Louisiana Morbidity Report

Louisiana Office of Public Health - Epidemiology Section
P.O. Box 60630, New Orleans, LA 70160 (504) 568-5005

March-April 1998 **Volume 9 Number 2**

Drowning Fatalities in Louisiana

Although mortality from drowning has been declining in Louisiana over the last several years, there were 150 drowning deaths in Louisiana in 1996, which accounted for 8% of all unintentional injury deaths in the state. Unintentional injuries were the fourth leading cause of death in Louisiana that year.

The Injury Research and Prevention Section analyzed death certificates of all 150 drowning fatalities in Louisiana in 1996. Drowning deaths were distributed across all ages, from 7 months to 86 years of age. The highest rates were for adults aged 25-34 and 35-44 years (Figure 1). Males had more than six times the risk for drowning than that of females (6.1 versus 0.93 deaths per 100,000), and black males had 1.8 times the risk for drowning death than that of white males (9.0 versus 4.9 per 100,000).

In over half the deaths (79/150), the circumstances associated with the accidental drowning are unknown (Figure 2). Twenty-one percent of the deaths (44% of those with known circumstances) were boat-related. All of these victims were male. There was no statistically significant difference between the rate of white males versus black males who drowned in a boat-related accident. Ten percent of the drowning deaths (21% of those with known circumstances), were sport-related. This category includes swimming or fishing other than from a boat. All but one of these (14/15) were male. Blacks were three times as likely to die as whites in sport-related drowning deaths. Four percent of drowning deaths were in bathtubs. Adults accounted for two-thirds (4/6) of the bathtub deaths. Two of those four adult victims had convulsions listed as a contributing cause of death.

Additional information is needed to better understand the nature of drowning deaths in Louisiana. The Injury Research and Prevention Section is currently developing a drowning surveillance system using newspaper clippings as a source of information. It is hoped that from this information more effective preventive strategies can be developed.

Figure 1: Rates of drowning deaths by age group, 1996

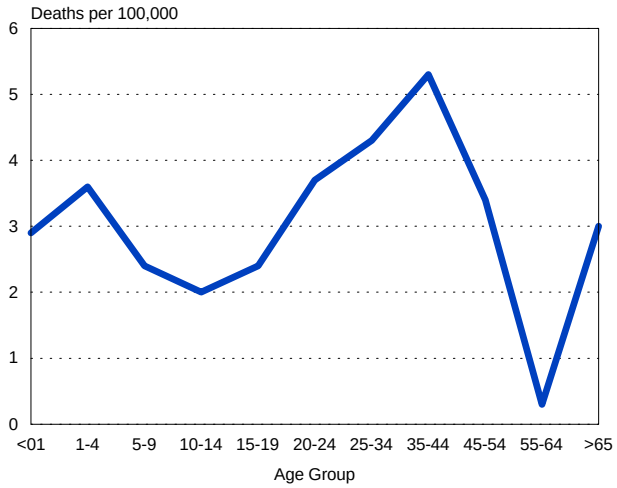
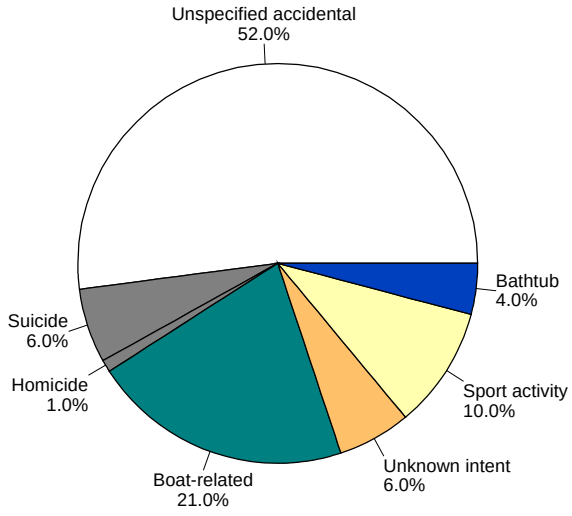


Figure 2: Circumstances of drowning deaths in Louisiana, 1996



Contents

Pulmonary Hemosiderosis Among Infants

In recent years, health officials have become aware of an association between exposure to a fungus and pulmonary hemosiderosis in infants, which can be mistaken for sudden infant death syndrome (SIDS).

