

Louisiana



Reported Morbidity  
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## MONTHLY MORBIDITY REPORT

Provisional Statistics

from

EPIDEMIOLOGY UNIT AND PUBLIC HEALTH STATISTICS

### Hepatitis Outbreak - Avoyelles Parish, Louisiana

#### INTRODUCTION:

Non-B hepatitis continues to be an important communicable disease in Louisiana. There were 748 cases reported in 1978 and 714 in 1977. Because of underreporting this is probably a gross underestimation of the number of cases that actually occurred.

In Avoyelles Parish in August 1978, there occurred a cluster of hepatitis cases among young girls who had attended a slumber party in July. Recently, the National Hepatitis Laboratory in Phoenix, Arizona reported the results of special tests done on sera of patients associated with this outbreak. The epidemiology of the outbreak plus these test results bring out several important points about this common disease.

#### INVESTIGATION:

Nineteen clinical cases of hepatitis were uncovered during the investigation. Thirteen of the cases occurred among the eighteen children who attended the party. Three cases occurred among six adults who either attended the party or had close contact with the index case near the time of the party. The index case was the mother of one of the children at whose house the party was given. She had mild prodromal symptoms the night of the slumber party. The secondary cases occurred 18 to 35 days after the party (Figure 1). The cases ranged in age from 3 to 46 but were predominately in young girls between the ages of 8 and 12 for whom the party was given. Seven of the eight asymptomatic individuals with close

#### BULLETINS

##### INFLUENZA 1978-79

Twenty-two viral isolates of Influenza A H<sub>1</sub>N<sub>1</sub> have been identified in Louisiana this year. Four have been confirmed by the Center for Disease Control. Three of the isolates are A/Brazil/78 and 1 is A/Lackland Air Force Base/78. The majority of cases this year in the United States have been A/Brazil/78 which shows minor degrees of antigenic drift from last year's A/USSR/77. Early reports appear to show that this year's vaccine was effective against the new Brazil strain. Most cases have been in individuals under 25 years of age and at present

there is no evidence of excess deaths due to pneumonia and influenza for the country. Activity has been reported from 36 states as of early February.

In Louisiana, reports of influenza activity began appearing just before Christmas. We have now received reports of activity from all areas of the state. A few parishes in the center of the state were particularly hard hit with schools being forced to close in some areas because of absentee rates approaching 50%.

##### RED MEASLES

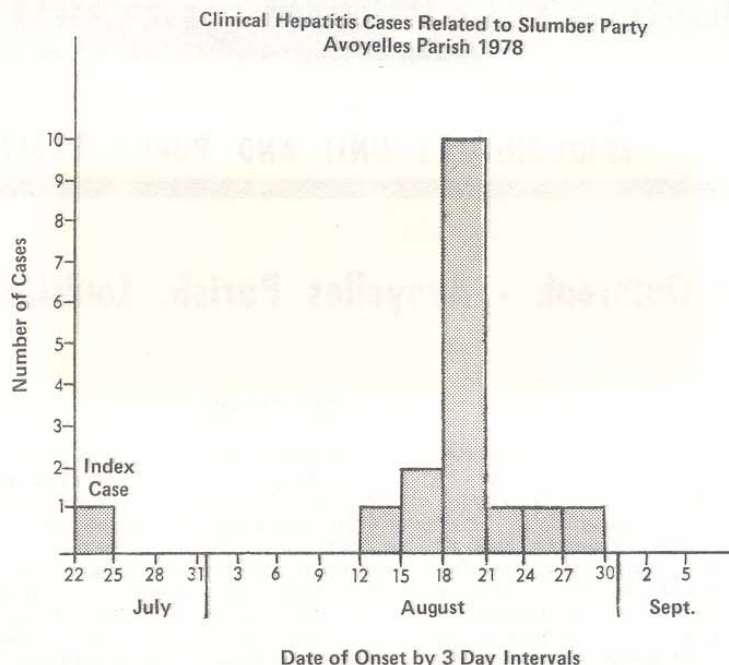
Measles continues to be a major problem in Louisiana this year. There was an outbreak in Lake Charles in November '78 and a major outbreak involving over 100 cases is currently in progress in Ouachita Parish with scattered reports of cases in contiguous parishes. Several cases of measles have also been reported from Rapides Parish.

