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Summary of Reportable Diseases, Virginia, 1996

Introduction

This issue of the *Virginia Epidemiology Bulletin* (VEB) summarizes the reports of notifiable diseases in Virginia for 1996. Data were compiled by the Division of Surveillance and Investigation, Office of Epidemiology, Virginia Department of Health. A notifiable disease is one that must be reported to the health department according to the provisions of the *Regulations for Disease Reporting and Control*. These are conditions for which regular, frequent and timely information regarding individual cases is considered necessary for the prevention and control of disease.

The Office of Epidemiology is responsible for the ongoing surveillance of notifiable diseases. 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. After each reporting year, data concerning the reported occurrence of notifiable conditions are finalized and published in an annual surveillance report entitled *Reportable Disease Surveillance in Virginia*. Because of the complexity of the annual report, production and distribution are delayed. In order to provide a more timely summary, this annual issue of the VEB is devoted to the presentation of a brief description of the 1996 surveillance data.

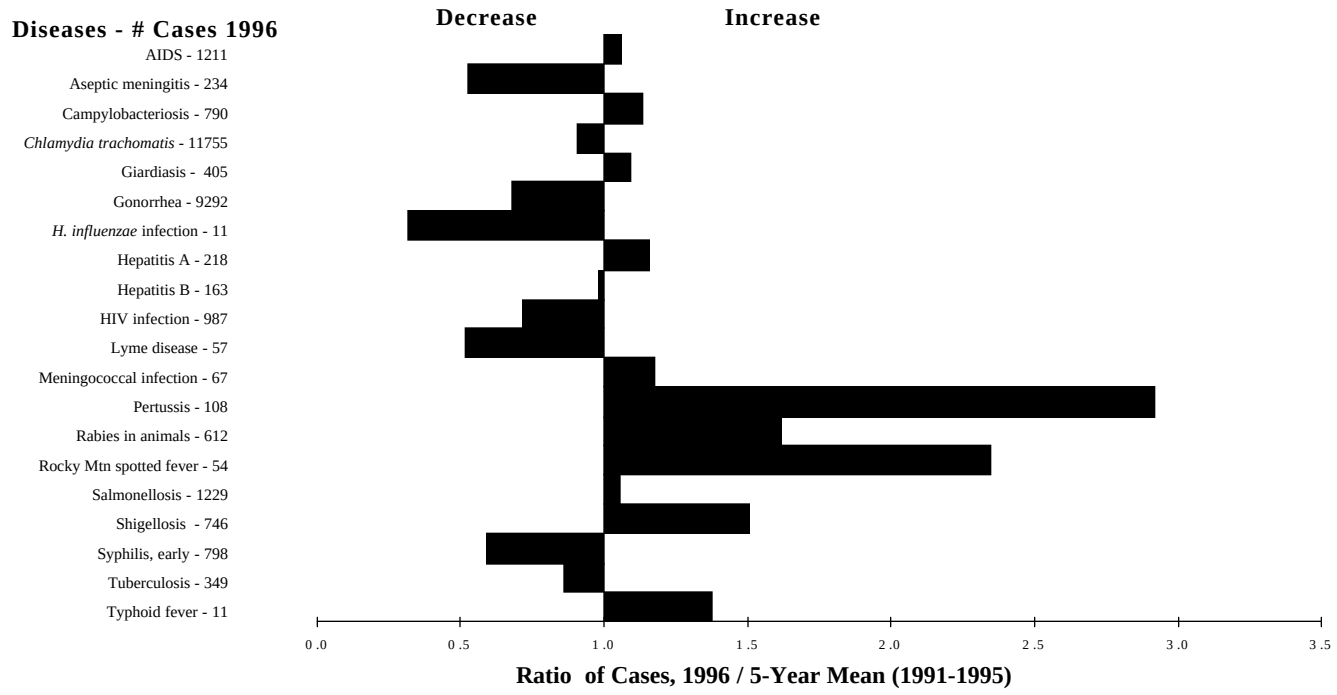
Data Sources

Data in this summary were derived primarily from reports sent to the health department by physicians, directors of medical care facilities and directors of laboratories who report notifiable conditions listed in the *Regulations for Disease Reporting and Control*. The current list of reportable conditions can be found on page 5. Provisional data are tabulated monthly and published in each issue of the VEB.

