Louisiana

LOUISIANA HEALTH AND HUMAN RESOURCES ADMINISTRATION
DIVISION OF HEALTH

MONTHLY MORBIDITY REPORT

Provisional Statistics

FROM THE

PUBLIC HEALTH STATISTICS SECTION

Reported Morbidity
September, 1974

Louisiana Departm
Louisiana State Lib
Baton Rouge, Louis

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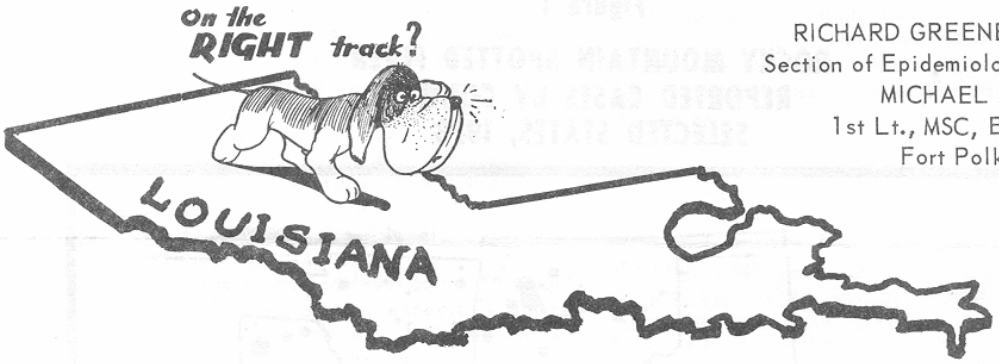
ROCKY MOUNTAIN SPOTTED FEVER, WHERE ARE YOU?



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In the last seven years, doctors in Louisiana have reported only seven cases of Rocky Mountain Spotted Fever; nevertheless, Rocky Mountain Spotted Fever is not uncommon in the region (see Figure 1 and Table 1).[1,2] Moreover, the number of reported cases of this disease in the United States since 1968 has been increasing, reaching a peak of 668 cases last year. The number of cases reported nationally in the first 34 weeks of 1974 is running 19% ahead of the 1973 figure. The increase in the number of reported cases may be due in part to improved surveillance, but it appears that there has been a real increase in the incidence of the disease in recent years.[3]

About 6% of Rocky Mountain spotted fever cases are fatal. In many of these cases, an initial diagnosis of measles, meningococcemia, or other febrile exanthem is made; and treatment is initiated with penicillin or another antibiotic, which is ineffective against rickettsial organisms. However, even with prompt diagnosis and initiation of tetracycline or chloramphenicol therapy, fatal complications may occur. The immediate cause of death commonly appears to be cerebral edema, cardiac arrhythmia, or refractory hypotension.[3]

CASE REPORT

"On May 29, 1974, an 8-year-old boy from central Louisiana, previously in excellent health developed fever, malaise, and lassitude. The following day, a rash developed on both wrists and spread to his face, trunk, and extremities. The patient was taken to a physician who made a diagnosis of varicella and initiated treatment with oral penicillin. The next day, he saw a second physician who made a diagnosis of scarlatina and continued oral penicillin therapy. On June 1, the patient was examined again, and a pinpoint exanthem and mild non-exudative pharyngitis were noted. Penicillin was continued.

