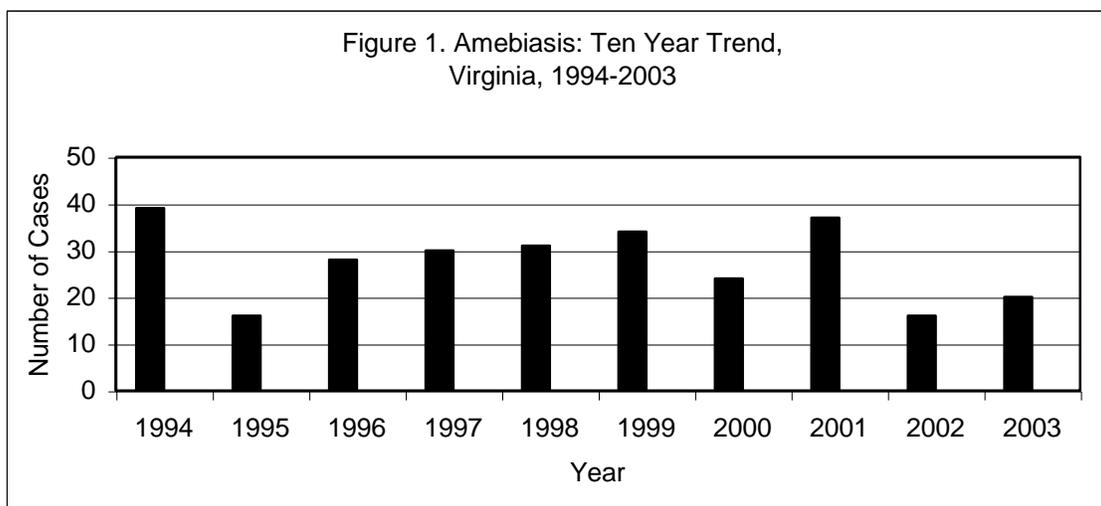


Acquired Immunodeficiency Syndrome (AIDS)

See Human Immunodeficiency Virus (HIV)

Amebiasis

Twenty cases of amebiasis were reported in Virginia during 2003 (Figure 1). This is a 30% decrease from the five-year average of 28.4 cases per year. The 10-19, 30-39 and 40-49 year age groups all had the same infection rate (0.4 per 100,000), followed by the 20-29 year age group (0.2 per 100,000). Race was reported as unknown for 50% of cases. Of the ten cases where race was known, seven were white and three were black. These populations had similar incidence rates (0.1 and 0.2 per 100,000, respectively). Males had twice the incidence rate of amebiasis (0.4 per 100,000) compared to females (0.2 per 100,000). Sixty percent of the cases occurred in the first and fourth quarters, while 40% occurred in the second and third quarters. Most cases occurred in the northern health planning region (16) with an incidence of 0.8 per 100,000, followed by the northwest region with two cases and an incidence rate of 0.2 per 100,000.



