



# MONTHLY MORBIDITY REPORT

## EPIDEMIOLOGY

### PUBLIC HEALTH STATISTICS

DEPARTMENT OF HEALTH AND HUMAN RESOURCES  
OFFICE OF PREVENTIVE AND PUBLIC HEALTH SERVICES  
PUBLIC HEALTH STATISTICS

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### WHOOPING COUGH (PERTUSSIS) AND THE VACCINE\*

Whooping cough remains a highly contagious, serious disease with a course of about six weeks, beginning with symptoms like those of a bad cold. As it progresses, coughing comes in spasms interspersed with a characteristic "whoop" sound - a deep, noisy inhalation of air. It may be complicated by convulsions, emphysema and other bronchial conditions, middle ear infections, pneumonia, weight loss and encephalopathy. Deaths that occur generally result from pneumonia. The disease is of greatest danger to infants. For example, of 15 deaths from whooping cough reported in the United States in 1982-83, 13 were in infants under six months.

Before a vaccine was available in the 1940's in the United States, as many as 265,000 cases and 7,000 deaths from whooping cough occurred annually. The vaccine is effective but even with its use and the availability of antibiotics for treating resultant pneumonia, some 1,000 to 3,000 cases occur in the United States each year with five to 20 deaths. Without an immunization program, it is estimated there could be a 70-fold increase in cases and a four-fold increase in deaths. If United States immunization should decline to

30-40 percent from its current 90 percent, the United States could experience 380,000 cases of whooping cough, 18,500 hospital admissions, 7,400 cases of pneumonia, 307 cases of convulsions, 184 cases of encephalopathy and 104 deaths. (These data are extrapolated from the United Kingdom epidemic of 1977-79.)

Though they pale in comparison to the disease, the vaccine does have adverse effects of its own. Local discomfort at the site of injection is most common - with local swelling in 40 percent and local pain in 50 percent of children in a study of the DTP vaccine sponsored by FDA and done at UCLA. Fever is common. Seizures also occur which are frightening but not generally damaging to the child. Other studies have shown that in rare cases, there can be encephalopathy (brain disease) or death. Since such serious problems occur spontaneously in the same age group as is given the vaccine, it is difficult to sort out what is a reaction and what is coincidental. The 1981 UCLA study examined children receiving more than 15,000 injections of the vaccine. It showed nine experienced convulsions and nine more had shock reactions or collapsed, but all 18 recovered without lingering problems. In Holland, data on adverse reactions show shock and convulsions in one in 2,700 children within three days

\* The above report is a summary of a position paper on pertussis that was released by FDA on February 13, 1985.

of the DTP-polio vaccine, but serious, permanent neurological damage in only one in 400,000. According to Professor R.J. Robinson, Department of Pediatrics, Guy's Hospital Medical School in London, "There were at least 28 deaths from whooping cough during the (1977-79) epidemic which may be compared to two deaths from neurological disease after DTP - of which one was probably unrelated to immunization -."

Although these occurrences are far below the human cost of an epidemic, they are tragic and can sometimes be avoided. Some experts suggest that parents tell physicians administering the vaccine of any family history of epilepsy or seizures, though this would not be an automatic contraindication for the vaccine's use. After the vaccination, parents should watch children for signs of problems such as convulsions, shock, persistent screaming episodes or fever over 105 degrees in the first couple of days following a DTP shot. When a serious problem occurs, parents should not only get prompt medical care but should tell the physician or clinic providing future shots about these episodes so that they can be evaluated. If immunization with DTP is contraindicated, subsequent shots can be given with DT vaccine only.

The vaccine is made from inactivated cells of the bacteria which cause pertussis. This is a whole cell vaccine. Improved vaccines have been sought for several decades, but progress has been slow. Eli Lilly produced an acellular vaccine - which was a simple extract of

the whole cell or bacterium - from 1962 to 1977, and some physicians felt it produced fewer reactions such as local inflammation. Wyeth Laboratories produced similar experimental vaccines. However, there are no strong data to indicate that either provided the long-sought advantages of effectiveness with fewer serious side effects. The Japanese currently use an acellular vaccine, and the National Institute of Allergy and Infectious Diseases is testing it in the United States.

Some studies initially suggested a link between SIDS and the vaccine, but these studies were flawed. Most experts accept the conclusions of a comprehensive, case-controlled study by NIH that found no relationship between cases of SIDS - Sudden Infant Death Syndrome - and prior whooping cough vaccination.

