CENTERS FOR DISEASE CONTROL

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Recommendation of the Immunization Practices Advisory Committee (ACIP)

Prevention and Control of Influenza

These recommendations of the Immunization Practices Advisory Committee (ACIP) update for 1985-1986 the information on the vaccine and antiviral agent available for control of influenza (superseding MMWR *1984;33:253-66).* ***Changes include addition of statements about: (1) the route of vaccine administration; (2) the use of amantadine in medical personnel during influenza A outbreaks; (3) the need to prepare contingency plans to expedite use of amantadine in aborting influenza A outbreaks among residents of institutions; and (4) reduction in the dosage of amantadine for older patients or persons with seizure disorders.***

INTRODUCTION

Influenza viruses have continually demonstrated an ability to cause major epidemics of respiratory disease. Typical influenza illness is characterized by abrupt onset of fever, sore throat, and nonproductive cough, and unlike many other common respiratory infections, can cause extreme malaise lasting several days. More severe disease can result from invasion of the lungs by influenza virus (primary viral pneumonia) or by secondary bacterial pneumonia. High attack rates of acute illness and the frequent occurrence of lower respiratory tract complications usually result in dramatic rises in visits to physicians' offices and hospital emergency rooms. Furthermore, influenza frequently infects individuals who, because of their ages or underlying health problems, are poorly able to cope with the disease and often require medical attention, including hospitalization. Such persons are considered to be medically at "high risk" in epidemics. In one recent study, for example, hospitalization rates for adults with high-risk medical conditions increased during major epidemics by about twofold to fivefold in different age groups, reaching a maximum rate of about 800 excess hospitalizations per 100,000 high-risk persons.

A further indication of the impact of influenza epidemics is the significant increase that often occurs in mortality. Such excess mortality is attributed not only to the direct cause of influenza pneumonia but also to an increase in deaths from cardiopulmonary disease. Ten thousand or more excess deaths have been associated with epidemics 17 times from 1957 to 1984. Excess mortality again exceeded the epidemic threshold during the 1984-1985 influenza season. About 90% of the excess deaths attributed to pneumonia and influenza during epidemics occur among persons 65 years of age or older.

The greatest impact of influenza is normally seen when new strains appear against which most of the population lacks immunity. In these circumstances (e.g., 1957 and 1968), pandemics occur, and a quarter or more of the U.S. population was affected over 2-3 months.

Because of the increasing proportion of elderly persons in the U.S. population, and because age and its associated chronic diseases are risk factors for severe influenza illness, the future toll from influenza may increase, unless control measures are used more vigorously than in

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the past. Other populations at high risk for influenza-related complications are also increasing because of such factors as the success of intensive-care units for neonates, better management of diseases (such as cystic fibrosis), and better survival rates for organ transplant recipients. This statement discusses the presently available medical control measures, immunoprophylaxis with vaccines, and prophylaxis or therapy with the antiviral drug, amantadine.

OPTIONS FOR THE CONTROL OF INFLUENZA

For about 20 years, efforts to reduce the impact of influenza in the United States have been aimed primarily at immunoprophylaxis of persons at greatest risk of serious illness or death. Observations during influenza epidemics indicate that most influenza-related deaths occur among: (1) persons older than 65 years of age; and (2) persons with chronic underlying disorders of the cardiovascular, pulmonary, and/or renal systems, as well as those with metabolic diseases (including diabetes mellitus), severe anemia, and/or compromised immune function. Recommendations listed below apply primarily to these high-risk groups. In addition, measures are described that apply to other individuals or groups under special circumstances. Influenza control options should also be made available to individuals who wish to reduce their chances of acquiring influenza infection or to reduce the severity of disease.

Prophylaxis is likely to be achieved with greatest cost-effectiveness by vaccinating individuals for whom infection may have the most severe consequences and for whom there is a higher than average potential for infection. In addition, vaccination can best be organized when such high-risk individuals routinely have contact with the health-care delivery system for reasons other than acute respiratory infection before the influenza season, thereby permitting vaccine administration without special visits to doctors' offices or clinics. Other indications for prophylaxis (whether with vaccine or antiviral drugs) include the strong desire of any person to avoid a preventable illness.

The presently available specific therapy for influenza A, amantadine hydrochloride (Symmetrel®), is most likely to benefit individuals who seek medical attention promptly because of abrupt onset of an acute respiratory infection with troublesome symptoms during an influenza A epidemic. For high-risk individuals for whom influenza vaccine has not been used or has not prevented infection, amantadine therapy should be effective in reducing the severity of disease.

INACTIVATED INFLUENZA VACCINE

Use of inactivated influenza vaccine is the single most important measure in preventing and/or attenuating influenza infection. Potency of present vaccines is such that nearly all vaccinated young adults develop hemagglutination-inhibition antibody titers that are likely to protect them against infection by strains like those in the vaccine and, often, by related variants that emerge. The elderly, the very young, and patients with certain chronic diseases may develop lower postvaccination antibody titers than young adults. Under these circumstances, however, influenza vaccine may be more effective in preventing lower respiratory tract involvement or other complications of influenza than in preventing infection and involvement of the upper respiratory tract. Influenza vaccine will not prevent primary illnesses caused by other respiratory pathogens.

Annual vaccination against influenza has been recommended since 1963 for individuals at high risk of lower respiratory tract complications and death following influenza infection, i.e., the elderly and persons with chronic disorders of the cardiovascular, pulmonary, and/or renal systems, metabolic diseases, severe anemia, and/or compromised immune function. These groups have been identified primarily by reviews of death certificate data, supported by hospital-based or population-based studies. Each group encompasses patients along a continuum of underlying general health. In other words, within each broadly defined high-risk category, some persons may be more likely than others to develop severe complications from influenza infection.

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Investigations of influenza outbreaks in nursing homes, for example, have demonstrated attack rates as high as 60%, with case-fatality ratios of 30% or more. Chronic diseases and other debilitating conditions are common among nursing home residents, and spread of infection can often be explosive in such relatively crowded and closed environments. Recent retrospective studies of noninstitutionalized patients also suggest that chronic underlying diseases, particularly those that affect the cardiovascular and pulmonary systems, may contribute more to the severity of illness than age alone. Since influenza infections are also known to invoke abnormalities in gas exchange and peripheral airways dysfunction in adults, children with compromised pulmonary function, including those with cystic fibrosis, chronic asthma, and bronchopulmonary dysplasia, as well as neonates in intensive-care units, may also be at higher risk of severe illness, although firm evidence is lacking. Children with congenital heart disease may also be considered at high risk, since respiratory viruses in general often produce severe infections in this population.

TARGET GROUPS FOR VACCINATION

1. Based on the above observations, the previous, broadly defined high-risk group has been further classified on the basis of priority, so special efforts can be directed at providing vaccine to those who may derive the greatest benefit. Groups for which active, targeted vaccination efforts are most necessary are:
   a. Adults and children with chronic disorders of the cardiovascular or pulmonary systems that are severe enough to have required regular medical follow-ups or hospitalization during the preceding year.
   b. Residents of nursing homes and other chronic-care facilities (e.g., institutions housing patients of any age with chronic medical conditions).
2. Although not proven, it is reasonable to believe that medical personnel can transmit influenza infections to their high-risk patients while they are themselves incubating infection, undergoing subclinical infection, or working despite the existence of mild symptoms. In many winters, nosocomial outbreaks of influenza are reported. The potential for introducing influenza to high-risk groups, such as patients with severely compromised cardiopulmonary or immune systems or infants in neonatal intensive-care units, should be reduced by vaccination programs targeted at medical personnel. Therefore, physicians, nurses, and other personnel who have extensive contact with high-risk patients (e.g., primary-care and certain specialty clinicians and staff of intensive-care units) should receive influenza vaccination annually.
3. After considering the needs of the above two target groups, high priority should also be given to organizing special programs making vaccine readily available to persons at moderately increased risk of serious illness compared with the general population:
   a. Otherwise healthy individuals over 65 years of age.
   b. Adults and children with chronic metabolic diseases (including diabetes mellitus), renal dysfunction, anemia, immunosuppression, or asthma that are severe enough to require regular medical follow-ups or hospitalization during the preceding year.

