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International Notes

The Role of the Individual and the Community in the Research, Development, and Use of Biologicals

A worldwide effort to address the complex issue of the involvement of humans in biomedical research has been launched with the publication, by the World Health Organization, of a memorandum on the role of the individual and the community in the research, development, and use of biologicals (1). Many months in preparation, the memorandum represents an official summary of a conference held March 2-5, 1976, and attended by about 50 invited authorities from throughout the world.

Attendees at the conference represented the fields of science, medicine, law, sociology, theology, ethics, philosophy, public health, and preventive medicine, as well as vaccine producers and vaccine quality control authorities.

A major issue addressed at the conference is one that has been causing increasing concern for several decades. Most experimental drugs, when the need for human testing arises, can be field-tested on volunteers who are ill — persons who stand to benefit from the drug if it is effective. Ill persons, in fact, must be tested to determine if the drug cures an illness.

Such is not the usual case with biologicals,* however, whose potential target is not a specialized, ill population, but entire populations of healthy persons. Before whole populations can be exposed to a given biological, its effectiveness and safety must be assured. Although laboratory and animal testing must be done first, eventually biologicals need to be field-tested on humans, in both small and large groups, to evaluate their individual and collective benefit. Furthermore, after a biological is in more general use, its continuing effectiveness, safety, and usefulness must be regularly evaluated in the community setting.

In contrast with drugs, biologicals must be tested on a variety of healthy persons. It is frequently necessary to field-test healthy children because children are often the principal recipients of the products developed, and extensive studies only in adults would be inappropriate. But whose children? What healthy persons? Under what criteria? These are some of the questions that the conference faced.

The conference discussed the need for international cooperation and collaboration in the development, testing, production, distribution, and determination of safety and efficacy of biologicals. Although attendees concurred there is a need for consistency in clinical trials, they emphasized that "absolute uniformity cannot be imposed." Because vaccine-preventable diseases occur variably throughout the world, the need for new vaccine(s), they agreed, should be determined by evaluating the impact of diseases in relation to specific characteristics of a community or country, and in relation to other health problems.

Human trials of biologicals should begin only when laboratory tests for vaccine safety and efficacy have been conducted, the conference emphasized. As a general requisite for involving humans in such trials, voluntary participation should be assured. With respect to consent for participation, the conference determined that it should include "adequate and readily intelligible disclosure" of the possible risks of the product and of the procedure and their benefits to the individual and the community. Different methods are required for different geographical and cultural groups. Adverse effects associated with vaccine trials have been "strikingly rare," the report said, "mainly because of the great care which hitherto has preceded the investigation and general use of biologicals."

The attendees agreed that it is reasonable to ask the individual to undergo some risk for the good of society within an acceptable ethical framework. "The only acceptable course is to present the facts clearly, simply, and unequivocably and to give adequate social, medical, and legal support to anyone harmed," the report says. The problems surrounding the involvement of special populations — particularly prisoners, the mentally retarded, the illiterate, the disadvantaged, and children — were discussed, and the teaching of medical ethics was encouraged.

Several recommendations were adopted, among them that:

1) the World Medical Association should give attention to the special problems concerning research, development, and use of biologicals in public health programs;

2) the International Association of Biological Standardization should promulgate codes of practice to be followed in the stage of research and development of biologicals, before human testing begins;

3) the Council for International Organizations of Medical Sciences should continue its work on the protection of

*In the context of this article, biologicals are limited to vaccines.

human rights in relation to scientific progress in biology and medicine; and

4) the World Health Organization should take an even more active role in organizing international collaborative studies and surveillance of biologicals.

The conference developed specific criteria to provide guidance to governments, agencies, and investigators for the suitable involvement of human subjects in field trials and other tests and evaluations of biologicals. National and international bodies should:

1) take into account: the means of identifying the needs for biologicals; strategies for supporting research, development, and use of biologicals; and social legislative action to meet the needs of research subjects and biologicals recipients who suffer adverse effects;

2) increase public awareness of both the individual and the community benefits resulting from systematic use of safe and effective vaccines;

3) adhere to specific criteria for the design of field trials, for human involvement in field trials, and for surveillance of the safety and effectiveness of biologicals.

Reported by the Office of the Director, CDC.

Reference

1. World Health Organization: The role of the individual and the community in the research, development, and use of biologicals with criteria for guidelines: A memorandum. Bull WHO 54:645-655, 1976 (distributed in 1977)

Epidemiologic Notes and Reports

Imported Cholera — Guam

On August 8, 1977, a 50-year-old male U.S. citizen of Filipino extraction was hospitalized in Guam because of severe watery diarrhea. He had become ill on August 1 during a return flight from the Philippines. where he had visited Manila and Cebu City.

He was treated with intravenous fluids and antidiarrheal and antibacterial medications and gradually improved. He was discharged on August 11. Six days later the territorial reference laboratory reported isolation of *Vibrio cholerae* biotype El Tor, serotype Inaba, from a specimen from the patient.

Follow-up investigation showed that sewage disposal at the patient's home was adequate and that no family contacts had experienced a diarrheal illness.

