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MORBIDITY AND MORTALITY WEEKLY REPORT

Notice to Readers

Because of the furlough of U.S. government employees, CDC has restricted its activities to responses to emergencies and other public health matters of extreme urgency. This issue of *MMWR* contains two reports with immediate public health implications: one report summarizes surveillance data indicating a steady increase in influenza activity in the United States from late October through mid-December 1995, and the other report updates the guidelines and recommendations regarding childhood vaccination for January–June 1996. Other reports of public health importance and findings from the ongoing National Notifiable Disease Surveillance System for the weeks ending December 16, 23, and 30, 1995, and January 5 will be published at a later date, and printed versions of this issue will be available to CDC's subscribers at a later date.

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Update: Influenza Activity — United States, 1995–96 Season

Influenza activity in the United States increased steadily from late October through mid-December 1995. This report summarizes influenza surveillance data from October 1 through December 16, 1995.

During October 1–December 16, influenza viruses were isolated in 45 states and the District of Columbia. Of the 296 influenza virus isolates reported by World Health Organization (WHO) collaborating laboratories in the United States, 293 (99.9%) were type A and three (0.1%) were type B. Of the type A isolates, 140 (48%) were not subtyped. Of the 153 subtyped viruses reported, 91 (59%) were type A(H1N1), and 62 (41%) were type A(H3N2). Forty-two (82%) of 51 of the type A(H3N2) virus isolates and 46 (57%) of 81 of the type A(H1N1) isolates submitted to CDC for antigenic characterization were tested. More than 90% of these viruses were antigenically similar to the type A strains included in the 1995–96 influenza vaccine.

Influenza — Continued

The number of states reporting regional or widespread* influenza-like illness (ILI) increased each week from the week ending November 18 (four states) through the week ending December 16 (29 states). Most reported outbreaks of ILI or culture-confirmed influenza occurred among school-aged children. CDC's sentinel physician surveillance system also indicated increasing influenza activity during the same period. The proportion of patients with ILI examined by sentinel physicians increased from mid-November through mid-December. During the first 2 weeks of December, an average of 6% of patient visits were for ILI.

Of total deaths reported through CDC's 121-city mortality surveillance system, the proportion of deaths associated with pneumonia and influenza exceeded the epidemic threshold† during 3 of the 6 weeks from November 5 through December 16, 1995.

Reported by: Participating state and territorial epidemiologists and state public health laboratory directors. World Health Organization collaborating laboratories. Sentinel Physicians Influenza Surveillance System of the American Academy of Family Physicians, and Influenza Br, and WHO Collaborating Center for Influenza Surveillance, Epidemiology, and Control of Influenza, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: The findings in this report indicate a steady increase in influenza activity from October 29 through December 16, with influenza type A(H1N1) viruses predominating. Before this influenza season, influenza type A(H1N1) viruses had not circulated widely in the United States since the 1988–89 season, when they represented almost 50% of influenza virus isolates reported by WHO collaborating laboratories in the United States (*1*).

Human influenza type A(H1N1) viruses circulated worldwide from approximately 1920 to 1957, when they disappeared and were replaced by a new type A strain, type A(H2N2). In 1968, type A(H2N2) viruses disappeared and were replaced by the type A(H3N2) strain. In 1977, type A(H1N1) viruses reemerged and, since then, have cocirculated with type A(H3N2) viruses. Because the type A(H1N1) strain that appeared in 1977 was nearly identical to a strain that circulated in 1950 (*2*), most persons born before 1950 had preexisting immunity to this strain. Since 1977, epidemics caused by type A(H1N1) viruses have affected primarily persons born after the mid-1950s. During type A(H1N1) epidemics since 1977, elderly persons usually have not been severely affected, and, because approximately 90% of influenza-related deaths occur among persons aged ≥65 years (*3*), such epidemics have not been associated with high mortality. However, as type A(H1N1) viruses continue to undergo antigenic variation (which occurs among all influenza viruses), the effect of these strains among elderly persons may change.