VACCINE RECOMMENDATIONS

Influenza vaccine is recommended for high-risk persons 6 months or older, for their medical-care personnel, and for other persons wishing to reduce their chances of acquiring influenza illness. Vaccine composition and doses are given in Table 1. Guidelines for use of vaccine are given below for different segments of the population. Although the 1985-1986 vaccine has the same formulation as the 1984-1985 vaccine, immunity declines in the year following vaccination. **Therefore, a history of vaccination for the 1984-1985 season does not preclude the need to be revaccinated for the 1985-1986 influenza season to provide optimal protection.**

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Data on influenza vaccine immunogenicity and reactogenicity have generally been obtained when vaccine is administered by the intramuscular (deltoid) route. Because adequate evaluation of other routes in high-risk persons is lacking, the preferred route of vaccination is the deltoid muscle whenever possible.

HIGH-PRIORITY TARGET GROUPS

Annual vaccination with inactivated influenza vaccine is considered the single most important measure in preventing or attenuating influenza infection and is strongly recommended for persons at high risk and for those providing their medical care. In most past years, only 20% of the groups defined as high-risk on the basis of medical condition or age received influenza vaccine in any given year. Increased efforts must be made to immunize persons in high-risk groups, particularly those in the highest-priority target groups (see target group 1 above).

As an initial step, the ACIP recommends that infection-control programs in institutions for the aged or chronically ill have as their goal the achievement of no less than 80% vaccination rates for the residents. Hospitals and physicians should have a similar objective for vaccinating patients with severe cardiopulmonary disorders and for vaccinating medical personnel who have the greatest potential to introduce influenza virus into high-risk hospital settings (see target group 2 above). Wherever possible, efforts should also be made to vaccinate persons at moderately increased risk (see target group 3 above). This latter objective often requires that active promotion of influenza vaccine be made by individual physicians who practice outside organizations that can set administrative guidelines and procedures for their professional staff. Establishing systems for influenza vaccination activities in physicians' offices and clinics is essential in providing vaccine.

General population. Physicians should administer vaccine to any persons in their practices who wish to reduce their chances of acquiring influenza infection. Persons who provide essential community services, such as fire and police department employees, and health-care personnel are not considered to be at increased occupational risk of serious influenza illness but may be considered for vaccination programs designed to minimize the possible disruption of essential activities that can occur during severe epidemics.

Pregnant women. Pregnancy has not been demonstrated to be a risk factor for severe influenza infection, except in the largest pandemics of 1918-1919 and 1957-1958. Influenza vaccine is considered generally safe for pregnant women. Nonetheless, when vaccine is given during pregnancy, waiting until after the first trimester is a reasonable precaution to minimize any concern over the theoretical possibility of teratogenicity.

Persons who should not be vaccinated. Inactivated influenza vaccine should not be given to persons who have an anaphylactic sensitivity to eggs, (see **SIDE EFFECTS AND ADVERSE REACTIONS** below). Persons with acute febrile illnesses normally should not be vaccinated until their temporary symptoms have abated.

STRATEGIES FOR IMPLEMENTING INFLUENZA VACCINE RECOMMENDATIONS

Influenza vaccine should normally be obtained to use during the fall. More effective programs for giving influenza vaccine are needed in nursing homes and other chronic-care facilities, in physicians' offices, and in hospital settings. Adults and children in high-priority target groups who do not reside in nursing homes or other chronic-care facilities should be given influenza vaccine at the time of regular medical follow-ups in the fall. Those not scheduled for regular medical appointments in the fall should be notified by their medical offices or clinics to come in specifically to receive influenza vaccine. During the fall, physicians responsible for care of hospitalized patients should consider administering influenza vaccine to patients with high-risk conditions before the patients are discharged.

These and other programs to annually vaccinate target groups require planning well in advance and should, whenever possible, be completed before the beginning of the influenza season. However, vaccine can be given right up to the time influenza virus activity is document-

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ed, and even thereafter, although temporary chemoprophylaxis may be indicated in these situations (see **ANTIVIRAL AGENT: AMANTADINE** below).

VACCINE COMPOSITION

Influenza A viruses are classified into subtypes on the basis of two antigens: hemagglutinin (H) and neuraminidase (N). Three subtypes of hemagglutinin (H1, H2, H3) and two subtypes of neuraminidase (N1, N2) are recognized among influenza A viruses that have caused widespread human disease. Immunity to these antigens, especially hemagglutinin, reduces the likelihood of infection and the severity of disease if infection does occur. However, there may be sufficient antigenic variation (antigenic drift) within the same subtype over time, so that infection or vaccination with one strain may not induce immunity to distantly related strains of the same subtype. Although influenza B viruses have shown much more antigenic stability than influenza A viruses, antigenic variation does occur. As a consequence, the antigenic characteristics of current strains provide the basis for selecting virus strains included in the vaccine.

Based on the most recent epidemiologic and laboratory data (reported periodically in *MMWR* during the 1984-1985 influenza season), it is anticipated that strains prevalent in 1985-1986 will be closely related to A/Philippines/2/82(H3N2), A/Chile/1/83(H1N1), and B/USSR/100/83. Therefore, these strains will be included in the vaccine for use during the 1985-1986 season (Table 1). Although the components and their concentration in the 1985-1986 vaccine will be identical to those in the 1984-1985 vaccine, all 1984-1985 influenza vaccines released for civilian use have a June 30, 1985, expiration date. Remaining 1984-1985 vaccines should not be used beyond their expiration dates.

SIDE EFFECTS AND ADVERSE REACTIONS

Vaccines used in recent years have generally been associated with only a few reactions; fewer than one-third of vaccinees have been reported to develop local redness or induration for 1 or 2 days at the site of injection.

Systemic reactions have been of two types:

1. Fever, malaise, myalgia, and other systemic symptoms of toxicity, although infrequent, most often affect children and others who have had no exposure to the influenza virus

TABLE 1. Influenza vaccine* dosage by age of patient — United States, 1985-1986 season

Age group	Product†	Dosage§	No. doses	Route¶
6-35 mos.	Split virus only	0.25 ml	2**	IM
3-12 yrs.	Split virus only	0.5 ml	2**	IM
> 12 years	Whole or split virus	0.5 ml	1	IM

*Contains 15 μg each of A/Chile/83(H1N1), A/Philippines/82(H3N2), and B/USSR/83 hemagglutinin antigens in each 0.5 ml. Manufacturers include Parke-Davis (Fluogen® split), Squibb-Connaught (Fluzone® whole or split), Wyeth Laboratories (Influenza Virus Vaccine, Trivalent split). Manufacturer's phone numbers to obtain further product information are: Parke-Davis—(800) 223-0432; Squibb-Connaught—(800) 822-2463; Wyeth—(800) 321-2304.

†Because of the lower potential for causing febrile reactions, only split (subvirion) vaccine should be used in children. Immunogenicity and reactogenicity of split and whole virus vaccines are similar in adults when used according to the recommended dosage.

§Pneumococcal vaccine and influenza vaccine can be given at the same time at different sites without an increase in side effects, but it should be emphasized that, whereas influenza vaccine is given annually, pneumococcal vaccine should be given only once to adults. Detailed immunization records should be provided to each patient to help ensure that additional doses of pneumococcal vaccine are not given.

¶The recommended site of vaccination is the deltoid muscle for adults and older children. The preferred site for infants and young children is the anterolateral aspect of the thigh musculature.

**Four weeks or more between doses, both doses recommended for maximum protection. However, if the individual received at least one dose of any influenza vaccine recommended from 1978-1979 to 1984-1985, one dose is sufficient.

antigens contained in the vaccine. These reactions, which begin 6-12 hours after vaccination and persist for 1-2 days, are usually attributed to the influenza antigens (even though the virus is inactivated) and constitute most of the systemic side effects of influenza vaccination.

2. Immediate, presumably allergic, responses, such as flare and wheal or various respiratory tract symptoms of hypersensitivity, occur extremely rarely after influenza vaccination. These symptoms probably result from sensitivity to some vaccine component, most likely residual egg protein. Although current influenza vaccines contain only a small quantity of egg protein, on rare occasions, vaccine can induce hypersensitivity reactions. Individuals with anaphylactic hypersensitivity to eggs should *not* be given influenza vaccine. Such persons include those who, on eating eggs, develop swelling of the lips or tongue or experience acute respiratory distress or collapse. Unlike the 1976 swine influenza vaccine, subsequent vaccines have not been associated with an increased frequency of Guillain-Barré syndrome.

It has been reported that influenza vaccination may affect the clearances of warfarin and theophylline. Several studies, however, have failed to show any consistent adverse effect of influenza vaccination on patients taking these drugs.