During 1993 and December 1994 in Cleveland, Ohio, a cluster of 10 young infants (most under 6 months of age), were reported with pulmonary hemosiderosis. Public health officials conducted a case-control study of these 10 case-infants and 30 age-matched control infants from the same area. Nine of the 10 case-infants and 16 of the 30 control-infants lived in homes with smokers. All 10 case-infants and 7 of the 30 control-infants resided in homes where major water damage due to plumbing leaks or flooding had occurred during the previous 6 months. This finding prompted visual inspection and air sampling for the fungi in the study homes. The quantity of the fungus *Stachybotrys atra* was higher in the homes of the cases than the controls. Since the documentation of these 10 cases, 24 other infants have become diagnosed with pulmonary hemosiderosis in Cleveland. These new cases have been associated with a combination of exposure to *Stachybotrys atra*, the underdeveloped nature of infant lungs, and stressors such as secondhand cigarette smoke.

Stachybotrys atra is a fungus or mold that produces a toxin. When the toxin (carried in fungal spores) is inhaled by infants, their blood vessels weaken and bleed into the surrounding tissues. This severe bleeding can cause nosebleeds or hemoptysis. *Stachybotrys atra* grows only on wood or paper products that have been wet for several days; it does not grow on ceramic tiles, concrete products, plastic, or vinyl. The fungus is black in color; it is not the same mold that is found on shower curtains or on bread. The fungus may grow where there have been plumbing leaks, roof leaks, flooding in basements, or sewer backup. Water soaked wood, cardboard boxes, ceiling tiles, cotton items, stacked newspaper, unpainted plasterboard surfaces, and wall paneling are also potential places where the fungus may propagate. The toxin has not only caused problems in infants, but evidence shows that it has been implicated in gastrointestinal hemorrhaging in animals that have consumed moldy grain.

In Cleveland, researchers studied whether cases of pulmonary hemorrhage had been misclassified, by reviewing postmortem examinations for 172 infants who died in the Cleveland area, including 117 whose deaths were attributed to SIDS. Hemosiderin-laden macrophages, which indicate major pulmonary hemorrhage preceding death, were found in 9 of the infants. Of these, 6 infants that were presumed to have died of SIDS lived in the same postal tracts as the initial cluster, and no other apparent etiologies for pulmonary hemosiderosis were identified. This study showed that a small percentage of deaths attributed to SIDS may in fact be due to the pulmonary hemosiderosis.

To keep the homes free of fungus, homeowners should check for water leaks, areas where flooding occurred, and musty odors. If areas in a home have been wet for at least a week, they should check for mold. If the area is dry presently but was wet in the past, it is possible the dried mold was drawn up by a furnace blower and spread through the living spaces. If mold is found, the source of the water problem should be first corrected. Persons should then clean any carpets, crawl spaces, and heating ducts. Also, wet cardboard boxes should be disposed of along with wet ceiling tiles and any soaked cellulose (wood, paper, and cotton products). Lastly, persons should clean all moldy surfaces with a diluted solution of bleach. It is important to wear protective clothing (dust mask and gloves) when dealing with this mold.

Physicians that have seen clusters of pulmonary hemosiderosis cases or clusters of SIDS deaths should notify the Epidemiology Section at 504-568-5005.

Influenza 1997-98 Season

The Immunization Program annually monitors influenza virus activity to detect and confirm the presence as well as the type of influenza circulating in the state. The tracking of influenza activity throughout the state is monitored by more than 11 physicians or private practices, 16 hospitals and 20 schools all of which are participating voluntarily in the surveillance program.

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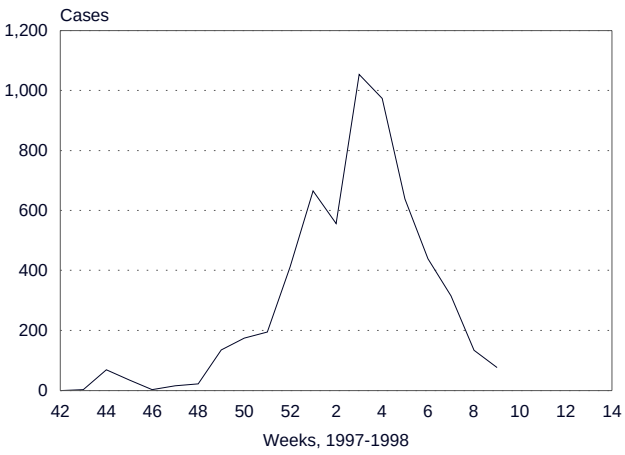
The Louisiana Morbidity Report is published bimonthly by the Epidemiology Section of the Louisiana Office of Public Health to inform physicians, nurses, and public health professionals about disease trends and patterns in Louisiana. Address correspondence to Louisiana Morbidity Report, Epidemiology Section, Louisiana Department of Health and Hospitals, P.O. Box 60630, New Orleans, LA 70160.

