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MORBIDITY AND MORTALITY WEEKLY REPORT

Recommendation of the Public Health Service Advisory Committee on Immunization Practices

Rubella Vaccine

Changes in the ACIP recommendation for the use of rubella vaccine focus on more effective delivery of the vaccine to older individuals and, in particular, to females in the childbearing age group. All comments related to the vaccine and its use pertain both to the HPV-77 DE5 (Meruvax) and to the RA 27/3 (Meruvax II) strains of vaccine virus. The RA 27/3 vaccine—like the HPV-77 DE5 vaccine—is licensed for subcutaneous administration only and is expected to be available in January 1979.

INTRODUCTION

Rubella is a common childhood rash disease that is often overlooked or misdiagnosed. Signs and symptoms vary. The most common features—postauricular and suboccipital lymphadenopathy, arthralgia, and transient erythematous rash with low fever—may not be recognized as rubella. Moreover, subclinical infection occurs frequently. Transient polyarthralgia and polyarthritis sometimes accompany or follow rubella illness. This occurs in women in particular, but it is also seen in men and in children. Central nervous system disorders and thrombocytopenia have been reported, but they are rare.

By far the most important consequences of rubella are the fetal anomalies that frequently result from rubella infection in early pregnancy, especially in the first trimester. Preventing infection of the fetus and consequent congenital rubella syndrome is a major objective of rubella immunization programs.

Postinfection immunity appears to be long-lasting. However, as with other viral diseases, re-exposure to natural rubella occasionally results in reinfection without clinical illness. The only reliable evidence of rubella immunity is specific antibody, best determined by hemagglutination-inhibition (HI) antibody technique. Laboratories that regularly perform this test are generally the most reliable because of better standardization of reagents and procedures.

Before rubella vaccine was available, most cases of rubella occurred in school-age children. Now, most cases are in adolescents and young adults. In 1977, 70% of cases occurred in those 15 years of age and older. Of persons in these age groups, 10%-20% are susceptible. Since licensure of rubella vaccine in 1969, the incidence of reported rubella in adolescents and young adults has not decreased appreciably because vaccine was primarily used for preschoolers and elementary school children. Through 1977, more than 80 million doses of live attenuated rubella virus vaccine were distributed in the United States. Despite the considerable vaccination effort in young children, outbreaks of rubella continue to be reported in junior and senior high schools, colleges, the military, and places of employment—most notably hospitals.

Rubella Vaccine – Continued

LIVE RUBELLA VIRUS VACCINE

Live rubella virus vaccine* available in the United States is prepared either in duck embryo cell culture or human diploid cell culture. It is produced in monovalent (rubella only) form and in combinations: measles-rubella (MR) and measles-mumps-rubella (MMR) vaccines. MMR is encouraged for use in routine infant-vaccination programs. In all situations in which rubella vaccine is to be used, consideration should be given to using a combination vaccine if recipients are likely to be susceptible to measles and/or mumps as well as to rubella.

A single dose of rubella vaccine at 12 months of age or older induces antibodies in approximately 95% of susceptible persons. Although antibody titers are generally lower than those following rubella infection, vaccine-induced immunity protects against clinical illness from natural exposure. Antibody levels have declined little during the more than 9 years of follow-up of children who were among the first to receive the vaccine. Long-term, even life-long, protection against both clinical rubella and subclinical viremia is expected.

Rubella reinfection without illness can occur in persons with low levels of antibody whether the antibodies resulted from vaccination or from natural rubella. Reinfection, however, does not cause detectable viremia or significant pharyngeal excretion of virus and thus poses no recognized risk to susceptible contacts. Further study is needed to evaluate the clinical and epidemiologic significance of reinfection, but the apparent absence of viremia suggests that immune females reinfected during pregnancy would be unlikely to infect their fetuses.

VACCINE USAGE

General Recommendations

Rubella vaccine is recommended for all children, many adolescents, and some adults, particularly females, unless it is otherwise contraindicated. Vaccinating children protects them against rubella and prevents their subsequently spreading it. Vaccinating susceptible postpubertal females confers individual protection against rubella-induced fetal injury. Vaccinating adolescent or adult males and females in population groups such as those in colleges, places of employment, or military bases, protects them against rubella and reduces the chance of epidemics in partially immune groups.

Dosage: A single dose of vaccine in the volume specified by the manufacturer should be administered subcutaneously.

Individuals at Risk

Live rubella virus vaccine is recommended for all children when 12 months of age or older. It should not be administered to younger infants because persisting maternal antibodies may interfere with seroconversion. When the rubella vaccine is part of a combination vaccine that includes the measles antigen, it should be administered to children about 15 months of age or older to achieve the maximum rate of measles seroconversion. Children who have not received rubella vaccine at the optimum age should be vaccinated promptly. Because a history of rubella is not a reliable indicator of immunity, all children for whom vaccine is not contraindicated should be vaccinated.

Increased emphasis should be placed on vaccinating unimmunized prepubertal girls and susceptible adolescent and adult females in the childbearing age group. Because of the

*Official name: Rubella Virus Vaccine, Live

Rubella Vaccine – Continued

theoretical risk to the fetus, females of childbearing age should receive vaccine only if they are not pregnant and understand that they should not become pregnant for 3 months after vaccination. In view of the importance of protecting this age group against rubella, asking females if they are pregnant, excluding those who are, and explaining the theoretical risks to the others are reasonable precautions in a rubella immunization program. When practical, serologic testing of potential vaccinees in the childbearing age group may be undertaken to show susceptibility to rubella.

Educational and training institutions such as colleges, universities, and military bases should seek proof of rubella immunity (a positive serologic test or documentation of previous rubella vaccination) from all female students and employees in the childbearing age. Non-pregnant females who lack proof of immunity should be vaccinated unless contraindications exist.

When reliable laboratory services are available, routine premarital serology for rubella immunity would enhance efforts to identify susceptible females before pregnancy. Prenatal or ante partum screening for rubella susceptibility should be undertaken and vaccine administered in the immediate postpartum period–*prior* to discharge. Previous administration of anti-Rho (D) immune globulin (human) or blood products is not a contraindication to vaccination; however, 6- to 8-week postvaccination serologic testing should be done on those who have received the globulin or blood products to ascertain that seroconversion has occurred. Obtaining laboratory evidence of seroconversion in other vaccinees is not necessary.

