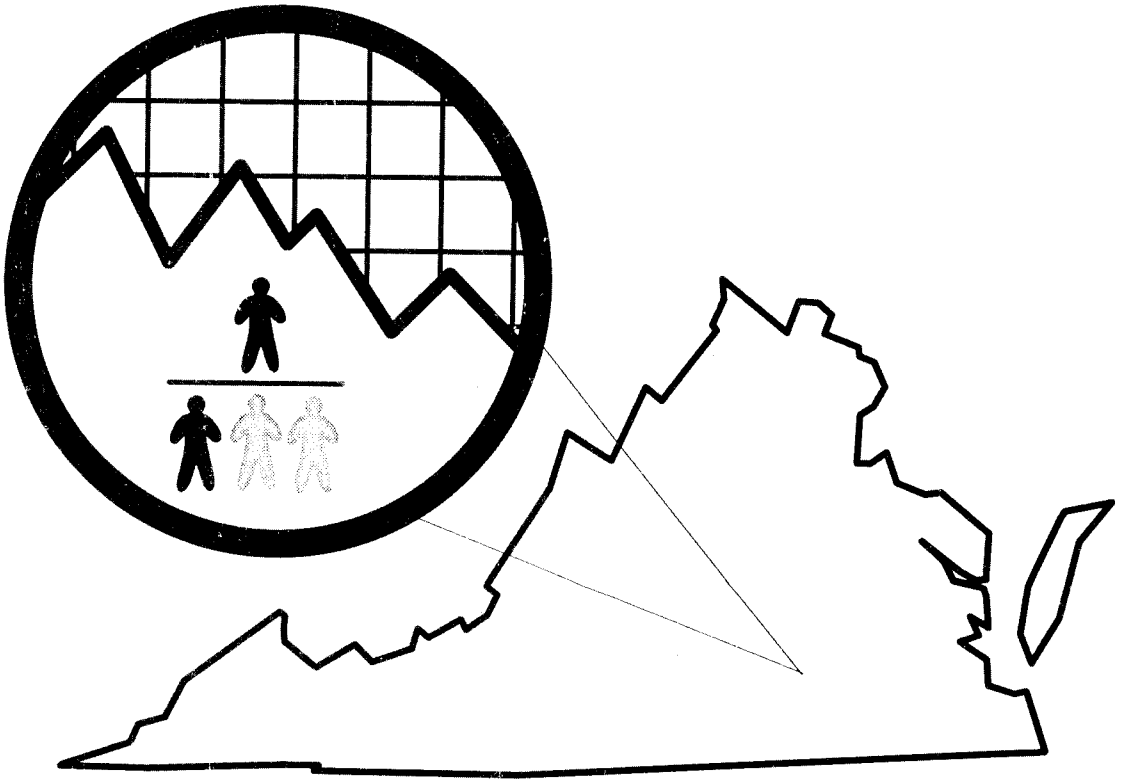
Reportable Disease Surveillance in Virginia, 1995



VDH VIRGINIA DEPARTMENT OF HEALTH

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Office of Epidemiology

Reportable Disease Surveillance in Virginia, 1995

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Introduction

The Virginia Department of Health, Office of Epidemiology is pleased to present its eighth annual report of disease surveillance activities. This report summarizes morbidity data reported by the Virginia Department of Health, Office of Epidemiology to the federal Centers for Disease Control and Prevention (CDC) during calendar year 1995.

The Office of Epidemiology is responsible for the ongoing statewide surveillance of diseases reported according to the provisions of the *Regulations for Disease Reporting and Control.* Disease surveillance involves the collection of pertinent data, the tabulation and evaluation of the data, and the dissemination of the information to all who need to know. This process is a very important aspect of public health because the purpose of surveillance is to reduce morbidity.

Diseases must first be diagnosed and reported to the health department before case investigations can occur and disease control activities can begin. Physicians, personnel in medical care facilities, laboratorians, and other health care providers, therefore, are key to the surveillance process. Those who report can also benefit because they will be notified when the health department detects unusual disease patterns occurring in the community, thus raising the index of suspicion when individuals present with compatible symptoms and facilitating more rapid diagnosis and treatment.