Reported by T Bolano, J Calinisan, RL Haddock, Territorial Epidemiologist, R Loerzel, VM Perez, Government of Guam; Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: This is only the seventh documented case of cholera among United States citizens traveling abroad and only the second imported case since the current pandemic began in 1961. Of interest is that it is the second to

(Continued on page 307)

Table I. Summary—Cases of Specified Notifiable Diseases: United States

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

DISEASE	36th WEEK ENDING		MEDIAN	CUMULATIVE, FIRST 36 WEEKS		
	September 10, 1977	September 11, 1976	1972–1976	September 10, 1977	September 11, 1976	MEDIAN 1972–1976
Aseptic meningitis	159	117	135	2,714	1,894	2,193
Brucellosis	4	5	3	156	225	133
Chickenpox	209	191	---	158,077	150,172	---
Diphtheria	–	–	–	58	126	126
Encephalitis: Primary	36	67	44	583	900	828
Encephalitis: Post-Infectious	4	3	5	150	204	212
Hepatitis, Viral: Type B	222	245	177	11,078	10,264	6,589
Hepatitis, Viral: Type A	505	481	679	21,090	23,561	29,097
Hepatitis, Viral: Type unspecified	158	117		6,286	5,766	
Malaria	9	9	9	366	308	286
Measles (rubeola)	53	88	88	53,023	34,320	24,143
Meningococcal infections, total	7	12	12	1,264	1,142	1,047
Civilian	7	12	12	1,256	1,125	1,022
Military	–	–	–	8	17	25
Mumps	86	142	217	15,591	32,515	46,693
Pertussis	114	26	---	849	667	---
Rubella (German measles)	57	45	87	18,485	10,634	14,748
Tetanus	–	2	2	44	42	60
Tuberculosis	426	524	---	20,931	23,036	---
Tularemia	2	2	2	108	97	98
Typhoid fever	9	10	10	251	282	273
Typhus, tick-borne (Rky. Mt. spotted fever)	26	27	22	937	708	665
Venereal Diseases:						
Gonorrhea: Civilian	18,928	18,640	---	672,082	691,849	---
Gonorrhea: Military	522	518	---	18,433	20,678	---
Syphilis, primary and secondary: Civilian	347	364	---	14,152	16,686	---
Syphilis, primary and secondary: Military	5	10	---	203	245	---
Rabies in animals	47	50	50	2,041	2,040	2,040

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	–	Poliomyelitis, total: Upst. N.Y. +1	8
Botulism: * Ariz. +1	73	Paralytic:*	6
Congenital rubella syndrome:	11	Psittacosis: Ark. +1	48
Leprosy:* Mich. +1, Calif. +2	88	Rabies in man:	1
Leptospirosis:	29	Trichinosis: Mass. +1, Upst. N.Y. +1, N.J. +1	03
Plague:*	7	Typhus, murine:	56

*Delayed reports: Botulism: Utah +2, Calif. +4; Leprosy: Calif. +3; Plague: Calif. +2; Polio, Paralytic: N.H. +1

Table III

Cases of Specified Notifiable Diseases: United States

Weeks Ending September 10, 1977 and September 11, 1976 — 36th Week

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post Infectious	Type B	Type A	Type Unspecified		