In order to protect susceptible female patients and female employees, persons working in hospitals and clinics who might contract rubella from infected patients or who, if infected, might transmit rubella to pregnant patients should be immune to rubella.

Individuals Exposed to Disease

Use of vaccine following exposure: There is no evidence that live rubella virus vaccine given after exposure will prevent illness or that vaccinating an individual incubating rubella is harmful. Since a single exposure may not result in infection and postexposure vaccination would protect an individual in the event of future exposure, vaccination is recommended unless otherwise contraindicated.

Use of immune serum globulin following exposure: Immune serum globulin (ISG) given after exposure to rubella will not prevent infection or viremia, but it may modify or suppress symptoms. The routine use of ISG for postexposure prophylaxis of rubella in early pregnancy is not recommended. (Infants with congenital rubella have been born to women who were given ISG shortly after exposure.) The only time when ISG might be used is when rubella occurs in a pregnant woman who would not consider termination of pregnancy under any circumstances. Serologic testing for rubella immunity is useful if an exposure in early pregnancy is suspected.

SIDE EFFECTS AND ADVERSE REACTIONS

Vaccine side effects such as rash and lymphadenopathy occasionally occur in children. Joint pain, usually of the small peripheral joints, has been noted in up to 40% of vaccinees in large-scale field trials, although frank arthritis is reported in fewer than 1%. Arthralgia and transient arthritis occur more frequently and tend to be more severe in susceptible women than in children. When joint symptoms or non-joint-associated pain and paresthesia do occur, they generally begin 2-10 weeks after immunization, persist for 1-3 days, and rarely recur. The persistent arthritic symptoms that have occasionally been described probably represent coincidental disease rather than a vaccine compli-

Rubella Vaccine – Continued

cation. Transient peripheral neuritic complaints such as paresthesia and pain in the hands and feet have also occurred but are very uncommon.

Some vaccinees intermittently shed small amounts of virus from the pharynx 7-28 days after vaccination. However, studies of more than 1,200 susceptible household contacts have yielded no evidence that vaccine virus has been transmitted. These data strongly suggest that vaccinating susceptible children whose mothers or other household contacts are pregnant does not present a risk.

Although vaccine is safe and effective for all ages over 12 months, its safety for the developing fetus is not fully known. Thus, rubella vaccine is **NOT** suitable for pregnant women because of the theoretical risk of fetal abnormality caused by the vaccine virus, which does cross the placenta. Although no recognizable malformations attributable to rubella have been seen in infants born to more than 60 susceptible women who inadvertently received rubella vaccine during early pregnancy and continued their pregnancies to term, the theoretical risk remains.

PRECAUTIONS AND CONTRAINDICATIONS

Pregnancy

Pregnant women should not be given rubella vaccine. If a pregnant woman is inadvertently vaccinated or if she becomes pregnant within 3 months of vaccination, she should be counseled on the theoretical risks to the fetus. *(Continued on page 459)*

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

[Cumulative totals include revised and delayed reports through previous weeks.]

DISEASE	45th WEEK ENDING		MEDIAN	CUMULATIVE, FIRST 45 WEEKS		
	November 11, 1978	November 12, 1977*	1973-1977**	November 11, 1978	November 12, 1977*	MEDIAN 1973-1977**
Aseptic meningitis	159	83	80	5,273	4,120	3,569
Brucellosis	3	7	7	133	195	195
Chickenpox	1,464	1,463	1,463	130,048	167,687	149,602
Diphtheria	–	–	4	64	76	161
Encephalitis: Primary (arthropod-borne & unspec.)	19	24	25	873	1,006	1,279
Post-infectious	2	3	3	177	182	238
Hepatitis, Viral: Type B	204	314	224	12,726	14,203	10,085
Type A	441	573	588	25,106	26,486	30,221
Type unspecified	185	200		7,743	7,605	
Malaria	12	10	6	631	473	365
Measles (rubeola)	176	132	175	24,954	53,778	25,130
Meningococcal infections: Total	29	27	27	2,027	1,500	1,257
Civilian	29	27	27	2,006	1,489	1,230
Military	–	–	–	21	11	26
Mumps	223	473	631	14,554	18,304	48,370
Pertussis	46	72	---	1,787	1,614	---
Rubella (German measles)	86	122	122	17,044	19,287	15,482
Tetanus	1	2	1	70	65	79
Tuberculosis	479	559	605	25,515	26,101	27,101
Tularemia	4	3	2	119	145	129
Typhoid fever	10	8	6	447	345	366
Typhus fever, tick-borne (Rky. Mt. spotted)	4	5	4	982	1,085	786
Venereal diseases:						
Gonorrhea: Civilian	19,218	18,393	18,393	878,479	865,749	865,749
Military	347	358	495	22,209	23,379	25,290
Syphilis, primary & secondary: Civilian	372	312	378	18,747	17,707	20,882
Military	2	5	5	255	262	299
Rabies in animals	58	64	47	2,738	2,715	2,615

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1978		CUM. 1978
Anthrax	5	Poliomyelitis: Total	3
Botulism	65	Paralytic	1
Cholera	11	Psittacosis	93
Congenital rubella syndrome	25	Rabies in man	–
Leprosy (Ups. N.Y. 1, Texas 1)	134	Trichinosis	47
Leptospirosis † (Hawaii 1)	57	Typhus fever, flea-borne (endemic, murine)	36
Plague	7		

*Delayed reports received for calendar year 1977 are used to update last year's weekly and cumulative totals.