SIMULTANEOUS PNEUMOCOCCAL VACCINATION

There is considerable overlap in the target groups for influenza vaccination and pneumococcal vaccine. Pneumococcal vaccine and influenza vaccine can be given at the same time at different sites without increased side effects, but it should be emphasized that, whereas influenza vaccine is given annually, pneumococcal vaccine should be given only once to adults. Detailed immunization records, which should be provided to each patient, will help ensure that additional doses of pneumococcal vaccine are not given.

ANTIVIRAL AGENT: AMANTADINE

The only drug currently available for the specific prophylaxis and therapy of influenza virus infections is amantadine hydrochloride (Symmetrel®), which appears to interfere with the uncoating step in the virus replication cycle. The drug also reduces virus shedding. Amantadine is 70%-90% effective in preventing illnesses caused by circulating strains of type A influenza viruses (it is not effective against type B influenza). When administered within 24-48 hours after onset of illness, amantadine has been shown to reduce the duration of fever and other systemic symptoms with a more rapid return to routine daily activities and improvement in peripheral airway function. Since it may not prevent actual infection, persons who take the drug may still develop immune responses that will protect them when exposed to antigenically related viruses.

While considerable evidence shows that amantadine chemoprophylaxis is effective against influenza A, in most circumstances, it should not be used in lieu of vaccination, because it confers no protection against influenza B, and patient compliance could be a problem for continuous administration throughout epidemic periods, which generally last 6-12 weeks.

Amantadine prophylaxis recommendations. Specific circumstances for which amantadine prophylaxis is recommended include the following:

1. As short-term prophylaxis during the course of a presumed influenza A outbreak (e.g., in institutions for persons at high risk), particularly when the vaccine may be relatively ineffective (e.g., due to major antigenic changes in the virus). The drug should be given early in the outbreak in an effort to reduce the spread of the infection. Contingency planning for influenza outbreaks in institutions is needed to establish specific steps for rapid administration of amantadine when appropriate, including obtaining physicians' orders at short notice. When the decision to give amantadine for outbreak control is made, it is desirable to administer the drug to all residents of the affected institution,

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taking into account dosage recommendations and precautions given below and in the drug's package insert.

2. As an adjunct to late immunization of high-risk individuals. It is not too late to immunize even when influenza A is known to be in the community. However, since the development of a protective response following vaccination takes about 2 weeks, amantadine should be used in the interim. The drug is not known to interfere with antibody response to the vaccine.
3. To reduce disruption of medical care and to reduce spread of virus to high-risk persons when influenza A virus outbreaks occur. Amantadine prophylaxis is desirable for those physicians, nurses, and other personnel who have extensive contact with high-risk patients but who failed to receive the recommended annual influenza vaccination before the onset of influenza A activity. Such unprotected health-care workers should be immediately offered vaccine and provided amantadine for the subsequent 2 weeks while a protective response to vaccination develops. If vaccine is not given, is unavailable, or is of low efficacy due to a major antigenic change in the virus, amantadine prophylaxis should be continued throughout the period of influenza A activity in the community. Other health-care workers in hospitals should also be offered amantadine as long as this does not jeopardize the availability of the drug for prophylaxis of staff having greatest contact with high-risk patients.
4. To supplement protection afforded by vaccination in those with impaired immune responses. Chemoprophylaxis may be considered for high-risk patients who may be ex-

TABLE 2. Amantadine hydrochloride (Symmetrel®) dosage, by age of patient and level of renal function

Age group	Dosage*
No recognized renal disease	
1-9 yrs.†	4.4-8.8 mg/kg/day once daily or divided twice daily. Total dosage should not exceed 150 mg/day.
10-64 yrs.§	200 mg once daily or divided twice daily
≥ 65 yrs.	100 mg once daily¶
Recognized renal disease	
Creatinine clearance: (ml/min 1.73m^2)	
≥ 80	100 mg twice daily
60-79	200 mg/100 mg on alternate days
40-59	100 mg once daily
30-39	200 mg twice weekly
20-29	100 mg thrice weekly
10-19	200 mg/100 mg alternating every 7 days

*For prophylaxis, amantadine must be taken each day for the duration of influenza A activity in the community (generally 6-12 weeks). For therapy, amantadine should be started as soon as possible after onset of symptoms and should be continued for 24-48 hours after the disappearance of symptoms (generally 5-7 days).

†Use in children under 1 year has not been evaluated adequately. In one study, a dose of 6.6 mg/kg/day was reportedly well-tolerated by children over 2 years of age.

§Reduction of dosage to 100 mg/day is also recommended for persons with an active seizure disorder, because such persons may be at risk of experiencing an increase in the frequency of their seizures when given amantadine at 200 mg/day.

¶The reduced dosage of 100 mg/day for person 65 years of age or older without recognized renal disease is recommended to minimize the risk of toxicity, because renal function normally declines with age and because side effects have been reported more frequently in the elderly.

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pected to have a poor antibody response to influenza vaccine, e.g., those with severe immunodeficiency.

5. As chemoprophylaxis throughout the influenza season for those few high-risk individuals for whom influenza vaccine is contraindicated because of anaphylactic hypersensitivity to egg protein or prior severe reactions associated with influenza vaccination.

Amantadine can also be used prophylactically in other situations (e.g., unimmunized members of the general population who wish to avoid influenza A illness). This decision should be made on an individual basis.

Therapy. Since vaccine efficacy is less than 100%, amantadine should be considered for therapeutic use, particularly for persons in the high-risk groups if they develop illness compatible with influenza during a period of known or suspected influenza A activity in the community. The drug should be given within 24-48 hours of onset of illness and should be continued until 48 hours after resolution of signs and symptoms.

Persons who should not be given amantadine. Particular caution should be exercised for persons under 1 year of age, persons of any age with impaired renal function, or persons with an active seizure disorder (see below).

Dosage. The usual adult dosage of amantadine is 200 mg per day. Splitting the dose into

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TABLE I. Summary—cases of specified notifiable diseases, United States

Disease	19th Week Ending			Cumulative, 19th Week Ending		
	May 11, 1985	May 12, 1984	Median 1980-1984	May 11, 1985	May 12, 1984	Median 1980-1984
Acquired Immunodeficiency Syndrome (AIDS)	175	57	N	2,487	1,340	N
Aseptic meningitis	65	81	84	1,289	1,439	1,439
Encephalitis: Primary (arthropod-borne & unspec.)	16	14	15	320	298	298
Post-infectious	3	1	3	51	36	36
Gonorrhea: Civilian	14,713	13,483	18,424	284,888	290,960	338,776
Military	288	633	633	6,580	7,538	9,883
Hepatitis: Type A	352	429	458	7,672	7,634	8,352
Type B	490	562	414	8,988	9,050	7,554
Non A, Non B	70	80	N	1,489	1,343	N
Unspecified	139	94	158	1,952	1,745	3,080
Legionellosis	7	11	N	190	184	N
Leprosy	3	5	3	126	80	78
Malaria	5	21	21	243	263	295
Measles: Total*	18	112	112	982	1,238	1,238
Indigenous	16	100	N	733	1,101	N
Imported	2	12	N	249	137	N
Meningococcal infections: Total	60	61	74	1,119	1,297	1,297
Civilian	59	60	74	1,116	1,294	1,294
Military	1	1	-	3	3	5
Mumps	81	63	93	1,516	1,378	2,019
Pertussis	11	31	21	449	757	390
Rubella (German measles)	23	24	77	180	281	1,125
Syphilis (Primary & Secondary): Civilian	370	460	500	9,005	10,279	10,919
Military	-	10	8	67	127	132
Toxic Shock syndrome	6	7	N	139	172	N
Tuberculosis	377	459	492	7,142	7,427	8,909
Tularemia	2	5	4	26	38	40
Typhoid fever	6	5	5	102	121	129
Typhus fever, tick-borne (RMSF)	6	7	20	36	60	63
Rabies, animal	89	98	138	1,780	1,742	2,293

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1985		Cum. 1985
Anthrax	-	Leptospirosis (Mich. 1)	9
Botulism: Foodborne	2	Plague	1
Infant (Mich. 1, Hawaii 1)	17	Poliomyelitis: Total	1
Other	-	Paralytic	1
Brucellosis (Hawaii 1)	31	Psittacosis	44
Cholera	-	Rabies, human	-
Congenital rubella syndrome	-	Tetanus (Hawaii 1)	21
Congenital syphilis, ages < 1 year	52	Trichinosis	28
Diphtheria	2	Typhus fever, flea-borne (endemic, murine)	3

