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LOUISIANA
MORBIDITY REPORT
EPIDEMIOLOGY

DAVID L. RAMSEY
SECRETARY
(504) 342-6711

DEPARTMENT OF HEALTH AND HOSPITALS
OFFICE OF PUBLIC HEALTH
DIVISION OF RECORDS AND STATISTICS
P.O. BOX 60630
NEW ORLEANS, LOUISIANA 70160

SURVEILLANCE OF SEVERE PEDIATRIC (sspun) UPDATE

Nydia Peebles, LDN,RD, Nutrition Section

During the past two decades there has been considerable public debate about the association of hunger, malnutrition, low birth weight and infant death rates to poverty in the United States. The occurrence of severe undernutrition and its effect on morbidity, growth and development is an important public health issue to which Louisiana has shown dedicated interest.

Undernutrition results from an inadequate intake of calories and/or protein due to a deficient food supply or to diseases which interfere with the assimilation of ingested food or in which there is an increased nutrient requirement. The clinical picture of undernutrition can range from one of mild, moderate or severe growth failure to the conditions of marasmus and kwashiorkor. The term "failure-to-thrive" (FTT) is usually used to describe an infant or child who exhibits inadequate growth secondary to organic or non-organic (psychosocial) causes. FTT is characterized by failure to grow or gain weight at the expected rate for age.

SEVERE UNDERNUTRITION AND FAILURE-TO-THRIVE have been State reportable conditions since 1970. In 1973 Louisiana established an ongoing pediatric nutrition surveillance system through which impoverished children with growth problems and/or anemia were identified and treated. Presently, surveillance activities include mandatory reporting by individual physicians and other health care providers, public health clinic screenings and death certificate monitoring.

In 1987 Louisiana was selected by the Centers for Disease Control (CDC) to participate in a newly initiated four state (FL, LA, MA and MS) three-year demonstration project to determine prevalences, etiologies and associated risk

factors for severe pediatric undernutrition (SPUN). To assure appropriate SPUN case identification and intervention, a major revision of the State's system for reporting, referring, and evaluating undernourished children has been implemented. The following guidelines for mandatory reporting of severe pediatric undernutrition in Louisiana are defined below.

SPUN is defined as (1) weight-for-height less than the 5th percentile, or (2) height for age less than the 5th percentile unexplained by genetic or endocrine status, or (3) absolute weight loss of 10% or more within a six month period, or (4) hematocrit less than 25% or hemoglobin less than 8 gm/dl (in the absence of hemoglobinopathy or acute blood loss), or kwashiorkor or some other proven vitamin or trace element deficiency.

Although the present study focuses on children 5 months through 6 years of age who reside in the parishes surrounding New Orleans and Houma: Assumption, Jefferson, Lafourche, Orleans, St. Bernard, St. Charles, St. James, St. John, St. Mary (Morgan City), St. Tammany and Terrebonne, **cases** found in other geographic areas **must** also be continuously reported.

The Louisiana system for reporting children who meet the **SPUN** case definition utilizes the green **Confidential Case Cards** used by the State for a variety of reportable diseases. The reported data are entered into a **Central Registry** database that includes information from the entire child health population serviced by the Office of Public Health (OPH) clinics as well as information received from private-care physicians and community agencies. All reported cases are followed by OPH nutritionists and nurses throughout the State and by the New Orleans City Health Department professional staff.

From September, 1988 through March, 1989 over 900 green Confidential Case Report cards have been returned to the State OPH Agency. Of these 900 reports, approximately 700 met the State **SPUN** guidelines and are being followed by nutritionists and nurses throughout the state.

For the CDC demonstration project, hospital-based **SPUN** assessment procedures have been established in two catchment areas which encompass urban and rural high-risk target populations. These catchment sites are Charity Hospital at New Orleans (CHNO) and South Louisiana Medical Center (SLMC) in Houma. To conduct the hospital in-patient surveillance, the Office of Public Health (OPH) engaged the services of the Louisiana State University Medical Center, Department of Pediatrics to render professional and technical services. Robert Suskind, M.D., Department Chairman and Professor serves as contractual project Medical Consultant and Anthony Mawson, Dr.P.H., Assistant Professor/Epidemiologist serves as project Data Coordinator. Dr. Mawson maintains the liaison between the two catchment area hospitals by collecting data at CHNO and supervising data collection performed by Elizabeth Watkins, RN at SLMC. Jean Takenaka, M.D. serves as the OPH Medical Consultant who monitors all **SPUN** activities.

Pediatric hospital admission records are assessed for relevant nutrition information including growth measurements, hematocrit/hemoglobin values, and initial and discharge diagnoses to determine if the criteria exist for identification of a case of severe undernutrition. Children confirmed as SPUN cases are immediately followed by administration of a detailed questionnaire to their caretakers. These cases are then reported to the OPH Nutrition and Vital Statistics Sections where referrals for appropriate intervention are made. Preliminary analyses of hospital reported cases from January 4, 1988 through April 30, 1989 are depicted below.