**Medians for gonorrhea and syphilis are based on data for 1975-1977.

†The following delayed report will be reflected in next week's cumulative total: Leptospirosis: Oreg. +2

TABLE III. Cases of specified notifiable diseases, United States, weeks ending November 11, 1978, and November 12, 1977 (45th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1978	1978	1978	1978	CUM. 1978	1978	1977*	1978	1978	1978	1978	1978	CUM. 1978
UNITED STATES	159	3	1,464	–	64	19	24	2	204	441	185	12	631
NEW ENGLAND	2	–	281	–	–	–	–	–	2	18	18	–	29
Maine	–	–	52	–	–	–	–	–	–	6	–	–	1
N.H.	–	–	5	–	–	–	–	–	–	3	–	–	4
Vt.†	–	–	1	–	–	–	–	–	–	–	–	–	–
Mass.	2	–	92	–	–	–	–	–	–	4	18	–	7
R.I.	–	–	63	–	–	–	–	–	–	1	–	–	5
Conn.†	–	–	68	–	–	–	–	–	2	4	–	–	12
MID. ATLANTIC	25	–	90	–	1	6	–	–	15	41	11	2	136
Upstate N.Y.	16	–	68	–	–	1	–	–	6	16	5	–	18
N.Y. City	7	–	5	–	1	3	–	–	5	8	3	–	61
N.J.†	1	–	NN	–	–	–	–	–	4	17	3	1	27
Pa.†	1	–	17	–	–	2	–	–	NA	NA	NA	1	30
E.N. CENTRAL	26	–	707	–	–	–	11	1	21	75	11	3	44
Ohio†	–	–	81	–	–	–	9	–	4	21	–	2	7
Ind.†	1	–	146	–	–	–	–	–	1	3	4	–	3
Ill.	5	–	62	–	–	–	–	–	–	26	–	–	14
Mich.	16	–	264	–	–	–	1	–	9	21	7	1	18
Wis.†	4	–	154	–	–	–	1	1	7	4	–	–	2
W.N. CENTRAL	8	2	79	–	2	–	1	–	18	23	7	–	22
Minn.	–	–	–	–	–	–	–	–	6	7	2	–	4
Iowa	3	2	32	–	–	–	1	–	4	2	–	–	–
Mo.†	4	–	12	–	1	–	–	–	1	4	–	–	8
N. Dak.†	–	–	33	–	–	–	–	–	–	–	–	–	–
S. Dak.	–	–	2	–	–	–	–	–	–	–	–	–	1
Nebr.	1	–	–	–	1	–	–	–	1	4	–	–	4
Kans.	–	–	–	–	–	–	–	–	6	6	5	–	5
S. ATLANTIC	14	–	65	–	–	1	2	–	31	58	25	1	111
Del.	–	–	–	–	–	–	–	–	–	–	–	–	1
Md.	7	–	2	–	–	1	–	–	–	–	–	1	25
D.C.	–	–	1	–	–	–	–	–	–	2	–	–	6
Va.†	1	–	9	–	–	–	2	–	6	5	10	–	20
W. Va.	–	–	31	–	–	–	–	–	–	2	–	–	1
N.C.	–	–	NN	–	–	–	–	–	NA	NA	NA	–	10
S.C.†	1	–	3	–	–	–	–	–	5	3	4	–	4
Ga.	–	–	–	–	–	–	–	–	2	15	–	–	10
Fla.	5	–	19	–	–	–	–	–	18	31	11	–	34
E.S. CENTRAL	10	–	10	–	–	–	5	–	5	23	7	–	6
Ky.	–	–	9	–	–	–	–	–	–	4	–	–	2
Tenn.	6	–	NN	–	–	–	–	–	5	11	6	–	1
Ala.	–	–	1	–	–	–	–	–	–	1	1	–	1
Miss.	4	–	–	–	–	–	5	–	–	7	–	–	2
W.S. CENTRAL	28	1	49	–	1	6	1	–	21	65	38	4	33
Ark.	1	–	–	–	1	–	–	–	1	3	7	–	1
La.	9	–	NN	–	–	3	1	–	11	14	10	–	3
Okla.†	3	1	–	–	–	–	–	–	1	2	1	–	2
Tex.†	15	–	49	–	–	3	–	–	8	46	20	4	27
MOUNTAIN	–	–	49	–	4	–	–	–	12	42	17	–	8
Mont.	–	–	25	–	–	–	–	–	–	4	2	–	–
Idaho	–	–	–	–	–	–	–	–	1	1	–	–	–
Wyo.	–	–	–	–	–	–	–	–	–	–	–	–	–
Colo.	–	–	19	–	2	–	–	–	6	8	4	–	4
N. Mex.	–	–	–	–	–	–	–	–	1	3	–	–	1
Ariz.	–	–	NN	–	1	–	–	–	–	14	2	–	2
Utah	–	–	5	–	–	–	–	–	1	10	8	–	–
Nev.	–	–	–	–	1	–	–	–	3	2	1	–	1
PACIFIC	46	–	134	–	56	6	4	1	79	96	51	2	242
Wash.	4	–	69	–	52	–	–	–	1	9	4	–	8
Oreg.†	16	–	1	–	–	–	–	–	6	11	1	–	9
Calif.†	26	–	–	–	1	6	3	1	71	74	43	–	199
Alaska	–	–	57	–	3	–	1	–	–	1	1	–	4
Hawaii	–	–	7	–	–	–	–	–	1	1	2	2	22
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Pac. Trust Terr.	NA	NA	NA	NA	–	NA	NA	NA	NA	NA	NA	NA	–
P.R.	–	–	3	–	–	1	–	–	2	3	7	–	4
V.I.	–	–	–	–	–	–	–	–	–	–	–	–	1

NN: Not notifiable. NA: Not available.

*Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: Asep. meng.: N.J. +4, Ohio −4, Wis. −1; Bruc.: Mo. +1, S.C. +1; Chickenpox: Conn. +6, S.C. +2, Tex. +1, Calif. +38; Enceph., prim.: N.J. +1, Ind. +2, Wis. +2; Enceph, post other: Wis. +1; Hep B: Vt +1, Pa. +21, Mo. +1, Okla, −2, Tex. +1; Hep.A: Vt −1, Pa. +17, Wis. −1, Mo. −19, N.Dak. +5, Va. −1, Okla. −3, Oreg. +1; Hep. unsp.: Pa. +5, Mo. +6,Va. −3, Okla. −5, Tex. −1, Oreg. −1; Malaria: Mo. +2, Okla. −1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending November 11, 1978, and November 12, 1977 (45th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUM. 1978	CUM. 1977*	1978	CUM. 1978	CUM. 1977*	1978	CUM. 1978	1978	1978	CUM. 1978	CUM. 1978
UNITED STATES	176	24,954	53,778	29	2,027	1,500	223	14,554	46	86	17,044	70
NEW ENGLAND	9	2,024	2,504	1	114	61	9	789	–	14	774	3
Maine†	–	1,316	173	1	9	3	1	512	–	1	154	–
N.H.†	5	63	511	–	8	3	–	15	–	1	105	–
Vt.	–	51	294	–	2	6	1	6	–	–	27	2
Mass.†	4	258	629	–	42	18	2	92	–	12	242	–
R.I.	–	8	64	–	19	2	1	48	–	–	42	–
Conn.	–	328	833	–	34	29	4	116	–	–	204	1
MID. ATLANTIC	3	2,217	8,418	4	340	198	2	672	5	5	3,032	5
Upstate N.Y.	1	1,411	3,849	3	110	44	1	220	4	1	534	2
N.Y. City	2	374	753	1	78	52	1	158	1	1	141	–
N.J.	–	74	197	–	61	48	–	142	–	2	1,612	–
Pa.	–	358	3,619	–	91	54	–	152	–	1	745	3
E.N. CENTRAL	51	11,166	11,516	7	222	172	127	5,940	21	34	8,527	3
Ohio	1	493	1,859	1	72	61	72	1,091	5	1	1,377	1
Ind.	7	213	4,349	–	39	13	10	339	1	5	612	1
Ill.	8	1,180	1,815	–	30	38	10	1,916	14	12	1,749	1
Mich.	35	7,794	1,041	5	68	45	24	1,471	1	13	3,233	–
Wis.	–	1,486	2,452	1	13	15	11	1,123	–	3	1,556	–
W.N. CENTRAL	1	402	9,522	–	72	63	3	1,984	–	–	688	8
Minn.	–	38	2,630	–	21	19	–	22	–	–	129	2
Iowa	–	55	4,315	–	5	9	–	153	–	–	62	–
Mo.†	–	15	1,046	–	29	23	1	1,173	–	–	109	1
N. Dak.	1	199	28	–	3	1	1	17	–	–	82	–
S. Dak.	–	–	75	–	3	4	–	7	–	–	112	1
Nebr.	–	5	214	–	–	2	–	25	–	–	34	–
Kans.	–	90	1,214	–	11	5	1	587	–	–	160	4
S. ATLANTIC	33	5,233	4,674	6	506	334	15	884	3	9	1,056	17
Del.†	–	7	22	–	16	22	–	56	–	–	36	–
Md.	–	51	372	2	37	22	1	72	–	–	7	2
D.C.	–	1	14	–	2	–	–	2	–	–	1	–
Va.	–	2,830	2,747	1	59	32	1	177	–	–	247	1
W. Va.†	3	1,062	259	–	14	9	2	182	–	2	330	–
N.C.	1	122	65	–	95	71	2	75	1	6	196	3
S.C.†	–	199	156	–	30	35	–	17	–	–	28	4
Ga.	–	34	768	2	58	48	–	70	1	–	27	–
Fla.	29	927	271	1	195	95	9	233	1	1	184	7
E.S. CENTRAL	3	1,431	2,034	3	160	156	2	1,182	–	10	524	3
Ky.	2	122	1,191	–	30	32	1	215	–	10	144	2
Tenn.	1	961	727	–	41	41	–	453	–	–	206	–
Ala.	–	101	78	2	49	53	1	430	–	–	22	–
Miss.	–	247	38	1	40	30	–	84	–	–	152	1
W.S. CENTRAL	30	1,208	2,148	3	288	289	42	1,811	2	3	952	14
Ark.	–	16	29	1	23	16	4	606	–	–	58	1
La.	–	344	80	–	119	132	–	65	–	–	486	1
Okla.	1	15	66	–	17	14	–	4	–	–	16	3
Tex.†	29	833	1,973	2	129	127	38	1,136	2	3	392	9
MOUNTAIN	–	263	2,542	2	46	37	2	430	1	1	222	3
Mont.	–	105	1,162	–	3	4	1	146	–	–	18	–
Idaho	–	1	163	1	5	6	–	20	1	–	2	1
Wyo.	–	–	19	–	–	2	–	1	–	–	–	–
Colo.	–	37	504	–	3	1	–	101	–	–	49	1
N. Mex.	–	–	257	–	8	10	–	16	–	–	3	–
Ariz.	–	56	323	–	15	10	–	19	–	1	99	–
Utah	–	44	21	–	6	3	1	119	–	–	38	1
Nev.	–	20	93	1	6	1	–	8	–	–	13	–
PACIFIC	46	1,010	10,420	3	279	190	21	862	14	10	1,269	14
Wash.	40	266	548	–	44	27	2	194	–	–	119	1
Oreg.	–	148	366	–	29	18	6	117	–	–	126	–
Calif.	6	583	9,411	3	192	111	12	512	14	10	1,004	13
Alaska	–	1	60	–	9	31	1	12	–	–	8	–
Hawaii	–	12	35	–	5	3	–	27	–	–	12	–
Guam†	NA	24	9	–	1	1	NA	38	NA	NA	4	1
Pac. Trust Terr.	NA	27	NA	NA	1	NA	NA	8	NA	NA	2	–
P.R.	6	285	996	1	8	1	19	1,423	–	–	17	9
V.I.		6	14	–	1	–	–	1	–	–	1	–

NA: Not available.

*Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals.: Measles: Mass. –2, Guam +1; Men. inf.: Maine +1, Mo. +1, W.Va. –1, S.C. +3, Tex. +4; Mumps: N.H. +2; Pertussis: Mo. –1; Rubella: Mo. –2, Del. +1, S.C. +1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending November 11, 1978, and November 12, 1977 (45th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1978	CUM. 1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	CUM. 1977*	1978	CUM. 1978	CUM. 1977*	CUM. 1978
UNITED STATES	479	25,515	119	10	447	4	982	19,218	878,479	965,749	372	18,747	17,707	2,738
NEW ENGLAND	12	835	2	1	78	–	13	487	22,412	23,298	12	514	700	95
Maine	–	64	–	–	–	–	–	38	1,831	1,742	1	9	26	76
N.H.†	–	15	–	–	5	–	–	11	1,017	967	–	5	4	3
Vt.	2	35	–	–	1	–	–	12	540	580	–	3	7	2
Mass.	3	485	–	1	60	–	5	262	9,789	9,845	4	313	488	7
R.I.	3	60	–	–	4	–	1	18	1,604	1,858	2	22	8	–
Conn.†	4	176	2	–	8	–	7	146	7,631	8,306	5	162	167	7
MID. ATLANTIC	72	4,230	5	1	60	–	55	2,188	94,868	90,410	52	2,465	2,499	96
Upstate N.Y.	37	684	4	1	8	–	31	578	16,230	15,581	–	163	230	61
N.Y. City	14	1,537	1	–	38	–	4	627	35,747	34,978	35	1,715	1,574	–
N.J.	21	897	–	–	7	–	12	448	17,843	16,139	10	306	326	14
Pa.	NA	1,112	–	–	7	–	8	535	25,048	23,712	7	281	369	21
E.N. CENTRAL	102	4,064	1	–	38	1	48	3,749	137,226	137,437	55	2,155	1,809	168
Ohio†	25	754	1	–	6	1	22	1,230	35,884	36,560	12	389	421	19
Ind.	9	477	–	–	2	–	1	117	14,042	12,712	5	150	139	13
Ill.	32	1,516	–	–	17	–	25	1,316	43,562	44,454	26	1,367	936	57
Mich.†	18	1,110	–	–	13	–	–	718	31,706	31,671	11	193	218	7
Wis.	18	207	–	–	–	–	–	368	12,032	12,040	1	56	95	72
W.N. CENTRAL	10	826	23	–	19	–	44	853	44,328	45,053	11	402	395	556
Minn.	1	140	–	–	7	–	–	190	7,476	8,045	6	143	129	168
Iowa	1	96	1	–	3	–	1	98	4,864	5,272	2	42	39	117
Mo.†	6	368	18	–	4	–	20	216	19,521	18,678	2	129	150	73
N. Dak.	–	31	–	–	–	–	1	24	804	846	–	3	3	94
S. Dak.	–	65	–	–	–	–	7	33	1,514	1,365	–	3	9	69
Nebr.	2	23	–	–	1	–	10	57	3,193	3,862	–	13	25	6
Kans.†	–	103	4	–	4	–	5	235	6,956	6,985	1	69	40	29
S. ATLANTIC	104	5,452	9	2	60	3	531	4,115	213,272	212,806	95	4,958	4,813	405
Del.	2	50	–	–	3	–	5	66	2,999	2,945	–	10	19	3
Md.	19	826	5	–	11	–	105	605	27,431	26,250	6	375	297	–
D.C.	9	268	–	–	1	–	1	311	14,397	13,931	6	382	484	–
Va.†	8	571	4	–	5	–	111	362	20,602	22,216	6	413	465	13
W. Va.	1	211	–	1	7	–	11	44	2,912	2,886	2	27	3	12
N.C.†	15	850	–	–	2	3	197	742	30,387	32,121	13	523	655	13
S.C.†	3	460	–	1	9	–	56	566	21,057	20,031	6	255	213	99
Ga.	20	756	–	–	4	–	45	827	41,066	40,987	27	1,240	1,071	251
Fla.†	27	1,460	–	–	18	–	–	592	52,421	51,439	29	1,733	1,606	14
E.S. CENTRAL	43	2,419	7	–	9	–	180	1,646	74,269	76,886	11	986	690	136
Ky.†	22	557	3	–	2	–	42	211	9,944	10,357	3	131	93	68
Tenn.	2	738	3	–	3	–	111	461	27,167	30,889	–	334	223	27
Ala.	3	576	1	–	3	–	13	422	21,206	21,018	2	166	146	41
Miss.	16	548	–	–	1	–	14	552	15,952	14,622	6	353	228	–
W.S. CENTRAL	55	2,998	58	2	45	–	96	2,301	117,716	108,968	57	2,995	2,565	813
Ark.	11	356	39	–	9	–	15	168	8,856	8,349	3	65	63	137
La.	9	529	6	–	4	–	1	400	19,092	16,426	1	631	593	20
Okla.	5	291	9	–	5	–	54	212	11,038	10,581	–	81	69	165
Tex.	30	1,822	4	2	27	–	26	1,521	78,730	73,612	53	2,218	1,840	491
MOUNTAIN	33	762	10	1	20	–	11	841	33,696	34,994	7	400	370	110
Mont.	–	53	–	–	3	–	2	48	1,901	1,842	–	8	5	19
Idaho	–	30	3	–	5	–	3	39	1,378	1,592	–	13	12	–
Wyo.	–	14	2	–	–	–	1	43	639	818	1	9	3	–
Colo.	12	93	1	–	4	–	2	268	9,285	9,115	3	125	109	38
N. Mex.	4	123	–	–	2	–	–	31	4,860	5,142	–	76	76	23
Ariz.	14	350	1	1	4	–	1	198	8,690	9,690	–	91	140	23
Utah	3	35	3	–	1	–	–	60	1,830	2,102	–	12	10	7
Nev.	–	64	–	–	1	–	2	154	4,913	4,693	3	66	15	–
PACIFIC	48	3,929	4	3	118	–	4	3,038	140,692	135,897	72	3,872	3,866	359
Wash.	NA	273	–	–	7	–	1	231	11,567	10,580	NA	214	230	2
Oreg.	4	153	1	–	1	–	2	142	9,682	9,357	3	146	126	11
Calif.	42	2,982	3	3	99	–	1	2,528	112,662	108,719	69	3,462	3,451	338
Alaska	–	59	–	–	–	–	–	79	4,307	4,402	–	11	25	8
Hawaii	2	462	–	–	11	–	–	58	2,474	2,839	–	39	34	–
Guam†	NA	53	–	NA	–	NA	–	NA	186	197	NA	–	2	–
Pac. Trust Terr	NA	6	–	NA	–	NA	–	NA	32	NA	NA	–	NA	–
P.R.	18	349	–	–	3	–	–	37	1,947	2,789	16	434	456	33
V.I.	–	4	–	–	2	–	–	7	179	184	–	16	9	–

NA: Not available.

*Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: TB: Mich. –4, Mo. –8, Kans. –1, N.C. –1, Fla. –10, Ky. –1; Tularemia: Mo. +4; Typhoid fever: Mo. +1; RMSF: Ohio –1, Mo. +3, Va. –1; GC: N.H. +8 civ., Conn. +12 mil., Guam –93 civ. +93 mil.; An. rabies: Mo. –1, S.C. +3.