Table 1

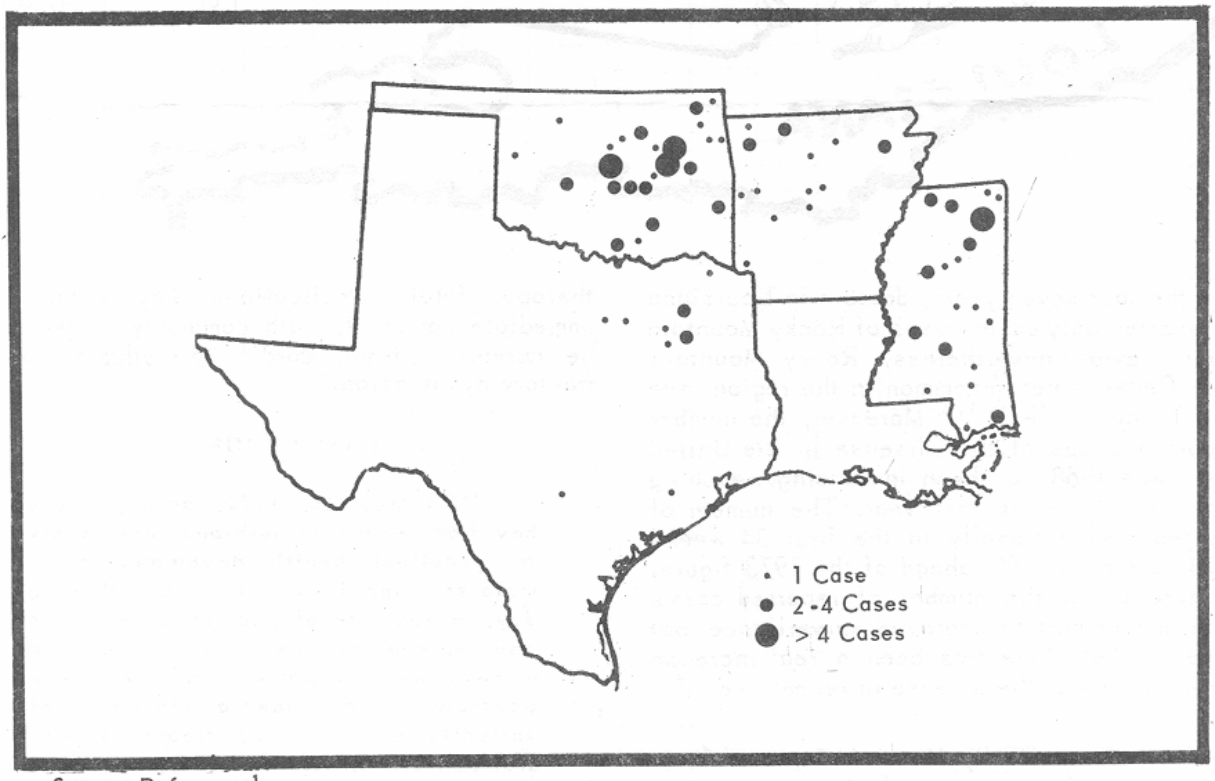
ROCKY MOUNTAIN SPOTTED FEVER REPORTED CASES FOR SELECTED STATES 1967 - 1973

STATE	TOTAL 1967-1973	YEAR						
		1967	1968	1969	1970	1971	1972	1973
ARKANSAS	81	17	6	9	8	6	15	20
LOUISIANA	7	2	2	1	1	1	–	–
MISSISSIPPI	66	1	3	3	3	7	17	32
OKLAHOMA	235	11	18	30	23	30	35	77
TEXAS	79	12	9	12	7	13	15	11

Source: Reference 2

Figure 1

ROCKY MOUNTAIN SPOTTED FEVER REPORTED CASES BY COUNTY SELECTED STATES, 1973



Source: Reference 1

On June 5, 7 days after onset, the patient had a temperature of 105°F, was lethargic, had a change in personality and was admitted to the U.S. Air Force Hospital, England Air Force Base, Louisiana. At the time of admission, he had a general petechial exanthem involving his face, neck, trunk, upper and lower extremities, and the palms the soles of his feet. Bilateral conjunctival petechia, injected throat, and systemic lymphadenopathy were present. There were no localizing neurologic signs. At this time the parents revealed that the patient had had numerous tick bites prior to onset and that a tick had been removed the day before onset. The diagnosis of Rocky Mountain spotted fever was suspected, and treatment with tetracycline was initiated 5 hours after admission. Over the next 3 days, the patient developed gastrointestinal hemorrage, cardiorespiratory arrest, aspiration pneumonia, and progressive neurologic deterioration. By June 8, respirations and reflexes were absent, and his pupils were dilated and fixed. After 24 hours of maintenance by a respirator, the patient was pronounced dead. A single acute serum specimen was later reported to have a febrile agglutination titer of 1:640 to proteus OX19, 1:320 to proteus OX2, and a complement-fixation titer of 1:8 to Rocky Mountain spotted fever.[3]

Rocky Mountain spotted fever occurs throughout most of the United States, especially during the spring and summer months. It is a disease transmitted to man via ticks and maintains a reservoir in various rodents and other woodland animals. Infected ticks will remain infective for life (approximately as long as 18 months).