*One of the 18 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending May 11, 1985 and May 12, 1984 (19th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1985	1985	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1984	1985	1985	1985	1985	1985	Cum. 1985
UNITED STATES	2,487	65	320	51	284,888	290,960	352	490	70	139	7	126
NEW ENGLAND	75	2	10	-	8,780	8,479	6	29	2	11	-	3
Maine	3	-	-	-	345	318	-	-	-	-	-	-
N.H.	-	-	2	-	178	234	-	-	-	-	-	-
Vt.	-	-	-	-	89	141	-	-	-	-	-	-
Mass.	46	1	8	-	3,275	3,400	5	21	1	11	-	3
R.I.	3	1	-	-	643	539	1	8	1	-	-	-
Conn.	23	-	-	-	4,250	3,847	-	-	-	-	-	-
MID ATLANTIC	975	20	51	2	39,962	39,758	21	53	4	9	-	10
Upstate N.Y.	123	10	18	2	5,680	6,178	10	25	2	2	-	-
N.Y. City	641	4	3	-	18,711	16,809	4	2	-	4	-	10
N.J.	146	6	13	-	7,625	6,428	7	26	2	3	-	-
Pa.	65	U	17	-	7,946	10,343	U	U	U	U	U	-
E.N. CENTRAL	105	4	73	11	40,949	39,150	6	40	4	9	2	3
Ohio	23	2	28	4	10,616	9,853	4	14	-	2	1	2
Ind.	4	-	12	1	3,922	4,561	-	15	2	5	1	-
Ill.	43	-	8	4	11,387	8,807	1	-	-	-	-	-
Mich.	22	2	21	-	11,717	11,473	1	11	2	2	-	1
Wis.	13	-	4	2	3,307	4,456	-	-	-	-	-	-
W.N. CENTRAL	28	3	26	3	14,253	13,838	8	15	2	-	1	-
Minn.	5	-	11	1	2,120	2,021	5	5	1	-	-	-
Iowa	3	-	9	-	1,527	1,617	1	1	-	-	-	-
Mo.	17	-	-	-	6,683	6,470	-	9	1	-	1	-
N. Dak.	-	-	-	1	97	143	-	-	-	-	-	-
S. Dak.	-	2	-	-	258	366	1	-	-	-	-	-
Nebr.	-	1	1	-	1,333	1,032	-	-	-	-	-	-
Kans.	3	-	5	1	2,235	2,189	1	-	-	-	-	-
S. ATLANTIC	347	8	33	15	61,316	74,275	19	98	14	6	2	3
Del.	7	-	1	-	1,380	1,261	-	1	-	-	-	-
Md.	41	2	10	1	9,960	8,536	-	11	4	-	-	1
D.C.	41	-	-	-	5,157	5,270	-	1	-	-	-	-
Va.	20	-	6	4	6,505	6,949	-	-	-	-	-	-
W. Va.	1	-	2	-	911	905	-	5	-	-	-	-
N.C.	20	-	11	-	11,143	11,730	2	11	1	2	1	1
S.C.	3	1	3	-	7,886	7,057	2	20	3	-	1	-
Ga.	52	3	-	-	-	14,830	4	11	-	-	-	-
Fla.	162	2	-	10	18,374	17,737	11	38	6	4	-	1
E.S. CENTRAL	24	2	12	4	24,886	24,981	4	21	3	1	-	-
Ky.	9	-	4	-	2,722	3,042	2	6	1	-	-	-
Tenn.	4	1	4	-	9,901	10,137	1	9	2	-	-	-
Ala.	10	-	4	4	7,878	8,019	1	5	-	1	-	-
Miss.	1	1	-	-	4,385	3,783	-	1	-	-	-	-
W.S. CENTRAL	198	13	30	1	39,764	40,336	77	42	6	48	1	11
Ark.	2	-	1	1	3,800	3,520	-	-	-	-	-	-
La.	33	2	1	-	9,057	8,855	3	2	1	2	1	1
Okla.	2	2	11	-	4,165	4,311	9	3	2	1	-	-
Tex.	161	9	17	-	22,742	23,650	65	37	3	45	-	10
MOUNTAIN	35	2	11	3	9,329	9,216	43	53	12	17	1	1
Mont.	-	-	-	-	276	429	-	-	-	-	-	-
Idaho	-	-	-	-	326	425	4	1	-	1	-	-
Wyo.	-	U	1	-	220	295	U	U	U	U	U	-
Colo.	12	-	3	-	2,788	2,654	4	6	1	7	-	-
N. Mex.	4	-	-	-	1,120	1,058	5	14	1	-	-	-
Ariz.	14	2	2	-	2,711	2,411	28	22	9	7	1	-
Utah	2	-	5	3	380	485	1	4	1	2	-	-
Nev.	3	-	-	-	1,508	1,459	1	6	-	-	-	1
PACIFIC	700	11	74	12	45,649	40,927	168	139	23	38	-	95
Wash.	38	1	8	-	3,071	2,959	13	14	2	-	-	19
Oreg.	12	-	-	-	2,298	2,360	28	9	3	3	-	2
Calif.	633	7	66	12	38,468	33,866	126	114	18	35	-	66
Alaska	2	-	-	-	1,118	1,039	1	1	-	-	-	-
Hawaii	15	3	-	-	694	703	-	1	-	-	-	8
Guam	-	U	-	-	33	96	U	U	U	U	U	-
P.R.	31	3	3	1	1,369	1,255	6	10	1	6	-	2
V.I.	1	-	-	-	174	178	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	-	-	-	U	U	U	U	U	-