Influenza is not a reportable communicable disease regulated by the state Sanitary Code. Laboratory tests to confirm influenza are performed by either the Louisiana State Laboratory, or other laboratories from specimens obtained from participating physicians and hospitals.

Notably this year, the first case occurred in August. A Hispanic, 3 month old female was diagnosed and confirmed with influenza type A and was hospitalized for three days. August through October weekly surveillance did not detect any additional cases. During the week of October 20, 1997 thru March 2, 1998 the state received reports of 5,151 cases of influenza or flu-like illnesses with the peak of activity occurring in the 3rd and 4th weeks of 1998 (Figure). Laboratory tests for the same time period confirmed 215 cases of type A. There have been 116 children under 16 months of age confirmed with influenza. It is interesting to note that type B influenza virus has not been isolated in the state thus far. Nevertheless, the fact that our surveillance did not detect and isolate type B influenza, does not mean that type B was not occurring in the state during this period. Also a type A Sidney influenza which was first seen in Australia last June was identified. According to the Centers for Disease Control and Prevention 40 percent of all influenza cases studied since October were due to this strain, which is a slight variation of the strains that can be prevented with this year's vaccine. The vaccine made this year to protect against Type A Wuhan, Type A Bayern, and Type B Beijing is somewhat protective against the Sidney strain.

Overall, this influenza season has been relatively mild with only regional outbreaks occurring during its peak. No school closures due to influenza have been reported. Although influenza monitoring activities will continue through April 6th, the number of cases reported continues to steadily decline.

Figure: Cases of influenza-like illness reported by week, 1997-1998



Reminder

In the fall of 1998 a complete series of hepatitis B vaccination will be required for school and day care center registration. For additional information/assistance please call the Immunization Program at 504-483-1900.

Pulsed Field Gel Electrophoresis

Pulsed Field Gel Electrophoresis (PFGE) is one tool available to assist public health officials, infection control practitioners, laboratory personnel, and physicians, in their efforts to determine if different isolates of the same organism are the same strain. This has implications in disease surveillance and outbreak investigations. The test is not useful for managing individual patients.

PFGE is a laboratory technique that divides bacterial DNA into fragments. These fragments are embedded into a gel. An electric current is applied to the gel, causing the fragments to move across the gel. This movement leaves a pattern of bands. These bands are compared to determine the relatedness of different organisms. Ideally, the pattern of the bands among the outbreak isolates will be the same while those not related to the outbreak will be different. However, all of the bands from the outbreak organism may not be the same, for various reasons; therefore, the following guidelines are used: Isolates with more than a six band difference are considered unrelated to the outbreak organism. Isolates with a four to six band difference are considered possibly related to the outbreak organism and those with two or three band difference are usually considered subtypes of the outbreak organism.

PFGE does have some limitations-most notably time. It takes on the average 2-4 days to prepare organisms for testing. Also, it cannot always distinguish between all strains of an organism. Other typing methods may need to be used in conjunction with PFGE.

PFGE can be used to type only bacterial species. PFGE has most commonly been used to identify strains of *E. coli*, enterococci, staphylococci, *P. aeruginosa*, salmonella, streptococci, and *M. avium*.

The Central Laboratory of the Office of Public Health will start accepting isolates for PFGE on March 1, 1998. Because of the cost of this test, its use will be limited to situations such as nosocomial outbreaks, in which results will clearly assist in prevention and control measures. Persons who are interested in having this test performed should contact the Epidemiology Section at (504) 568-5005.

Tuberculosis - 1997

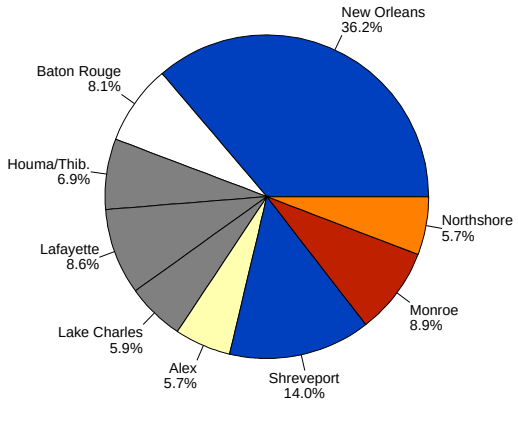
In 1997 there were 406 cases of tuberculosis reported in Louisiana, a 3.3% decrease from the 1996 total of 420. With a 1997 tuberculosis case rate of 9.3 per 100,000, Louisiana continues to exceed the national rate (8.0 / 100,000 in 1996). Although national data for 1997 are unavailable at present, the Centers for Disease Control and Prevention (CDC) ranked Louisiana 10th in the nation (according to case rate) in 1996. A comparison of cases and case rates for surrounding states is shown in the Table. In 1997, over a third (36%) of all tuberculosis cases and nearly one-half of pediatric cases (48%) were from the New Orleans region (Figure 1).