The infectious agent is the *Rickettsia rickettsii*, a bacteria, that invades man ordinarily by a bite of an infected tick, but can also contaminate man through feces of tick on the skin or through a tick's crushed tissues still attached to man. Hence crushing infected ticks is dangerous. Ticks need to be attached for several hours before transmitting infection; a degree of prevention can be accomplished by removing ticks promptly.

The principal vector in the United States is the dog tick, *Dermacentor variabilis*. The tick, as the name implies, is found mainly on dogs. The tick is present in Louisiana and can be a possible vector, especially to animal handlers.

In Louisiana the most common of the known vectors is the Lone Star tick, *Anbylomma ammericanum*. Its hosts include a wide variety of wild and domestic animals as well as some species of birds. Moreover, in our state there are 3 other less common species of ticks available as vectors: *Rhipicephalus sanguineus* (Brown dog tick), *Amblyomma cajennense* (Cayenne tick), and *Haemaphysalis leporispalustris* (Rabbit tick). The brown dog tick is found in limited numbers in Louisiana and is mostly seen on dogs. The Cayenne tick is more commonly reported in Mexico, Panama, Brazil, and Columbia. It is of only little importance here due to its presence in low numbers. The Rabbit tick is very common in Louisiana; however, it rarely bites man and feeds primarily on rabbits. Nevertheless, it does serve as a reservoir and helps to maintain disease in the local rabbit population.

The incubation time before onset of illness is three to ten days. The onset is sudden and presents with fever, joint pains, bone pains, photophobia, dry cough, headache, chills, and/or conjunctival infection. A maculopapular rash on the extremities (including the palms and the soles) appears shortly after the onset. The rash, if the disease continues untreated, will eventually become petechial and possibly hemorrhagic. It is during the second week of fever that CNS, circulatory, gangrene, and pulmonary problems are seen in untreated patients. Full recovery in the untreated patient may take months. Hence, the symptom complex of fever - rash - headaches or generalized aches should suggest a search for ticks or tick bite history from the patient. Susceptibility is the rule, unless the patient has had a previous bout of Rocky Mountain spotted fever; one attack probably confers immunity.

Histopathologically, the disease involves inflammation of vessels. The organism typically is recovered from endothelial cells; and in those areas that it infects, thrombi are formed. Significant thrombi will lead to platelet aggregation, focal necrosis, and hemorrhage. The major organ systems involved are the skin, CNS, and subcutaneous tissues; periodically heart, lungs, liver, and spleen will show signs of inflammation. At autopsy gross findings are minimal except for the rash.