Trend Data

Figure 1 shows the change (increase or decrease) in the number of reports received in 1996 for a selected group of diseases when

Figure 1. Change in Disease Incidence in 1996 When Compared to Five Year Mean



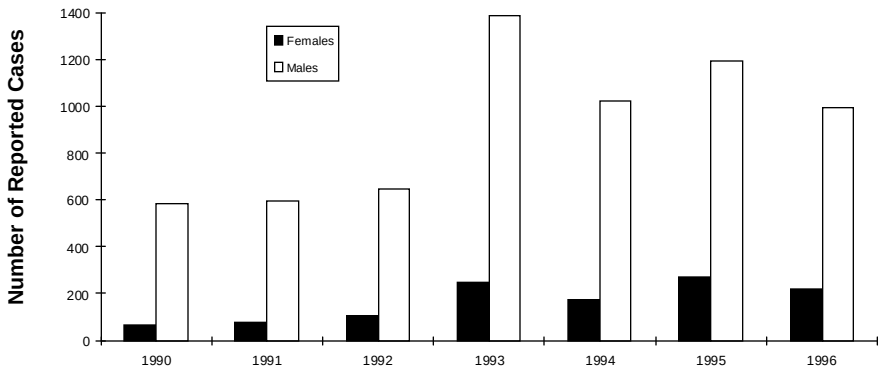
compared to the average annual number of cases reported during the previous five years (5-year mean). The data are shown as a ratio of the number of cases reported in 1996 to the 5-year mean. Table 1 shows the number of reported cases for selected diseases by health planning region. Rates per 100,000 population are also presented.

1996 HIGHLIGHTS FOR SELECTED DISEASES

Acquired Immunodeficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV) Infection

AIDS cases reported in 1996 (1,211 cases) decreased by 17% compared to the 1,461 cases reported in 1995, but the number is comparable to the 1,200 cases reported in 1994. Males outnumbered females almost five to one. Compared to AIDS, the 987 HIV infections reported in 1996 were 22% less than the 1,268 cases reported in 1995 and represent the lowest annual number of cases since 1990, the first full year of reporting of this condition. Males outnumbered females 2.4:1 for HIV infection in 1996 compared to 3.5:1 in 1990. Figure 2 shows the trend in AIDS and HIV reporting by sex since 1990.

Figure 2. Reported HIV Cases in Virginia by Sex, 1990-1996



Aseptic Meningitis

In 1996, 234 aseptic meningitis cases were reported. This compares to the 780 cases reported in 1995 when an unusually high number of cases were reported due to a community-wide outbreak in the Tidewater area of the state. Coxsackievirus Group B, type 5 was the only specified etiologic agent identified in 1996 (1 case reported).

Bacterial Meningitis (not including meningococcal meningitis)

The number of reported cases of bacterial meningitis decreased from the 130 cases reported in 1995 to 77 in 1996. The number of reported cases of this condition has been declining for the past ten years. Much of the recent decline in the number of reported cases can be attributed to a decrease in *Haemophilus influenzae* disease which, until 1991, was responsible for the majority of bacterial meningitis cases. Of late, *Streptococcus pneumoniae* has been the predominant etiologic agent associated with reported cases of bacterial meningitis.

Campylobacteriosis

In 1996, reported *Campylobacter* infections increased by 22%. The 790 cases reported in 1996 were 34 cases less than the record high of 824 cases reported in 1994. Campylobacteriosis is the second most frequently reported enteric infection in Virginia.

Haemophilus influenzae infection, invasive

The eleven cases of invasive *Haemophilus influenzae* disease reported in 1996 were the lowest since this condition became reportable in 1989. The decline in cases can be attributed to the decrease in the incidence among infants and children less than five years of age. Three of the eleven cases reported in 1996 occurred in children less than five years of age. Vaccines for *H. influenzae* type b (Hib) have been available for infants and children since 1988.

Hepatitis A

In 1996 there were 218 cases of hepatitis A reported, representing an 8% decrease from the 238 cases reported in 1995. An outbreak of hepatitis A among migrants on the Eastern Shore was identified in 1996. The majority of cases occurred in young children. Person-to-person transmission, rather than a common source exposure, contributed to this outbreak. The availability of a vaccine against hepatitis A provides an opportunity to reduce the incidence of this disease.