Table: Cases and rates of tuberculosis in Louisiana and surrounding states, 1997

State	# Cases	Case Rate
Arkansas	200	7.9
Texas	1992	11
Louisiana	406	9.3
Mississippi	245	9.1

Persons of color continue to experience a disproportionate impact of tuberculosis. Of the 406 cases reported in 1997, nearly 62% were found in blacks (case rate of 19.3 per 100,000) compared to 33% in whites (case rate of 4.7). The Asian/Pacific Islander population comprised 5.2% of total cases, with a case rate of 51.1 per 100,000. Males outnumber females by more than a two-to-one margin, with males accounting for 286 (70%) of the total cases. The total number of cases declined for each age group in 1997 (Figure 2) with the exception of those between the ages of 45 - 64, where an increase was observed.

Figure 1: Cases of tuberculosis by region, 1997

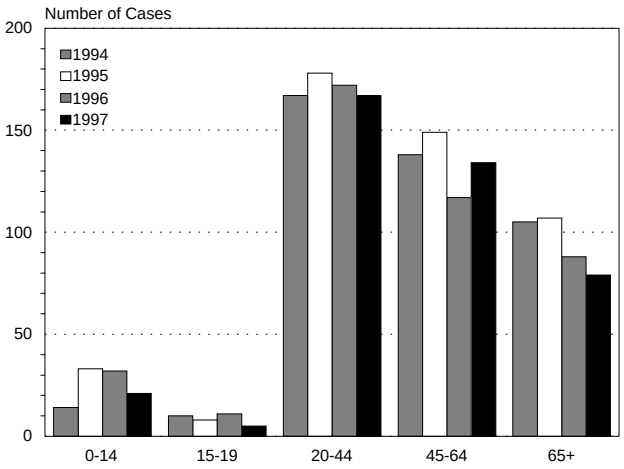


Forty persons with tuberculosis (9.8% of cases) were found to be HIV positive compared to 47 (11.2%) in 1996. The five year high of 63 persons (14.5% of tuberculosis cases) with HIV and tuberculosis occurred in 1994. In 1997, 30% (12/40) of persons with HIV and tuberculosis were found in the New Orleans region, and 23% were found in the Monroe region.

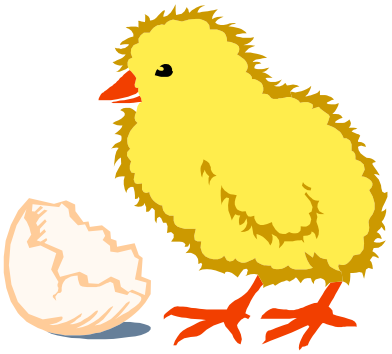
The incidence of drug-resistant tuberculosis remains fairly stable in Louisiana with an initial Isoniazid (INH) resistance rate of 4.4%. Since the rate of INH resistance exceeds 4%, initial anti-tuberculosis therapy in Louisiana should consist of a four-drug regimen (e.g., INH, Rifampin, Pyrazinamide, and Ethambutol). This recommendation is consistent with guidance from the CDC.

The CDC defines multi-drug resistant tuberculosis (MDR-TB) as tuberculosis which is resistant to at least INH and Rifampin. Although only one case of MDR-TB was identified in 1997, a total of 16 cases of tuberculosis were found to have resistance to a single drug, or resistance to a combination of anti-tuberculosis drugs other than INH and Rifampin. Interestingly, the Lafayette region had six (38%) of those cases and the New Orleans region had five (31%).