Table 1

HOSPITAL-BASED REPORTED SPUN CASES

	Number Screened	Number Wt./Ht. <5%ile	Number <3%ile*	Number Low HCT/HGB*
CHNO				
Inpatient	1,735	62	38	3
Outpatient	206	2	1	0
Subtotal	1,941	64	39	3
SLMC				
Inpatient	567	14	13	4
Outpatient	325	6	3	2
Subtotal	892	20	16	6
TOTAL	2,833	84	55	9

*CDC SPUN Criteria

Also in progress is an exploration of community resources for **SPUN** intervention catchment areas and implementation of community outreach to establish guidelines for referrals from private and community health care providers. Over 100 community agencies as well as local legislators and the media have been solicited for support and cooperation with **SSPUN** activities. As a result, a **SPUN** interdisciplinary and interagency **TASK FORCE** has been organized. Members represent community agencies serving families with children whom may be at high risk of severe undernutrition. This task force has identified the need to develop a central registry of available community services as well as a referral network for **SPUN**. OPH plans to submit a proposal to CDC in order to obtain funding to develop and automate implementation of this community agency referral system.

Within the scope of these CDC funded special **SPUN** projects, OPH has initiated an investigation of the feasibility of using birth certificate data to identify children under one year of age who may be at **SPUN** risk before reaching their sixth year birthday. If predictable correlations are confirmed, the State OPH Agency may be able to inform health providers regarding possible patient manifestation of the **SPUN** syndrome.

SPUN cases may be expected to appear in schools, day care centers, hospitals, health clinics, homeless shelters, community health care agencies, private health care facilities and other community family shelters. Because of Louisiana's mandatory reporting law for **SPUN**, health professionals are urged to look for and report cases who appear to fit the defined criteria.

For additional information,

contact: Nydia Peebles, LDN, RD, Department of Health and Hospitals, Office of Public Health, Nutrition Section, P.O. Box 60630, Room 405, New Orleans, Louisiana 70160 504-568-5065.

Update in the AIDS Surveillance Program

It is with great pride and regret that the Epidemiology Section, AIDS Surveillance Project announces that Dr. Bill Atkinson, Medical Director of the AIDS Surveillance Program has accepted a positon at the Centers for Disease Control in the Immunization Division. We will miss him very much, but wish him the very best.

We welcome Dr. Mark Dal Corso who will assume the duties of Medical Director of AIDS Surveillance. Dr. Dal Corso just finished his residencies in Pediatrics and Preventive Medicine. He also has an MPH from Tulane School of Public Health and Tropical Medicine. Over the past year, he has coordinated the HIV seroprevalence surveys in the state. Dr. Dal Corso can be reached at 504-568-7525 or Linc 621-7525.

Mumps in the 1980's

Following the introduction of the live mumps virus vaccine in 1967 and recommendation for its routine use in 1977, the incidence rate of reported mumps cases decreased steadily in the United States. In 1985, a record low of 2,982 cases was reported, representing a 98% decline from the 185,691 cases reported in 1967. However, between 1985 and 1987, a relative resurgence of mumps occurred, with 7,790 cases reported in 1986 and 12,848 cases in 1987. During this 3-year period, the annual reported incidence rate rose almost fivefold. In 1988, a provisional total of 4,730 cases was reported, representing a 62% decrease from 1987.

As in the prevaccine era, the majority of reported mumps cases still occur in school-aged children (5-14 years of age). However, for the first time since mumps became a reportable disease, the reported peak incidence rate shifted from 5-9-year-olds to older age groups for two consecutive years (1986 to 1987). Although reported mumps incidence increased in all age groups from 1985 to 1987, the most dramatic increases were among 10-14-year-olds (almost a sevenfold increase) and 15-19-year-olds (more than an eightfold increase). The increased occurrence of mumps in susceptible adolescents and young adults has also been demonstrated in several recent outbreaks in high schools, college campuses, and occupational settings.

Both the shift in risk to older persons and the relative resurgence of reported mumps activity noted in recent years are attributable to the relatively underimmunized cohort of children born between 1967 and 1977. There is no evidence of waning immunity in vaccinated persons. During 1967-77, the risk of exposure to mumps declined rapidly even though

*Com. Dis. Sum. Oregon Health Div. Vol.38,No.15, 7/18/89.

vaccination of children against mumps was only gradually being accepted as a routine practice. Mumps vaccine coverage did not reach levels >50% in any age group until 1976 (5-9-year-olds); in persons 15-19 years old, vaccine coverage did not reach these levels until 1983. Failure to vaccinate, rather than vaccine failure, is primarily responsible for the recently observed changes in mumps occurrence.

Mumps vaccine is approximately 95% efficacious in preventing mumps disease. Vaccine induced antibody is protective and long-lasting, although of considerably lower titer than antibody resulting from natural infection. The duration of vaccine-induced immunity is unknown, but serologic and epidemiologic data collected during 20 years of live vaccine use indicate both the persistence of antibody and continuing protection against infection.