This report summarizes those diseases and conditions that are either listed as officially reportable in the *Regulations for Disease Reporting and Control* or are other communicable diseases of public health interest. The report is divided into four sections, as described below.

Introduction and Data Summary: Tables summarizing 1995 morbidity are included in this introductory section. These tables include the list of reportable diseases; ten year trend of disease reports; number of reports and incidence rate per 100,000 population for selected diseases by health planning region, age group, race, sex; and number and percent of reports by quarter of onset.

Descriptive Epidemiology of Reportable Diseases: This section consists of narrative and graphics summarizing the populations reported with each disease or condition. Included is information on the total number of cases reported, the ten year trend in reported cases, the demographics of cases in terms of their age, race, and sex, and the distribution of cases by date of onset and health planning region of the state. Mortality, microbial species, and other attributes of diseases are also presented when applicable.

Population-based rates are often presented to provide a measure of disease risk and allow for comparisons to be made. In the calculation of rates, the 1995 population estimates as prepared by the Virginia State Data Center of the Virginia Employment Commission were used. Age-, race-, and sex-specific population data were extrapolated by applying proportions from the 1990 Census to the 1995 population estimates. Some additional notes on coding are listed below.

Race is usually coded as black, white or other. The "other" race category refers to Hispanics, Asian/Pacific Islanders, American Indians, and Alaskan Natives. To ensure consistency of the numerator (cases) and denominator (population) in the calculation of rates, black and white Hispanics were removed from the black and white population totals and added to the "other" race population.

Date of onset is used whenever it is available. Onset is defined as either month or quarter of the year in which symptoms first occurred. Some cases reported in 1995 experienced onset prior to the year of report. Statistics on some diseases are only available by date of report, meaning date the information was furnished to the CDC or first received in the Office of Epidemiology, rather than date of onset of symptoms. At times, the date of specimen collection is used to indicate date of onset.

To the extent possible, rates are calculated based on residence of the patient. When the address of the patient is neither reported nor ascertained by the health department, however, locality, district, and/or health planning region level data are based on the location of the reporting source, i.e., the physician, hospital, or laboratory.

Number of Cases and Rate by Locality: In this section of the report are tables containing the number of cases and incidence rate per 100,000 population for selected diseases by locality, district, and health planning region. Cities and counties that have separate health departments are listed individually. Those that share one health department are combined. Caution is urged in interpreting the data listed in this section as well as in the following section. Localities with small populations may have large disease rates but only a few reported cases of disease. Both number of cases and incidence rate should be weighed when using these tables to rank morbidity by city or county.

Maps of Incidence Rates: The first map in this section illustrates the location of the various cities and counties in Virginia. Following that, disease-specific maps are presented which depict the incidence rates listed in the previous section. For each map, the rates have been divided into four categories using the following process:

Category 1 - Localities reporting zero cases of the disease.

Category 2 - Localities with an incidence rate greater than zero and up to the mean for the state.

Category 3 - Localities with an incidence rate greater than the mean and up to one standard deviation above the mean for the state.

Category 4 - Localities with an incidence rate greater than one standard deviation above the mean for the state.

The Office of Epidemiology hopes that the readers of this report will find it to be a valuable resource for understanding the epidemiology of reportable diseases in Virginia. Any questions or suggestions about this report may be directed to Leslie Branch, Virginia Department of Health, Office of Epidemiology, P.O. Box 2448, Room 113, Richmond, Virginia 23218.

Data Summary

The following pages contain tables of statewide summary data for selected diseases. Table 1 is a list of the reportable conditions in Virginia. Table 2 presents the number of cases of selected diseases reported annually during the past ten years. Table 3 presents number of cases and rate per 100,000 population by region. Table 4 presents the same data by age group; Table 5 by race; and Table 6 by sex. In Table 7, number and percent of cases by quarter of the year in which onset occurred is provided. A brief description of the major findings presented in these tables follows.