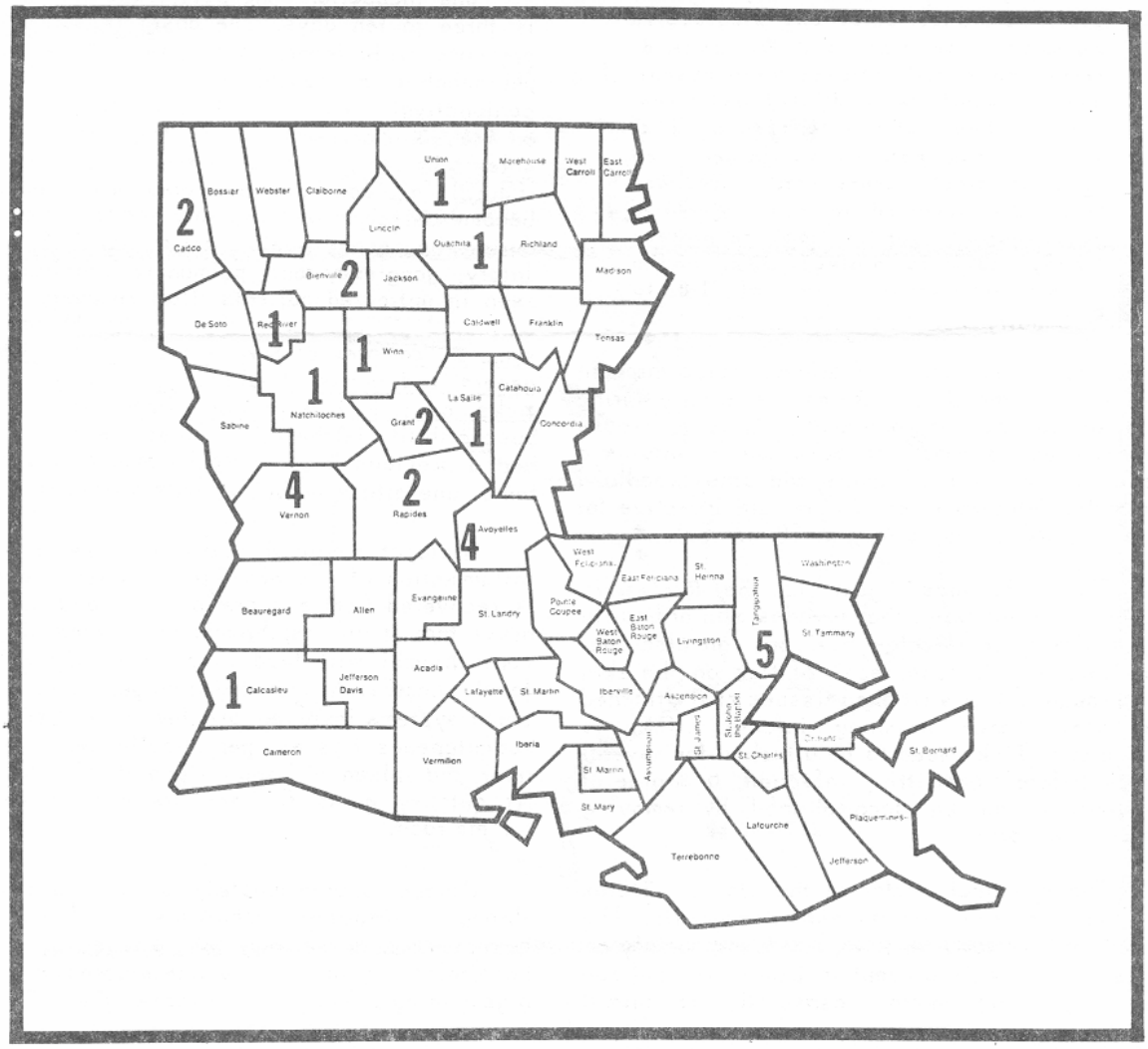
Diagnosis, unfortunately, is rarely discovered through culturing techniques. Isolation is hazardous and not routinely available in most hospitals; it involves isolation studies in guinea pigs or in egg embryo and exposes the technician

to great risk. Diagnosis therefore should be made on historical and clinical evidence and confirmatory seriological tests should be planned.

The usefulness of the Weil-Felix agglutination test to proteus strains OX-19 and OX-2 is limited. The test is frequently available locally and does allow for screening of rickettsial infection (rising sera titers, i.e. usually to 1/160 or higher by the second week of illness, can be seen in Rocky Mountain spotted fever, murine typhus, and epidemic typhus). However, the test must be interpreted as non-diagnostic; moreover, 15% of cases of Rocky Mountain spotted fever may not show rising titers to OX-19 or OX-2. If the test is positive or if clinical suspicion is present, both acute (as soon as possible once illness is recognized) and convalescent (2 or 3 weeks after onset of illness) sera should be forwarded to the state laboratory for complement fixation seriological testing. The complement fixation test is specific for Rocky Mountain spotted fever, murine typhus, and rickettsial pox. A four-fold rising CF titer to one of these antigens confirms the specific infection.

Figure 2

ROCKY MOUNTAIN SPOTTED FEVER REPORTED CASES BY PARISH LOUISIANA, 1931 - 1950



Differential diagnosis should include consideration of measles, murine typhus, meningococcemia, typhoid fever, rickettsial pox and viral diseases with a rash (most commonly shown to be ECHO or Coxsackie virus). A rash beginning on the wrist and ankles is most characteristic of Rocky Mountain spotted fever.

Treatment, as soon as the disease is suspected, should be initiated with hospitalization and antibiotics. The drugs of choice are tetracycline 25 mg./Kg/day in 4 divided doses or chloramphenicol 50 mg./Kg/day in 4 divided doses. Medication can be administered orally. If patient is too sick for oral medication, then parenteral administration will be sufficient. The need for IV fluids in sick patient should be evaluated. Steroid use is controversial and if used should be given only in the severest of cases and for a short duration. Treatment should be continued until patient is afebrile (usually 3 days) and for 1 or 2 additional days. The most successful treatment should only be expected in those cases having an early diagnosis as suggested by the case report. Early diagnosis is essential.