RECOMMENDATION

Susceptible children, adolescents, and adults should be vaccinated against mumps, unless vaccination is contraindicated. Mumps vaccine is of particular value for adolescents and adults who have not had mumps. MMR vaccine is the vaccine of choice for routine administration and should be used in all situations where recipients are also likely to be susceptible to measles and/or rubella. Persons should be considered susceptible to mumps unless they have documentation of 1) physician-diagnosed mumps, 2) adequate immunization with live mumps virus vaccine on or after their first birthday, or 3) laboratory evidence of immunity. Because live mumps vaccine was not used routinely before 1977 and because the peak age-specific incidence was in 5-9-year olds before the vaccine was introduced, most persons born before 1957 are likely to have been infected naturally between 1957 and 1977. Therefore, they generally may be considered to be immune, even if they have not had clinically recognizable mumps disease.

Persons who are unsure of their mumps disease history and/or mumps vaccination history should be vaccinated. There is no evidence that persons who have previously either received mumps vaccine or had mumps are at any increased risk of local or systemic reactions from receiving live mumps vaccine. Testing for susceptibility before vaccination, especially among adolescents and young adults, is not necessary.

HYPERTENSION CONTROL CONFERENCE IN NEW ORLEANS

The 15th Annual Southeastern Hypertension Control Conference for doctors, pharmacists, nurses and other health care professionals, will be held in New Orleans on November 7-9, 1989. Nationally acclaimed speakers will present on primary prevention of high blood pressure, hypertension in pregnancy, Blacks and hypertension and several other timely and useful topics. The Conference is being sponsored by a consortium of agencies, led by the Office of Public Health Hypertension Control Program. For more information, please call Janice Boatner-Burcell, BSN, Conference Coordinator, at (504) 568-7210.

TB and AIDS in Louisiana

At a national level, the epidemic of HIV infection and its resulting immunosuppression is causing an increase in the incidence of mycobacterial diseases. Of particular concern is the increase in the number of persons with disease caused by M. tuberculosis. From a public point of view this is especially important because of the fact that MTB in an HIV infected person is transmissible, curable, and preventable. (1)

The knowledge of the HIV status of all patients with TB is necessary in order to properly manage the patient as the treatment regimen may need to be longer than the standard regimens used for TB patients without infection. Likewise, knowledge of the TB status of all patients with HIV infection is necessary to treat them in a timely manner both to effect a cure and to prevent transmission of MTB to others.

The TB and AIDS Programs of Louisiana have initiated a number of policies to deal with these interactions between TB and AIDS.

1. All patients who test positive for HIV infection through the state supported test sites, STD clinics, and Drug Abuse rehabiltation centers, are either referred to a TB clinic for skin testing or, in some cases, the PPD is applied in the HIV testing site.

2. Patients who are being seen in TB clinics, either as TB cases, suspects, or contacts are counseled and tested for HIV infection in order to determine the proper TB treatment protocol and make recommendations to the patient regarding behavioral changes to reduce transmission of HIV to others.

3. HIV Seroprevalence Surveys are underway in TB clincs in Orleans and Jefferson Parishes in order to ascertain the prevalence of infections in these patients.

4. Upon the recommendations of the CDC, the database of reported cases of TB in the state is periodically compared with the database of reported AIDS cases to ascertain the number of reported persons concurrently infected with both MTB and AIDS in the state.

It is hoped that these programs will have the following results:

1. Early detection of TB infection in HIV positive persons to allow for a more timely introduction of preventive or curative Anti-TB therapy.

2. Prevention of transmission of MTB to contacts of HIV infected MTB patients both by treatment of the MTB/HIV case and by screening of their contacts.

3. Early detection of HIV infection in MTB patients to allow for proper selection of the TB treatment protocol and to counsel the patient as to ways of preventing the spread of HIV to others.

For those treating patients who are possibly TB or HIV infected, the reference below is extremely useful.

*MMWR 4/14/89, VOL.38, No.14, pp 236.

MENINGOCOCCAL DISEASE IN LOUISIANA 1984-1988

Meningococcal disease is pimarily recognized as a major health problem of small children; however it also occurs in young adults and occasionally in older persons. We tend to see more cases in males than in females and particularly in newly aggregated adults under crowded living conditions, such as in new army recruits. The etiologic agent, Neisseria meningitides, depends on man as the reservoir host and is perpetually transmitted via direct contact, including droplets and discharges from nose and throats of infected persons. Invasive infection can be frequently characterized by initial septicemia followed by extension to the meninges to produce the classic disease. Susceptibility to the disease is relatively low and decreases with age.

From 1984 to 1988, 212 cases were reported to the Epidemiology Section of the Louisiana Department of Health and Hospitals. Ninety percent of clinically diagnosed meningococcal cases in Louisiana were laboratory confirmed indicating a low probability of misdiagnosis leading to incorrect reporting. Despite the unknown degree of underreporting within a passive reporting system, the virulence and pathogenicity of meningococcal disease may contribute to a higher frequency of disease reporting.

In analyzing the data over the 5 year period, the average incidence rate for the state was 0.9 per 100,000 population. The greatest number of cases (66) and the highest incidence rate (1.5) (see table 2) per 100,000 was in 1984. The fewest cases (27) and the lowest incidence rate (0.6) was noted in 1986. The most deaths (9) were reported in 1984 and the least (2) in 1987. In respect to race, the incidence rates in nonwhites were nearly twice that of the white population (see figure 1) in 1984. In the following years, 1985-1988, the incidence rates in both whites and nonwhites were comparable.