Except in children having previous, serious reactions, the vaccine is recommended for infants and small children as a far better bet than the disease. Pertussis has not disappeared in the way smallpox has, but resides in reservoirs in the population. It can appear in the un-immunized and can rise to epidemic levels if immunization drops significantly. Immunization is recommended by the American Academy of Pediatrics, the United States Public Health Service Advisory Committee on Immunization Practices and the World Health Organization Immunization Program. Except under special circumstances, it is required in most states before entering school or day-care programs.

## ADVISORIES FROM CDC

**REINSTATEMENT OF REGULAR DIPHTHERIA-TETANUS-PERTUSSIS VACCINE SCHEDULE:** The status of diphtheria-tetanus-pertussis (DTP) vaccine availability in the United States and interim recommendations of the United States Public Health Service Interagency Group to Monitor Vaccine Development, Production, and Usage were recently reported (1). This statement recommended postponement of administration of the DTP vaccine doses usually given at ages 18 months and 4-6 years (fourth and fifth doses) until greater supplies are available.

Since November 1984, Lederle Laboratories has been distributing its own DTP vaccine, as well as that manufactured by Wyeth Laboratories. By following the recommendation of the Interagency Group, the quantities distributed have been sufficient to reduce the threat of critical shortages. On April 25, Connaught Laboratories announced its resumption of full-scale distribution of DTP vaccine and the availability of 2.2 million doses for immediate shipment. Connaught Laboratories will continue to produce vaccine at a level that will help meet United States needs.

Projected production schedules for the manufacturers indicate that supplies of DTP vaccine should be adequate to provide the normally recommended fourth and fifth doses of DTP vaccine and to provide the needed catch-up doses for children who have had them deferred.

In view of these developments, after consultation with members of the Immunization Practices Advisory Committee and Committee on Infectious Diseases of the American Academy of Pediatrics, the Interagency Group now feels that the interim recommendations no longer apply. Immunization providers should resume administration of the complete DTP schedule and implement recall procedures for children under 6 years of age whose fourth (18 month) and fifth (4-6 years) doses were deferred. It is especially important to make every effort to provide DTP vaccine doses to such children scheduled to enter kindergarten or first grade in the fall.

### Reference

1. CDC Diphtheria-tetanus-pertussis vaccine shortage - United States MMWR 1984; 33:695-6

If you have any questions, call the Vaccine Preventable Disease Section at (504) 568-5007 in New Orleans, Louisiana.

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**FREE PROVISION OF HANSEN'S DISEASE DRUGS:** The Division of National Hansen's Disease Programs (DNHDP) will provide Hansen's disease (HD) drugs free of charge to physicians treating HD patients. These drugs will be provided through the National Hansen's Disease Center (NHDC) at the request of private physicians, state, county, city health departments or other health care agencies. Physicians or other appropriate individuals may request these drugs by contacting the NHDC at 1-800-642-2477 (toll free). Before receiving the drugs, the requestor must agree to provide a copy of the CDC Leprosy Surveillance Form for all newly diagnosed HD patients so that the data can be included in the National HD Registry maintained by the DNHDP. When the CDC Leprosy Surveillance Form is not available and the patient is not listed in the National HD Registry, the following minimum information must be provided prior to provision of drugs: name of patient; date of birth; sex; race; diagnosis; date of diagnosis; treating physician's name, address, and telephone number.

## ADVISORIES FROM CDC (continued)

**PENTAMIDINE ISETHIONATE:** On October 16, 1984, the United States Food and Drug Administration approved Pentamidine Isethionate for the treatment of Pneumocystis Carinii Pneumonia. This drug had been supplied to physicians in the United States by the Centers for Disease Control Drug Service since 1968. Pentamidine is now available through pharmaceutical wholesalers or directly from the manufacturer, Lyphomed, Inc. (2020 Ruby Street, Melrose Park, IL 60160, Telephone No. 312-345-9746). In an emergency the drug can be obtained by calling, 312-345-9746. Accordingly, the CDC Drug Service will not supply Pentamidine after November 4, 1984. Hospitals and physicians which order Pentamidine frequently have been notified by mail.

CDC will continue to serve as a resource for problems concerning the diagnosis and treatment of Pneumocystis Carinii Pneumonia.