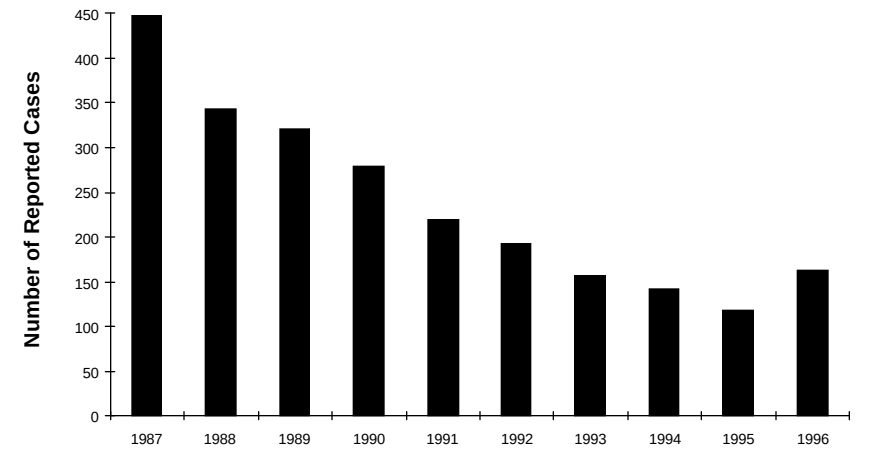
Hepatitis B

Hepatitis B case reports increased in Virginia for the first time in ten years in 1996 (Figure 3). The 163 cases reported in 1996 were 38% more than the 118 cases reported in 1995 but comparable to the 5-year mean of 166 cases. The majority of reported hepatitis B cases continue to occur in adults between the ages of 20-39. The most frequently reported potential risk factor for hepatitis B infection was having multiple sex partners.

Legionellosis

Fifty-four cases of legionellosis were reported in 1996 compared to 28 in 1995 and to the 5-year mean of 20 cases per year. An outbreak in southwest Virginia in the fall of 1996 contributed to this increase. Twenty-three cases of legionellosis were confirmed in this outbreak, including two deaths. The source of infection was traced to a hot tub

Figure 3. Hepatitis B Cases Reported in Virginia, 1987-1996



displayed in a home improvement store. This outbreak is believed to be the first documented outbreak of legionellosis associated with a hot tub used for display purposes.

Lyme Disease

Despite a decline in recent years, Lyme disease continues to be the most frequently reported tickborne illness since becoming a notifiable condition in Virginia in 1989. Fifty-seven cases were reported in 1996 compared to 55 cases in 1995, and 131 cases in 1994. *Borrelia burgdorferi*, the causative organism for Lyme disease in this country, has been isolated from rodents, and infected ticks have been identified in several counties in Virginia.

Measles

Three cases of measles were reported in Virginia residents in 1996 compared to zero cases in 1995. All three persons (ages 2, 14 and 50 years old) were linked to an exposure to measles while in another country. Measles cases also increased in the United States in 1996, one year after recording the fewest cases of measles since national surveillance began.

Meningococcal Disease

The annual number of reported cases of meningococcal disease has remained relatively constant for the past three years. Of the 67 cases reported in 1996, the serogroup was reported for 47. Seventeen isolates were Group Y, 15 were Group B and 15 were Group C. Six deaths were reported. Although the annual number of cases has remained relatively constant, the proportion of cases due to serogroups C and Y has increased.

Pertussis

The 108 cases of pertussis reported in 1996 represent the highest number of cases reported since 1970 when 163 cases were reported. Persons reported with pertussis ranged in age from infants to 49 years of age. A high proportion of cases were in adolescents and adults. Fifty-two (48%) of the 108 cases were reported from the northwest region of the state. Only one case was reported from this region in 1995.

Rabies in Animals

The annual number of animal rabies cases increased in 1996 for the sixth consecutive year, a trend which began in 1991 (Figure 4). The 612 cases reported in 1996 were three times more than the 202 cases reported in 1990. Raccoons (383 cases) were the most frequently reported wildlife species and cats (29 cases) were the most commonly reported domestic species. Other frequently reported rabid animals included skunks (124 cases), foxes (38 cases), and bats (17 cases).