The pattern by sex for the 5 year period collaborates studies demonstrating the higher rates for males than females (see figure 2). Cases were categorized by age groups of <1 year, 1-4 years of age and >4 years. Fifty-four percent of the cases occurred in less than 4 years whereas 46% were greater than 4 years. Interesting to note is that the highest frequency of cases occurred in 1984 and 1988 for the age group >4 years. (see figure 3) Reasons for these two peaks are unknown and may need further exploring since there have not been clustering or epidemics occurring in the 5 year period.

Formerly case fatality rates exceeded 50%, but with early diagnosis, modern therapy and supportive measures, the expected case fatality rate would be <10%. Of the 212 Louisiana cases, 24 deaths were reported. The average case fatality rate for the 5 year period is 11.3%. The highest case fatality rate (14.7%) occurred in 1985 amongst the age groups of less than 1 year.

Of the reported serotypes (n=93) Serotype B accounted for 49% of the total cases followed by Serotype C with 37% (see Figure 4).

An effective polysaccharide vaccine for Neisseria meningitides serogroup A, C, Y, W135 is currently licensed and available in the U.S., whereas an effective and safe vaccine against serogroup B is presently not available. However, vaccine provision may be impractical for post exposure contacts due to the delay in identification of the serogroup involved, but can be useful to control outbreaks of disease caused by serogroups represented in the vaccine in areas recognized to have epidemics.

The prevention of meningococcal disease must focus an decreasing host susceptibility, especially young children at greatest risk, and appropriately treating close and intimate contacts to decrease the number of new cases. Intimate contacts include household or day care centers and those persons directly exposed to a case's oral secretions, i.e., mouth to mouth resuscitation or kissing. The drug, Rifampin, administered to direct contacts has shown to be 90% effective in eradicating carriage rate of the bacteria. Systemic administration of antimicrobial treatment to cases does not always eliminate nasopharyngeal carriage; it is therefore recommended that the index case be given chemoprophylaxis prior to discharge from the hospital.

Public health intervention would be to emphasize health education in recognizing early signs and symptoms and early diagnosis and treatment as well as active public health and community medicine participation. Through continual and timely reporting and surveillance maintenance, identification of risk factors and epidemiologic changes in patterns of occurrence can be identified.

Table 2.

MENINGOCOCCAL DISEASE IN LOUISIANA

1984-1988

Year	Cases Reported	Incidence Rate per 100,000	Total Deaths	Case Fatality Rate %
1984	66	1.5	9	13.6
1985	34	.76	5	14.7
1986	27	.60	3	11.1
1987	28	.60	2	7.0
1988	57	1.3	5	8.7
Total	212	.94	24	11.3