TABLE IV. Deaths in 121 U.S. cities,* week ending November 11, 1978 (45th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	625	404	159	26	18	33
Boston, Mass.	149	88	46	5	5	6
Bridgeport, Conn.	45	27	10	6	1	2
Cambridge, Mass.	25	23	1	1	-	3
Fall River, Mass.	34	28	5	1	-	-
Hartford, Conn.	44	28	9	1	4	1
Lowell, Mass.	33	19	9	1	1	1
Lynn, Mass.	15	6	7	1	-	-
New Bedford, Mass.	11	10	-	-	-	-
New Haven, Conn.	50	22	21	6	-	-
Providence, R.I.	64	42	13	4	4	6
Somerville, Mass.	11	8	3	-	-	-
Springfield, Mass.	43	29	12	-	2	3
Waterbury, Conn.	34	29	5	-	-	3
Worcester, Mass.	67	45	18	-	1	8
MID. ATLANTIC	2,110	1,378	486	137	56	90
Albany, N.Y.	55	34	14	4	-	-
Allentown, Pa.	30	18	10	2	-	-
Buffalo, N.Y.	100	65	22	8	4	7
Camden, N.J.	33	21	10	-	2	2
Elizabeth, N.J.	18	10	7	1	-	2
Erie, Pa.†	38	22	12	2	-	3
Jersey City, N.J.	45	33	10	2	-	1
Newark, N.J.	65	33	19	5	4	3
N.Y. City, N.Y.	1,383	904	308	97	34	54
Paterson, N.J.	29	15	10	2	1	1
Philadelphia, Pa.†	313	182	96	15	7	14
Pittsburgh, Pa.†	53	32	20	-	-	1
Reading, Pa.	36	23	7	2	-	2
Rochester, N.Y.	116	84	22	3	4	9
Schenectady, N.Y.	28	19	4	5	-	2
Scranton, Pa.†	21	15	6	-	-	2
Syracuse, N.Y.	76	54	19	1	1	2
Trenton, N.J.	27	18	6	1	2	1
Utica, N.Y.	30	22	6	2	-	3
Yonkers, N.Y.	39	25	12	2	-	1
E.N. CENTRAL	2,000	1,162	516	143	89	51
Akron, Ohio	45	36	7	2	-	-
Canton, Ohio	44	30	12	-	-	3
Chicago, Ill.	556	297	148	56	29	15
Cincinnati, Ohio	121	75	30	7	9	4
Cleveland, Ohio	165	79	58	12	7	1
Columbus, Ohio	134	80	29	6	11	8
Dayton, Ohio	82	49	23	3	2	1
Detroit, Mich.	187	100	55	18	7	2
Evansville, Ind.	42	25	10	6	-	3
Fort Wayne, Ind.	42	29	11	1	1	1
Gary, Ind.	24	12	7	3	-	-
Grand Rapids, Mich	33	22	7	1	3	-
Indianapolis, Ind.	134	70	35	10	10	1
Madison, Wis.	19	14	3	1	-	-
Milwaukee, Wis.	120	85	21	5	2	4
Peoria, Ill.	48	28	14	3	2	2
Rockford, Ill.	35	23	7	3	-	2
South Bend, Ind.	42	27	12	2	-	3
Toledo, Ohio	84	51	16	5	5	-
Youngstown, Ohio	43	30	11	-	1	1
W.N. CENTRAL	643	385	164	35	38	23
Des Moines, Iowa	54	36	15	1	2	2
Duluth, Minn.	18	13	1	2	1	2
Kansas City, Kans.	24	14	4	2	3	3
Kansas City, Mo.	136	72	37	5	13	2
Lincoln, Nebr.	26	18	5	2	-	-
Minneapolis, Minn.	77	52	16	2	4	3
Omaha, Nebr.	64	37	18	3	3	-
St. Louis, Mo.	147	85	43	10	6	4
St. Paul, Minn.	42	27	10	3	2	1
Wichita, Kans.	55	31	15	5	4	6
S. ATLANTIC	1,138	683	325	70	33	51
Atlanta, Ga.	159	86	59	7	5	10
Baltimore, Md.	219	126	60	19	8	2
Charlotte, N.C.	62	39	16	5	2	-
Jacksonville, Fla.	66	35	24	4	1	4
Miami, Fla.	64	29	20	8	6	-
Norfolk, Va.	63	35	21	3	3	5
Richmond, Va.	82	52	26	2	1	11
Savannah, Ga.	36	22	10	1	-	3
St. Petersburg, Fla.	72	61	8	2	-	2
Tampa, Fla.	41	28	9	2	1	6
Washington, D.C.	242	146	67	16	5	5
Wilmington, Del.	32	24	5	1	1	3
E.S. CENTRAL	599	387	130	35	20	22
Birmingham, Ala.	107	70	24	7	2	-
Chattanooga, Tenn.	51	34	14	3	-	1
Knoxville, Tenn.	31	20	5	4	-	-
Louisville, Ky.	83	53	13	6	7	4
Memphis, Tenn.	128	90	23	8	2	1
Mobile, Ala.	67	39	21	-	4	7
Montgomery, Ala.	41	23	6	3	4	2
Nashville, Tenn.	91	58	24	4	1	7
W.S. CENTRAL	952	545	248	65	38	32
Austin, Tex.	44	30	6	1	1	2
Baton Rouge, La.	33	19	11	2	1	3
Corpus Christi, Tex.	31	17	9	3	1	-
Dallas, Tex.	210	123	54	18	8	6
El Paso, Tex.	50	24	15	1	5	3
Fort Worth, Tex.	70	48	15	2	-	2
Houston, Tex.	150	77	38	16	6	4
Little Rock, Ark.	45	25	13	4	2	3
New Orleans, La.	142	67	47	9	8	-
San Antonio, Tex.	108	64	27	7	6	2
Shreveport, La.	24	22	2	-	-	2
Tulsa, Okla.	45	29	11	2	-	5
MOUNTAIN	435	271	89	37	19	17
Albuquerque, N. Mex.	56	27	13	7	7	3
Colo. Springs, Colo.	26	18	4	3	-	3
Denver, Colo.	64	35	18	5	4	2
Las Vegas, Nev.	47	27	14	4	-	2
Ogden, Utah	16	13	3	-	-	2
Phoenix, Ariz.	119	80	16	12	4	1
Pueblo, Colo.	20	13	5	-	-	4
Salt Lake City, Utah	39	22	8	5	2	-
Tucson, Ariz.	48	36	8	1	2	-
PACIFIC	1,545	994	375	85	47	41
Berkeley, Calif.	18	9	7	2	-	-
Fresno, Calif.	48	30	12	5	1	2
Glendale, Calif.	16	11	5	-	-	-
Honolulu, Hawaii	54	37	10	4	1	1
Long Beach, Calif.	118	74	33	4	4	3
Los Angeles, Calif.	387	254	84	20	12	12
Oakland, Calif.	73	50	17	3	2	-
Pasadena, Calif.	37	29	8	-	-	1
Portland, Oreg.	128	81	33	6	7	2
Sacramento, Calif.	64	41	18	3	-	-
San Diego, Calif.	114	69	31	6	3	1
San Francisco, Calif.	149	92	39	11	5	7
San Jose, Calif.	111	70	20	12	3	2
Seattle, Wash.	135	88	34	4	4	6
Spokane, Wash.	48	32	9	3	4	3
Tacoma, Wash.	45	27	15	2	1	1
TOTAL	10,047	6,209	2,492	633	358	360
Expected Number	10,627	6,530	2,678	662	408	355