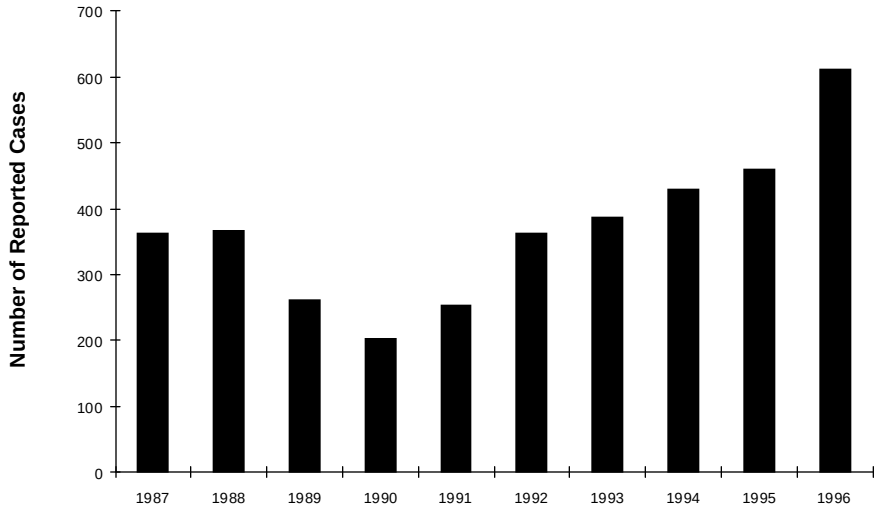
Salmonellosis

Salmonella continued to be the most frequently reported enteric pathogen in Virginia. In 1996, 1,229 *Salmonella* infections were reported compared to 1,358 in 1995. The most commonly reported serotypes were *S. enteritidis* and *S. typhimurium* (286 cases each), followed by *S. heidelburg* (151 cases) and *S. newport* (116 cases). These four serotypes accounted for 60% of the 52 different serotypes identified and reported in 1996. Most cases (64%) were reported during the latter half of the year. Four salmonellosis outbreaks

Table 1. Number of Reported Cases and Rate/100,000 Population for Selected Diseases by Health Planning Region, 1996

	TOTAL		NORTHWEST REGION		NORTHERN REGION		SOUTHWEST REGION		CENTRAL REGION		EASTERN REGION	
1996 Population	6,550,826		908,287		1,585,546		1,268,994		1,120,964		1,667,035	
DISEASE	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
AIDS	1211	18.49	81	8.92	276	17.41	102	8.04	289	25.78	463	27.77
Amebiasis	28	0.43	1	0.11	16	1.01	2	0.16	8	0.71	1	0.06
Aseptic meningitis	234	3.57	18	1.98	72	4.54	31	2.44	9	0.80	104	6.24
Bacterial meningitis	77	1.18	12	1.32	14	0.88	15	1.18	7	0.62	29	1.74
Campylobacteriosis	790	12.06	194	21.36	131	8.26	139	10.95	185	16.50	141	8.46
Chickenpox	1778	27.14	68	7.49	267	16.84	121	9.54	24	2.14	1298	77.86
Chlamydia trachomatis inf.	11755	179.44	1535	169.00	1810	114.16	1585	124.90	3182	283.86	3643	218.53
Encephalitis, primary	26	0.40	5	0.55	6	0.38	4	0.32	1	0.09	10	0.60
Giardiasis	405	6.18	68	7.49	116	7.32	74	5.83	70	6.24	77	4.62
Gonorrhea	9292	141.84	602	66.28	912	57.52	1339	105.52	2337	208.48	4102	246.07
H. influenzae infection	11	0.17	5	0.55	3	0.19	3	0.24	0	0.00	0	0.00
Hepatitis A	218	3.33	22	2.42	92	5.80	18	1.42	29	2.59	57	3.42
Hepatitis B	163	2.49	10	1.10	33	2.08	33	2.60	31	2.77	56	3.36
Hepatitis Non-A Non-B	17	0.26	1	0.11	7	0.44	3	0.24	3	0.27	3	0.18
Histoplasmosis	1	0.02	0	0.00	0	0.00	1	0.08	0	0.00	0	0.00
HIV infection	987	15.07	52	5.73	149	9.40	96	7.57	205	18.29	485	29.09
Influenza	841	12.84	89	9.80	2	0.13	579	45.63	9	0.80	162	9.72
Kawasaki syndrome	19	0.29	1	0.11	3	0.19	6	0.47	0	0.00	9	0.54
Legionellosis	54	0.82	5	0.55	5	0.32	32	2.52	1	0.09	11	0.66
Lyme disease	57	0.87	7	0.77	27	1.70	6	0.47	10	0.89	7	0.42
Malaria	60	0.92	8	0.88	42	2.65	2	0.16	4	0.36	4	0.24
Measles	3	0.05	1	0.11	1	0.06	0	0.00	1	0.09	0	0.00
Meningococcal infection	67	1.02	14	1.54	13	0.82	11	0.87	17	1.52	12	0.72
Mumps	19	0.29	0	0.00	6	0.38	3	0.24	3	0.27	7	0.42
Pertussis	108	1.65	52	5.73	12	0.76	8	0.63	13	1.16	23	1.38
Rabies in animals	612	--	149	--	111	--	106	--	107	--	139	--
Rocky Mtn. spotted fever	54	0.82	10	1.10	11	0.69	7	0.55	19	1.69	7	0.42
Salmonellosis	1229	18.76	156	17.18	305	19.24	214	16.86	276	24.62	278	16.68
Shigellosis	746	11.39	213	23.45	249	15.70	61	4.81	27	2.41	196	11.76
Syphilis, primary	798	12.18	9	0.99	24	1.51	38	2.99	220	19.63	507	30.41
Tuberculosis	349	5.33	34	3.74	143	9.02	36	2.84	54	4.82	82	4.92
Typhoid fever	11	0.17	1	0.11	9	0.57	0	0.00	0	0.00	1	0.06