**TRAVEL ADVISORY:** Because of recent cases of meningococcal meningitis among hikers traveling in Nepal and a prior epidemic of serogroup A meningococcal meningitis within residents of the Kathmandu valley of Nepal, the Centers for Disease Control recommends that tourists planning to hike in Nepal receive meningococcal vaccine. Although all cases of meningococcal disease to date have occurred in hikers, it is prudent for other travelers to Nepal to receive the vaccine also.

The serogroup A meningococcal vaccine has a clinical efficacy of 85%-95% for at least 1 year, with protection achieved 1-2 weeks after vaccination. Adverse reactions are limited to local erythema or soreness. Because meningococcal vaccine is inactivated, it can be administered simultaneously, if necessary, with other live or inactivated vaccines needed for foreign travel. Immunoglobulin, if needed, should not interfere with the immune response. For more information regarding the vaccine preparations or availability, contact the Epidemiology Section, Office of Preventive and Public Health Service at 568-5005.

## SELECTED REPORTABLE DISEASES (By Place of Residence)

STATE AND PARISH TOTALS  REPORTED MORBIDITY FEBRUARY, 1985	VACCINE PREVENTABLE DISEASES					ASEPTIC MENINGITIS	HEPATITIS A AND UNSPECIFIED**	HEPATITIS B	LEGIONELLOSIS	MALARIA ***	MENINGOCOCCAL INFECTIONS	SHIGELLOSIS	TUBERCULOSIS, PULMONARY	TYPHOID FEVER	OTHER SALMONELLOSIS	UNDERNUTRITION SEVERE	GONORRHEA	SYPHILIS, PRIMARY AND SECONDARY	RABIES IN ANIMALS (PARISH TOTALS CUMULATIVE, 1985 )
	MEASLES	RUBELLA*	MUMPS	PERTUSSIS	TETANUS														
TOTAL TO DATE 1984	0	0	0	1	0	6	54	55	0	0	15	11	39	1	18	2	4453	227	0
TOTAL TO DATE 1985	0	0	0	0	0	7	17	18	0	0	4	4	51	0	13	0	4106	189	3
TOTAL THIS MONTH	0	0	0	0	0	4	9	11	0	0	3	3	17	0	10	0	1711	79	0
ACADIA																	10		
ALLEN							1												
ASCENSION																	1		
ASSUMPTION														1			4		
AVOYELLES																	1		
BEAUREGARD																	1		2
BIENVILLE																	2		
BOSSIER							1	1									49	2	
CADDO													3				175	6	
CALCASIEU																	53	6	
CALDWELL																	3		
CAMERON																	1		
CATAHOULA																	4		
CLAIBORNE																	5		
CONCORDIA																	3		
DESOTO																			
EAST BATON ROUGE								1									140	11	
EAST CARROLL													1				15		
EAST FELICIANA																	2	1	
EVANGELINE																	3		1
FRANKLIN																	2		
GRANT																	1		
IBERIA																	11		
IBERVILLE																	3		
JACKSON								1											
JEFFERSON													3		1		122	5	
JEFFERSON DAVIS								2									7		
LAFAYETTE								3							1		102	4	
LAFOURCHE										1	2	1					14	1	
LASALLE																			
LINCOLN																	13	1	
LIVINGSTON																			
MADISON																	1		
MOREHOUSE																	27	1	
NATCHITOCHE																	7		
ORLEANS						1	1	1					1		2		600	25	
OUACHITA													2				64	4	
PLAQUEMINES																	2		
POINTE COUPEE							1										1		
RAPIDES																	73		
RED RIVER																	1		
RICHLAND																	6		
SABINE																	1		
ST. BERNARD								1									4		
ST. CHARLES											1						3		
ST. HELENA																	3		
ST. JAMES																	1		
ST. JOHN																	1	1	
ST. LANDRY							1					1					31	4	
ST. MARTIN																	4		
ST. MARY						1						1		1			14		
ST. TAMMANY																	13		
TANGIPAHOA										1		1					10	2	
TENSAS																			
TERREBONNE						2							1		3		34	1	
UNION																	8		
VERMILION							2								1		1		
VERNON																	4	1	
WASHINGTON							2	1					1				19	1	
WEBSTER													1				28		
WEST BATON ROUGE																	1	1	
WEST CARROLL														1				1	
WEST FELICIANA																			
WINN																	1		
OUT OF STATE																	1		

\* Includes Rubella, Congenital Syndrome.

\*\* Includes 3 cases of Hepatitis Non A and Non B.

\*\*\* Acquired outside United States unless otherwise stated.

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