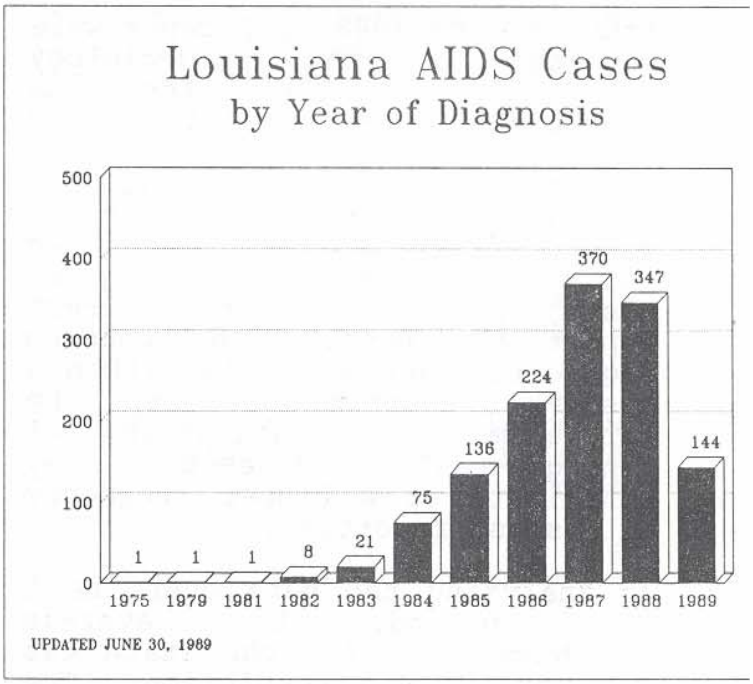


FIGURE 1

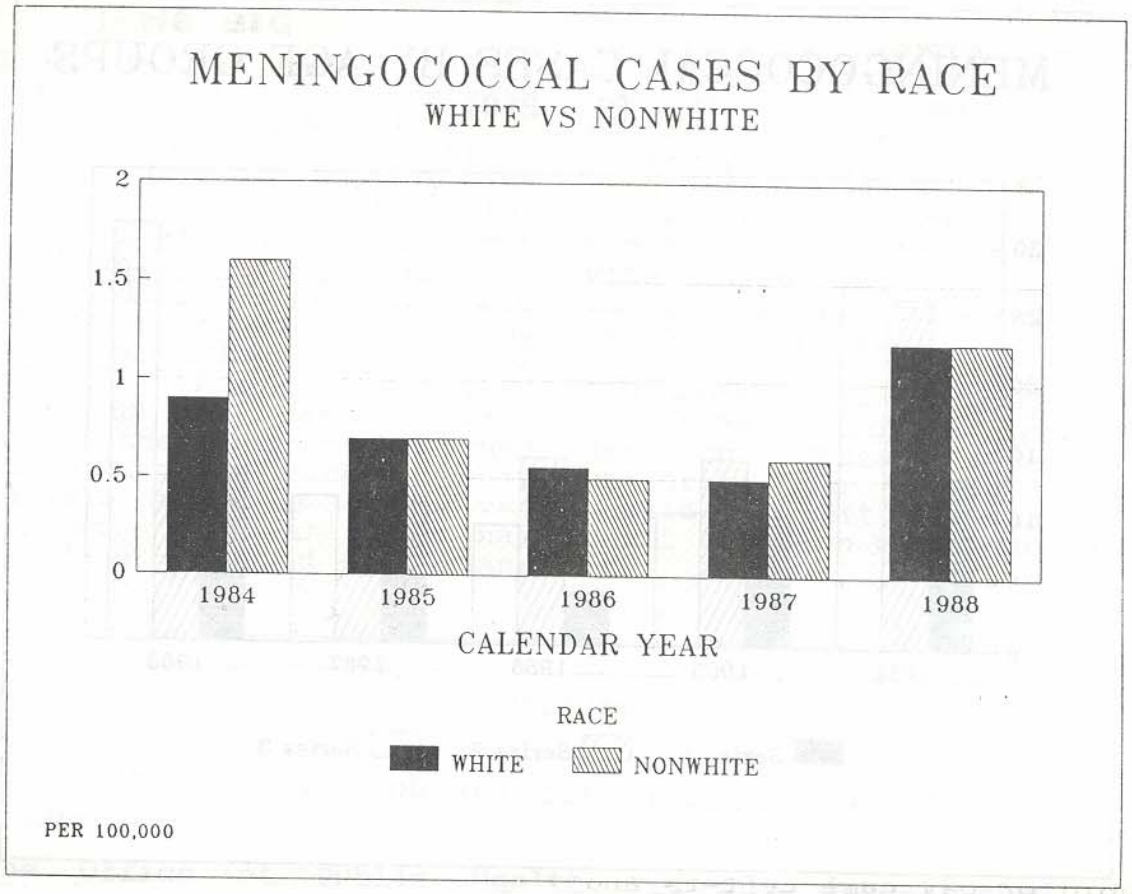


FIGURE 2