Rocky Mountain spotted fever vaccine is available, but recommended only for laboratory personnel working directly with the organism and people whose work constantly exposes them to risk when endemic conditions are present. The vaccine usually does not prevent the disease, but does reduce its severity. Boosters are recommended at yearly intervals.

Preventive measures include the removal of ticks from people or pets promptly and carefully, without crushing, protecting ones hands from direct exposure (i.e. tweezers or folded paper are suggested). Methods designed to reduce tick populations are generally impractical. In selected land areas, at selected times such as during an epidemic, pesticides are available to aid in control of some vectors. Use of clothing impregnated with tick repellent provides significant protection to those who must travel through infected areas. As the disease is transmitted only by a vector, quarantine is not necessary. Nevertheless all ticks found on a diseased patient should be destroyed.[4]

An interesting map (see Figure 2) was rediscovered in our files while researching for this article. It is presented as evidence that Rocky Mountain spotted fever is not new to Louisiana and further supports the need to consider the disease in the differential diagnosis of a febrile illness.

REFERENCES

1. *Reported Morbidity and Mortality in the United States, 1973: Morbidity and Mortality*, for year ending Dec. 29, 1973, Vol. 22, No. 53, Center for Disease Control, Public Health Service, U.S. DHEW, July 14, 1973

2. *Morbidity and Mortality Weekly Report, Annual Supplements, Summaries for 1967-1972*, Vols. 16-21, Center for Disease Control, Public Health Service, U.S. DHEW

3. *Morbidity and Mortality Weekly Report*, for week ending Aug. 31, 1974, Vol. 23, No. 35, Center for Disease Control, Public Health Service, U.S. DHEW, Sept. 6, 1974, pp. 301-302

4. *Control of Communicable Disease in Man*, 11th ed., A.S. Benenson, ed., Washington, D.C.: American Public Health Association, 1970, pp. 205-207

5. *Cecil-Loeb Texbook of Medicine*, 13th ed., P. Beeson and W. Mcdermott, eds., Philadelphia: Saunders Co., 1971

THE HEPATITIS SURVEILLANCE PROJECT INTRODUCTORY FACTS

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Field Epidemiologist

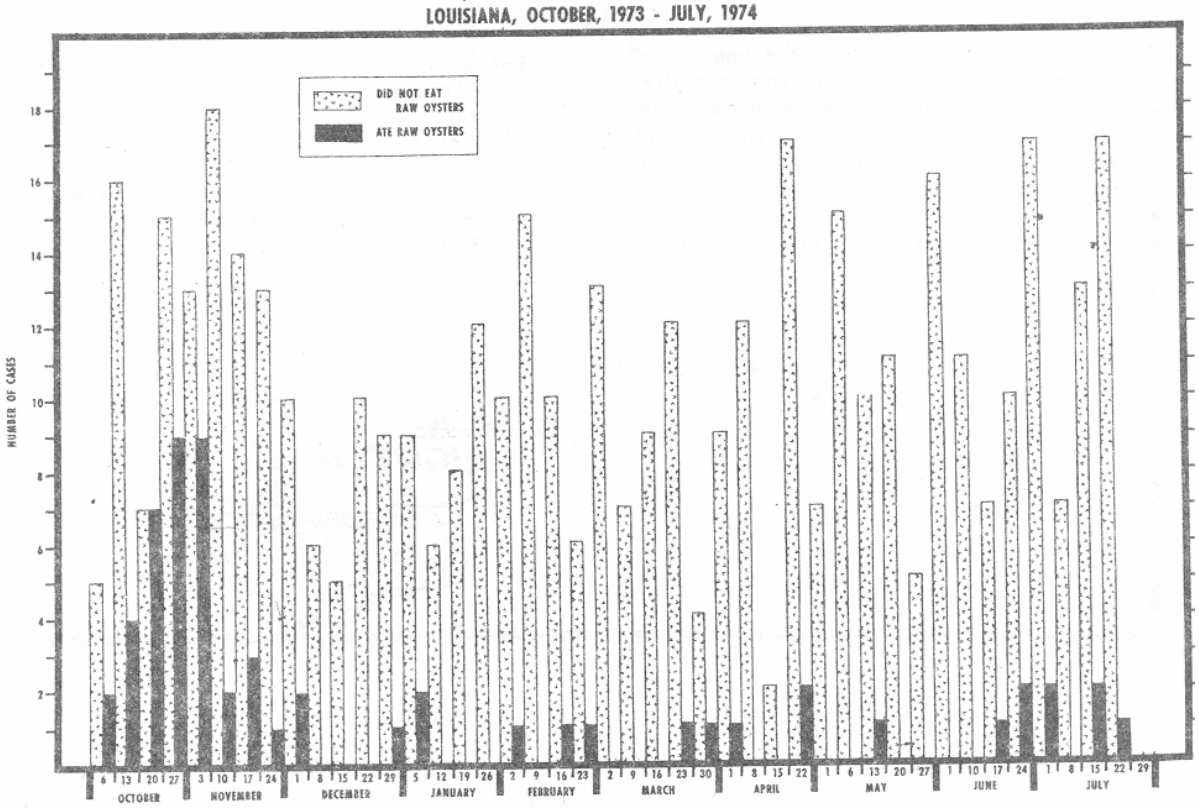
Two outbreaks of hepatitis A in Texas and Georgia in October and November of 1973, involving approximately 300 cases, were traced to the consumption of raw oysters from a common growing area in Louisiana (Louisiana Monthly Morbidity, November, 1973). Because a satisfactory explanation as to the source of contamination of the oysters was not found, the Health Department has undertaken a special surveillance study to better define the incidence of oyster associated hepatitis in the state. The study, as designed, could provide valuable clues as to a source of contamination of oysters if a similar outbreak of hepatitis were to occur.