Since their emergence in 1968, influenza type A(H3N2) viruses have affected persons of all ages. Both type A strains have been associated with outbreaks in schools and colleges and increases in absenteeism in the workplace among younger adults, but since the reemergence of type A(H1N1) in 1977, type A(H3N2) strains have been

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

†The epidemic threshold is 1.645 standard deviations above the seasonal baseline calculated using a periodic regression model applied to observed percentages since 1983. The baseline was calculated using a robust regression procedure.

Influenza — Continued

substantially more likely than type A(H1N1) to cause serious illness among the elderly and outbreaks in nursing homes associated with high rates of medical complications. Rapid antigen-detection tests can detect influenza type A virus but cannot distinguish between the subtypes. Although laboratory tests that distinguish between the two influenza A subtypes are not widely available, many state health department laboratories are able to subtype these viruses.

Although antigens included in the 1995–96 influenza vaccine closely match influenza type A viruses characterized through December 16, antiviral agents should be considered as an adjunct to vaccination (*4*). The antiviral agents amantadine and rimantadine are effective against virtually all naturally occurring influenza type A strains and can be used to prevent or treat influenza type A infections. When influenza vaccine is given after influenza activity has begun in a community, these drugs may be administered to provide protection during the 1–2 weeks required for the development of vaccine-induced antibody. These agents also may be administered for the duration of influenza A activity to prevent infection in persons expected to have an inadequate antibody response (e.g., persons with severe immunosuppression or for whom influenza vaccine is contraindicated). In addition, amantadine and rimantadine should be used in nursing homes and other health-care facilities to prevent and control influenza A outbreaks. Because of differences in the pharmacokinetic properties of the two drugs, the dosage recommendations and the potential for adverse reactions vary with such factors as patient's age, presence of certain underlying health conditions, and potential for adverse drug interactions (*4*).

Influenza surveillance data are updated throughout the influenza season, and summaries are available by computer to subscribers of the Public Health Network and to health-care providers and the public through the CDC Voice Information System, telephone (404) 332-4555; or facsimile, (404) 332-4565.

References

1. CDC. Influenza—United States, 1988–89. MMWR 1993;42(no. SS-1).
2. Noble GR. Epidemiological and clinical aspects of influenza. In: Beare AS, ed. Basic and applied influenza research. Boca Raton, Florida: CRC Press, 1982:11–50.
3. Lui KJ, Kendal AP. Impact of influenza epidemics on mortality in the United States from October 1972 to May 1985. Am J Public Health 1987;77:712–6.
4. ACIP. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1995;44(no. RR-3).

Notice to Readers

Recommended Childhood Immunization Schedule — United States, January–June 1996

In January 1995, the recommended childhood immunization schedule was published in *MMWR* following issuance by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics, and the American Academy of Family Physicians (*1*). This schedule was the first unified schedule developed through a collaborative process among the recommending groups, the pharmaceutical manufacturing industry, and the Food and Drug Administration. This collaborative process should assist in maintaining a common childhood vaccination schedule and enabling further simplification of the schedule. This notice presents the recommended childhood immunization schedule for January–June 1996 (Figure 1) to incorporate licensure of varicella zoster virus vaccine (Var) and recommendations for adolescent hepatitis B vaccination.

OPV remains the recommended vaccine for routine polio vaccination in the United States. IPV is recommended for persons with compromised immune systems and their household contacts and is an acceptable alternative for other persons. ACIP is developing recommendations for expanded use of IPV in the United States.

General Changes

Footnotes have been shortened and simplified wherever possible. For detailed information and specific recommendations for administration of vaccines, practitioners should consult the *Report of the Committee on Infectious Diseases* (Red Book) (*2*), the vaccine-specific recommendations of the ACIP, and the official manufacturers' package inserts or the *Physicians' Desk Reference* (PDR) (*3*).

Date

The schedule is dated January–June 1996, and will be republished in July 1996 to revise or add recommendations and/or to include any changes resulting from licensure of new vaccines. Publishing an updated schedule will permit providers to be certain they are using the most current schedule.

Format Changes

A column has been added to the figure for age 1 month to indicate the second dose of hepatitis B vaccine may be given to infants as early as age 1 month. Shaded bars indicate ages at which adolescents should receive "catch-up" vaccinations if they have not received vaccinations before and, for chickenpox, lack a reliable history of the disease.