Although several parish school systems have complied with the directive to have all children up

to age 15 with records of completed vaccinations, it has been quite clear from our outbreak investigations that compliance has been incomplete and delayed in many areas.

Since measles is such a highly contagious disease, we feel that all unvaccinated children in Louisiana are at risk of contracting it. We are therefore urging all parish school systems to comply with the immunization directive as soon as possible.

FIGURE 1



contact with the index case at or near the time of the slumber party had blood drawn for an SGOT (liver function test). One nine year old girl among this group was found to have an SGOT greater than ten times the normal value and was totally asymptomatic. The other SGOT values were within normal limits.

The index case had several parties within one week of the onset of her prodromal symptoms. The first was an office supper on July 24th which was attended by 20 men. Two of these men came down with hepatitis 26 and 33 days after the party. The slumber party which was implicated in the majority of cases was attended by 18 children and held July 25th-26th. A second slumber party attended by seven girls was held on August 1st-2nd. One of the hepatitis cases attended both slumber parties but no one else attending the second slumber party became ill. A large banquet was held on August 3rd. There were no reported illnesses following this dinner. The index case participated to varying degrees with the preparation of food at all four of these parties.

Since the first slumber party was associated with the vast majority of cases, our investigative efforts were focused on the participants and activities at that party. The party began about 1 P.M. with swimming and a snack of cake and Kool-Aid. This was followed about 5 P.M. by an outdoor barbecue where hamburgers, hot dogs, chili, potato chips, watermelon, ice cream, cake, coke, and Kool-Aid were served. Candy and soft drinks were consumed about 8 P.M. The children slept in sleeping bags in a large room. The next morning they had orange juice, milk, and biscuits for breakfast. The children went to their own homes after breakfast. The index case was present for the entire length of time the children were at the party and helped cook and serve the food. A food and beverage questionnaire was administered to everyone

who attended the party including those who were not ill. A statistical analysis of the data failed to implicate a specific food item and swimming and drinking tap water also could not be implicated.

The symptoms and signs present in the clinical cases are listed below:

SYMPTOMS AND SIGNS	PERCENT OF CASES
Loss of Appetite	77%
Fatigue	71%
Fever	71%
Abdominal Pain	59%
Vomiting	59%
Dark Urine	59%
Nausea	53%
Jaundice/Scleral Icterus	35%
Myalgias	24%
Headache	12%

The majority of patients presented with non-specific constitutional symptoms (fatigue and loss of appetite), over half of the patients had GI symptoms (nausea, vomiting, and abdominal pain), and only 35% of cases had jaundice or scleral icterus. There was one major complication in the husband of the index case who developed renal failure and required dialysis for a short period of time.

All cases were tested for Hepatitis B and were found to be negative. Hepatitis A antibody studies were done on sera submitted from all those attending the slumber party. The tests were done by the National Hepatitis Laboratory in Phoenix, Arizona and are



not available on a routine basis. Only one of the clinical cases had a negative Hepatitis A antibody test but this blood was drawn only two days into the illness which was perhaps too early for antibodies to be detected. Six of eight well individuals who had close contact with the index case at or near the time of the slumber party were also tested. Two of these six had Hepatitis A antibody present indicating that they had had an exposure to hepatitis at some undetermined time in the past. To test whether this exposure was recent or in the distant past, IgM antibodies were done on these two cases. These specific antibodies appear early and disappear in one-two months after infection, while IgG antibodies persist for longer periods of time. Both cases had positive IgM antibodies indicating recent infection despite the fact their liver function tests were normal and clinically they had no symptoms or signs of disease.