During October and November of 1973, cases of hepatitis A and unspecified viral hepatitis in Louisiana gave histories of raw oyster consumption within two months prior to onset of symptoms at a rate of 33.8% and 20.8%, respectively. Since that time, the number of cases of oyster associated hepatitis has dropped considerably, the range of percentages of oyster associated cases being from a low of 2.0% in May of 1974 to a high of 8.4% in July of 1974, with the average for the entire period from January to July of 1974 being 5.7% (see Figure 1). This low figure probably is more a reflection of the percentage of the population that consumes oysters rather than of an actual causal relationship between oyster consumption and infection with the hepatitis virus; however, surveillance is continuing to accrue more data.

Physicians are urged to report all cases of viral hepatitis (A, B, and Unspecified) to their respective Parish Health Units, who will then take histories and complete the appropriate forms necessary to the study. Although the study is especially concerned with oyster associated cases, it is extremely important that all cases of hepatitis (A, B, and Unspecified) be reported regardless of oyster consumption so that the oyster associated cases can be put in their proper perspective in relation to the entire picture of hepatitis.

Figure 1

HEPATITIS A AND UNSPECIFIED VIRAL HEPATITIS
BY WEEK OF ONSET AND BY HISTORY OF RAW OYSTER CONSUMPTION
(10 - 60 DAYS PRIOR TO ONSET)
LOUISIANA, OCTOBER, 1973 - JULY, 1974



CRIB SAFETY

PHYLLIS PERRON, DIRECTOR
Education/Information Section
Governor's Office of Consumer Protection

"Most parents do not realize that every year, an estimated 40,000 infants are injured so seriously in crib accidents that they must be treated by a physician. Even more alarming is an estimation by the Consumer Product Safety Commission (CPSC) that 150 to 200 infants die each year in the United States in accidents involving unsafe cribs." These observations made by Charles W. Tapp, director of the Governor's Office of Consumer Protection, prompted the state agency to publish a pamphlet on "Crib Safety" and make it available to the public.

These crib deaths, due mainly to falls, suffocation, and strangulation, could be greatly reduced in number if certain safety precautions were taken, according to Tapp. The CPSC has developed a new safety regulation on cribs affecting the design, manufacture, and sale of cribs as of January 1974. These regulations are fully described in the pamphlet presently being disseminated by the Governor's Office of Consumer Protection. With the new regulation, crib manufacturers have already improved safety measures; all full sized baby cribs introduced into interstate commerce since the end of January 1974 are required to comply with safety standards specified by CPSC. Easily identifiable labels, stating that cribs meet these standards are now required to be attached to each individual crib and retail carton.

However, some cribs manufactured before the effective date may not meet the new standards but may still be on the market. The Governor's Office of Consumer Protection urges prospective crib buyers to look for the safety label even though the purchase price of these newer cribs may be from five to fifteen dollars more. The higher cost is due to the addition of safety features which are well worth a few extra dollars.