	1977	1977	1977	1977	CUM. 1977	1977	1976	1977	1977	1977	1977	1977	CUM. 1977
UNITED STATES	159	4	209	–	58	36	67	4	222	505	158	9	366
NEW ENGLAND	5	–	18	–	–	–	3	–	5	8	5	–	21
Maine*	1	–	1	–	–	–	–	–	–	–	–	–	–
New Hampshire*	–	–	–	–	–	–	–	–	–	1	–	–	3
Vermont	–	–	2	–	–	–	–	–	–	–	–	–	2
Massachusetts	1	–	10	–	–	–	–	–	–	2	4	–	3
Rhode Island	3	–	1	–	–	–	–	–	1	3	–	–	5
Connecticut	–	–	4	–	–	–	3	–	4	2	1	–	8
MIDDLE ATLANTIC	40	–	32	–	5	2	3	1	43	57	34	4	84
Upstate New York	24	–	6	–	–	–	–	–	4	16	6	1	20
New York City	5	–	24	–	5	–	–	–	10	7	11	1	39
New Jersey*	1	–	NN	–	–	–	1	–	10	11	9	–	9
Pennsylvania	10	–	2	–	–	2	2	1	19	23	8	2	16
EAST NORTH CENTRAL	38	–	92	–	–	9	7	–	39	66	6	–	28
Ohio	16	–	8	–	–	4	3	–	6	30	–	–	10
Indiana	18	–	10	–	–	1	–	–	1	2	4	–	2
Illinois	1	–	7	–	–	–	1	–	24	10	–	–	2
Michigan	2	–	14	–	–	2	3	–	5	19	2	–	11
Wisconsin	1	–	53	–	–	2	–	–	3	5	–	–	3
WEST NORTH CENTRAL	1	–	26	–	1	6	5	–	7	40	4	–	33
Minnesota	–	–	2	–	–	–	–	–	6	23	–	–	9
Iowa	–	–	19	–	–	3	–	–	–	1	–	–	1
Missouri*	1	–	–	–	1	1	4	–	–	9	4	–	18
North Dakota	–	–	3	–	–	–	1	–	–	1	–	–	1
South Dakota	–	–	1	–	–	1	–	–	–	–	–	–	1
Nebraska	–	–	–	–	–	–	–	–	–	1	–	–	–
Kansas	–	–	1	–	–	1	–	–	1	5	–	–	3
SOUTH ATLANTIC	20	1	5	–	–	4	7	1	36	81	20	3	59
Delaware	–	–	–	–	–	–	–	–	–	2	–	–	–
Maryland	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	12
District of Columbia	–	–	–	–	–	–	–	–	–	–	–	1	4
Virginia*	2	1	2	–	–	3	1	–	8	6	6	–	15
West Virginia	1	–	3	–	–	–	5	–	–	2	–	–	1
North Carolina	8	–	NN	–	–	1	–	–	1	8	2	2	7
South Carolina	–	–	–	–	–	–	1	–	2	3	5	–	–
Georgia*	–	–	–	–	–	–	–	–	8	34	–	–	8
Florida	9	–	–	–	–	–	–	1	17	26	7	–	12
EAST SOUTH CENTRAL	16	–	1	–	–	9	22	1	19	51	7	–	9
Kentucky	–	–	–	–	–	–	–	–	–	–	–	–	4
Tennessee	6	–	NN	–	–	7	4	–	15	27	5	–	1
Alabama	10	–	–	–	–	–	3	1	3	9	2	–	4
Mississippi*	–	–	1	–	–	2	15	–	1	15	–	–	–
WEST SOUTH CENTRAL	7	1	11	–	2	5	13	–	15	58	33	–	18
Arkansas	–	–	–	–	–	2	1	–	–	15	–	–	–
Louisiana	–	–	NN	–	–	–	4	–	1	6	4	–	2
Oklahoma	1	–	1	–	–	–	–	–	7	5	16	–	–
Texas*	6	1	10	–	2	3	8	–	7	32	13	–	16
MOUNTAIN	1	1	18	–	4	–	1	–	17	63	21	1	12
Montana	–	1	11	–	–	–	–	–	–	9	–	–	1
Idaho	–	–	–	–	–	–	–	–	–	1	2	–	–
Wyoming	–	–	–	–	–	–	1	–	–	–	–	1	2
Colorado	–	–	6	–	–	–	–	–	8	10	4	–	6
New Mexico	1	–	–	–	3	–	–	–	2	6	4	–	1
Arizona	–	–	NN	–	1	–	–	–	5	29	10	–	2
Utah	–	–	1	–	–	–	–	–	2	8	1	–	–
Nevada*	–	–	–	–	–	–	–	–	–	–	–	–	–
PACIFIC	31	1	6	–	46	1	6	1	41	81	28	1	102
Washington*	–	–	1	–	43	–	–	–	–	11	3	–	4
Oregon	10	–	1	–	–	–	–	–	6	12	4	–	1
California*	18	1	–	–	1	1	6	1	35	56	20	1	91
Alaska*	1	–	1	–	2	–	–	–	–	–	–	–	2
Hawaii	2	–	3	–	–	–	–	–	–	2	1	–	4
Guam*	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Puerto Rico	–	1	3	–	–	–	–	–	–	6	6	–	2
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–	–	–