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending May 11, 1985 and May 12, 1984 (19th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1985	1985	Cum. 1985	1985	Cum. 1985	Cum. 1984	Cum. 1985	1985	Cum. 1985	1985	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984
UNITED STATES	243	16	733	2	249	1,238	1,119	81	1,516	11	449	757	23	180	281
NEW ENGLAND	11	-	11	1	79	63	53	2	32	-	24	14	-	6	13
Maine	-	-	-	-	-	-	2	1	5	-	2	-	-	-	1
N.H.	-	-	-	-	-	15	5	-	5	-	13	3	-	2	-
Vt.	-	-	-	-	-	3	8	-	2	-	2	7	-	-	-
Mass.	8	-	11	1†	77	36	10	-	15	-	4	3	-	4	12
R.I.	1	-	-	-	-	-	9	1	3	-	1	1	-	-	-
Conn.	2	-	-	-	2	9	19	-	2	-	2	-	-	-	-
MID ATLANTIC	39	5	63	1§	16	66	189	6	160	-	51	53	4	42	74
Upstate N.Y.	16	2	31	1§	6	13	80	6	95	-	21	34	-	8	59
N.Y. City	10	3	22	-	5	44	24	-	14	-	9	2	3	16	8
N.J.	4	-	2	-	5	5	34	-	17	-	1	3	1	6	7
Pa.	9	U	8	U	-	4	51	U	34	U	20	14	U	12	-
E.N. CENTRAL	13	2	152	-	94	439	193	18	624	1	53	225	6	17	47
Ohio	3	-	-	-	13	2	62	4	180	-	13	37	-	-	2
Ind.	1	-	-	-	1	3	30	1	25	-	11	151	-	-	1
Ill.	1	1	75	-	66	153	39	12	117	-	9	16	-	5	26
Mich.	8	1	35	-	14	272	44	1	248	1	8	11	6	11	11
Wis.	-	-	42	-	-	9	18	-	54	-	12	10	-	1	7
W.N. CENTRAL	5	-	1	-	4	1	55	1	48	-	44	69	1	8	19
Minn.	1	-	-	-	2	1	16	-	1	-	11	5	1	1	1
Iowa	1	-	-	-	-	-	7	-	7	-	3	3	-	-	-
Mo.	1	-	-	-	2	-	22	1	8	-	9	13	-	-	-
N. Dak.	1	-	-	-	-	-	-	-	1	-	6	-	-	-	3
S. Dak.	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Nebr.	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-
Kans.	-	-	1	-	-	-	7	-	31	-	15	45	-	7	15
S. ATLANTIC	31	6	125	-	6	20	215	9	126	4	97	57	2	25	17
Del.	-	-	-	-	-	-	5	-	1	-	-	-	-	-	-
Md.	10	4	16	-	4	8	26	1	16	3	25	3	-	1	1
D.C.	3	-	-	-	1	-	6	-	-	-	-	-	-	-	-
Va.	7	-	15	-	1	2	33	3	21	-	3	7	-	1	-
W. Va.	1	2	5	-	-	-	4	4	40	-	-	6	2	8	-
N.C.	2	-	1	-	-	-	29	-	8	-	7	17	-	-	-
S.C.	-	-	-	-	-	-	22	-	6	-	-	2	-	2	-
Ga.	1	-	8	-	-	-	33	-	12	1	38	6	-	4	2
Fla.	7	-	80	-	-	10	57	1	22	-	24	16	-	9	14
E.S. CENTRAL	3	-	-	-	-	3	54	1	11	2	6	4	-	1	5
Ky.	1	-	-	-	-	1	4	-	1	-	1	1	-	1	1
Tenn.	-	-	-	-	-	2	19	1	9	-	1	2	-	-	-
Ala.	2	-	-	-	-	-	18	-	-	-	2	-	-	-	1
Miss.	-	-	-	-	-	-	13	-	1	2	2	1	-	-	3
W.S. CENTRAL	16	-	60	-	6	238	99	26	170	-	47	154	-	15	5
Ark.	-	-	-	-	-	-	9	-	4	-	9	10	-	1	2
La.	-	-	7	-	-	-	14	-	2	-	2	3	-	-	-
Okla.	-	-	-	-	-	4	18	N	N	-	36	132	-	-	-
Tex.	16	-	53	-	6	234	58	26	164	-	-	9	-	14	3
MOUNTAIN	12	-	244	-	23	113	56	8	141	1	23	57	-	3	10
Mont.	-	-	121	-	17	-	3	-	5	-	3	16	-	-	-
Idaho	-	-	-	-	1	-	-	-	5	-	-	1	-	1	1
Wyo.	-	U	-	U	-	-	5	U	2	U	-	3	U	-	1
Colo.	4	-	-	-	5	-	15	-	14	-	8	20	-	-	2
N. Mex.	4	-	-	-	-	86	8	N	N	-	3	5	-	1	-
Ariz.	3	-	123	-	-	-	16	4	62	1	5	8	-	1	-
Utah	-	-	-	-	-	27	7	-	2	-	4	2	-	-	6
Nev.	1	-	-	-	-	-	2	4	51	-	-	2	-	-	-
PACIFIC	113	3	77	-	21	295	205	10	204	3	104	124	10	63	91
Wash.	9	-	1	-	-	81	35	-	12	1	17	16	-	2	1
Oreg.	4	-	3	-	-	-	21	N	N	-	16	9	-	2	-
Calif.	83	3	70	-	17	212	144	10	181	2	67	38	4	41	88
Alaska	2	-	-	-	-	-	4	-	2	-	1	-	-	-	-
Hawaii	15	-	3	-	4	2	1	-	9	-	3	61	6	18	2
Guam	-	U	10	U	-	84	-	U	2	U	-	-	U	1	2
P.R.	-	6	46	-	-	1	5	4	65	-	1	-	-	8	4
V.I.	-	-	4	-	5	-	-	-	3	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending May 11, 1985 and May 12, 1984 (19th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1985
UNITED STATES	9,005	10,279	6	7,142	7,427	26	102	36+7	1,780
NEW ENGLAND	201	220	-	239	214	-	6	-	1
Maine	7	1	-	17	11	-	-	-	-
N.H.	3	2	-	1	12	-	-	-	-
Vt.	-	1	-	4	2	-	-	-	-
Mass.	106	133	-	150	115	-	5	-	-
R.I.	6	8	-	21	17	-	-	-	-
Conn.	79	75	-	46	57	-	1	-	1
MID ATLANTIC	1,205	1,424	-	1,332	1,383	1	16	-	140
Upstate N.Y.	93	118	-	223	212	-	6	-	31
N.Y. City	754	862	-	686	568	1	4	-	-
N.J.	253	258	-	141	289	-	5	-	4
Pa.	105	186	U	282	314	-	1	-	105
E.N. CENTRAL	422	478	2	906	988	-	9	1	45
Ohio	53	88	1	158	202	-	2	1	10
Ind.	35	60	-	108	103	-	3	-	6
Ill.	218	134	-	384	410	-	1	-	9
Mich.	96	163	1	210	209	-	2	-	2
Wis.	20	33	-	46	64	-	1	-	18
W.N. CENTRAL	98	176	-	186	202	7	3	-	323
Minn.	25	47	-	37	31	1	3	-	60
Iowa	14	10	-	30	29	-	-	-	65
Mo.	41	94	-	83	92	5	-	-	17
N. Dak.	-	1	-	2	5	-	-	-	33
S. Dak.	4	-	-	7	6	-	-	-	109
Nebr.	5	8	-	9	13	1	-	-	17
Kans.	9	16	-	18	26	-	-	-	22
S. ATLANTIC	2,272	3,149	-	1,467	1,552	5	11	18+1	487
Del.	16	10	-	13	16	1	-	-	-
Md.	150	205	-	133	170	-	2	2	245
D.C.	129	118	-	71	46	-	-	-	-
Va.	123	163	-	115	142	-	2	2	68
W. Va.	4	9	-	34	57	-	-	1	8
N.C.	256	313	-	174	250	4	1	9	1
S.C.	284	303	-	177	175	-	-	3 1	28
Ga.	-	540	-	225	215	-	-	-	68
Fla.	1,310	1,488	-	525	481	-	6	1	69
E.S. CENTRAL	808	635	-	615	681	2	2	6+2	92
Ky.	31	35	-	104	145	-	-	-	12
Tenn.	219	172	-	185	221	2	-	3 2	22
Ala.	259	215	-	221	221	-	2	3	56
Miss.	299	213	-	105	94	-	-	-	2
W.S. CENTRAL	2,210	2,409	1	776	774	4	5	10+3	365
Ark.	113	78	-	83	84	1	-	1 1	61
La.	375	456	-	96	100	-	-	-	4
Okla.	63	67	1	92	80	3	-	9 2	43
Tex.	1,659	1,808	-	505	510	-	5	-	257
MOUNTAIN	291	235	1	174	188	5	4	-	128
Mont.	1	-	-	19	10	1	-	-	68
Idaho	2	10	1	6	9	-	-	-	-
Wyo.	4	3	U	3	-	-	-	-	3
Colo.	67	53	-	18	21	-	3	-	-
N. Mex.	36	29	-	34	41	2	1	-	1
Ariz.	164	99	-	83	79	-	-	-	56
Utah	3	8	-	5	16	2	-	-	-
Nev.	14	33	-	6	12	-	-	-	-
PACIFIC	1,498	1,553	2	1,447	1,445	2	46	1+1	199
Wash.	51	54	1	64	74	-	-	-	1
Oreg.	33	46	-	48	61	1	-	-	-
Calif.	1,385	1,422	1	1,218	1,216	1	45	1 1	198
Alaska	1	3	-	51	22	-	-	-	-
Hawaii	28	28	-	66	72	-	1	-	-
Guam	2	-	U	6	22	-	-	-	-
P.R.	315	327	-	113	144	-	1	-	12
V.I.	1	6	-	1	3	-	-	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending May 11, 1985 (19th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	628	436	129	30	13	20	42
Boston, Mass.	182	112	45	13	3	9	20
Bridgeport, Conn.	44	30	10	3	1	-	2
Cambridge, Mass.	19	16	3	-	-	-	1
Fall River, Mass.	28	23	5	-	-	-	1
Hartford, Conn.	48	27	17	2	1	1	2
Lowell, Mass.	22	16	4	1	1	-	2
Lynn, Mass.	18	12	5	1	-	-	2
New Bedford, Mass.	29	23	6	-	-	-	-
New Haven, Conn.	42	27	9	3	1	2	-
Providence, R.I.	61	48	6	3	2	2	7
Somerville, Mass.	7	4	3	-	-	-	-
Springfield, Mass.	37	26	5	2	3	1	1
Waterbury, Conn.	51	41	4	2	1	3	1
Worcester, Mass.	40	31	7	-	-	2	3
MID ATLANTIC	2,607	1,712	594	186	65	50	110
Albany, N.Y.	65	43	12	4	2	4	1
Allentown, Pa.	25	17	7	1	-	-	-
Buffalo, N.Y.	119	76	32	4	4	3	7
Camden, N.J.	26	17	7	2	-	-	-
Elizabeth, N.J.	24	15	7	2	-	-	1
Erie, Pa.†	34	20	9	1	4	-	3
Jersey City, N.J.	50	36	5	7	1	1	1
N.Y. City, N.Y.	1,279	816	304	114	22	23	43
Newark, N.J.	80	37	21	13	5	4	4
Paterson, N.J.	22	12	7	1	1	1	1
Philadelphia, Pa.	416	280	95	25	8	8	25
Pittsburgh, Pa.†	67	45	17	1	2	2	4
Reading, Pa.	29	23	4	1	1	-	4
Rochester, N.Y.	125	93	24	3	4	1	3
Schenectady, N.Y.	23	19	3	-	1	-	3
Scranton, Pa.†	33	27	4	2	-	-	4
Syracuse, N.Y.	98	67	18	2	8	3	-
Trenton, N.J.	34	22	9	1	2	-	1
Utica, N.Y.	28	25	3	-	-	-	2
Yonkers, N.Y.	30	22	6	2	-	-	3
E.N. CENTRAL	2,154	1,471	386	130	63	103	80
Akron, Ohio	64	41	17	3	-	3	1
Canton, Ohio	37	26	8	-	1	2	1
Chicago, Ill.§	553	462	11	26	16	37	16
Cincinnati, Ohio	142	89	36	7	4	6	17
Cleveland, Ohio	131	67	41	11	4	8	2
Columbus, Ohio	127	81	30	7	5	4	1
Dayton, Ohio	82	54	17	7	2	2	2
Detroit, Mich.	243	134	62	29	9	9	3
Evansville, Ind.	34	28	4	1	-	1	4
Fort Wayne, Ind.	46	36	9	1	-	-	2
Gary, Ind.	11	5	5	1	-	-	-
Grand Rapids, Mich.	47	31	10	-	2	4	3
Indianapolis, Ind.	173	105	46	10	3	9	3
Madison, Wis.	39	22	6	6	2	3	5
Milwaukee, Wis.	121	79	28	6	2	6	3
Peoria, Ill.	43	26	12	3	2	-	4
Rockford, Ill.	42	29	6	5	-	2	3
South Bend, Ind.	48	37	6	1	3	1	6
Toledo, Ohio	92	66	15	4	5	2	4
Youngstown, Ohio	79	53	17	2	3	4	-
W.N. CENTRAL	693	480	140	30	12	31	45
Des Moines, Iowa	46	28	11	2	1	4	4
Duluth, Minn.	32	27	2	-	-	3	-
Kansas City, Kans.	25	14	8	3	-	-	3
Kansas City, Mo.	113	75	31	3	2	2	13
Lincoln, Nebr.	35	28	6	1	-	-	6
Minneapolis, Minn.	88	58	12	6	1	11	1
Omaha, Nebr.	79	59	15	2	1	2	6
St. Louis, Mo.	129	89	26	7	2	5	3
St. Paul, Minn.	69	51	11	3	2	2	1
Wichita, Kans.	77	51	18	3	3	2	8
S. ATLANTIC	1,093	683	253	90	33	34	49
Atlanta, Ga.	140	86	34	13	6	1	3
Baltimore, Md.	180	117	39	12	6	6	4
Charlotte, N.C.	70	40	18	7	4	1	4
Jacksonville, Fla.	94	59	24	4	3	4	9
Miami, Fla.	94	55	24	13	2	-	-
Norfolk, Va.	40	19	10	5	1	5	4
Richmond, Va.	82	45	26	5	2	4	7
Savannah, Ga.	50	29	15	2	4	-	3
St. Petersburg, Fla.	107	92	12	1	1	1	7
Tampa, Fla.	70	46	14	6	3	1	5
Washington, D.C.	140	74	33	21	1	11	2
Wilmington, Del.	26	21	4	1	-	-	1
E.S. CENTRAL	731	458	179	57	15	21	39
Birmingham, Ala.	134	83	33	6	4	8	10
Chattanooga, Tenn.	38	26	9	1	-	2	2
Knoxville, Tenn.	92	64	22	4	2	-	5
Louisville, Ky.	89	54	27	5	-	3	6
Memphis, Tenn.	147	89	30	20	4	3	5
Mobile, Ala.	90	55	23	6	2	4	7
Montgomery, Ala.	37	21	11	4	-	1	1
Nashville, Tenn.	104	66	24	11	3	-	3
W.S. CENTRAL	1,337	786	327	93	72	59	59
Austin, Tex.	58	38	11	4	4	1	3
Baton Rouge, La.	58	30	11	4	9	4	-
Corpus Christi, Tex.	24	17	6	1	-	-	-
Dallas, Tex.	215	119	57	21	11	7	5
El Paso, Tex.	59	35	16	4	1	3	3
Fort Worth, Tex.	104	60	31	4	7	2	10
Houston, Tex.	350	180	93	31	24	22	11
Little Rock, Ark.	100	64	28	2	5	1	8
New Orleans, La.	73	37	17	8	1	10	-
San Antonio, Tex.	139	94	26	8	5	6	7
Shreveport, La.	71	48	14	5	3	1	4
Tulsa, Okla.	86	64	17	1	2	2	8
MOUNTAIN	654	416	143	45	27	23	38
Albuquerque, N.Mex.	86	57	15	9	2	3	3
Colo. Springs, Colo.	46	27	12	2	3	2	4
Denver, Colo.	88	58	18	4	3	5	4
Las Vegas, Nev.	86	55	23	7	1	-	10
Ogden, Utah	21	15	1	-	4	1	2
Phoenix, Ariz.	158	94	34	14	9	7	3
Pueblo, Colo.	23	17	6	-	-	-	3
Salt Lake City, Utah	54	26	17	4	2	5	3
Tucson, Ariz.	92	67	17	5	3	-	6
PACIFIC	1,840	1,231	341	139	62	63	115
Berkeley, Calif.	22	16	4	1	1	-	-
Fresno, Calif.	91	60	17	4	2	8	9
Glendale, Calif.	27	19	5	2	1	-	1
Honolulu, Hawaii	66	43	13	7	3	-	6
Long Beach, Calif.§	99	92	-	2	3	2	4
Los Angeles, Calif.	424	282	78	39	13	9	19
Oakland, Calif.	86	53	19	10	2	2	7
Pasadena, Calif.	34	27	6	-	-	1	2
Portland, Oreg.	126	87	18	12	2	7	9
Sacramento, Calif.	158	100	34	10	6	8	10
San Diego, Calif.	129	92	19	9	7	1	14
San Francisco, Calif.	149	80	48	14	2	5	6
San Jose, Calif.	148	97	31	8	7	5	20
Seattle, Wash.	160	108	30	10	6	6	2
Spokane, Wash.	66	42	10	7	2	5	4
Tacoma, Wash.	55	33	9	4	5	4	2
TOTAL	11,737††	7,673	2,492	800	362	404	577