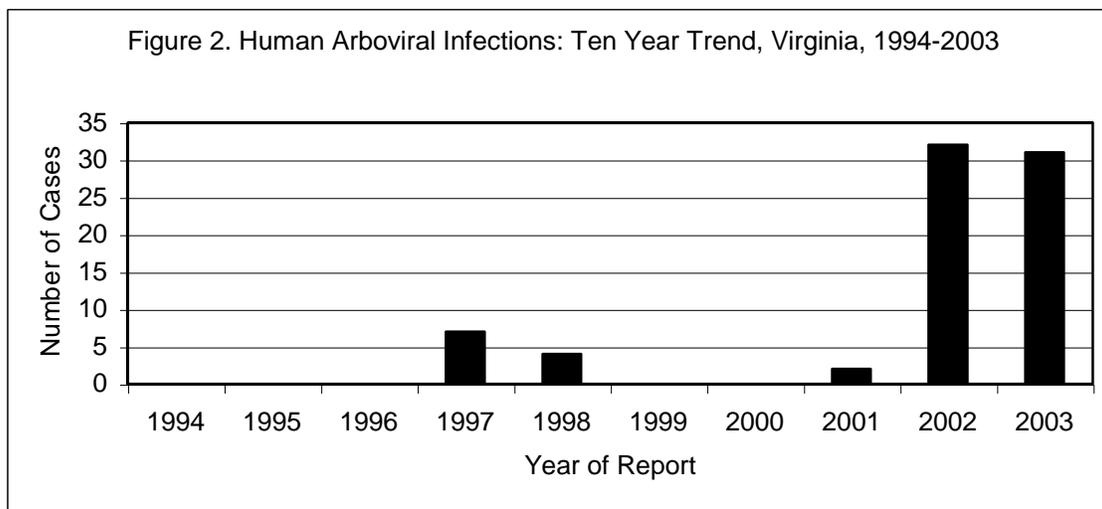
Anthrax

In Virginia in 2001 two cases of inhalation anthrax were reported from the northwest health planning region. These infections were due to an intentional release of *Bacillus anthracis* spores through the US postal service. Both individuals were exposed at their work place and both survived. These were the first reported cases of anthrax in Virginia since 1970.

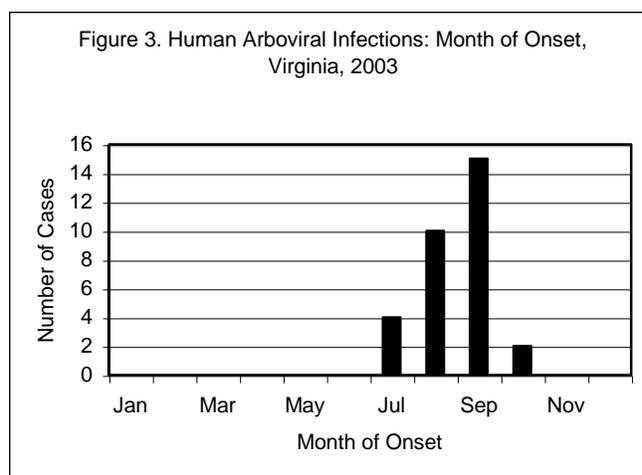
Arboviral Infection

Human

There were 31 cases of arboviral infection in Virginia during 2003 (Figure 2). This is a significant increase from the five-year average of 7.6 cases per year, though it is similar to the 32 cases reported in 2002. The sharp increase in arboviral infections since 2001 is due to the emergence of WNV; no human cases of WNV were reported prior to 2002. In 2002, WNV made up 91% of arboviral infections in Virginia. During 2003, 26 cases (84%) were due to WNV infection, four (13%) were due to LAC, and one (3%) was due to EEE.



The highest infection rates were reported in the 50 years and older and 40-49 year age groups (0.9 and 0.7 cases per 100,000, respectively). The incidence rate in the white population (0.4 per 100,000) was twice that in the black population (0.2 per 100,000). Males also had twice the rate of females (0.6 versus 0.3 cases per 100,000). The highest infection rates by health planning region were in the northern and eastern regions (0.5 per 100,000). Cases were seen in all regions, and infection rates were similar between regions, between 0.2 and 0.5 per 100,000. Ninety-four percent of all cases occurred during the third quarter of the year (Figure 3).



Animal

Testing for WNV in animals is conducted each year for chickens, birds, and horses. During 2003 there were a total of 23 sentinel chicken flocks tested by serology every other week from May to October. A total of 125 chickens were tested and 54 (43%) were positive for WNV. For wild birds,

real-time polymerase chain reaction (RT-PCR) testing of bird tissues or swab samples indicated 1,041 (61%) positive wild birds out of 1,700 tested. Two hundred thirty-four horses were found to have WNV infection.

Botulism

Foodborne

There were no cases of foodborne botulism reported in Virginia during 2003, compared to one case reported in 2002. Nationally, 21 cases of foodborne botulism were reported to the CDC in 2002.