TREND - Compared to 1994, the following diseases demonstrated at least a 20% increase in incidence in 1995: AIDS, aseptic meningitis, bacterial meningitis, invasive *Haemophilus influenzae* infection, hepatitis A, influenza, legionellosis, malaria, Rocky Mountain spotted fever, and salmonellosis. The increase of 31 cases of animal rabies is also considered to be significant in light of this disease affecting four new counties in 1995 and the total number of cases reported being 53% higher than the ten year mean number of cases reported between 1985 and 1994.

Compared to 1994, the following diseases demonstrated at least a 20% decrease in incidence: amebiasis, campylobacteriosis, gonorrhea, histoplasmosis, Lyme disease, measles, mumps, and shigellosis. The decrease in histoplasmosis was due to an unusually high number of cases being reported in 1994 because of an outbreak. The decrease in Lyme disease is likely due to discontinuation of federal funding, which led to a decrease in active surveillance for this disease. The measles data are notable because 1995 was the first time since data have been collected in Virginia that zero cases of measles were reported.

REGION - The northwest health planning region experienced the highest rates of bacterial meningitis, campylobacteriosis, invasive *H. influenzae* infection, legionellosis, and Rocky Mountain spotted fever and had the most rabid animals compared to the other regions. The incidence rates for Lyme disease were highest and similar in the northwest (1.00 cases per 100,000 population) and central regions (0.99 per 100,000). The northwest was the least likely region of residence listed on reports of AIDS, hepatitis non-A non-B, HIV infection, meningococcal infection, mumps (0 cases), and early syphilis.

The northern health planning region had the highest incidence rates for amebiasis, giardiasis, hepatitis A, hepatitis B, Kawasaki syndrome, malaria, pertussis, tuberculosis, and typhoid fever. Close to 90% of the malaria cases and 80% of the typhoid fever cases were reported from the northern region. That region had the lowest rates of *Chlamydia trachomatis* infection, primary encephalitis, gonorrhea, and had the fewest reported cases of animal rabies.

The southwest health planning region had the highest rate for influenza. The lowest rates for amebiasis, aseptic meningitis, Lyme disease, malaria, pertussis, salmonellosis, shigellosis, and tuberculosis were calculated for the southwest region.

The central health planning region experienced the highest incidence of *Chlamydia trachomatis* infection, gonorrhea, HIV infection, meningococcal infection, and salmonellosis and the lowest rates of bacterial meningitis, chickenpox, giardiasis, hepatitis B, influenza, Kawasaki syndrome, and legionellosis.

The incidence rates were highest in the eastern health planning region for the following diseases: AIDS, aseptic meningitis, chickenpox, hepatitis non-A non-B, shigellosis, and early syphilis. This region was the second most likely to be the region of residence on reports of amebiasis, bacterial meningitis, *Chlamydia trachomatis* infection, gonorrhea, HIV infection, Kawasaki syndrome, meningococcal infection, pertussis, and tuberculosis and the least likely region on reports of campylobacteriosis.

AGE - Infants were the age group at greatest risk for aseptic and bacterial meningitis, including invasive *H. influenzae* infection and meningococcal infection. They were also the most likely to be reported with campylobacteriosis, primary encephalitis, Kawasaki syndrome, pertussis, and salmonellosis. Young children (aged 1-9 years) were the most likely age group to be reported with giardiasis, mumps, Rocky Mountain spotted fever, and shigellosis and the second most likely age group to be reported with aseptic meningitis, Kawasaki syndrome, pertussis, and salmonellosis. Persons aged 10-19 years were the age group at greatest risk for *Chlamydia trachomatis* infection and the second most likely age group to be reported with gonorrhea. No cases of hepatitis non-A non-B, histoplasmosis, or legionellosis were reported in persons under age 20.

Persons in their twenties were the most likely age group to be reported with amebiasis, gonorrhea, hepatitis A, malaria, and early syphilis and the second most likely to be reported to have *Chlamydia trachomatis* infection, hepatitis B, HIV infection, and tuberculosis. The 30-39 year olds had the highest incidence rates for AIDS, hepatitis B, and HIV infection. Persons aged 40-49 years were the most likely age group to be reported with hepatitis non-A non-B and the second most likely age group to be reported with AIDS, primary encephalitis, and legionellosis.