Figure 4. Cases of Animal Rabies Reported in Virginia, 1987-1996



were identified in 1996: two associated with restaurants, one with a college cafeteria, and one with a mobile food service truck.

Shigellosis

The 746 reported cases of shigellosis in 1996 represented an 81% increase over the 412 cases reported in 1995. The increase in reported cases can be attributed to numerous day care and community-wide outbreaks. Ninety-three percent of the increase in cases in 1996 occurred in two of the three health planning regions where increases were recorded.

Sexually Transmitted Diseases

During 1996, the number of reported cases of sexually transmitted diseases decreased for the second consecutive year. *Chlamydia trachomatis* infections were down by 4%; gonorrhea infections by 10%; and early syphilis by 30%. The 9,292 cases of gonorrhea were the fewest reported in 29 years. Nineteen cases of congenital syphilis were reported in 1996 compared to 22 cases in 1995, a decrease of 14%.

Tuberculosis

Virginia reported 349 cases of tuberculosis (TB) in 1996, representing a 3% decrease from the 359 cases reported in 1995. The major site of disease was pulmonary for 80.8% of cases. Positive cultures were obtained for 91.7% of cases. Thirty-one drug resistant cases were reported, three of which were multi-drug resistant.

Although this was the third consecutive year that TB morbidity decreased in Virginia, the cases that occurred were more difficult to manage and more expensive to treat. Language and cultural differences were the predominant barriers to the successful treatment of disease. Forty-four percent of the cases were foreign-born. Directly observed therapy was a strategy used in the treatment of 181 (51.9%) patients. Twenty-three (6.6%) cases were co-infected with HIV.

EPIDEMIOLOGIC NOTES

This report presents a portion of disease surveillance statistics for 1996 and includes cases reported during the 1996 calendar year. These data may differ from the provisional data published in 1996 issues of the VEB. Incidence rates were calculated using estimates of the population of Virginia from the U.S. Census Bureau for July 1, 1994.

Submitted by: Leslie M. Branch and Mary Jean Linn, Surveillance and Investigation, Office of Epidemiology.

EMERGING INFECTIOUS DISEASES, 1996-97 ACTIVITY

Escherichia coli O157:H7

Escherichia coli O157:H7 is an important emerging pathogen with the potential to cause serious illness. After an average incubation period of three to four days, the illness classically presents as severe abdominal pain with cramps and watery diarrhea that turns bloody. Patients are usually afebrile; approximately half have vomiting. Illness is usually self-limited with a duration of about eight days. Asymptomatic infections and cases of mild non-bloody diarrhea also occur. About 2%-7% of those infected develop hemolytic uremic syndrome (HUS) which is characterized by renal injury, thrombocytopenia and microangiopathic hemolytic anemia. Children less than five years of age are at greatest risk for developing HUS which has a case fatality rate of 3%-5%. Many different vehicles have been implicated in *E. coli* O157:H7 outbreaks including undercooked ground beef, apple cider and juice, and fresh produce such as lettuce. Since 1992 when the first Virginia cases were identified, the Office of Epidemiology has maintained a database of all voluntarily reported cases. Fifty-three cases of *E. coli* O157:H7 infection were reported in 1996; no outbreaks were reported.