Figure 2: Cases of tuberculosis in Louisiana by age group and year, 1994-1997



Happy Easter



AIDS UPDATE
Estimated Perinatal Transmission Rates

One of the significant advances in prevention of HIV has been the discovery that treatment of HIV-infected pregnant women with zidovudine (AZT) during pregnancy and delivery combined with treatment of their infants with AZT during the neonatal period decreases the transmission of HIV infection to these infants from 26% to 8%. This makes it important for pregnant women to be counseled and tested for HIV infection, and for those who are HIV-infected to be followed closely and treated during pregnancy. The HIV/AIDS Program analyzed data from several sources to estimate how successful the state's medical care system was in identifying and treating these women, and to project how many cases of HIV infection in infants may have been prevented.

Between 1990 and 1995, the percentage of women giving birth who were HIV infected rose, particularly among African-American women, as estimated by data from the Survey of Childbearing Women (SCBW), a blinded statewide survey of HIV antibodies in women giving birth (Figure 1). However, during the same time period the number of infants who became infected with HIV dropped. The transmission rates each year were estimated using the reported cases of perinatal HIV infection in infants and estimates of the number of HIV positive women giving birth (projected from the SCBW results). These estimates show the rate of perinatal HIV transmission decreased from 1990 to 1995 (Figure 2), which is consistent with the increase in reported use of AZT by these women and children.

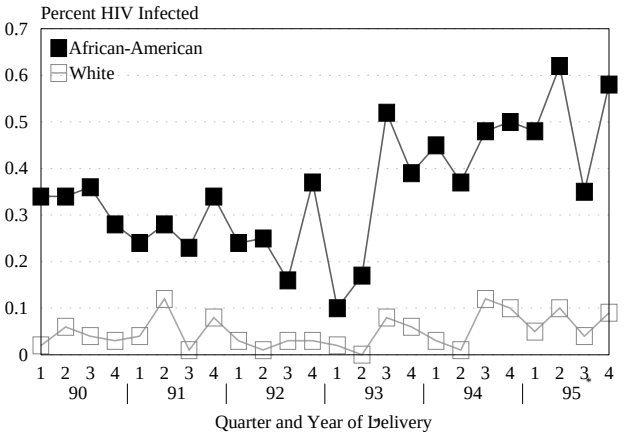
The CDC has developed a method for testing blood samples for AZT to determine whether neonates tested had received this medication in the previous 48 hours. The HIV positive blood samples from the blinded Survey of Childbearing Women were analyzed for AZT for years 1994-95. Between these two years, the percent of blood samples testing positive for AZT doubled to 71% (Table).

Based on the decreased transmission rates observed, we estimate that in 1995 HIV infection was prevented in 21 infants by AZT use. Additional cases can be prevented by ensuring that all HIV-infected pregnant women are identified and receive appropriate treatment during pregnancy, delivery, and the neonatal period.

Table: Estimated use of AZT by pregnant women and children, 1993-1996

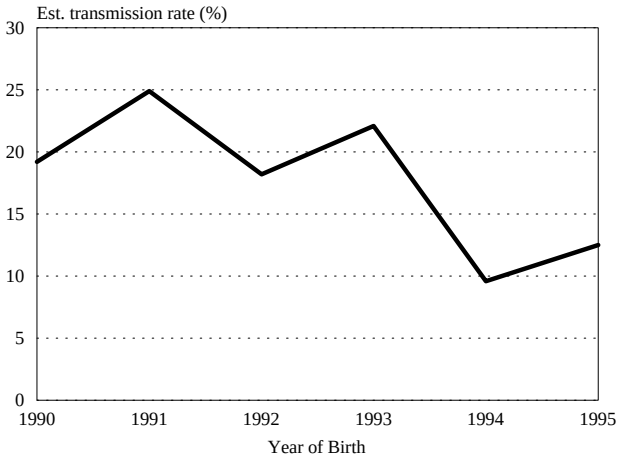
Year of Birth	% AZT use Reported to OPH During:			% Blood AZT in Blinded Survey
	Pregnancy	Labor & Del	Preg or Labor & Del	
1993	23.1%	6.6%	24.2%	n/a
1994	53.2%	31.5%	53.2%	33.3%
1995	56.1%	48.0%	60.2%	70.7%
1996	65.7%	56.6%	70.6%	n/a