NN: Not notifiable
NA: Not available
*Delayed reports: Asep. meng.: Maine +11, Calif. +26, Chickenpox: Nev. +1, Wash. +27, Calif. +6; Diphtheria: Wash. +6; Enceph.: Tex. −1, Wash. +1, Calif. +1, Alaska −1; Post Encep. Chickenpox: Calif +1; Hep. B: N.J. −18, Ga. +7, Calif. +94, Guam +5; Hep. A: N.H. +2, Va. −1, Ga. +21, Calif. +125, Guam +4; Hep. unsp.: N.J. −13, Mo. −1, Va. −2, Calif +48; Malaria: Mo. −2, Va. −1, Miss. +1, Wash. +1, Calif. +1.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending September 10, 1977 and September 11, 1976 – 36th Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE		1977	CUMULATIVE		1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
		1977	1976		1977	1976						
UNITED STATES	53	53,023	34,320	7	1,264	1,142	86	15,591	114	57	18,485	44
NEW ENGLAND	1	2,469	385	–	51	54	5	641	3	2	1,189	1
Maine	–	170	7	–	3	1	1	52	–	–	69	–
New Hampshire	–	510	9	–	3	5	–	91	1	–	240	–
Vermont	1	293	41	–	5	3	–	8	–	–	64	–
Massachusetts	–	631	35	–	16	17	1	119	2	–	374	–
Rhode Island	–	64	14	–	1	5	1	55	–	–	134	–
Connecticut	–	801	279	–	23	23	2	316	–	2	308	1
MIDDLE ATLANTIC	6	8,323	6,987	3	181	164	15	1,280	5	2	5,999	4
Upstate New York	2	3,793	2,933	3	47	62	1	281	1	1	3,363	1
New York City	3	722	452	–	46	45	9	477	2	1	313	1
New Jersey	–	195	598	–	37	22	3	349	–	–	1,779	2
Pennsylvania	1	3,613	3,004	–	51	35	2	173	2	–	544	–
EAST NORTH CENTRAL	21	11,197	14,597	–	130	142	14	5,316	19	15	3,663	5
Ohio	2	1,849	572	–	52	60	1	652	2	–	1,115	1
Indiana	4	4,320	3,268	–	9	6	1	302	–	7	929	1
Illinois	8	1,687	1,568	–	22	17	4	917	13	3	316	1
Michigan	–	931	5,839	–	35	50	3	1,807	4	2	909	2
Wisconsin	7	2,410	3,350	–	12	9	5	1,638	–	3	394	–
WEST NORTH CENTRAL	–	9,750	1,201	–	70	78	10	3,540	1	11	504	7
Minnesota	–	2,620	415	–	25	14	–	6	1	1	17	2
Iowa	–	4,287	41	–	6	9	7	1,260	–	2	161	1
Missouri *	–	989	20	–	28	30	2	1,221	–	–	35	2
North Dakota	–	23	3	–	1	3	–	16	–	–	11	–
South Dakota	–	67	4	–	4	3	–	59	–	–	18	–
Nebraska	–	209	55	–	1	6	–	68	–	–	3	–
Kansas *	–	1,555	663	–	5	13	1	910	–	8	259	2
SOUTH ATLANTIC	5	4,514	2,166	–	276	218	10	730	70	4	1,623	11
Delaware	–	22	128	–	3	6	1	126	–	–	26	–
Maryland	NA	371	715	–	18	18	NA	62	NA	NA	5	–
District of Columbia *	–	4	12	–	–	2	–	5	–	–	–	–
Virginia	3	2,704	762	–	19	35	1	93	4	–	575	1
West Virginia	–	226	188	–	9	7	2	154	–	4	133	–
North Carolina	–	63	17	–	62	39	1	52	1	–	444	–
South Carolina	–	148	4	–	28	36	–	10	2	–	209	–
Georgia *	2	766	2	–	49	20	3	26	42	–	52	1
Florida	–	210	338	–	88	55	2	202	21	–	179	9
EAST SOUTH CENTRAL	2	1,959	827	1	137	104	8	863	2	6	1,920	3
Kentucky	1	1,188	746	–	26	19	–	87	–	2	80	1
Tennessee	–	654	64	–	36	43	2	530	1	3	1,721	1
Alabama	1	78	–	1	50	31	5	215	–	–	109	1
Mississippi *	–	39	17	–	25	11	1	31	1	1	10	–
WEST SOUTH CENTRAL	5	2,083	693	–	221	176	13	1,402	5	4	800	5
Arkansas *	–	39	1	–	14	10	2	64	2	–	3	1
Louisiana	–	74	199	–	84	33	1	38	–	–	27	1
Oklahoma	1	56	289	–	10	20	4	475	1	–	29	–
Texas *	4	1,914	204	–	113	113	6	825	2	4	741	3
MOUNTAIN	3	2,524	5,012	–	40	33	2	598	1	3	356	2
Montana	2	1,162	204	–	2	4	–	10	–	–	14	1
Idaho *	–	162	2,020	–	4	4	1	122	–	1	13	–
Wyoming	–	19	4	–	1	–	–	3	–	–	4	1
Colorado	–	499	247	–	1	5	1	263	–	–	232	–
New Mexico	–	270	15	–	18	4	–	107	1	–	12	–
Arizona	1	301	226	–	10	10	–	–	–	–	12	–
Utah	–	18	2,233	–	3	4	–	78	–	2	60	–
Nevada	–	93	63	–	1	2	–	15	–	–	9	–
PACIFIC	10	10,204	2,452	3	158	173	9	1,221	8	10	2,431	6
Washington *	–	532	334	–	18	29	–	262	–	1	437	–
Oregon	–	368	162	–	11	16	6	227	3	1	110	–
California *	10	9,211	1,949	3	99	107	2	684	4	5	1,477	6
Alaska	–	58	4	–	28	18	–	25	1	–	1	–
Hawaii	–	35	3	–	2	3	1	23	–	3	406	–
Guam *	NA	4	13	–	–	–	NA	5	NA	NA	9	–
Puerto Rico	19	876	360	–	1	3	7	657	–	–	30	10
Virgin Islands	–	14	11	–	–	–	–	186	–	–	2	–