Vaccine Recommendations Changes

Hepatitis B, infant. Because of the availability of different formulations of hepatitis B vaccine, doses are presented in micrograms rather than volumes. In addition, the footnote includes recommendations for vaccination of infants born to mothers whose hepatitis B surface antigen status is unknown.

Hepatitis B, adolescent. A bar has been added to indicate that the three-dose series of hepatitis B vaccine should be initiated or completed for adolescents aged 11–12 years who have not previously received three doses of hepatitis B vaccine.

Notice to Readers — Continued

Poliovirus. A footnote has been added to indicate that, although oral poliovirus vaccine (OPV) is recommended for routine vaccination, inactivated poliovirus vaccine (IPV) is indicated for certain persons (i.e., those with a compromised immune system and their household contacts) and continues to be an acceptable alternative for other persons. The schedule for IPV is included in the footnote.

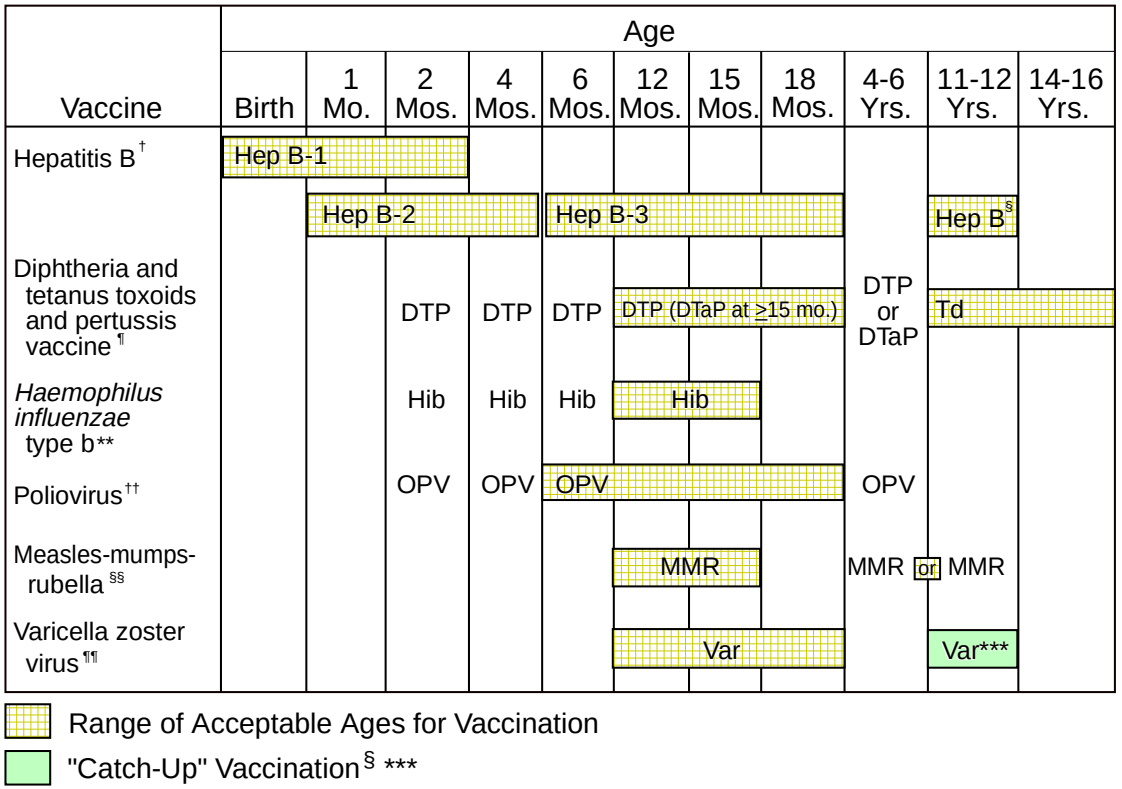
Measles-mumps-rubella vaccine. The footnote has been changed to indicate that although the second dose of measles-mumps-rubella vaccine is routinely administered at age 4–6 years or at age 11–12 years, it may be administered at any visit if at least 1 month has elapsed since receipt of the first dose.