Figure 1: Percent of childbearing women infected with HIV by race, 1990-1995

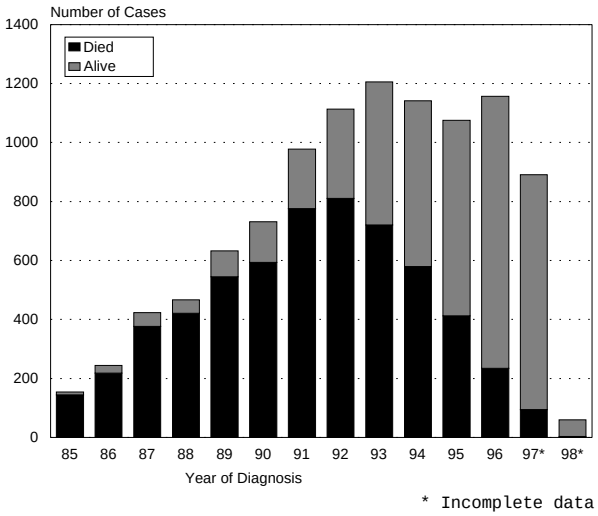


* Survey discontinued after 1995

Figure 2: Estimated rate of perinatal HIV transmission, 1990-1995



AIDS CASE TRENDS



* Incomplete data

LOUISIANA COMMUNICABLE DISEASE SURVEILLANCE
March -April,1998
PROVISIONAL DATA

Table 1. *Disease Incidence by Region and Time Period*

DISEASE	HEALTH REGION 1	2	3	4	5	6	7	8	9	TIME PERIOD Mar. Apr. 1998	Mar. Apr. 1997	Cum 1998	Cum 1997	% Chg
Vaccine-preventable														
H. influenzae	2	1	0	0	0	1	0	0	0	4	1	11	2	+450
Hepatitis B Cases	1	0	0	0	0	0	0	0	0	1	14	8	43	-81
Rate[1]	0.1	-	-	-	-	-	-	-	-	0.02	0.3	0.2	1.0	
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	–
Mumps	0	0	0	0	0	0	0	0	0	0	4	1	7	-86
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Pertussis	0	0	0	0	0	0	0	0	0	0	5	0	7	-
Sexually-transmitted														
AIDS Cases	62	31	3	5	11	5	13	2	7	139	199	289	418	-31
Rate[1]	5.7	5.6	0.8	1.0	4.2	1.9	2.6	0.6	2.0	3.2	4.6	6.7	9.7	
Gonorrhea Cases	565	243	82	183	95	57	360	105	77	1767	1383	3659	2578	+42
Rate[1]	54.4	42.8	21.8	35.5	35.4	18.7	71.1	29.9	20.0	41.9	32.8	86.7	61.1	
Syphilis(P&S) Cases	21	8	4	1	0	0	3	1	6	44	43	104	135	-23
Rate[1]	2.0	1.4	1.1	0.2	0.0	0.0	0.6	0.3	1.6	1.0	1.0	2.5	3.2	
Enteric														
Campylobacter	4	2	0	1	0	0	0	0	0	7	18	25	29	-14
Hepatitis A Cases	0	0	0	1	0	0	2	2	0	5	31	13	74	-82
Rate[1]	-	-	-	0.2	-	-	0.4	0.6	-	0.1	0.7	0.3	1.7	
Salmonella Cases	7	0	2	0	0	0	0	0	2	11	43	30	75	-60
Rate[1]	0.7	-	0.5	-	-	-	-	-	0.5	0.3	1.0	0.7	1.7	
Shigella Cases	21	1	0	1	0	0	0	0	0	23	17	43	36	+19
Rate[1]	2.0	0.2	-	0.2	-	-	-	-	-	0.5	0.4	1.0	0.8	
Vibrio cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Vibrio, other	0	0	0	0	0	0	0	0	0	0	1	1	2	-50
Other														
N. Meningitidis	0	3	0	1	0	1	2	0	0	7	11	21	27	-22
Tuberculosis Cases	31	1	6	3	7	5	7	5	4	69	35	115	49	+135
Rate[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.6	1.1	

1 = Cases per 100,000

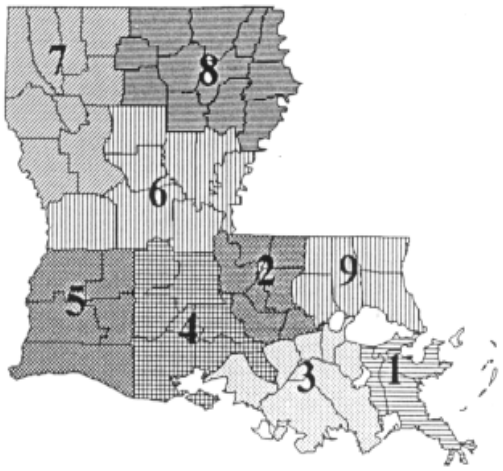
Table 2. *Diseases of Low Frequency*

Disease	Total to Date
Blastomycosis	0
E. coli 0157:H7	0
Histoplasmosis	0
Lead Toxicity	6
Varicella	59
Rocky Mountain Spotted Fever	0
Legionellosis	0
Lyme Disease	0
Malaria	3
Tetanus	0

