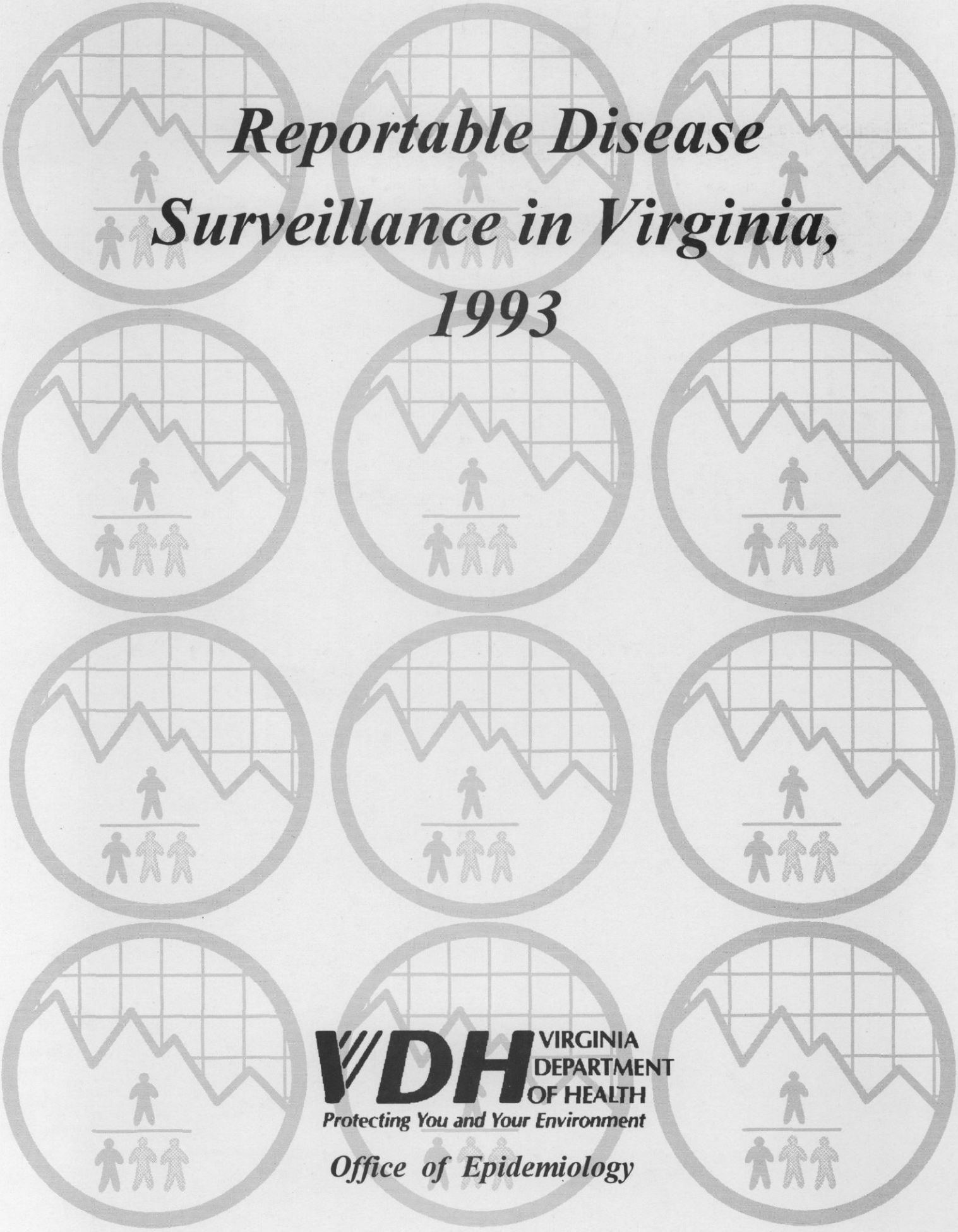
# *Reportable Disease Surveillance in Virginia, 1993*



VDH VIRGINIA DEPARTMENT OF HEALTH

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## *Units in the Virginia Department of Health, Office of Epidemiology*

***Bureau of Disease Surveillance and Epidemiologic Studies***

***Telephone: (804) 786-6261***

***Bureau of Zoonotic Disease Control***

***Telephone: (804) 786-6261***

***Bureau of STD/AIDS***

***Telephone: (804) 786-6267***

***Bureau of Immunization***

***Telephone: (804) 786-6246***

***Division of Tuberculosis Control***

***Telephone: (804) 786-6251***

***Bureau of Toxic Substances Information***

***Telephone: (804) 786-1763***

***Bureau of Radiological Health***

***Telephone: (804) 786-5932***

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*The editors would also like to express a special note of thanks to Mary Jean Linn, who is responsible for creating the tables, graphs, and maps included in this report. We sincerely appreciate her significant contribution to this project.*

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# Introduction

The Virginia Department of Health, Office of Epidemiology is pleased to present its sixth 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 1993.

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 those who need to put it to use. This process is a very important aspect of public health because surveillance is conducted to reduce morbidity.

Diseases must first be diagnosed and reported to the health department before case investigations and disease control can occur. Physicians 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 is divided into four sections, as described below. Past reports have included a section on chronic disease surveillance in Virginia based on data reported to the Virginia Cancer Registry and the Alzheimer's Disease and Related Disorders Registry. This year's report summarizes only those diseases that are either listed as officially reportable in the *Regulations for Disease Reporting and Control* or other communicable diseases of public health interest. Separate reports will be prepared by the Office of Epidemiology to present descriptive statistics on cancer incidence and Alzheimer's disease and other memory loss disorders. These reports will be available upon request.