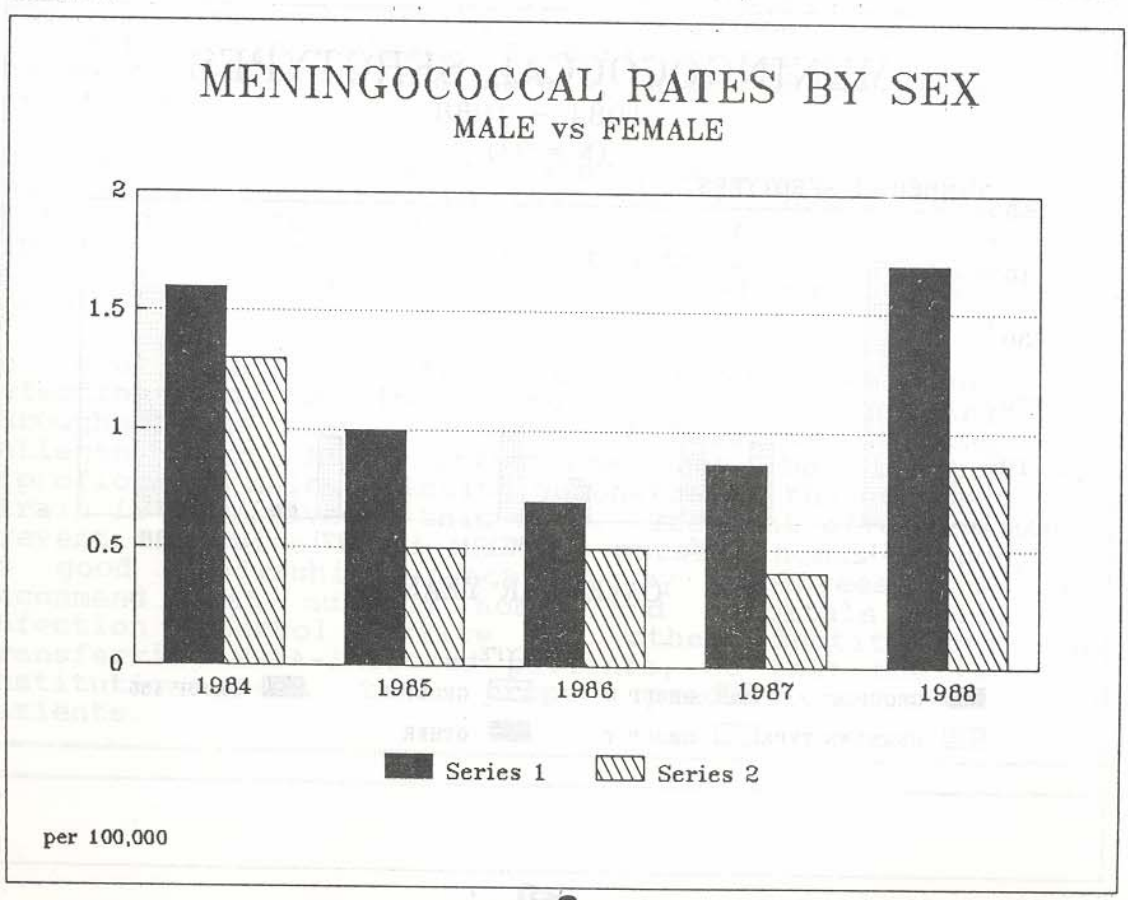


FIGURE 3

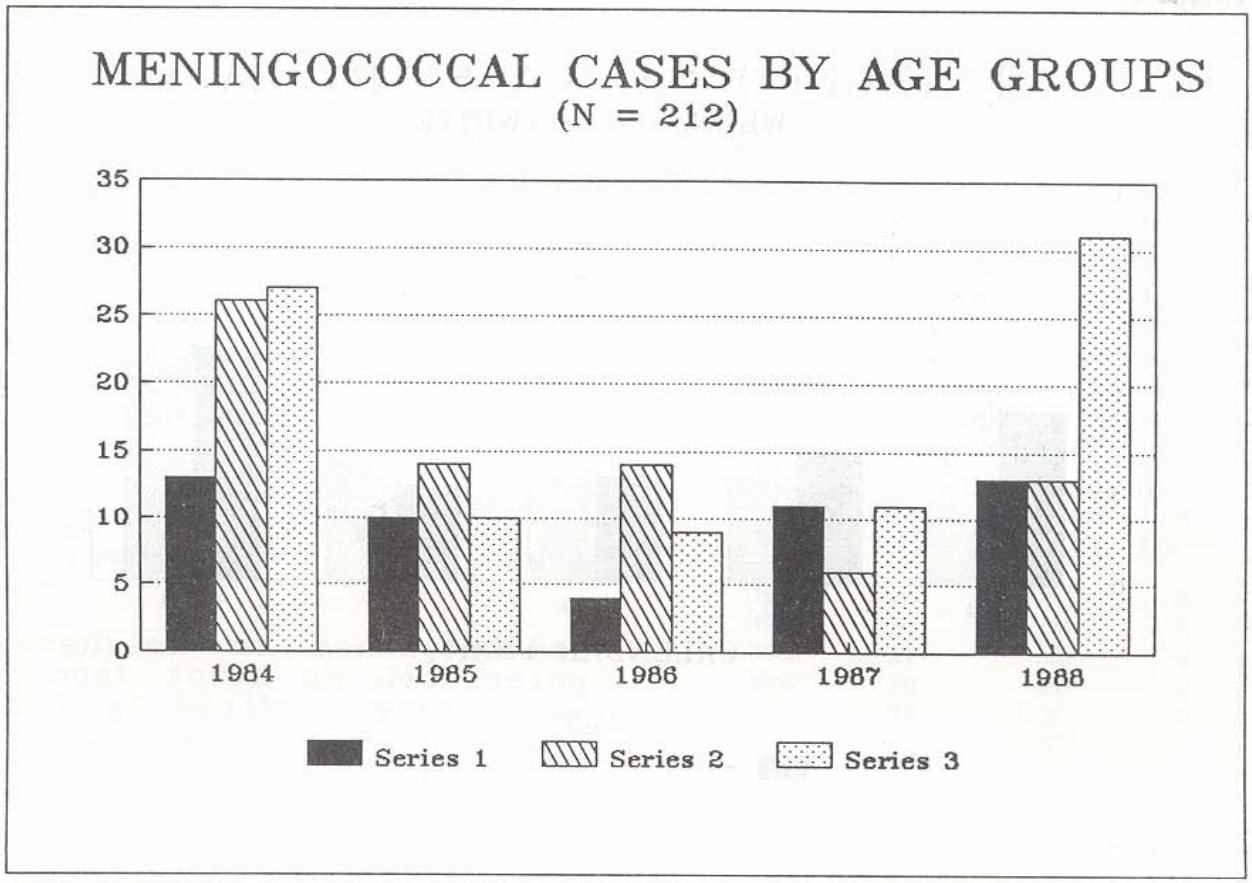
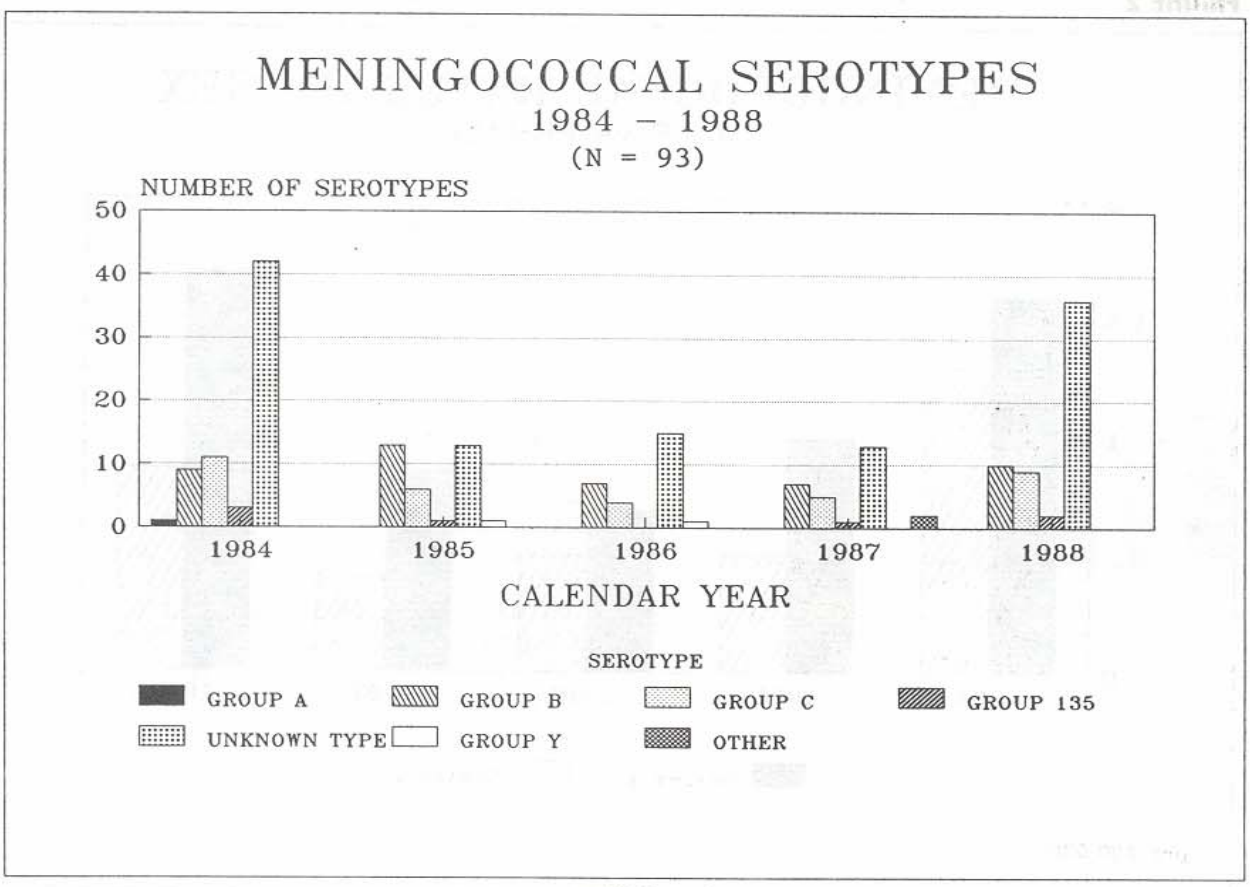