The information obtained from laboratory testing is summarized below:

	TOTAL
1. Total at slumber party - 18 children, 6 adults	= 24
2. Number with hepatitis symptoms - 13 children, 3 adults	= 16
3. Total well individuals at party	= 8
4. Well individuals with evidence of recent hepatitis infection	= 3
A) Abnormal SGOT and (+) Hepatitis A Antibody	= 1
B) Normal SGOT and (+) Hepatitis A Antibody	= 2
5. Total number with evidence of recent hepatitis infection	= 19
6. Attack Rate - (infected/exposed) = 19/24	= 79%

Personal visits to each household and continued surveillance revealed no secondary cases among family members who had not attended the slumber party. Most family members were given gamma globulin by their private physicians after a case was discovered in the family and all those who had attended the party were also given gamma globulin after the first few cases were discovered. The children were generally kept at home and out of school until their liver profile had shown considerable improvement. All patients have now recovered and there have been no additional cases related to this outbreak.

#### ANALYSIS:

This outbreak illustrates several important points about hepatitis:

- (1) The incubation period of hepatitis A is 15-45 days. As can be seen from the epidemic curve, most of the cases in this outbreak occurred in the appropriate time interval (3-4 weeks after the implicated party.)
- (2) The time of greatest communicability is generally during the late incubation and early prodromal period and viral excretion falls off rapidly with the onset of jaundice. In this outbreak, transmission presumably

occurred within 24 hours of onset of prodromal symptoms in the index case. Also, as occurred in this case, although there may be several occasions to transmit the disease during the period of communicability, there usually seems to be one particular episode where the most transmission occurs.

- (3) Hepatitis A infection can be asymptomatic, especially in pre-school populations. There is good documentation of Hepatitis A spread in day-care centers with few or no children expressing clinical symptoms. This phenomenon was first discovered a few years ago when it was noted that many clinical hepatitis cases were occurring in families of day-care center children.
- (4) When gamma globulin is administered before or within 1-2 weeks after exposure to hepatitis A, it prevents illness in 80-90% of those exposed. Since the incubation period of the disease is usually greater than two weeks and an outbreak situation is usually recognized only after three or four weeks, gamma globulin administration to those originally exposed to hepatitis can be expected to do little to prevent or ameliorate incubating disease. In this outbreak, although all children attending the slumber party received gamma globulin after an outbreak situation was recognized, it probably did little to alter the disease that subsequently developed since more than 2 weeks had transpired since contact with the index case. Gamma globulin for close household contacts is warranted, however, and may have prevented tertiary cases in the Avoyelles outbreak. Routine gamma globulin for school, office, factory, or hospital contacts is not indicated.
- (5) Although no food or beverage could be implicated statistically, the epidemic curve clearly indicates a common source exposure at a particular point in time. The failure of one item to be implicated probably resulted from the high attack rate and an insufficient number of adequate controls who attended the party and had no evidence of infection.
- (6) Although there are no firm guidelines on treatment of acute hepatitis, strict bedrest or enforced confinement to home probably is not helpful in treating the disease and may be very difficult to accomplish in a young child who is relatively asymptomatic.
- (7) The excretion of virus drops markedly with the appearance of jaundice, and since there is no known carrier state for Hepatitis A, patients in all likelihood are minimally infectious one to two weeks after the appearance of jaundice. Case management should be individualized but if a patient's symptoms have resolved and his liver function tests are clearly returning to normal, there is no public health reason for prolonged confinement at home. Hospitalization should be reserved only for those with severe symptoms who cannot be taken care of adequately at home.

## CHANGE IN SELECTED DISEASES REPORTED IN LOUISIANA MONTHLY MORBIDITY

Since there have been no reported diphtheria cases in Louisiana since 1972 and because encephalitis and post-infectious encephalitis do not denote specific disease entities, they will be dropped from our Monthly Morbidity Report. They will still be officially reportable and data on reported cases will be available to all interested parties, but they will not be listed on our monthly reports. To take their places, Legionnaires' Disease, mumps, and imported malaria cases will be listed.

Measles, mumps, rubella, pertussis, and tetanus will continue to be listed separately but will be grouped together under the title of Vaccine Preventable Diseases. We hope to emphasize the fact that these are preventable diseases and are potentially capable of eradication. Rabies in animals will be separated from the rest of the table and the listing by parishes will be total cumulative animal rabies to date for the year rather than individual listings by month. We think this will give physicians a better idea of the presence of rabies in their area and help in the management of their cases of animal bites.