Infant

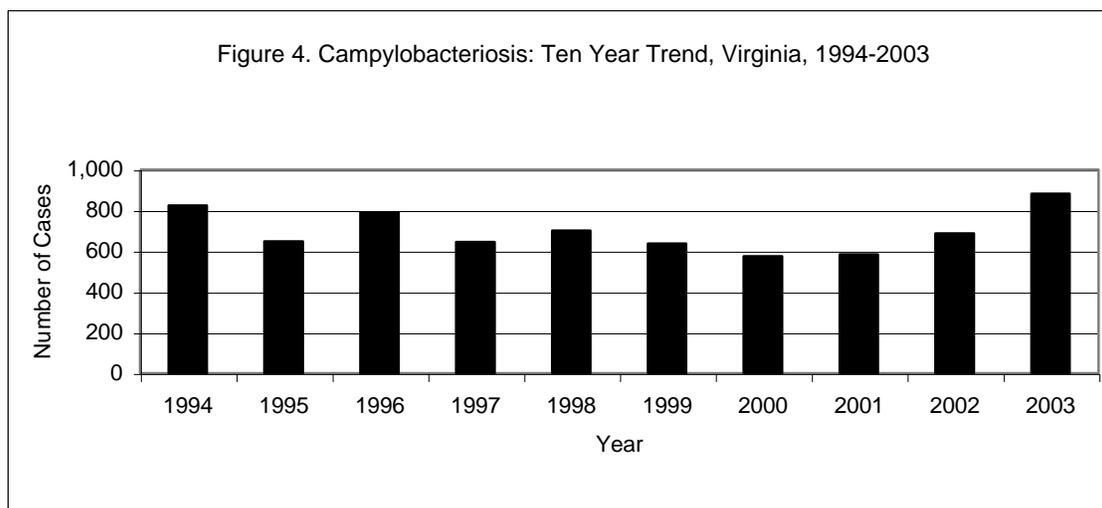
In 2003, Virginia reported one case of infant botulism in a white, female from the southwest health planning region. This is a decrease from the three cases reported in 2002 and the average of 2.4 cases that occurred annually over the past five years. Nationally, 81 cases of infant botulism were reported to the CDC in 2002.

Brucellosis

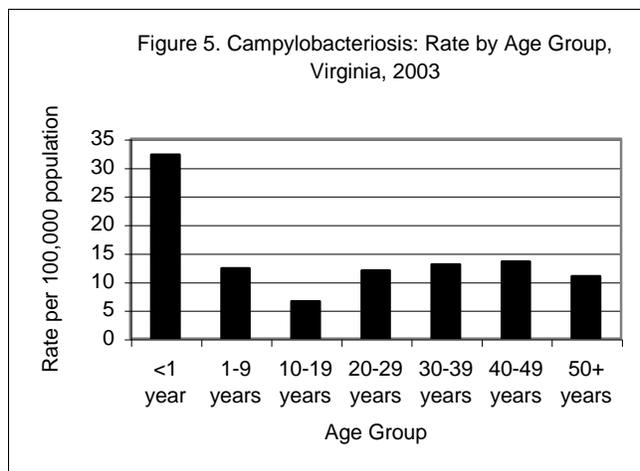
In 2003, two cases of this disease were reported in Virginia. The cases were a male and female, both in the 30-39 year age group. They were reported from the northwest region with onset in the fourth quarter. Both cases had traveled to Mexico where they drank raw milk and ate unpasteurized cheese.

Campylobacteriosis

There were 882 cases of *Campylobacter* infection reported in Virginia during 2003 (Figure 4). This is a 39% increase over an average of 636 cases per year reported for the past five years. Infection was reported in all age groups. Infants had the smallest number of cases but the highest infection rate (33 cases, 32.2 per 100,000) (Figure 5).