FIGURE 4



Buckets Potential Drowning Hazard

During the period 1985 to 1987, 67 drowning deaths in buckets have been noted by the US Consumer Product Safety Commission (CPSC), mostly to young children 8-12 months old. The CPSC staff believes that these drownings happened when curious children or toddlers crawled to a bucket containing mop water or other liquids for household chores, pulled themselves up and leaned forward to play in the water. When they toppled into the bucket, they were unable to free themselves and drowned. Such an event has recently been reported in Orleans Parish.

The 5 gallon bucket is particularly dangerous even when only partially filled because its heavier weight makes it more stable than a smaller bucket and unlikely to tip over when a child uses it to pull up. The 5 gallon containers are commonly about 1/2 the height of these infants, and with three or more gallons of water, weigh more than most children that age.

OPH warns that buckets of water or other liquids present a drowning hazard to small children. No bucket of liquid should be left unattended where small children may gain access to it.

BULLETIN

Methicillin-resistant Staphylococcus aureus Infections in Nursing Homes

The Office of Public Health recently investigated an outbreak of furunculosis caused by methicillin-resistant Staphylococcus aureus (MRSA) in a nursing home. The new broad-spectrum oral antibiotic ciprofloxacin had been used to treat the infections. Sensitivity testing later showed the MRSA strain at the nursing home to be resistant to ciprofloxacin.

To look for this problem elsewhere, we asked a large general hospital in Louisiana to test ten different isolates of MRSA, and they found that seven of the ten were resistant to ciprofloxacin. Many of the patients at this hospital who had MRSA infections had been transferred from nursing homes.

We are concerned that ciprofloxacin-resistant MRSA infections may be increasingly common in nursing homes throughout the state. Because of this, we recommend that patients with MRSA infections not be treated with ciprofloxacin unless testing demonstrates that the patient's strain is sensitive to this drug. The most effective way to prevent transmission of MRSA in nursing homes or hospitals is good handwashing practices by employees. We also recommend that nursing homes and hospitals notify the infection control office of other institutions when transferring MRSA-infected patients, so that the receiving institutions can take proper precautions with these patients.