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

TABLE V. Years of potential life lost, deaths, and death rates, by cause of death, and estimated number of physician contacts, by principal diagnosis, United States

Cause of morbidity or mortality (Ninth Revision ICD, 1975)	Years of potential life lost before age 65 by persons dying in 1983*†	Estimated mortality December 1984		Estimated number of physician contacts December 1984*¶
		Number*§	Annual Rate/100,000*§	
ALL CAUSES (TOTAL)	9,170,000	183,270	910.1	102,900,000
Accidents and adverse effects (E800-E949)	2,219,000	7,330	36.4	4,900,000
Malignant neoplasms (140-208)	1,808,000	40,580	201.5	1,400,000
Diseases of heart (390-398, 402, 404-429)	1,559,000	69,070	343.0	5,600,000
Suicides, homicides (E950-E978)	1,218,000	4,130	20.5	—
Chronic liver disease and cirrhosis (571)	248,000	2,240	11.1	100,000
Cerebrovascular diseases (430-438)	226,000	13,610	67.6	700,000
Congenital anomalies (740-759)	134,000	1,130	5.6	400,000
Chronic obstructive pulmonary diseases and allied conditions (490-496)	123,000	6,300	31.3	2,000,000
Diabetes mellitus (250)	115,000	3,340	16.6	2,600,000
Pneumonia and influenza (480-487)	106,000	5,620	27.9	1,100,000
Prenatal care*				3,000,000
Infant mortality*††		3,300	10.5 /1,000 live births	

*For details of calculation, see footnotes for Table V, *MMWR* 1985;34:2.

