (11%) of 309 staff members and 25 (13%) of 192 residents of Building 1 developed ILL. Three residents were hospitalized, and two died, including one who was not vaccinated because of a history of egg allergy. Forty-nine of the 50 residents (median age: 30 years [range: 13-87 years]) residing in the two initially affected units had been vaccinated before the outbreak compared with 12 (26%) of the 47 staff members (median age: 44 years [range: 20-68 years]).

Vaccine effectiveness against ILL was 72% (95% CI: 1.3-92.4) among the 47 staff members. Vaccine effectiveness was not estimated for residents because of the small number of unvaccinated persons. Four influenza A(H3N2) isolates obtained from ill residents were antigenically characterized as A/Sydney/5/97-like viruses.

Outbreak-control measures included cohorting ill residents and initiating droplet precautions1 and administering amantadine for prophylaxis of non-ILL residents and treatment of ill residents. Unvaccinated staff were offered amantadine prophylaxis and influenza vaccine. Ill staff were discouraged from coming to work, and ill visitors were asked to postpone their visits.

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CDC Editorial Note: All almost all states have reported either regional or widespread influenza activity this influenza season. Although only 21% of influenza isolates have been type B, influenza B viruses have been detected in all influenza surveillance regions. Influenza A/Sydney/5/97 (H3N2)-like virus appears to be the predominant strain so far this influenza season.

The influenza A outbreak described in this report illustrates several points. First, influenza outbreaks can occur among highly vaccinated LTCF populations even in years when the vaccine is well matched to circulating virus strains2,3; LTCFs should conduct surveillance to identify clusters of respiratory illness and should alert state or local health departments when clusters are identified. Second, early detection of influenza outbreaks and timely initiation of control measures, such as cohorting of ill residents, use of droplet precautions, and use of antiviral medications (amantadine or rimantadine) for prophylaxis or treatment of persons at high risk for influenza A-related complications, can limit the spread of disease.1,4 Amantadine and rimantadine are 70%-90% effective in preventing influenza A infections and can reduce severity and duration of symptoms from influenza A when administered within 48 hours of onset; however, these medications are not effective against influenza type B viruses.3 Chronic-care facilities should know which laboratories in their area perform rapid influenza A testing and should develop a plan to rapidly detect influenza A outbreaks and to administer antiviral medications if influenza is detected.4,5 Third, health-care workers can act as a vehicle for introducing influenza illness into LTCFs.3,7 Because influenza infections can be severe in debilitated populations and because vaccine effectiveness is lower among LTCF residents (30%-40%) than in healthy adults (70%-90%), the Advisory Committee on Immunization Practices recommends that health-care workers and others caring for high-risk persons receive influenza vaccine annually.2,3,5,7 Health-care workers and family members should be educated about the potentially serious consequences of influenza illness for high-risk persons and the need to limit contact with these persons. When health-care workers and family members are ill, they should avoid contact with high-risk persons.

Influenza surveillance data collected by CDC are updated weekly throughout the influenza season. Summaries are available through CDC; telephone (888) 232-3228, or fax (888) 232-3299 (request document number 361100). Surveillance information also is available on the World-Wide Web at <http://www.cdc.gov/ncidod/diseases/flu/weekly.htm>.

REFERENCES
7 available

*Levels of activity are (1) no activity; (2) sporadic—sporadically occurring influenza-like illness (ILI) or culture-confirmed influenza with no outbreaks detected; (3) regional—outbreaks of IILI or culture-
confirmed influenza in counties with a combined population of <50% of the state’s total population; and (4) widespread—outbreaks of ILI or culture-confirmed influenza in counties with a combined population of ≥50% of the state’s total population.

†The epidemic threshold is 1.645 standard deviations above the seasonal baseline. The expected seasonal baseline is projected using a robust regression procedure in which a periodic regression model is applied to observed percentages of deaths from P&I since 1983.

HIV Postexposure Prophylaxis Registry Closing

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Effective December 31, 1998, enrollment of new health-care workers (HCWs) in the Human Immunodeficiency Virus Postexposure Prophylaxis (HIV PEP) Registry ceased; the goals and objectives of the registry had been met. In addition, continuation of the registry appeared redundant with other ongoing surveillance programs.

The HIV PEP Registry was established in October 1996 as a prospective surveillance project to monitor adverse events associated with HIV PEP in HCWs after occupational HIV exposures. It was a collaborative project managed by CDC and two pharmaceutical companies, Glaxo Wellcome Inc. and Merck & Co., Inc.* A designated third party, a contract research organization, responsible for registration and follow-up, served as the data coordination center.

The registry data have shown that HCWs for whom HIV PEP is prescribed have not reported unusual adverse events (i.e., those not included in the prescribing information or literature) with these treatments. Data suggest that careful counseling about drug toxicity may be necessary to improve compliance with PEP among exposed HCWs. Six-week follow-up of enrolled HCWs will be completed.

Additional information about the registry is available from the HIV PEP Registry, telephone (toll-free) (888) 737-4448 until June 30, 1999, and afterwards from CDC’s Hospital Infections Program, telephone (404) 639-6425. Serious adverse events or product problems can be reported to the Food and Drug Administration’s MedWatch program, telephone (800) 332-1088; fax (800) 332-0178; address: HF-2, FDA, 5600 Fishers Lane, Rockville, MD 20852-9787; or by the World-Wide Web, <http://www.fda.gov/medwatch>.

*Use of trade names and commercial sources does not imply endorsement by the U.S. Department of Health and Human Services or CDC.

New Population Standard for Age-Adjusting Death Rates

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On August 26, 1998, the U.S. Department of Health and Human Services (DHHS) adopted a policy to begin using a single new population standard for age-adjusting death rates. The new standard, which will be effective for deaths occurring in 1999, is based on the 2000 U.S. population.

Since 1943, the National Center for Health Statistics (NCHS) and state health departments have used a population standard based on the 1940 U.S. population for age-adjusting death rates. However, at least three different standards are used by federal and state agencies. Use of a single age-adjustment standard by federal agencies will help alleviate confusion and misunderstanding among data users and the news media.

In 1991 and 1997, NCHS sponsored workshops to examine issues associated with age standardization of death rates. The first workshop examined technical issues and problems related to the calculation and interpretation of age-adjusted death rates.1 The second workshop focused on policy issues related to a coordinated approach to age standardization within DHHS.2 Workshop participants concluded that although compelling technical reasons existed to change population standards, the public health community would be better served by a new, uniform, and more contemporary standard. The reports of both workshops are available on the World-Wide Web at http://www.cdc.gov/nchswww/products/pubs/pubd/series/sr4/pre-21/pre-21.htm.

Age-adjusted death rates calculated before implementation of the 2000 standard will not be comparable with rates based on the new standard. In addition, mortality time series at all geographic levels will have to be recalibrated. Long-range time series at all geographic levels will have to be recalibrated in terms of age-adjusted death rates. Use of the 2000 standard will result in rates that are often substantially higher than those based on the 1940 standard. The new standard also will affect trends in age-adjusted death rates for certain causes of death and will narrow race differentials in age-adjusted death rates. The NCHS report on these changes3 is available on the World-Wide Web, http://www.cdc.gov/nchswww/products/pubs/pubd/nvss/47-pre/47-pre.htm.

The decision by DHHS to adopt a uniform policy to age-adjust death rates represents a major change in statistical practice that has implications for federal, state, and local health programs. The adoption of a uniform standard will reduce the burden on state and local health departments to produce multiple time series to match federal statistical benchmarks. In addition, the adoption of a current population standard will improve the usefulness of health statistics issued by DHHS.

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