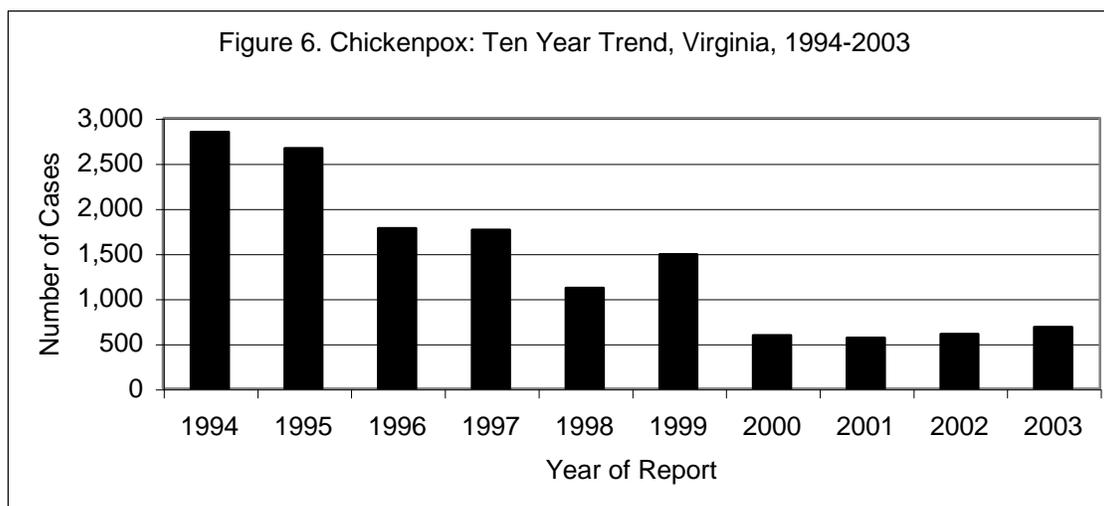


Forty percent of the cases had no reported race. Of those with a reported race, 88% (464/526) were white, giving this population an infection rate more than three times that of the black population (8.7 versus 2.6 per 100,000, respectively). More cases were reported in males (472 cases, 13.0 per 100,000) than females (392 cases, 10.4 per 100,000). Most cases had onset dates in the second or third quarter of the year. The largest proportion of cases occurred in the northwest health planning region (206 cases, 18.7 per 100,000). Infection rates in the other regions were between 8.3 and 14.1 per 100,000. One outbreak of campylobacteriosis was investigated in 2003 (see Table 10).



Chickenpox (Varicella)

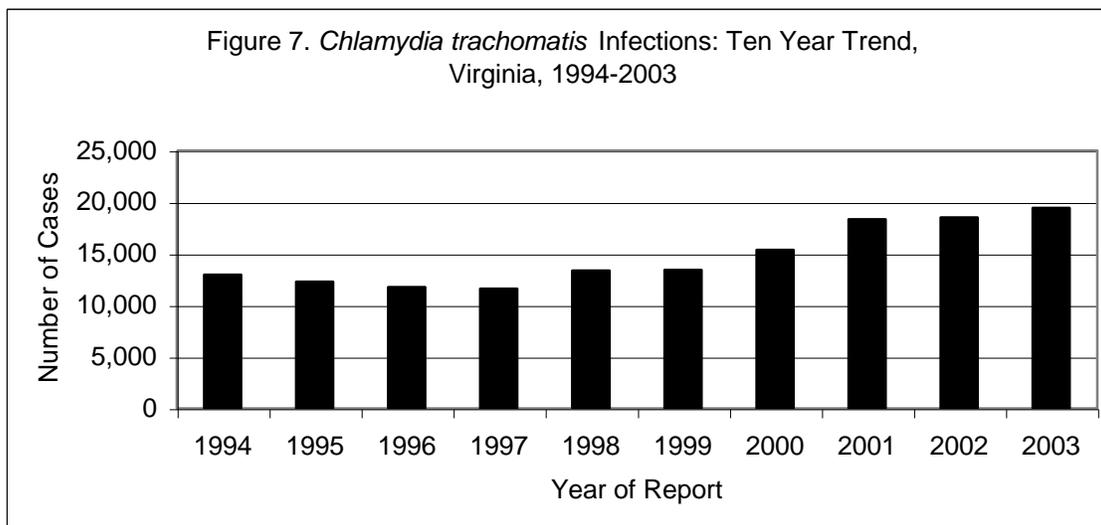
There were 682 cases of chickenpox reported in Virginia during 2003 (Figure 6). The incidence of chickenpox has declined since the introduction of the varicella vaccine, licensed in 1995. The eastern health planning region had the highest rate of varicella infection (359 cases, 20.2 per 100,000). The northern region reported the next highest rate (8.4 per 100,000), followed by the southwest (4.7 per 100,000) and the central (4.5 per 100,000) regions. The northwest region reported 41 cases, 3.7 per 100,000.