†Years of potential life lost for persons between 1 year and 65 years old at the time of death are derived from the number of deaths in each age category as reported by the National Center for Health Statistics, *Monthly Vital Statistics Report* (MVSR), Vol. 32, No. 13, September 21, 1984.

§National Center for Health Statistics, *Monthly Vital Statistics Report* (MVSR), Vol. 34, No. 1, April 18, 1985, pp. 8-9.

¶IMS America *National Disease and Therapeutic Index* (NDTI), Monthly Report, December 1984, Section III.

††MVSR Vol. 33, No. 12, March 26, 1985, p. 1.

ACIP: Influenza — Continued

100 mg twice daily may reduce the frequency of side effects. Because renal function normally declines with age, and because side effects have been reported more frequently in older persons, a reduced dosage of 100 mg/day is generally advisable for persons aged 65 years and older to minimize the risk of toxicity. Dosages for children and for persons of any age with recognized renal disease are given in Table 2. Persons 10-64 years old without recognized renal disease but with an active seizure disorder may also be at risk of increased frequency of their seizures when given amantadine at 200 mg/day rather than 100 mg/day.

Side effects and adverse reactions. Five percent to 10% of otherwise healthy adults taking amantadine have reported side effects, such as insomnia, lightheadedness, irritability, and difficulty concentrating. These and other side effects (see package insert) may be more

ACIP: Influenza — Continued

pronounced in patients with underlying diseases, particularly those common among the elderly; *provisions for careful monitoring are needed for these individuals* so that adverse effects may be recognized promptly and the drug reduced in dosage or discontinued, if necessary. Since amantadine is not metabolized, toxic levels will occur when renal function is sufficiently impaired.

OTHER MEASURES

Under special circumstances, supplementary control measures may be useful in further limiting the spread of influenza. Influenza is known to cause nosocomial infection; a number of measures, including isolation, cohorting of patients and personnel, limiting visitors, and avoiding elective admissions and surgery during an influenza outbreak, have all been suggested to limit further transmission. However, the effectiveness of most of these measures has not been conclusively demonstrated. Schools or classrooms have been closed occasionally when explosive outbreaks have occurred. The effect of this measure on virus transmission has not been established.

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Current Trends

World Health Organization Workshop: Conclusions and Recommendations on Acquired Immunodeficiency Syndrome

An international conference on acquired immunodeficiency syndrome (AIDS), sponsored by the U.S. Department of Health and Human Services and the World Health Organization (WHO), was held in Atlanta, Georgia, April 15-17, 1985. It was attended by over 3,000 participants from 50 countries and was followed on April 18-19 by a WHO consultation to review the information presented at the conference and to assess its international implications.

The group of WHO consultants concluded that information is now sufficient to permit health authorities to take actions that may decrease the incidence of AIDS among certain risk groups. The group submitted the following conclusions and recommendations:

1. WHO should:
   a. Establish a network of collaborating centers with special expertise in the field. The centers should assist in training staff members and providing reference panels of sera, evaluation of diagnostic tests, and provision of advice on the production of working reagents. They should also assist in preparing educational material and organizing studies to determine the natural history of the disease and the extent of infection in different parts of the world.
   b. Coordinate global surveillance of AIDS using a compatible reporting format and the currently accepted case definition. WHO should disseminate these data and other important developments on the disease as widely and as rapidly as possible.
   c. Assist in developing an effective vaccine, and when appropriate, developing international requirements for the vaccines. WHO should take an active role in facilitating the evaluation of candidate vaccines.
   d. Encourage and assist in periodic serologic studies in countries where AIDS has yet to be recognized and should ensure the collection of comparable data and representative selections of sera, since lymphadenopathy-associated virus/human T-lymphotropic virus type III (LAV/HTLV-III) infection precedes AIDS in an individual or a community, early recognition will require serologic studies in groups with potential risk of infections.
2. Member countries should:
   a. Inform the public that LAV/HTLV-III infection is acquired through heterosexual and homosexual intercourse, needle-sharing by intravenous drug abusers, transfusion of contaminated blood and blood products, transmission by infected mothers to their babies, and probably repeated use of needles and other unsterile instruments used

WHO Workshop — Continued

for piercing skin/mucous membranes. Information should be provided about the risk of LAV/HTLV-III infection and AIDS, especially to those men and women who may be at increased risk because of multiple sexual partners. There is currently no evidence of spread of LAV/HTLV-III by casual social contact even within households. Provision of timely and accurate information on these points is recommended to allay inappropriate public concern.

b. Ensure that health-care workers are informed about AIDS and LAV/HTLV-III infection, modes of transmission, clinical spectrum, available programs of management (including psychosocial support), and methods for prevention and control.

c. Assess the risk that AIDS poses to each country's population and establish methods of diagnosis, surveillance, and laboratory testing, including specific tests for LAV/HTLV-III.

d. Screen, where feasible, potential donors of blood and plasma for antibody to LAV/HTLV-III, and not use positive units for transfusion or for the manufacture of products where there is a risk of transmitting infectious agents. Potential donors should be informed about the testing in advance of the donation.

e. Reduce the risk of transmission of LAV/HTLV-III by factor VIII and IX concentrates by treating them by heat or other proven methods of inactivation. The use of such products is recommended.

f. Inform potential donors of organs, sperm, or other human material about AIDS, and encourage groups at increased risk of infection to exclude themselves from donating. Whenever possible, serologic testing should be performed before these materials are used. This is particularly important when donor material is collected from an unconscious or deceased patient on whom relevant information may be absent.

g. Refer individuals with positive tests for antibody to LAV/HTLV-III for medical evaluation and counseling. Such people should be encouraged to inform their health-care attendants of their status.

h. Develop guidelines for the total care of patients and for handling their specimens in hospital and other settings. These guidelines should be similar to those that have been effective for care of patients with hepatitis B.

i. Develop codes of good laboratory practice to protect staff against risk of infection. Such recommendations may be based on those found in the Laboratory Biosafety Manual published by WHO (*1*). The level of care required for work with specimens from patients infected with LAV/HTLV-III is similar to that required with hepatitis B. The use of class II biologic safety cabinets is recommended. These cabinets are adequate for containment of other agents, such as herpes and hepatitis viruses, mycobacteria, and protozoa, that may be present in the specimens. For work involving production and purification of LAV/HTLV-III, P3 biosafety containment levels must be employed.

j. Collect and store serum samples from representative laboratory workers at the time of employment and at regular intervals thereafter, to be able to assess the risk of laboratory acquired infection and effectiveness of biosafety guidelines. Countries should provide this information to WHO for collation and dissemination. Provision of samples and testing should be carried out with the informed consent of the subjects.

k. Be aware of the importance of keeping confidential information about the results of serologic testing and the identity of AIDS patients. Serologic testing should be undertaken with the informed consent of the subject.

Abstracted from WHO Weekly Epidemiological Record *1985;60:129-39.*

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Teenage Pregnancy and Fertility Trends — United States, 1974, 1980

CDC has previously analyzed rates of teenage fertility* in the United States for 1960, 1970, and 1974 (*1*). Preliminary comparative data for fertility, as well as for teenage pregnancy† are now available for 1970, 1974, and 1980 (*2*). Between 1974 and 1980, both pregnancy and fertility rates for sexually experienced§ 15- to 19-year-olds decreased in the United States. For all females aged 12-14 years,¶ fertility rates declined, but pregnancy rates increased.

Females 15-19 years old. Between 1974 and 1980, the pregnancy rate for all females aged 15-19 years increased by 8.2%. However, the rate for sexually experienced females declined from 204.5 per 1,000 sexually experienced females to 192.8/1,000—a decrease of 5.7% (Table 3). Data on pregnancy rates for 15- to 19-year-old sexually experienced females were calculated for 37 states and the District of Columbia (D.C.).** Between 1974 and 1980, rates declined in 27 states (Table 4); changes ranged from a 25.7% decrease in New York to a 13.1% increase in Florida.

Between 1974 and 1980, the fertility rate for sexually experienced 15- to 19-year-olds declined from 146.0/1,000 to 115.5/1,000—a 20.9% decrease (Table 3). The rate declined in all 37 states for which data were available and in D.C. (Table 4).** These declines ranged from 4.6% in Utah to 34.5% in New Hampshire.

In 1980, there were 921,696 pregnancies among 15- to 19-year-olds—an increase of 10.5% from 1974. However, between 1974 and 1980, the number of births decreased 7.3%. The percentage of all births occurring to 15- to 19-year-olds decreased from 18.8% to 15.3%.