NA: Not available

*Delayed reports: Measles: Kans +107, D.C. +11, Miss –1, Idaho –1, Calif. +15, Guam +2; Men. Inf.: Mo. –1, Ga. +2 (C); Calif. +1; Mumps: Miss. +6, Wash. +2, Calif. +6, Guam +1; Pertussis: Mo. +1, Ga. +1, Tex. –2, Wash. +1, Calif +3; Rubella: Miss. –1, Calif. +9, Guam +1, Tetanus: Ark. +1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending September 10, 1977 and September 11, 1976 – 36th Week

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	1977	CUMULATIVE 1977	CUMULATIVE 1976	1977	CUMULATIVE 1977	CUMULATIVE 1976	CUM. 1977
UNITED STATES	426	20,931	108	9	251	26	937	18,928	672,082	691,849	347	14,152	16,686	2,041
NEW ENGLAND	13	787	1	–	15	–	8	458	17,993	19,067	11	574	536	38
Maine	–	60	–	–	–	–	–	19	1,309	1,602	–	16	15	28
New Hampshire *	2	20	–	–	1	–	–	19	714	546	–	3	8	1
Vermont	–	25	–	–	–	–	–	7	462	474	–	6	8	–
Massachusetts	6	452	1	–	10	–	3	220	7,687	9,102	8	408	369	6
Rhode Island	2	65	–	–	2	–	3	54	1,470	1,296	1	8	17	–
Connecticut	3	165	–	–	2	–	2	139	6,351	6,047	2	133	119	3
MIDDLE ATLANTIC	51	3,313	1	–	56	–	57	2,899	69,649	80,272	44	1,966	2,810	60
Upstate New York *	27	553	1	–	7	–	27	614	11,918	12,522	–	182	164	33
New York City	NA	1,020	–	–	22	–	–	1,114	27,326	36,231	27	1,238	1,779	–
New Jersey	16	876	–	–	17	–	10	795	12,307	12,234	11	262	392	22
Pennsylvania	8	864	–	–	10	–	20	376	18,098	19,285	6	284	475	5
EAST NORTH CENTRAL	65	3,329	3	–	22	–	28	3,646	107,117	108,421	63	1,517	1,420	84
Ohio	14	566	1	–	8	–	11	765	28,247	26,568	9	348	334	–
Indiana	11	390	–	–	1	–	2	818	9,877	10,671	15	124	77	8
Illinois	22	1,323	–	–	4	–	14	958	34,784	38,014	27	789	752	26
Michigan	15	909	–	–	9	–	1	796	24,544	23,401	9	177	183	4
Wisconsin *	3	141	2	–	–	–	–	309	9,665	9,767	3	79	74	46
WEST NORTH CENTRAL	12	711	17	1	15	–	26	766	35,615	36,118	14	323	306	513
Minnesota	1	156	–	–	4	–	–	23	6,320	6,332	7	95	71	184
Iowa *	–	66	–	–	–	–	–	95	4,090	4,552	–	37	33	85
Missouri *	10	301	15	1	6	–	14	365	14,948	14,612	4	121	120	38
North Dakota	1	20	–	–	1	–	–	23	682	543	–	–	–	77
South Dakota *	–	35	2	–	–	–	2	32	1,044	1,018	2	6	4	94
Nebraska	–	28	–	–	1	–	1	29	3,061	3,065	–	25	23	1
Kansas *	–	105	–	–	3	–	9	199	5,470	5,996	1	39	55	34
SOUTH ATLANTIC	102	4,664	10	–	43	16	514	4,030	166,756	170,235	78	3,968	5,066	238
Delaware *	3	39	–	–	–	–	3	146	2,326	2,328	–	18	51	2
Maryland	NA	655	2	NA	3	NA	65	NA	20,390	22,279	NA	249	417	–
District of Columbia	7	232	–	–	1	–	–	200	10,869	11,648	7	415	395	–
Virginia	6	538	1	–	9	4	146	551	17,541	18,336	9	390	462	5
West Virginia	2	179	–	–	3	–	5	48	2,244	2,154	–	3	19	6
North Carolina	21	769	2	–	3	5	190	726	24,655	24,203	6	543	921	10
South Carolina	12	417	2	–	–	1	46	651	15,807	16,257	3	169	270	15
Georgia	26	582	3	–	12	6	58	433	32,203	32,217	27	858	753	145
Florida	25	1,253	–	–	12	–	1	1,275	40,721	40,813	26	1,323	1,778	55
EAST SOUTH CENTRAL	43	1,909	7	–	4	4	149	2,176	59,731	60,907	16	519	658	61
Kentucky	10	499	2	–	–	–	38	258	8,125	7,878	3	65	94	21
Tennessee	6	579	5	–	1	3	91	710	23,891	24,219	3	159	225	31
Alabama	14	500	–	–	1	1	17	702	16,431	17,138	6	110	140	9
Mississippi *	13	331	–	–	2	–	3	506	11,284	11,672	4	185	199	–
WEST SOUTH CENTRAL	64	2,474	57	3	18	4	138	1,896	84,426	88,261	66	2,095	1,951	597
Arkansas *	3	275	38	–	5	1	39	216	6,687	8,376	3	50	64	92
Louisiana	15	467	1	–	–	–	4	305	12,071	12,719	24	495	401	16
Oklahoma	9	218	9	–	1	3	69	335	8,108	8,405	–	54	72	187
Texas *	37	1,514	9	3	12	–	26	1,040	57,560	58,761	39	1,496	1,414	302
MOUNTAIN	28	600	8	3	20	1	13	756	27,354	27,969	6	312	444	124
Montana	–	35	1	–	–	1	6	65	1,413	1,416	–	4	7	40
Idaho	1	28	–	–	–	–	4	26	1,272	1,498	–	11	19	–
Wyoming	1	11	1	–	–	–	2	27	675	530	–	4	3	1
Colorado	10	85	3	–	8	–	1	196	7,168	7,057	4	96	98	42
New Mexico	2	110	–	–	–	–	–	114	3,985	5,186	–	67	111	–
Arizona	13	264	2	3	7	–	–	165	7,679	8,270	1	111	159	34
Utah *	1	30	1	–	4	–	–	83	1,607	1,421	1	7	18	7
Nevada	–	37	–	–	1	–	–	80	3,555	2,591	–	12	29	–
PACIFIC	48	3,144	4	2	58	1	4	2,301	103,441	100,599	49	2,878	3,495	326
Washington *	–	189	–	–	1	–	–	234	8,073	8,463	–	134	101	2
Oregon	3	134	–	–	3	1	1	265	7,295	7,717	3	93	73	4
California *	38	2,369	4	2	53	–	3	1,652	82,428	79,651	43	2,604	3,239	284
Alaska *	–	47	–	–	–	–	–	66	3,393	2,882	–	19	14	36
Hawaii	7	405	–	–	1	–	–	84	2,252	1,886	3	28	68	–
Guam *	NA	43	–	NA	1	NA	–	NA	137	235	NA	1	2	–
Puerto Rico	17	265	–	1	6	–	–	11	2,212	1,981	16	387	418	43
Virgin Islands	–	1	–	–	–	–	–	3	145	181	–	7	47	–

NA: Not available

*Delayed reports: TB: Iowa –1, Mo. –2, Kans. –1, Del. +5, Wash. +38, Calif. +58, Alaska +8, Guam +1; Tularemia: Mo. +1, Ark. +1, Calif. +1; Typhoid Fever: Calif. +2; RMSF: Ark. +2; GC: N. Hamp. +4 (mil.), Wash. +91 (mil.), Calif. +2815 (civ.), +55 (mil.), Guam +7 (civ.). Syphilis: Miss. –1, Tex. –1, Utah –1, Wash. +24, Calif. +111. An. Rabies: Upst. N.Y. +1, Wisc. –1, S. Dak. +14, Calif. +12.