*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 4 Pennsylvania cities, there will now be 117 cities involved in the generation of the expected values used to monitor pneumonia and influenza activity in the United States. Data from these 4 cities will appear in the tables but will not be included in the totals for the United States and the Middle Atlantic Region.

Rubella Vaccine – Continued

Febrile Illness

Persons with febrile illness should not be vaccinated until they have recovered. Minor illnesses such as upper respiratory infections, however, do not preclude vaccination.

Allergies

Live rubella virus vaccine is produced in duck embryo cell culture or in human diploid cell culture. It has not been reported to be associated with allergic reactions and can be given to all who need it, including persons with allergies to eggs, ducks, and feathers. Live rubella virus vaccine does not contain penicillin. Some vaccines do contain trace amounts of other antibiotics, however, to which patients may be allergic. Those administering vaccines should review the label information carefully before deciding whether patients with known allergies to such antibiotics can be vaccinated safely.

Altered Immunity

Replication of the rubella vaccine virus may be potentiated in patients with immune deficiency diseases and by the suppressed immune responses that occur with leukemia, lymphoma, or generalized malignancy or with therapy with corticosteroids, alkylating drugs, antimetabolites, or radiation. Patients with such conditions should not be given live rubella virus vaccine.

Simultaneous Administration of Certain Live Virus Vaccines

See "General Recommendations on Immunization," MMWR 25:349-350, 355, 1976.

OUTBREAK MANAGEMENT

To prevent the spread of rubella in outbreaks, susceptibles at risk should be vaccinated promptly. Women at risk of exposure who are not aware of being pregnant and agree to prevent conception for 3 months should be vaccinated. Although prevaccination serologic testing is not necessary, it may be useful to collect a blood specimen at the time of vaccination. Later, it can be tested if the woman had been pregnant at the time of vaccination or should become pregnant in the next 3 months.

SURVEILLANCE

Accurate diagnosis and reporting of rubella, congenital rubella syndrome, and vaccine complications are of great importance in assessing the progress in rubella control. Furthermore, all cases of birth defects suspected of being related to rubella should be thoroughly investigated and reported to state health departments.

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Current Trends

Teenage Childbearing and Abortion Patterns, 1976

In 1976, teenagers* of all ages continued to have fewer births and more abortions when compared to previous years.

Births to teenagers, the birth rate for teenagers, and the percentage of all births occurring to female teenagers all decreased when compared to 1975 figures. Births among 15- to 19-year-old women numbered 558,744 (down from 582,238 in 1975) or 17.6% of all births. Births to females under age 15 also declined—down from 12,642 in 1975 to 11,928. The birth rate for females aged 15-19 fell to 53.5 births per 1,000 females from 58.2 in 1975, among 12- to 14-year-old teenagers, the rate fell to 2.0 births per 1,000 women from 2.1 in 1975. This is the first time in many years that the birth rate for girls 14 and younger has declined.

The number of reported and estimated abortions continued to increase. For females aged 14 and under there were 13,291 abortions, compared to 11,639 in 1974. For 15- to 19-year-old women there were 300,956 (up from 237,294 in 1974). The 1976 abortion ratio for females aged 14 and under was 1,114 abortions per 1,000 live births. For 15- to 19-year-old women, the rate was 539 abortions per 1,000 live births.

Eight states showed an increase in births to 15- to 19-year-olds between 1974 and 1976, while 42 states and the District of Columbia showed a decrease (Table 1). Actual figures ranged from a 13.4% increase in Utah to a 19.1% decrease in the District of Columbia.

Reported by Family Planning Evaluation Div, Bur of Epidemiology, CDC.

Editorial Note: A number of recent trends are relevant to teenage fertility patterns. The number of teenagers will decline in future years due to low birth rates in the late 1960s and 1970s. The number of women 10 to 14 years old is expected to decline from 9.7 to 8.5 million between 1976 and 1981; the number of 15- to 19-year-olds should decrease from 10.4 to 9.7 million (*1*).

National surveys of 15- to 19-year-old women in 1971 and 1976 have indicated a trend toward greater sexual experience and greater contraceptive use. However, one-third of sexually active respondents in 1976 had used no method the last time they had intercourse. The majority (over 70%) of out-of-wedlock conceptions were unintended. Between 1971 and 1976, abortion was increasingly used by survey respondents; 31% of out-of-wedlock first pregnancies were terminated by induced abortion (*2-4*).

Because the majority of teenage out-of-wedlock pregnancies are unintended, and because fertility of married women is currently very low, teenage pregnancies continue to constitute a large share of all unplanned pregnancies.

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*Teenagers were defined as those 12 to 19 years old.

Teenage Abortion — Continued

TABLE 1. Births* to teenage females in 1976, with percent change from 1974, and abortions to teenage females in 1976, United States, by state and HEW region.**