In addition to hints on buying new cribs, the pamphlet also gives methods of updating the safety features of older cribs that parents may already possess. Suggestions are given which will make parents aware of crib hazards which can be corrected. The state's consumer protection agency invites Louisiana's individual consumers, physicians, medical professional groups, and hospital staffs to order copies of this pamphlet. Small and large quantity orders are available free of charge.

Send requests to: The Governor's Office of Consumer Protection, Education/Information Section, P.O. Box 44091, Capitol Station, Baton Rouge, La., 70804, or call the toll free State Public Assistance Line, 1-800-272-9868.

SELECTED REPORTABLE DISEASES

(By Place of Residence)

STATE AND PARISH TOTALS Reported Morbidity September, 1974	ASEPTIC MENINGITIS	DIPHTHERIA	ENCEPHALITIS	ENCEPHALITIS, POST INFECTIOUS	HEPATITIS A AND UNSPECIFIED	HEPATITIS B	TUBERCULOSIS, PULMONARY	MENINGOCOCCAL INFECTIONS	PERTUSSIS	RABIES IN ANIMALS	RUBELLA*	SEVERE UNDERNUTRITION	SHIGELLOSIS	TYPHOID FEVER	OTHER SALMONELLOSIS	TETANUS	MEASLES	GONORRHEA	SYPHILIS, PRIMARY AND SECONDARY
TOTAL TO DATE 19 73	93	0	13	4	532	112	407	39	12	38	99	45	199	6	169	3	84	17393	641
TOTAL TO DATE 19 74	114	0	15	5	448	140	445	36	17	20	82	18	130	9	177	3	12	18844	477
TOTAL THIS MONTH	8	0	0	0	41	9	44	4	0	0	24	0	10	0	59	0	0	2033	50
ACADIA																		7	
ALLEN																		11	
ASCENSION					1										1			5	
ASSUMPTION								1										7	1
AVOYELLES							1											29	
BEAUREGARD																		3	
BIENVILLE																		10	
BOSSIER																		15	3
CADDO					4	1	7						5		1			154	1
CALCASIEU							2								1			90	
CALDWELL																		1	
CAMERON																			
CATAHOULA																		3	
CLAIBORNE																		11	
CONCORDIA																		4	
DESOTO							1											7	
EAST BATON ROUGE					7	1	5								5			114	1
EAST CARROLL																		7	
EAST FELICIANA																		7	
EVANGELINE																		1	1
FRANKLIN							1											7	
GRANT																		2	
IBERIA					2										37			8	
IBERVILLE							1											8	
JACKSON																			
JEFFERSON	1				4	1	1	1							4			94	3
JEFFERSON DAVIS							1											8	
LAFAYETTE							1				2							37	
LAFOURCHE					1													17	
LASALLE																			
LINCOLN					2	1	1											34	
LIVINGSTON																		14	1
MADISON					1		1											14	
MOREHOUSE					1													9	
NATCHITOCHES																		32	
ORLEANS	6				3	3	15	1					1					735	28
OUACHITA					1													70	
PLAQUEMINES															1			4	1
POINTE COUPEE																		6	
RAPIDES					2													81	1
RED RIVER																		1	
RICHLAND																		22	
SABINE																			
ST. BERNARD					2	2												2	1
ST. CHARLES																		7	1
ST. HELENA																		4	
ST. JAMES																		7	
ST. JOHN							1											10	
ST. LANDRY					1													22	
ST. MARTIN					1		1											11	
ST. MARY							1								1			4	
ST. TAMMANY					3													29	
TANGIPAHOA	1														1			51	4
TENSAS																		3	3
TERREBONNE					2		1											11	
UNION					1													5	
VERMILION							1								1			3	
VERNON					1			1			22		4		5			89	
WASHINGTON							1								1			17	
WEBSTER					1													35	
WEST BATON ROUGE																		6	
WEST CARROLL																		2	
WEST FELICIANA																		23	
WINN																		3	
OUT OF STATE																			

* Includes Rubella, Congenital Syndrome

From January 1 through September 30, the following cases were also reported: 3-Brucellosis; 1-Malaria (contracted outside the U.S.A.); 1- Rocky Mountain Spotted Fever