Persons aged 50 years and older were the most likely age group to be reported with legionellosis and tuberculosis. They were the least likely age group to be reported with aseptic meningitis, giardiasis, and shigellosis.

RACE - The black population was the most likely race group to be reported with AIDS, meningitis (aseptic and bacterial, including meningococcal infection), *Chlamydia trachomatis* infection, gonorrhea, hepatitis non-A non-B, HIV infection, mumps, pertussis, and early syphilis. The white race group was the most likely to be reported with campylobacteriosis, primary encephalitis, legionellosis, Lyme disease, and Rocky Mountain spotted fever. Persons of other races were at greatest risk for amebiasis, giardiasis, invasive *H. influenzae* infection, hepatitis A, Kawasaki syndrome, malaria, salmonellosis, shigellosis, tuberculosis, and typhoid fever. The incidence rate of hepatitis B was the same in the black and other race populations.

SEX - Very little variation was observed between the sexes in the incidence rates for amebiasis, primary encephalitis, invasive *H. influenzae* infection, hepatitis non-A non-B, pertussis, and typhoid fever. Otherwise, males were at higher risk for most reportable diseases than females. The exceptions to this were that the incidence rate for *Chlamydia trachomatis* infection was much higher in females than males and the rates for Lyme disease, shigellosis, and early syphilis were somewhat higher for females.

ONSET - Bacterial meningitis, invasive *Haemophilus influenzae* infection, histoplasmosis, influenza, meningococcal infection, and early syphilis occurred most often during the first quarter of the reporting year, as shown in Table 7. Typhoid fever was more likely to occur during the second quarter of the year. Amebiasis, aseptic meningitis, giardiasis, hepatitis A, hepatitis B, malaria and pertussis occurred more often during the third quarter of the reporting year. Rabid animals were identified more often during the fourth quarter. Campylobacteriosis, legionellosis, Lyme disease, and Rocky Mountain spotted fever occurred more often during the second and third quarters of the reporting year and salmonellosis and shigellosis occurred more often during the latter half of the reporting year.

The following diseases were not found to demonstrate a clear seasonal trend: *Chlamydia trachomatis* infection, primary encephalitis, gonorrhea, hepatitis non-A non-B, Kawasaki syndrome, and mumps.

Table 1. Reportable Diseases in Virginia

Acquired immunodeficiency syndrome (AIDS)
Amebiasis
Anthrax
Arboviral infection
Aseptic meningitis
Bacterial meningitis
Botulism
Brucellosis
Campylobacter infection
Chancroid
Chickenpox
Chlamydia trachomatis infection
Congenital rubella syndrome
Diphtheria
Encephalitis - primary and post-infectious
Foodborne outbreak
Giardiasis
Gonorrhea
Granuloma inguinale
Haemophilus influenzae infection, invasive
Hepatitis A
    B
    Non-A, Non-B
    Unspecified
Histoplasmosis
Human immunodeficiency virus (HIV) infection
Influenza
Kawasaki syndrome
Lead - elevated levels in children
Legionellosis
Leprosy (Hansen's disease)
Leptospirosis
Listeriosis
Lyme disease
Lymphogranuloma venereum
Malaria
Measles (Rubeola)
Meningococcal infection
Mumps
Nosocomial outbreak
Occupational illness
Ophthalmia neonatorum
Pertussis (Whooping cough)
Phenylketonuria (PKU)
Plague
Poliomyelitis
Psittacosis
Q fever
Rabies in animals
Rabies in man
Rabies treatment, post-exposure
Reye syndrome
Rocky Mountain spotted fever
Rubella (German measles)
Salmonellosis
Shigellosis
Smallpox
Syphilis
Tetanus
Toxic shock syndrome
Toxic substance related illness
Trichinosis
Tuberculosis
Tularemia
Typhoid fever
Typhus, flea-borne
Vibrio infection, including cholera
Waterborne outbreak
Yellow fever