Table 3. *Animal Rabies (March - April, 1998)*

Parish	No. Cases	Species

No positive Rabies for March - April, 1998



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Annual Summary Hepatitis C - 1996

In 1996, the number of hepatitis C cases reported to the Epidemiology section was 290, an increase of 30% from 1995 and 35% from 1994 (Figure 1). Louisiana's case rate for 1996 was more than four times the national rate (6.7 vs 1.4 per 100,000). Sex-race specific rates were higher among African-American males (12 per 100,000) and white males (7.1) when compared to African-American females (6.2) and white females (3.9). Cases of hepatitis C by age and sex continued to cluster in the 25-45 year age groups, which has been a consistent trend in previous years (Figure 2). Parishes reporting the highest case rates per 100,000 included: Tangipahoa (25), W. Carroll (17), Bossier (16) and W. Feliciana (15, Figure 3).

Comment:

The onset of hepatitis C is usually insidious. It is usually less severe in the acute stage, but chronic liver disease with fluctuating or persistently elevated liver enzymes is common, occurring after 60% of HCV infections in adults. Of those with chronic liver disease, 30-60% may develop chronic active hepatitis and 5-20% may develop cirrhosis. There also appears to be an association between HCV infection and hepatocellular carcinoma. Diagnosis currently depends on demonstration of antibody to hepatitis C virus, however tests are not yet available to distinguish acute from chronic infection or for direct detection of antigen. General control measures as with hepatitis B apply to HCV infection.

The increasing number of cases of hepatitis C likely represents an increase in testing for this sometimes asymptomatic disease rather than an increase in incidence. The difference in Louisiana and national rates may be due to increase in screening and/or reporting bias.

Figure 1: Cases of hepatitis C reported by year, 1987-1996

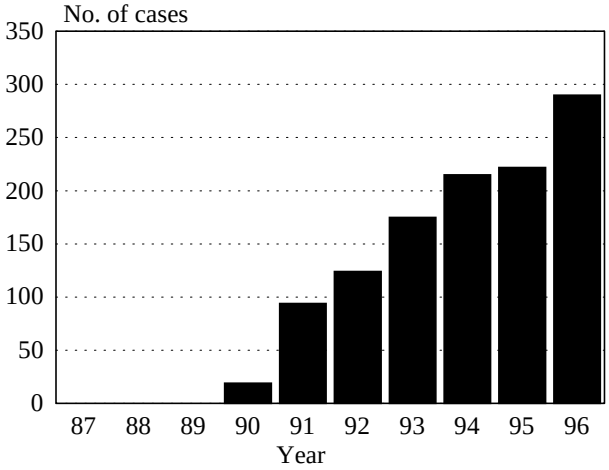


Figure 2: Cases of hepatitis C by sex and age group, 1996

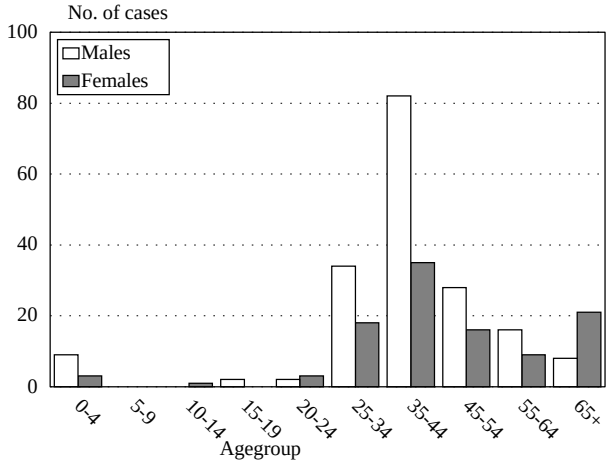
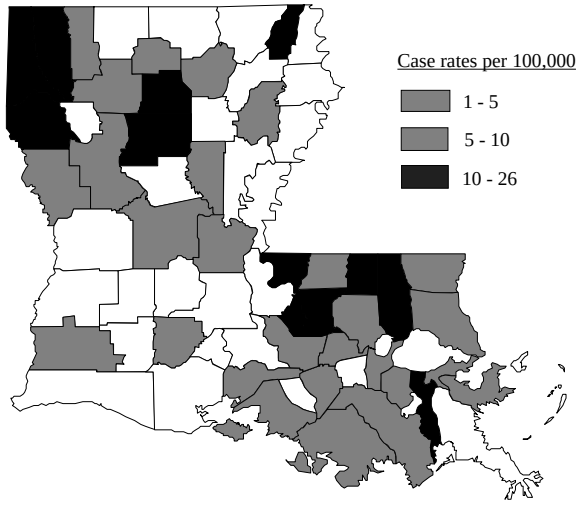