In 1997, since the beginning of June, 37 cases of *E. coli* O157:H7 have been reported from throughout the state to the Office of Epidemiology. Twenty-four of 26 isolates sent to the Centers for Disease Control and Prevention (CDC) matched by pulsed-field gel electrophoresis. A case-control study to determine the source of illness is being conducted by local health departments and the Office of Epidemiology.

In patients with diarrhea, particularly bloody diarrhea, it is important to request that the laboratory cultures the stool specimen for *E. coli* O157:H7. Please contact your local health department to report voluntarily *E. coli* O157:H7 illness and/or HUS.

Cyclospora Infection

Cyclosporiasis is a parasitic infection caused by a relatively newly recognized infectious organism (*Cyclospora cayetanensis*). The first known cases were identified in 1977, but the incidence has increased since the mid-1980s. In 1996, outbreaks of cyclosporiasis occurred in the U.S. and Canada. Imported raspberries were implicated by many of the investigations.

The most common symptoms of cyclosporiasis include prolonged watery diarrhea, abdominal cramps, nausea, vomiting, myalgia, fatigue and loss of appetite. Low-grade fever is sometimes present for a day before diarrhea begins. The incubation period is about one week. Treatment with trimethoprim-sulfamethoxazole is recommended for persons infected with *Cyclospora.* If untreated, patients may be ill for four weeks or more and often go through cycles of remission followed by recurrence of diarrhea. Some infected persons are asymptomatic.

Cyclospora infections are not required to be reported in Virginia, but the Office of Epidemiology is interested in learning of any cases. One outbreak of *Cyclospora* infection was identified during 1996 in Virginia. Sixteen of 67 (24%) persons interviewed became ill after attending a medical conference; the outbreak was reported to the health department about two months after it occurred. The epidemiologic investigation implicated im-

ported blackberries, but this finding must be viewed with caution. Due to the length of time between the event and the time of their interview, many people could not accurately recollect what they had eaten, particularly whether they had eaten blackberries, raspberries or both.

Since April 1997, CDC has received reports of 21 clusters of cyclosporiasis from eight states and one province in Canada.[1] These clusters were associated with events such as receptions and banquets that occurred from March 19 to May 25. Fresh raspberries were served at 19 of the 21 events. Guatemala has been identified as one of the possible raspberry sources for eight events for which traceback data are currently available. Two clusters that were not associated with raspberries occurred in Florida. The first cluster was associated with eating mesclun (a mixture of various types of baby leaves of lettuce); mesclun is also suspected as the source of the second cluster. The specific source of the implicated mesclun has not been determined.

To date in 1997, 15 cases of cyclosporiasis have been confirmed in Virginia; 12 of these have occurred since June 21. As this VEB goes to press, at least two outbreaks are being investigated in northern Virginia.

Cyclosporiasis is confirmed by identifying the organism in a stool specimen. As with all Ova and Parasite (O&P) examinations, it is important to examine more than one specimen due to the intermittent shedding of many parasitic organisms. The recommended procedure is to examine three stools, preserved in 10% formalin, collected every other day. If a laboratory identifies an organism suspected of being *Cyclospora*, the specimen may be sent for confirmation to the Division of Consolidated Laboratory Services (DCLS). Questions regarding the identification of *Cyclospora* may be addressed to Mary Mismas or Sally Henderson at DCLS, (804)786-5146. Please contact your local health department or the Office of Epidemiology at (804)786-6029 if you identify any cases or outbreaks.

Reference
1. CDC. Update on Cyclosporiasis - United States and Canada, 1997. MMWR 1997;46:521-3.

You may check the Office of Epidemiology page on the Virginia Department of Health web site for periodic updates on the E. coli O157:H7 and Cyclospora outbreaks.

www.vdh.state.va.us

Reportable Diseases in Virginia

Acquired immunodeficiency syndrome
Amebiasis
ANTHRAX*
Arboviral infection
Aseptic meningitis
Bacterial meningitis (specify etiology)
BOTULISM
Brucellosis
Campylobacter infection* (excluding *C. pylori*)
Chancroid
Chickenpox
Chlamydia trachomatis infection*
Congenital rubella syndrome
DIPHTHERIA*
Encephalitis
primary (specify etiology)
post-infectious
FOODBORNE OUTBREAK
Giardiasis
Gonorrhea*
Granuloma inguinale
HAEMOPHILUS INFLUENZAE INFECTION, INVASIVE*
HEPATITIS A*
Hepatitis B
Hepatitis non-A non-B
Hepatitis unspecified
Histoplasmosis
Human immunodeficiency virus (HIV) infection*
Influenza *¶
Kawasaki syndrome
Lead - elevated levels in children * ~
Legionellosis*
Leprosy
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, all stages*
PRIMARY AND SECONDARY
Tetanus
Toxic shock syndrome
Toxic substance related illness
Trichinosis*
TUBERCULOSIS (Mycobacteria*)
Tularemia
Typhoid fever
Typhus, flea-borne
Vibrio infection, including CHOLERA*
WATERBORNE OUTBREAK
YELLOW FEVER