The Selected Reportable Diseases in each month's issue of the Louisiana Monthly Morbidity is designed for the benefit of our readers. The small changes beginning with this issue have been arrived at by studying the publications of other states and examining current national and state health goals. We hope that these changes will be beneficial and we welcome your comments concerning this table or any other part of our Monthly Morbidity Report.



# **SELECTED REPORTABLE DISEASES** (By Place of Residence)

STATE AND PARISH TOTALS	VACCINE PREVENTABLE DISEASES					ASEPTIC MENINGITIS	HEPATITIS A AND UNSPECIFIED	HEPATITIS B	LEGIONNAIRES DISEASE	MALARIA**	MENINGOCOCCAL INFECTIONS	SHIGELLOSIS	TUBERCULOSIS, PULMONARY	TYPHOID FEVER	OTHER SALMONELLOSIS	UNDERNUTRITION SEVERE	GONORRHEA	SYPHILIS, PRIMARY AND SECONDARY	RABIES IN ANIMALS (PARISH TOTALS CUMULATIVE, 1979)
	MEASLES†	RUBELLA*	MUMPS	PERTUSSIS	TETANUS														
January, 1979																			
TOTAL TO DATE 1978	8	0	3	0	0	0	17	7	N.A.	2	1	5	51	0	2	1	1314	53	0
TOTAL TO DATE 1979	6	0	0	0	0	4	37	12	0	0	5	3	48	0	7	0	1994	60	0
TOTAL THIS MONTH	6	0	0	0	0	4	37	12	0	0	5	3	48	0	7	0	1994	60	0
ACADIA	1												1				16	1	
ALLEN							1										5		
ASCENSION							1						1				4		
ASSUMPTION																	8		
AVOYELLES	2																2	1	
BEAUREGARD																	1		
BIENVILLE																	3		
BOSSIER	1												1				15		
CADDO	1						1					1	3				165	3	
CALCASIEU							3						1				100		
CALDWELL													1				1		
CAMERON																			
CATAHOULA													1				1		
CLAIBORNE																	7		
CONCORDIA																	2		
DESOTO													2				6		
EAST BATON ROUGE	1											1	1		1		151	11	
EAST CARROLL																			
EAST FELICIANA																	1		
EYANGELINE							1						1				3		
FRANKLIN																	1		
GRANT																	4		
IBERIA											2		1		2		19		
IBERVILLE												1					1		
JACKSON																	1	1	
JEFFERSON							18	3			1	1	5		1		85	2	
JEFFERSON DAVIS													2				3	1	
LAFAYETTE							1	2									36	2	
LAFOURCHE						1	1										16		
LASALLE							2												
LINCOLN													1				16		
LIVINGSTON																	4	1	
MADISON																	6		
MOREHOUSE													1				18		
NATCHITOCHES													2				10		
ORLEANS							2	4					9				908	15	
OUACHITA													2				82	4	
PLAQUEMINES							1						1				4		
POINTE COUPEE																	4		
RAPIDES													3				42	7	
RED RIVER																	1		
RICHLAND													1				5	3	
SABINE													1						
ST. BERNARD													1				7	1	
ST. CHARLES													1				17		
ST. HELENA																			
ST. JAMES																	12		
ST. JOHN																	5		
ST. LANDRY								1									5		
ST. MARTIN																	6		
ST. MARY											2		1				4		
ST. TAMMANY							1	1									8		
TANGIPAHOA													1		1		18	2	
TENSAS																			
TERREBONNE						3											16		
UNION																	1		
VERMILION							1										5		
VERNON							1	1									61	1	
WASHINGTON													1				21	4	
WEBSTER							2						1		2		18		
WEST BATON ROUGE																	1		
WEST CARROLL																	11		
WEST FELICIANA																	2		
WINN																	2		
OUT OF STATE																	2		

† Recent cases in Ouachita Measles outbreak not included.  
 \* Includes Rubella, Congenital Syndrome.  
 \*\* Acquired outside United States unless otherwise stated.

From January 1 through January 31, the following cases were also reported: 1-Typhus Fever, Endemic.