Chlamydia trachomatis Infection

There were 19,439 cases of *C. trachomatis* infection reported in Virginia during 2003 (Figure 7). This is a 23% increase from the five-year average of 15,800.6 cases per year, and the highest number of cases since reporting began in 1989. However, even these high numbers are most likely an

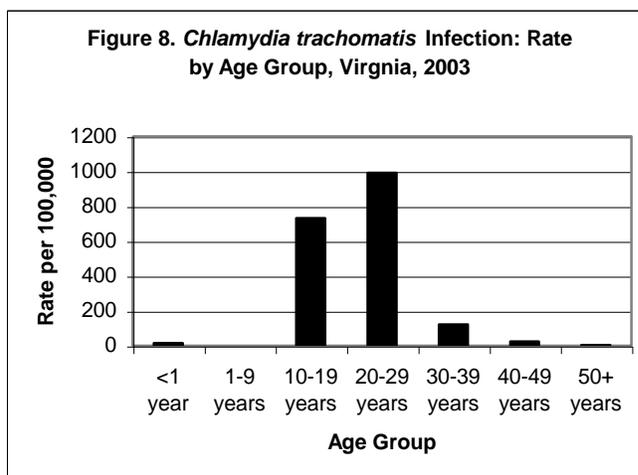
underestimate. Reasons for this include 1) many cases are asymptomatic, 2) those who are presumptively treated for chlamydia infections are not counted and 3) screening has been limited to high-risk females and male partners of infected women.



Of the reported cases, the highest infection rate was reported in the 20-29 year age group (990.6 cases per 100,000). The 10-19 year age group followed with 732 cases per 100,000 (Figure 8). Fifteen cases were reported in the less than 1 year age group (14.6 cases per 100,000). Ten of the 15 infants were confirmed to have *C. trachomatis* eye infections (see Ophthalmia Neonatorum section).

The black population had a much higher rate than the white population (753.1 versus 87.0 cases per 100,000, respectively). This trend is mirrored nationally, where the black population infection rate is over 8 times that of the white population.

In Virginia, females had almost four times the rate of males: 413.6 cases per 100,000 compared to 106.9 cases per 100,000. However, this 4:1 female to male ratio may reflect the screening conducted among women, rather than a true difference in disease distribution.



The eastern and central health planning regions had the highest rates of infection (408.7 and 384.3 cases per 100,000, respectively). The other regions had infection rates between 123 and 210.1 cases per 100,000. Reported cases were distributed throughout the year.

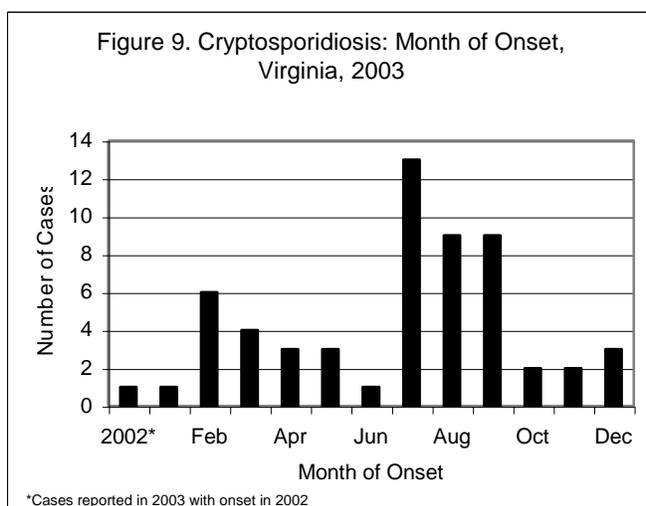
Creutzfeldt-Jakob Disease

In Virginia, CJD is reportable in individuals less than 55 years of age. Over the last five years, an average of one case per year has been reported in those under age 55. No cases of CJD were reported in individuals less than 55 years of age during 2003.