Table IV
Deaths in 121 United States Cities*
Week Ending September 10, 1977 – 36th Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
NEW ENGLAND	608	389	155	28	14	33
Boston, Mass.	214	139	45	12	3	11
Bridgeport, Conn.	36	23	9	1	1	4
Cambridge, Mass.	26	21	3	2	–	4
Fall River, Mass.	19	15	4	–	–	–
Hartford, Conn.	41	21	12	3	3	–
Lowell, Mass.	19	12	4	2	1	–
Lynn, Mass.	14	10	3	1	–	–
New Bedford, Mass.	27	21	6	–	–	3
New Haven, Conn.	36	21	10	2	2	2
Providence, R.I.	60	34	20	3	1	6
Somerville, Mass.	11	4	7	–	–	1
Springfield, Mass.	31	20	9	–	2	–
Waterbury, Conn.	26	17	8	1	–	2
Worcester, Mass.	48	31	15	1	1	–
MIDDLE ATLANTIC	2,529	1,526	703	163	55	92
Albany, N. Y.	42	20	15	–	3	1
Allentown, Pa.	24	14	6	2	1	–
Buffalo, N. Y.	89	46	32	7	2	3
Camden, N. J.	31	19	9	1	–	2
Elizabeth, N. J.	26	11	12	2	–	–
Erie, Pa.	29	20	6	1	–	–
Jersey City, N. J.	51	29	16	3	2	1
Newark, N. J.	73	30	22	14	3	3
New York City, N. Y.	1,322	805	335	103	26	45
Paterson, N. J.	21	13	6	2	–	1
Philadelphia, Pa.	293	164	105	13	8	9
Pittsburgh, Pa.	172	99	59	5	6	18
Reading, Pa.	28	18	9	1	–	1
Rochester, N. Y.	116	84	27	1	3	6
Schenectady, N. Y.	12	6	5	1	–	–
Scranton, Pa.	29	21	7	1	–	–
Syracuse, N. Y.	85	60	21	1	1	1
Trenton, N. J.	31	23	4	4	–	–
Utica, N. Y.	18	15	2	–	–	1
Yonkers, N. Y.	37	29	5	1	–	–
EAST NORTH CENTRAL	2,056	1,211	531	137	75	67
Akron, Ohio	52	35	15	2	–	–
Canton, Ohio	38	23	11	3	–	–
Chicago, Ill.	517	296	143	38	13	11
Cincinnati, Ohio	103	53	29	8	8	1
Cleveland, Ohio	150	87	40	12	5	5
Columbus, Ohio	132	70	36	10	9	8
Dayton, Ohio	107	58	25	10	5	2
Detroit, Mich.	235	131	62	19	10	7
Evansville, Ind.	26	13	7	–	3	–
Fort Wayne, Ind.	66	42	13	4	3	7
Gary, Ind.	26	12	8	3	1	1
Grand Rapids, Mich.	58	38	13	4	1	8
Indianapolis, Ind.	154	85	47	6	6	5
Madison, Wis.	19	8	6	1	2	4
Milwaukee, Wis.	124	89	28	3	1	2
Peoria, Ill.	34	22	8	2	1	3
Rockford, Ill.	23	15	5	2	–	–
South Bend, Ind.	39	32	3	3	1	2
Toledo, Ohio	97	63	20	4	4	1
Youngstown, Ohio	56	39	12	3	2	–
WEST NORTH CENTRAL	606	369	145	32	31	14
Des Moines, Iowa	51	24	16	5	3	–
Duluth, Minn.	15	11	4	–	–	2
Kansas City, Kans.	40	22	10	2	1	2
Kansas City, Mo.	93	63	17	4	5	2
Lincoln, Nebr.	27	21	5	–	–	2
Minneapolis, Minn.	68	41	17	2	5	–
Omaha, Nebr.	77	44	24	5	3	1
St. Louis, Mo.	142	88	36	5	7	1
St. Paul, Minn.	48	32	9	3	1	1
Wichita, Kans.	45	23	7	6	6	3

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45–64 Years	25–44 Years	Under 1 Year	ALL AGES
SOUTH ATLANTIC	1,020	580	267	75	65	45
Atlanta, Ga.	109	57	30	8	10	5
Baltimore, Md.	140	95	24	10	6	3
Charlotte, N. C.	48	31	11	3	2	2
Jacksonville, Fla.	114	65	31	10	3	5
Miami, Fla.	40	20	11	1	6	1
Norfolk, Va.	52	28	12	7	3	2
Richmond, Va.	81	49	25	6	–	8
Savannah, Ga.	30	13	10	2	3	4
St. Petersburg, Fla.	66	55	8	1	1	3
Tampa, Fla.	65	40	15	2	7	5
Washington, D. C.	204	93	65	18	21	6
Wilmington, Del.	71	34	25	7	3	1
EAST SOUTH CENTRAL	520	308	137	35	20	21
Birmingham, Ala.	72	31	20	9	6	3
Chattanooga, Tenn.	52	37	9	3	2	2
Knoxville, Tenn.	37	28	6	2	1	–
Louisville, Ky.	101	52	33	8	4	8
Memphis, Tenn.	127	75	39	9	1	2
Mobile, Ala.	23	14	5	1	3	–
Montgomery, Ala.	28	17	6	2	1	2
Nashville, Tenn.	80	54	19	1	2	4
WEST SOUTH CENTRAL	926	496	248	86	50	28
Austin, Tex.	46	29	9	5	–	4
Baton Rouge, La.	46	23	17	1	3	1
Corpus Christi, Tex.	39	22	7	7	2	–
Dallas, Tex.	146	80	40	14	7	3
El Paso, Tex.	38	20	9	6	2	2
Fort Worth, Tex.	69	39	14	6	3	2
Houston, Tex.	148	70	43	21	5	2
Little Rock, Ark.	42	21	16	4	1	4
New Orleans, La.	99	56	25	9	5	–
San Antonio, Tex.	123	67	33	3	11	2
Shreveport, La.	50	23	16	4	5	1
Tulsa, Okla.	80	46	19	6	6	7
MOUNTAIN	475	260	118	42	32	13
Albuquerque, N. Mex.	58	26	17	4	4	2
Colorado Springs, Colo.	31	22	4	3	2	1
Denver, Colo.	100	45	27	10	11	3
Las Vegas, Nev.	28	15	7	4	–	–
Ogden, Utah	16	8	5	1	2	2
Phoenix, Ariz.	113	67	30	6	8	–
Pueblo, Colo.	17	11	4	1	–	3
Salt Lake City, Utah	48	25	10	5	5	–
Tucson, Ariz.	64	41	14	8	–	2
PACIFIC	1,293	789	326	84	42	23
Berkeley, Calif.	13	11	1	–	1	–
Fresno, Calif.	55	29	12	3	5	2
Glendale, Calif.	18	13	3	1	1	–
Honolulu, Hawaii	65	31	23	3	7	–
Long Beach, Calif.	104	66	32	4	–	1
Los Angeles, Calif.	340	204	82	30	7	5
Oakland, Calif.	80	49	23	5	1	2
Pasadena, Calif.	22	14	6	–	1	–
Portland, Oreg.	115	75	23	3	5	–
Sacramento, Calif.	46	27	12	5	1	1
San Diego, Calif.	85	45	19	11	7	2
San Francisco, Calif.	110	72	25	9	1	2
San Jose, Calif.	36	26	7	2	–	1
Seattle, Wash.	129	80	33	8	4	4
Spokane, Wash.	39	21	16	–	–	2
Tacoma, Wash.	36	26	9	–	1	1
TOTAL	10,033	5,928	2,630	682	384	336
Expected Number	11,145	6,702	2,876	747	382	371