Females under 15 years old. The number of pregnancies occurring to females under 15 years of age decreased from 24,128 in 1974 to 23,010 in 1980. However, the pregnancy rate for females aged 12-14 years rose from 3.9 in 1974 (*3*) to 4.3 in 1980, a 10.3% increase. This increase reflects the smaller number of females in this age group in 1980.

The fertility rate for females aged 12-14 years declined from 2.0 births/1,000 females in 1974 (*3*) to 1.9/1,000 in 1980, a 5.0% decrease.

*Fertility rate equals live births per 1,000 females.

†Pregnancy rate equals live births plus legal abortions per 1,000 females.

§Pregnancies or live births per 1,000 sexually experienced females. "Sexually experienced" is defined as ever having had sexual intercourse.

¶Since no estimates of sexual experience are available for females aged 12-14 years old, and 99.6% of all 1980 births to females under 15 years of age occurred to females 12-14 years of age (National Center for Health Statistics, 1980), all pregnancy and fertility rates involving females under 15 years of age are based on the number of all females 12-14 years of age.

**Since information on sexual experience rates was available only for the black and white races, pregnancy and fertility rates were not calculated for those states that had more than 3% of births to females of other races.

TABLE 3. Pregnancy rate, fertility rate, and percent change for sexually experienced females and for all females aged 15-19 years — United States, 1974, 1980

Females 15-19 years of age	Pregnancy rate*			Fertility rate*		
	1974	1980	Change (%) 1974-1980	1974	1980	Change (%) 1974-1980
Sexually experienced	204.5	192.8	-5.7	146.0	115.5	-20.9
All	81.8	88.5	+8.2	58.4	53.0	-9.2

*Per 1,000.

Pregnancy and Fertility Trends — Continued

TABLE 4. 1980 pregnancy rate, fertility rate, and percent change for sexually experienced females aged 15-19 years — United States, 1974, 1980

Geographic area* and race†	Pregnancy rate§ 1980	Pregnancy rate§ Change (%) 1974-1980	Fertility rate¶ 1980	Fertility rate¶ Change (%) 1974-1980
United States				
Total	192.8	-5.7	115.5	-20.9
White	-	-	105.1	-21.4
Black	-	-	159.7	-15.1
Region I				
Total	168.9	-0.8	77.0	-27.2
Connecticut	144.2	-1.4	73.0	-23.0
Maine	167.5	1.4	112.7	-22.7
Massachusetts	183.4	0.1	69.0	-28.2
New Hampshire	138.0	-4.4	82.1	-34.5
Rhode Island	182.4	4.2	80.3	-31.5
Vermont	187.6	-13.8	95.8	-30.5
Region II				
Total	169.2	-22.4	80.2	-24.8
New Jersey	136.0	-9.2	81.5	-23.3
New York	182.8	-25.7	79.6	-25.4
Region III				
Total	190.8	-4.0	100.1	-23.4
Delaware	192.9	-6.3	113.0	-21.9
District of Columbia	473.3	1.5	110.9	-21.0
Maryland	189.8	0.2	92.8	-19.3
Pennsylvania	178.3	-6.2	93.7	-26.1
Virginia	184.9	6.3	100.5	-20.8
West Virginia	165.3	-17.1	143.3	-28.1
Region IV				
Total	196.8	-4.0	130.5	-24.3
Alabama	188.6	1.3	131.6	-23.8
Florida	224.0	13.1	123.7	-24.7
Georgia	209.9	-10.5	138.9	-19.6
Kentucky	174.5	-17.2	147.1	-20.1
Mississippi	180.3	-9.0	155.4	-21.4
North Carolina	188.0	-10.1	113.8	-30.4
South Carolina	175.9	-3.9	124.8	-24.9
Tennessee	195.1	-5.8	127.8	-28.0
Region V**				
Total	171.3	-6.2	111.3	-23.0
Illinois	184.9	-1.9	122.0	-16.8
Indiana	168.7	-10.4	126.0	-25.4
Michigan	171.7	-8.2	101.5	-29.2
Ohio	165.8	-11.1	116.5	-22.5
Wisconsin	156.0	-4.8	94.8	-23.2
Region VI**				
Total	211.7	-1.4	149.7	-16.8
Arkansas	184.7	-11.9	146.3	-25.4
Louisiana	184.6	4.5	145.1	-14.3
Texas	226.9	-0.4	150.7	-16.0

Pregnancy and Fertility Trends — Continued

TABLE 4. 1980 pregnancy rate, fertility rate, and percent change for sexually experienced females aged 15-19 years — United States, 1974, 1980 (Continued)

Geographic area* and race†	Pregnancy rate§		Fertility rate¶	
	1980	Change (%) 1974-1980	1980	Change (%) 1974-1980
Region VII				
Total	174.2	-7.1	116.3	-18.5
Iowa	138.7	-14.9	100.8	-23.1
Kansas	209.4	-14.8	124.5	-13.1
Missouri	178.8	1.0	124.4	-18.1
Nebraska	171.2	-2.6	105.2	-19.8
Region VIII**				
Colorado	203.8	-0.3	113.7	-20.3
Utah	174.7	3.5	142.6	-4.6
Region IX**				
California	245.7	-3.8	119.5	-11.9
Region X**				
Idaho	169.7	-7.0	131.7	-19.7

*Abortions are reported by state of occurrence; births are reported by mother's state of residence.

†The Total category includes all black and white, plus other races.

§Pregnancy rate equals live births plus legal abortions per 1,000 sexually experienced females aged 15-19 years.

¶Fertility rate equals live births per 1,000 sexually experienced females aged 15-19 years.

**Since information on sexual experience rates was available only for the black and white races, total pregnancy and fertility rates for those regions and states that had more than 3% of births to females of other races were not estimated.

In 1980, there were 10,169 births to females under 15 years of age, a decrease of 18.8% from 1974. The percentage of all births to females in this group decreased from 0.4% to 0.3%. Between 1974 and 1980, the number of births decreased in 41 states and in D.C., increased in eight states, and remained the same in one state.

Reported by Program Evaluation Br, Research and Statistics Br, Div of Reproductive Health, Center for Health Promotion and Education, CDC, assisted by KL Jensen, Summer Intern, Emory University Family Planning Program, Atlanta, Georgia.

Editorial Note: Between 1971 and 1982, the estimated percentage of never-married 15- to 19-year-olds with premarital sexual experience increased from 26.8% to 42.8% (*4,5*). Thus, analyses of pregnancy and fertility trends can be misleading if the extent of sexual experience is not taken into account.

Because estimates of sexual experience were not available for females aged 12-14 years, trends in pregnancy rates and fertility rates for this age group are based on the total population of females aged 12-14 years. However, as with older teenagers (aged 15-19 years), the number of sexually experienced females 12-14 years old has probably increased.

The absolute number of females aged 12-14 years is expected to decline 11.1%—from 5.4 million in 1980 to 4.8 million in 1990. The number of females aged 15-19 years is expected to decline even more from 10.4 million in 1980 to 8.3 million in 1990—a 20.2% decrease (*6*). If age-specific birth rates remain constant, the proportion of all births occurring to females under 20 years old will decline from the 15.7% reported in 1980 to 11.8% of total births in 1990 (*6*).

The family planning objectives for the nation state that, by 1990, there should be no unintended births to females under 15 years old and that age-specific fertility rates for 15-, 16-,

Pregnancy and Fertility Trends — Continued

and 17-year-olds should decrease to 10, 25, and 45 births/1,000 females, respectively (7). While it cannot be certain whether the objectives for the nation will be reached by 1990, fertility rates for females aged 15, 16, and 17 years declined 11.8%, 14.9%, and 13.2%, respectively, between 1974 and 1980. In 1974, the fertility rate for 17-year-olds was 57/1,000; by 1980, it had declined to 52/1,000, approximately halfway to the 1990 objective.

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Epidemiologic Notes and Reports

Reported Measles Cases — United States, Past 4 Weeks

The following states have reported measles during the past 4 weeks: Arizona, California, Colorado, Connecticut, Florida, Idaho, Illinois, Louisiana, Maryland, Massachusetts, Minnesota, Montana, New Jersey, upstate New York, North Carolina, Ohio, Oregon, Pennsylvania, Texas, Virginia, West Virginia, and Wisconsin; New York City has also reported measles.

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