**Introduction and Data Summary:** Tables summarizing 1993 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 rate per 100,000 population for selected diseases by region, age, 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 reportable 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, species, and other attributes of diseases are also presented when applicable. Reported morbidity in the military population is included for all diseases except chancroid, *Chlamydia trachomatis* infection, gonorrhea, granuloma inguinale, lymphogranuloma venereum, and syphilis.

Population rates are often presented to provide a measure of disease risk and allow for comparisons to be made. In calculating rates, the modified, age, race, and sex population data from the 1990 Census were used for the population at risk. 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, white and black Hispanics were removed from the white and black population totals and added to the "other" 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 1993 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.

**Numbers and Rates by Locality:** In this section of the report are tables containing the number of cases and rates 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 rates should be weighed when using these tables to rank morbidity by city or county.

**Maps of Incidence Rates:** Maps are presented which depict the information 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 Diane Woolard or Leslie Branch, Virginia Department of Health, Office of Epidemiology, P.O. Box 2448, Room 113, Richmond, Virginia 23218.

# Data Summary

Tables 1-7, on the following pages, present a summary of the primary epidemiologic data elements 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; 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 1992, the following diseases increased in incidence in 1993: AIDS, aseptic meningitis, campylobacteriosis, *Chlamydia trachomatis* infection, primary encephalitis, giardiasis, hepatitis non-A non-B, HIV infection, influenza, Kawasaki syndrome, occupational illnesses, pertussis, rabies in animals, salmonellosis, shigellosis, tuberculosis, and typhoid fever.

Decreases were observed for amebiasis, bacterial meningitis, chickenpox, gonorrhea, invasive *Haemophilus influenzae* infection, hepatitis A and B, histoplasmosis, legionellosis, Lyme disease, malaria, measles, meningococcal infection, mumps, Rocky Mountain spotted fever (RMSF), and early syphilis.

**REGION** - The eastern health planning region had the highest incidence rates overall and the northwest the lowest. The eastern health planning region had the highest incidence rates for bacterial meningitis, chickenpox, *C. trachomatis* infection, primary encephalitis, gonorrhea, invasive *H. influenzae* infection, mumps, and early syphilis.

The central health planning region had the highest incidence rates for AIDS, histoplasmosis, HIV infection, meningococcal infection, salmonellosis, shigellosis, and tuberculosis.

Amebiasis, aseptic meningitis, giardiasis, hepatitis A, Lyme disease, and malaria were more likely to be reported from the northern health planning region.

The highest incidence rates for hepatitis B and non-A non-B, influenza, legionellosis, and measles were observed in the southwest health planning region.

The northwest health planning region had the highest incidence rates for campylobacteriosis, pertussis, and RMSF.

The northern and eastern health planning regions had the highest and similar incidence rates for Kawasaki syndrome, and the northern and southwest health planning regions had the highest incidence rates for typhoid fever.

**AGE** - Infants were at the greatest risk for aseptic meningitis, bacterial meningitis, campylobacteriosis, primary encephalitis, invasive *H. influenzae* infection, Kawasaki syndrome, meningococcal infection, pertussis, and salmonellosis. Young children (age 1-9) experienced the highest incidence rates of giardiasis, mumps, and shigellosis. Older children (age 10-19) were most likely to be reported with *C. trachomatis* infection and measles.

Young adults (age 20-29) experienced the highest incidence rates for gonorrhea, hepatitis B, Lyme disease, malaria, early syphilis, and typhoid fever. The 30-39 year olds had higher incidence rates for AIDS, hepatitis non-A non-B, and HIV infection. Histoplasmosis was most often reported in 40-49 year olds; legionellosis and tuberculosis in those age 50 or older. The 10-19 and 20-29 age groups had the highest and similar incidence rates for amebiasis; the 20-29 and 30-39 age groups had the highest and similar incidence rates for hepatitis A; and the 40-49 and 50 and older age groups had the highest and similar incidence rates for RMSF.

**RACE** - The highest incidence rates were generally more likely to be in blacks as shown in Table 5. Whites, however, did have higher rates for campylobacteriosis, histoplasmosis, Lyme disease, measles, and RMSF than the other two race categories. Amebiasis, giardiasis, hepatitis A, malaria, tuberculosis, and typhoid fever were most likely to be reported in the other race category.

**SEX** - Compared to females, males were at a greater risk for more diseases (see Table 6). Noticeably higher incidence rates for males were found for the following diseases: AIDS, gonorrhea, hepatitis non-A non-B, histoplasmosis, HIV infection, legionellosis, Lyme disease, malaria, mumps, RMSF, and tuberculosis. Incidence rates were much higher for females than for males for *C. trachomatis* infection and pertussis.

**ONSET** - Invasive *H. influenzae* infection, hepatitis B, influenza, and Kawasaki syndrome were most likely to occur during the first quarter of the reporting year. During the second quarter of the year, *C. trachomatis* infection, gonorrhea, histoplasmosis, legionellosis, Lyme disease, and rabies in animals were most likely to occur. The third quarter of the year was the most likely onset time for amebiasis, aseptic meningitis, giardiasis, malaria, measles, pertussis, salmonellosis, and typhoid fever. Hepatitis non-A non-B was the only disease that occurred most often in the fourth quarter. Chickenpox had a comparable number of cases to occur during the first and second quarters; campylobacteriosis, primary encephalitis, and RMSF during the second and third quarters.

The following diseases were not found to demonstrate a clear seasonal trend: bacterial meningitis, hepatitis A, meningococcal infection, mumps, shigellosis, and early syphilis.

# 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 (1993)
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