*By place of occurrence and week of filing certificate. Excludes fetal deaths.

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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Send reports to: Center for Disease Control, Attn.: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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Cholerae — Continued

be reported within the last month, and both individuals had traveled to Manila and Cebu City in the Philippines (*1*). Nevertheless, the risk to tourists in these areas is small, and no unusual precautions need to be taken.

Travelers to cholera-infected areas should avoid eating uncooked vegetables, unpeeled fruits, and raw seafood since these foods are considered to be potential vehicles in the spread of cholera. Similarly, travelers should consume only carbonated bottled drinking water and other carbonated bottled beverages and should not swim at beaches in water contaminated with human sewage.

Cholera vaccine is of limited effectiveness, but it is recommended for travelers to countries that require evidence of vaccination for entry, for special high-risk groups that live and work in highly endemic areas under less than adequate sanitary conditions, and for persons with compromised defense mechanisms such as occurs with antacid therapy, previous ulcer surgery, or achlorhydria.

Reference

1. MMWR 26:284, 1977

Follow-up on Dengue — Puerto Rico

A widespread dengue outbreak in Puerto Rico (*1*) continues to result in increasing numbers of cases (Table 1). For the week ending September 7, 754 cases were reported. The total number of cases reported thus far (1,744) now exceeds the total number of cases reported during the 1975-76 Dengue outbreak in Puerto Rico (1,382) (*2*).

TABLE 1. Suspect dengue cases, by 2-week intervals, Puerto Rico, July-Sept, 1977

2-Week Period Ending	Number Of Cases
July 16	15
July 30	48
August 10	91
August 24	370
Sept 7	1,220
Total	**1,744**

Dengue type 2 virus has been isolated from dengue patients in the current outbreak. However, laboratory studies have shown that some dengue patients have virus strains that are not type 2, indicating that more than 1 strain is involved in the outbreak. With populations of the vector mosquito, *Aedes aegypti,* expected to maintain high levels through the rainy season, Puerto Rican health officials are intensifying mosquito control and urging residents to drain or discard containers that may breed *Aedes aegypti.*

Reported by J Chiriboga, MD, Environmental Health Dept, Puerto Rico State Dept of Health; San Juan Laboratories, Bur of Laboratories, Bur of Tropical Disease, and Viral Diseases Div, Bur of Epidemiology, CDC.

References

1. MMWR 26: 292, 1977
2. MMWR 25: 65, 1976

Pertussis — Georgia

Seventy-five confirmed cases of *Bordetella pertussis* infection were found among patients from the catchment area of a large metropolitan Atlanta hospital in the period from April 24 to August 28, 1977. These cases, which occurred in 56 households, were confirmed by nasopharyngeal (NP) swabbings positive by immunofluorescense (FA) or growth of the organism on Bordet-Gengou medium.

In patients for whom information is available, 38 were female and 33 male. The distribution by age of confirmed patients was: 0-5 months — 22 cases (31%); 6-11 months — 11 cases (15%); 1-6 years — 27 cases (38%); 7-15 years — 10 cases (14%); and 16+ years — 2 cases (3%). There were 3 patients for whom age was unknown.

All cases were questioned about coryza, congestion, coughing, and paroxysms of coughing. Twelve of the cases had none of these symptoms at the time NP swabs were obtained or when positive results were reported. Follow-up of these asymptomatic patients continues. The dates of onset for 56 symptomatic cases for which this information was known show that the outbreak peaked in the week of August 7-13.

There have been no pertussis-associated deaths, although 13 children were hospitalized: 1 in April, 5 in July, and 7 in August. Eleven of the children were discharged after uncomplicated hospitalizations. Two high-risk premature infants, still hospitalized, suffered cardio-respiratory arrests and are having recurrent apneic episodes. A review of immunization records revealed that 17 cases had received a primary series of pertussis immunization and were up-to-date for their age according to the recommendations set by the Public Health Service Advisory Committee on Immunization Practices (ACIP) (*1*).