INFLUENZA HIGH RISK IMMUNIZATION PROGRAM 1989-90

On October 30, 1989 the Louisiana Department of Health and Hospitals, Office of Public Health will launch its influenza campaign for its high risk and elderly population. Those at high risk are persons over 65 years of age and those of any age with chronic cardiac, respiratory or kidney disease, those with diabetes and anyone whose immune system has been affected, such as persons with AIDS and cancer patients who have received chemotherapy.

In order to achieve better results during the peak influenza season local health units will begin dispensing flu shots October 30. The peak season for flu in Louisiana is from January to March.

According to the Morbidity and Mortality Weekly Report (1989/Vol.38/No.11/p.183), based on data from 1988-1989 influenza season, the World Health Organization has recommended that the trivalent influenza vaccine used in the coming season contain the following components:

A. Type A(H1N1)Taiwan/1/86
B. Type A(H3N2)Shanghai/11/87
C. Type B/Yamagata/16/88

For information on time and days of clinic, please contact your local parish health unit.

Selected Diseases By Parish 5/1/89 - 6/30/89

PARISH	AIDS	HEP A	HEP B	SALMO	SHIGE	VIBRI	Total
	1*	0	0	0	0	0	1
ACADIA	4	0	2	0	0	0	6
ALLEN	1	0	0	0	0	0	1
ASCENSION	0	0	0	1	0	0	1
AVOYELLES	2	0	0	0	0	0	2
BOSSIER	0	3	3	2	8	0	16
CADDO	3	19	4	8	26	0	60
CALCASIEU	0	7	1	5	1	0	14
CONCORDIA	0	0	2	0	0	0	2
DE SOTO	0	1	0	0	0	0	1
E. BATON ROU.	9	5	7	14	7	1	43
E. CARROLL	0	0	1	0	0	0	1
E. FELICIANA	0	0	0	1	0	0	1
EVANGELINE	0	0	1	1	0	0	2
IBERIA	1	0	7	1	0	0	9
JEFF. DAVIS	0	1	1	0	0	0	2
JEFFERSON	19	3	11	11	4	0	48
LAFAYETTE	3	0	17	4	1	1	26
LAFOURCHE	0	0	1	1	0	1	3
LINCOLN	0	0	0	1	0	0	1
LIVINGSTON	0	1	1	1	0	0	3
MADISON	0	0	1	0	0	0	1
ORLEANS	38	6	10	21	16	2	93
OUACHITA	0	0	0	0	1	0	1
PLAQUEMINES	2	0	1	0	0	0	3
RAPIDES	2	0	1	1	3	0	7
RED RIVER	0	0	0	0	1	0	1
SABINE	0	0	0	2	0	0	2
ST. BERNARD	1	1	0	1	0	0	3
ST. CHARLES	0	0	1	1	0	0	2
ST. JOHN BAP.	0	0	0	0	1	0	1
ST. LANDRY	0	1	6	1	1	1	10
ST. MARTIN	0	1	2	1	1	0	5
ST. MARY	0	0	2	0	0	0	2
ST. TAMMANY	3	4	3	3	0	1	14
TANGIPAHOA	0	2	0	2	2	0	6
TENSAS	0	1	0	0	0	0	1
TERREBONNE	0	0	0	4	0	0	4
UNION	0	1	0	1	0	0	2
VERMILION	0	0	0	0	2	0	2
VERNON	0	1	0	1	1	0	3
W. BATON ROU.	0	0	0	1	0	0	1
W. FELICIANA	1	0	0	0	0	0	1
WASHINGTON	1	0	1	2	1	0	5
WEBSTER	0	1	0	4	0	0	5
WINN	0	0	0	1	1	0	2
Total	91	59	87	98	78	7	420

*Parish unknown

COMMUNICABLE DISEASE SURVEILLANCE, LOUISIANA

DISEASE	May-June 1989	May-June 1988	Total to Date 1989	Total to Date 1988
Aids	89	61	242	191
Campylobacter	2	20	31	39
Gonorrhea	2125	2119	6977	7655
Hepatitis A	59	20	159	73
Hepatitis B	87	73	196	202
Measles	1	0	9	0
Meningitis				
H. Inf.	12	23	42	55
N. Men.	8	10	28	38
Mumps	186	71	467	207
Pertussis	1	9	5	12
Rubella	0	0	5	0
Salmonella	99	88	231	237
Shigella	78	106	237	273
Syphilis	208	152	604	410
Tuberculosis	65	46	126	153
Vibrio cholera	0	0	0	0
Vibrio other	7	14	19	17

DISEASES OF LOW FREQUENCY

	Total to Date
Blastomycosis	3
Legionella	4
Leprosy	0
Lyme	0
Malaria	1
Rocky Mountain Spotted Fever	0
Tetanus	1
Typhoid	1

ANIMAL RABIES

May-June 1989

Parish	Species	# cases
Bossier	Skunk	1
Caddo	Skunk	1

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