Figure 3: Rates of hepatitis C by parish, 1996



Louisiana Fact

In reviewing historical information for the "Louisiana Facts", it is interesting to pause and reflect on the part one small insect can have in the development of sanitation in New Orleans and other similar areas. In the 1918-1919 Report of the Health and Sanitary Survey of the City of New Orleans, information compiled shows that the organization of both the state and city boards of health, the installation of a drainage system, of sewage disposal and of water purification can to a degree be traced to the mosquito. The report also states "New Orleans still has mosquitoes, plenty of them , but not of a disease-carrying type. Yellow fever, which half a century ago was a principal cause of death, is now unknown, and malaria, which in 1883 had a mortality rate of 213.8, now has a death rate of but 4.0. The elimination of the disease-carrying mosquito by modern drainage water, purification and sewage disposal has been a very important factor in the reduction of New Orleans' mortality rates."

LIST OF REPORTABLE DISEASES/CONDITIONS

REPORTABLE DISEASES

Acquired Immune Deficiency Syndrome (AIDS)
Amebiasis
Arthropod-borne encephalitis (Specify type)
Blastomycosis
Botulism[1]
Campylobacteriosis
Chancroid[2]
Chlamydial infection[2]
Cholera[1]
Cryptosporidiosis
Diphtheria
Enterococcus (infection; resistant to vancomycin)
Escherichia coli 0157:H7 infection
Gonorrhea[2]
Haemophilus influenzae infection[1]
Hemolytic-Uremic Syndrome
Hepatitis, Acute (A, B, C, Other)
Hepatitis B carriage in pregnancy
Herpes (neonatal)
Human Immunodeficiency Virus (HIV) infection[3]
Legionellosis
Lyme Disease
Lymphogranuloma venereum[2]
Malaria
Measles (rubeola)[1]
Meningitis, other bacterial or fungal
Mumps
Mycobacteriosis, atypical[4]
Neisseria meningitidis infection[1]
Pertussis
Rabies (animal & man)
Rocky Mountain Spotted Fever (RMSF)
Rubella (German measles)
Rubella (congenital syndrome)
Salmonellosis
Shigellosis
Staphylococcus aureus (infection; resistant to methicillin/ oxacillin or vancomycin)
Streptococcus pneumoniae (infection; resistant to penicillin)
Syphilis[2]
Tetanus
Tuberculosis[4]
Typhoid fever
Varicella (chickenpox)
Vibrio infections (excluding cholera)[1]

OTHER REPORTABLE CONDITIONS

Cancer
Complications of abortion
Congenital hypothyroidism*
Galactosemia*
Hemophilia*
Lead Poisoning
Phenylketonuria*
Reye' Syndrome
Severe traumatic head injury**
Severe under nutrition (severe anemia, failure to thrive)
Sickle cell disease (newborns)*
Spinal cord injury**
Sudden infant death syndrome (SIDS)

[1] Report suspected cases immediately by telephone. In addition, all cases of rare or exotic communicable diseases and all outbreaks shall be reported.
[2] Report on STD-43 form. Report cases of syphilis with active lesions by telephone.
[3] Report on EPI-2430 card. Name and street address are optional but city and ZIP code must be recorded.
[4] Report on CDC 72.5 (f. 5.2431) card.

*Report to the Louisiana Genetic Diseases Program Office by telephone (504) 568-5070 or FAX (504) 568-7722.
** Report to Injury Research & Prevention Section (504-568-2509).

Numbers for reporting communicable diseases

1-800-256-2748 Local # 568-5005 FAX # 504-568-5006

This public health document was published at a total cost of . Seven thousand copies of this public document were published in this first printing at a cost of . The total cost of all printings of this document, including reprints is . This document was published by to inform physicians, hospitals, and the public of current Louisiana morbidity status under authority of R.S. 40:36. This material was printed in accordance with the standards for printing for state agencies established pursuant to R.S. 43:31. Printing of this material was purchased in accordance with the provisions of Title 43 of Louisiana Revised Statutes.

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