To examine spread of pertussis in families, data for 43 households (243 persons) in which there was one or more confirmed cases of pertussis were analyzed (Table 2). Households with asymptomatic infected persons were omitted. Family members were considered clinical cases if they had had an illness characterized by cough or paroxysms of coughing. The first household member who became ill was considered the index case and all others, contacts. Seventy-nine percent (34 of 43) of all index cases in the households were confirmed cases; 71% (34 of 48) of all confirmed cases were index cases. The risk of being either an index case or an ill contact decreased sharply with age. The degree to which this drop-off is related to immunization is not yet known since documentation of immunization status of this group is currently underway.

TABLE 2. Age-specific incidence of index cases and secondary cases in household contacts in families with confirmed pertussis, Georgia, 1977

	Index Cases				Contact Cases			
Age (yr)	No. Ill	Total Household Members	Rate %	Relative Risk*	No. Ill	Total	Rate (%)**	Relative Risk
<1	19	29	65.5	12.1	9	10	90.0	11.8
1-6	16	45	35.5	6.6	9	29	31.0	4.1
7-15	2	58	3.4	0.7	11	56	19.6	2.6
16+	6	111	5.4	1.0	8	105	7.6	1.0
Total	43	243			37	200		

*Using 16+ age group as standard

**This represents the secondary attack rate in household contacts.

Control measures have included: dismissal from school of all children with persistent cough and re-entry only when pertussis has been ruled out or treated by a physician; pre-

school DTP booster administration; and encouragement to update DTP immunization of infants and toddlers. Ongoing surveillance includes: 1) monitoring school dismissals, 2) recording the number of cases (by clinical definition or laboratory confirmation) seen by a random sample of pediatricians in the Atlanta area, and 3) monitoring NP specimens for FA or culture positivity.

Reported by A Rauber, MD, B Bruner, MD, W Feldman, MD, A Nahmias, MD, Emory University School of Medicine; W Elsea, MD, Fulton County Health Dept; J McCroan, PhD, State Epidemiologist, D Smith, Georgia Dept of Human Resources; Analytical Bacteriology Br and Immunofluorescence Section, Bacteriology Div, Bur of Laboratories, Immunization Div, Bur of State Services, Epidemiological Laboratory Services Br and Special Pathogens Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Aggressive use of FA testing and culturing permitted confirmation of a large number of cases in this outbreak. The size of the outbreak offers an opportunity to study the efficacy of erythromycin prophylaxis in preventing pertussis in case contacts; such a study is underway. Although prophylaxis has been recommended (*2,3*), its value in preventing illness is unproven.

Although vaccine efficacy data for contacts in this outbreak are not yet available, it is clear from other studies that recent DTP immunization is protective (*4*). The ACIP recommends a series of 5 DTP immunizations beginning at 6 to 8 weeks of age and continuing through 6 years of age.

References

1. Advisory Committee on Immunization Practices: Diphtheria and tetanus toxoids and pertussis vaccine. MMWR 21 (Suppl), 1972
2. Benenson AS (ed): Control of Communicable Diseases in Man. 12th ed. Washington, D.C., American Public Health Assoc, 1975
3. American Academy of Pediatrics: Report of the Committee on Infectious Diseases. 17th ed. Evanston, Illinois, 1974
4. Lambert HJ: Epidemiology of a small pertussis outbreak in Kent County, Michigan. Public Health Rep 80:365-369, 1965

Follow-up on Legionnaires' Disease — Ohio

A total of 6 cases of Legionnaires' disease with onsets from July 29 through August 29, 1977, have been identified in Franklin County residents admitted to 2 hospitals in Columbus, Ohio. Five cases were admitted to 1 hospital, 1 case to another. One case was fatal. A fatal suspect case, previously reported (*1*), was not confirmed as a case of Legionnaires' disease.

Five cases were confirmed by a 4-fold or greater rise in indirect fluorescent antibody (FA) titer and one by demonstration of bacteria in lung sections by direct FA test. Among Franklin County residents admitted for pneumonia to 4 Columbus hospitals in July and August, the proportion with serum specimens that had indirect FA titers of 128 or greater to the Legionnaires' disease bacterium was not significantly different in the hospital with 5 cases (6/49) than in the other 3 hospitals (4/58). At some time in the 14 days before becoming ill with pneumonia, all 6 patients had been present in the hospital in which they were later treated; 4 had been inpatients and 2 had visited inpatients. One patient, who had received a renal homograft, developed pneumonia after 2 months of hospitalization. Her case was the only one seen at that hospital.

In a case-control analysis, no activity or location within the hospital with 5 cases was found to be associated with increased risk of illness. There was no evidence of person-to-person spread.

Reported by I Baird, MD, Riverside Methodist Hospital; T Halpin, MD, State Epidemiologist, Ohio State Dept of Health; Leprosy and Rickettsia Br, Viral Diseases Div, Analytic Bacteriology Br, Bacteriology Div, Bur of Laboratories, Field Services Div, Epidemiological Laboratory Services Br and Special Pathogens Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Neither a common source of infection nor the mode of spread of these cases has been identified. The similar seropositivity rates in pneumonia cases in several hospitals suggest that exposure did not occur in a single hospital. It may be that these 6 cases represent sporadic cases that happened to occur within 5 weeks in 1 county.

Reference

1. MMWR 26:300, 1977

Erratum

The column head for the first page of Table III, "Cases of Specified Notifiable Diseases: United States," in issues 34-36 of the MMWR (pages 279, 287, and 295, respectively) inadvertently indicated that data were for years 1975 and 1976, instead of 1976 and 1977. The column head, identical for all 3 issues, should appear as follows:

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post Infectious	Type B	Type A	Type Unspecified		
	1977	1977	1977	1977	CUM. 1977	1977	1976	1977	1977	1977	1977	1977	CUM. 1977

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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