Var. Var was licensed in March 1995 and has been added to the schedule. This vaccine is recommended for all children at age 12–18 months. The footnote indicates that it may be administered to susceptible persons any time after age 12 months, and that it should be given at age 11–12 years to previously unvaccinated persons lacking a reliable history of chickenpox.

References

1. CDC. Recommended childhood immunization schedule—United States, January 1995. MMWR 1995;43:959–60.
2. American Academy of Pediatrics. Active and passive immunization. In: Peter G, ed. 1994 Red book: report of the Committee on Infectious Diseases. 23rd ed. Elk Grove Village, Illinois: American Academy of Pediatrics, 1994:1–67.
3. Medical Economics Data. Physicians' desk reference. 49th ed. Montvale, New Jersey: Medical Economics Company, Inc., 1995.

FIGURE 1. Recommended childhood vaccination schedule* — United States, January–June 1996



*Vaccines are listed under the routinely recommended ages.

† **Infants born to hepatitis B surface antigen (HBsAg)-negative mothers** should receive 2.5 µg of Recombivax HB® (Merck & Co.) or 10 µg of Engerix-B® (SmithKline Beecham). The second dose should be administered ≥1 month after the first dose. **Infants born to HBsAg-positive mothers** should receive 0.5 mL hepatitis B immune globulin (HBIG) within 12 hours of birth, and either 5 µg of Recombivax HB® or 10 µg of Engerix-B® at a separate site. The second dose is recommended at age 1–2 months and the third dose at age 6 months. **Infants born to mothers whose HBsAg status is unknown** should receive either 5 µg of Recombivax HB® or 10 µg of Engerix-B® within 12 hours of birth. The second dose of vaccine is recommended at age 1 month and the third dose at age 6 months.

§ Adolescents who have not received three doses of hepatitis B vaccine should initiate or complete the series at age 11–12 years. The second dose should be administered at least 1 month after the first dose, and the third dose should be administered at least 4 months after the first dose and at least 2 months after the second dose.

¶ The fourth dose of diphtheria and tetanus toxoids and pertussis vaccine (DTP) may be administered at age 12 months, if at least 6 months have elapsed since the third dose of DTP. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) is licensed for the fourth and/or fifth vaccine dose(s) for children aged ≥15 months and may be preferred for these doses in this age group. Tetanus and diphtheria toxoids, adsorbed, for adult use (Td) is recommended at age 11–12 years if at least 5 years have elapsed since the last dose of DTP, DTaP, or diphtheria and tetanus toxoids, absorbed, for pediatric use (DT).

** Three *Haemophilus influenzae* type b (Hib) conjugate vaccines are licensed for infant use. If PedvaxHIB® (Merck & Co.) *Haemophilus* b conjugate vaccine (Meningococcal Protein Conjugate) (PRP-OMP) is administered at ages 2 and 4 months, a dose at 6 months is not required. After completing the primary series, any Hib conjugate vaccine may be used as a booster.

†† Oral poliovirus vaccine (OPV) is recommended for routine infant vaccination. Inactivated poliovirus vaccine (IPV) is recommended for persons—or household contacts of persons—with a congenital or acquired immune deficiency disease or an altered immune status resulting from disease or immunosuppressive therapy, and is an acceptable alternative for other persons. The primary three-dose series for IPV should be given with a minimum interval of 4 weeks between the first and second doses and 6 months between the second and third doses.

§§ The second dose of measles-mumps-rubella vaccine (MMR) is routinely recommended at age 4–6 years or at age 11–12 years but may be administered at any visit provided at least 1 month has elapsed since receipt of the first dose.

¶¶ Varicella zoster virus vaccine (Var) can be administered to susceptible children any time after age 12 months.

*** Unvaccinated children who lack a reliable history of chickenpox should be vaccinated at age 11–12 years.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Source: Advisory Committee on Immunization Practices, American Academy of Pediatrics, and American Academy of Family Physicians.

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