	Females aged 14 and younger			Females aged 15-19		
	Births[1] 1976	% change in births 1974-1976	Abortions[2] 1976	Births[1] 1976	% change in births 1974-1976	Abortions[2] 1976
REGION I TOTAL	**270**	**1.9**	**543**	**18,581**	**−10.2**	**17,461**
Connecticut	74	−14.0	141	4,253	−8.9	4,134
Maine[3]	22	−18.5	19	2,589	−4.3	602
Massachusetts[3]	133	25.5	316	7,684	−12.8	10,167
New Hampshire	10	−16.7	21	1,506	−10.0	702
Rhode Island	21	−4.5	28	1,565	−9.3	1,107
Vermont	10	−16.7	18	984	−11.2	749
REGION II TOTAL	**994**	**6.5**	**1,923**	**41,903**	**−6.0**	**43,753**
New Jersey[4]	310	5.4	444	12,008	−6.7	7,186
New York	684	7.0	1,479	29,895	−5.7	36,567
REGION III TOTAL	**1,197**	**−2.3**	**2,405**	**55,554**	**−7.3**	**42,301**
Delaware[3]	56	16.7	46	1,616	−5.5	817
District of Columbia	85	−3.4	599	2,199	−19.1	8,535
Maryland	241	−8.0	404	9,095	−5.4	7,754
Pennsylvania	434	5.1	925	23,660	−7.3	17,149
Virginia	268	−17.3	413	12,515	−10.9	7,729
West Virginia[3]	113	25.6	18	6,469	2.2	317
REGION IV TOTAL	**3,491**	**−11.5**	**2,403**	**120,770**	**−10.8**	**40,901**
Alabama[3]	407	−4.0	141	13,793	−9.5	2,392
Florida[3]	723	−11.4	680	22,099	−13.5	11,576
Georgia	546	−22.2	485	17,927	−12.5	7,582
Kentucky	269	8.5	282	12,860	−1.4	3,025
Mississippi	358	−25.1	35	11,207	−9.9	483
North Carolina	454	−11.2	426	17,934	−13.6	8,109
South Carolina	348	5.8	87	10,680	10.7	1,882
Tennessee	386	−11.7	267	14,270	−10.5	5,852
REGION V TOTAL	**2,110**	**−7.7**	**1,453**	**111,907**	**−8.1**	**50,689**
Illinois	702	−3.4	391	29,109	−5.2	16,046
Indiana	312	5.8	143	15,970	−9.7	2,916
Michigan[3]	401	−20.0	337	22,630	−13.0	11,768
Minnesota	68	−2.9	155	6,900	−2.6	5,350
Ohio	503	−9.9	314	28,233	−8.3	10,664
Wisconsin[3]	124	−8.8	113	9,065	−5.2	3,945
REGION VI TOTAL	**2,016**	**0.6**	**1,297**	**83,694**	**−1.3**	**23,740**
Arkansas	243	8.5	70	8,514	−3.6	1,235
Louisiana	439	7.1	102	16,053	2.3	1,912
New Mexico[3]	77	28.3	89	4,389	1.1	1,636
Oklahoma[3]	177	−4.8	135	9,792	2.7	2,466
Texas[3]	1,080	−3.8	901	44,946	−2.1	16,491
REGION VII TOTAL	**442**	**−10.9**	**579**	**28,653**	**−5.5**	**11,022**
Iowa[3]	55	−21.4	100	6,168	2.4	1,905
Kansas	99	30.3	212	6,203	0.7	3,662
Missouri	262	−14.7	193	13,041	−8.7	3,901
Nebraska	26	−39.5	74	3,241	−8.5	1,554
REGION VIII TOTAL	**150**	**−3.2**	**224**	**16,797**	**−2.9**	**6,531**
Colorado	66	−13.2	138	6,429	−6.1	3,900
Montana	16	−20.0	17	1,939	−10.4	632
North Dakota[3]	14	75.0	20	1,478	−1.8	585
South Dakota	17	0.0	16	1,696	−13.5	546
Utah	26	8.3	29	4,035	13.4	744
Wyoming[3]	11	10.0	4	1,220	−3.0	124
REGION IX TOTAL	**1,043**	**0.7**	**2,005**	**64,319**	**0.9**	**51,183**
Arizona	136	−13.9	50	7,350	−5.8	1,635
California	865	6.3	1,868	53,025	2.1	47,654
Hawaii	14	−58.8	53	2,232	−1.7	1,142
Nevada	28	−6.7	34	1,712	−1.6	752
REGION X TOTAL	**215**	**16.8**	**459**	**16,566**	**−1.7**	**13,375**
Alaska	8	−33.3	17	1,024	−6.6	356
Idaho[3]	29	20.8	12	2,668	6.0	345
Oregon	67	3.1	165	5,370	0.3	4,491
Washington	111	33.7	265	7,504	−4.8	8,183
UNITED STATES TOTAL	**11,928**	**−4.8**	**13,291**	**558,744**	**−6.2**	**300,956**

* by state of residence ** by state of occurrence

1. Preliminary tabulations are provided by the National Center for Health Statistics.
2. Data are those reported by states in the 1976 Abortion Surveillance Report (5), except as noted for individual states.
3. These states did not report abortions by age in 1976. The estimate was derived by assuming that the percentage of abortions occurring to females of each age group was the same as the average for known states in the region.
4. Numbers are estimates based on partial reporting, by age.

Influenza — Texas, Worldwide

Texas: Throat swabs taken from 4 patients in Houston between October 18 and 31, 1978, have grown influenza viruses that were antigenically characterized as A/USSR/77(H1N1)-like viruses at the Influenza Research Center, Baylor College of Medicine. The first patient, a 63-year-old woman with sore throat, malaise, and temperature of 100.6 F (38.1 C) was seen on October 18; she had not been out of the Houston area for 2 months. Two other patients were a 23-month-old boy and his 4-year-old sister; they had symptoms of a common cold and fever and were seen at a public clinic on October 31. The fourth isolate was obtained at Methodist Hospital from a 3-year-old boy with a history of respiratory illness and febrile convulsions who was admitted directly upon his arrival from Mexico City on October 22. Three of his siblings had also recently had fever and headaches. In Houston there has been no increase in school absenteeism or incidence of febrile respiratory disease seen at pediatric clinics.

An influenza B isolate was obtained from a patient with respiratory illness seen at the U.S. Air Force Hospital, Bergstrom Air Force Base, Texas, on September 28.

Worldwide: Sporadic outbreaks of influenza caused by A/USSR/77-like viruses were reported in September from Australia and in October from Malaysia. During this same period sporadic outbreaks of influenza B were reported in New Zealand, Hong Kong, and Australia.

Reported by RB Couch, MD, WP Glezen, MD, Influenza Research Center, Baylor College of Medicine, Houston; S Greenberg, MD, Virus Diagnostic Laboratory, Methodist Hospital, Houston; USAF Hospital, Bergstrom Air Force Base, Texas; Epidemiology Div, USAF School of Aerospace Medicine, Brooks Air Force Base, Texas; the World Health Organization in the Weekly Epidemiological Record 53:314, 319, 1978.

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