UPPER CASE indicates conditions that must be reported by physicians and directors of medical care facilities by rapid reporting to the local health director via telecommunication. Report all other diseases within seven days.

**These are the only conditions reportable by directors of laboratories. These and all other conditions are reportable by physicians and directors of medical care facilities as well.*

¶Physicians and directors of medical care facilities should report influenza by number of cases only (and type of influenza, if available).

~A blood lead level of 15 µg/dL or higher in children age 0-15.

Cases of Selected Notifiable Diseases Reported in Virginia*

Disease	Total Cases Reported, April 1997						Total Cases Reported Statewide, January through April		
	State	Regions							
		NW	N	SW	C	E	This Year	Last Year	5 Yr Avg
AIDS	78	1	15	9	34	19	369	330	419
Campylobacteriosis	59	12	10	22	13	2	109	160	136
Giardiasis	47	3	20	7	3	14	124	83	80
Gonorrhea	454	18	79	82	76	199	2735	3217	4060
Hepatitis A	19	1	10	0	6	2	58	48	48
Hepatitis B	21	0	7	2	2	10	37	51	46
Hepatitis NANB	3	0	1	0	1	1	7	4	9
HIV Infection	71	0	10	12	26	23	328	298	374
Influenza	0	0	0	0	0	0	339	363	643
Legionellosis	3	1	0	1	0	1	4	9	4
Lyme Disease	0	0	0	0	0	0	0	0	8
Measles	0	0	0	0	0	0	0	0	2
Meningitis, Aseptic	27	2	5	5	1	14	57	44	52
Meningitis, Bacterial†	13	1	2	2	2	6	36	23	36
Meningococcal Infections	9	0	4	2	1	2	22	20	29
Mumps	1	0	0	0	1	0	2	3	13
Pertussis	3	1	2	0	0	0	17	3	7
Rabies in Animals	57	14	20	8	11	4	198	174	123
Rocky Mountain Spotted Fever	1	0	1	0	0	0	1	0	0
Rubella	1	0	1	0	0	0	1	0	0
Salmonellosis	76	9	17	17	21	12	207	285	239
Shigellosis	78	3	14	52	7	2	181	116	103
Syphilis, Early‡	40	0	4	8	9	19	237	346	434
Tuberculosis	25	3	9	4	2	7	111	82	98

Localities Reporting Animal Rabies: Albemarle 1 fox, 2 raccoons, 1 skunk; Alexandria 3 raccoons,; Amherst 1 raccoon; Arlington 1 cat; Chesapeake 1 raccoon; Chesterfield 1 raccoon; Cumberland 1 bobcat; Dinwiddie 1 raccoon; Fairfax 1 fox, 4 raccoons; Greene 1 groundhog; Halifax 1 cat; Hanover 1 cat, 1 fox, 2 raccoons; Hopewell 1 raccoon; Loudoun 5 raccoons, 1 skunk; Lynchburg 1 raccoon; Mathews 1 raccoon; Mecklenburg 1 skunk; Nelson 1 skunk; Newport News 1 raccoon; Northampton 1 raccoon; Pittsylvania 3 raccoons; Prince George 1 raccoon; Prince William 4 raccoons, 1 skunk; Rappahannock 1 raccoon, 1 skunk; Rockingham 3 raccoons; Russell 1 fox; Spotsylvania 1 skunk; Stafford 1 raccoon; Warren 1 raccoon; Washington 1 skunk; Wythe 1 skunk.

Occupational Illnesses: Asbestosis 19; Carpal Tunnel Syndrome 35; DeQuervain's Syndrome 4; Hearing Loss 3; Lead Poisoning 2; Mesothelioma 1; Pneumoconiosis 13.

*Data for 1997 are provisional. †Other than meningococcal. ‡Includes primary, secondary, and early latent.

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