Cryptosporidiosis

Fifty-six cases of cryptosporidiosis were reported in Virginia during 2003. This is a 106% increase over the five-year average of 27.2 cases per year. Infants less than one year of age had the highest rate of infection (2.9 per 100,000), followed by the 1-9 and 10-19 year olds (1.3 per 100,000 for both groups). The other age groups had incidence rates between 0.4 and 0.8 cases per 100,000. The white population had more than twice the incidence rate for cryptosporidiosis than the black population (0.8

cases per 100,000 versus 0.3 cases per 100,000), and males had a slightly higher rate (0.9 per 100,000) than females (0.6 per 100,000).



The southwest health planning region had the highest incidence rate of cryptosporidiosis (2.2 per 100,000) followed by the northern and northwest health planning regions, which had similar incidence rates of 0.7 and 0.6 per 100,000, respectively. The other health planning regions each had a rate of 0.2 cases per 100,000. The highest number of cases occurred during the third quarter of the year (Figure 9).

Cyclosporiasis

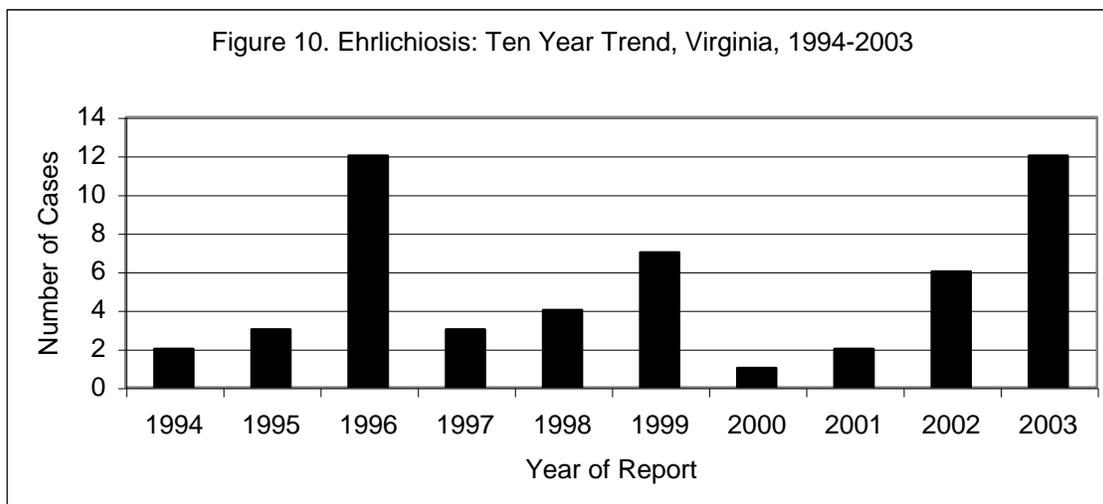
Three cases of cyclosporiasis were reported in Virginia during 2003. This is an increase from the 1 case reported in 2002 and the five-year average of 1.6 cases per year. Cases were reported in the 1-9 year and 20-29 year age groups (one and two cases, respectively). Two cases were female and one was male. The cases were reported from three different health planning regions (northwest, northern, and southwest). All cases reported travel outside the country in the two weeks prior to illness onset. The countries included Peru and Costa Rica, Haiti, and Afghanistan. One patient had gone swimming while traveling. Cases occurred during the third and fourth quarters of the year.

Diphtheria

In Virginia, no cases of diphtheria were reported in during 2003. The last reported case in Virginia occurred in 1989. Nationally, there are between 0-5 cases of diphtheria reported each year.

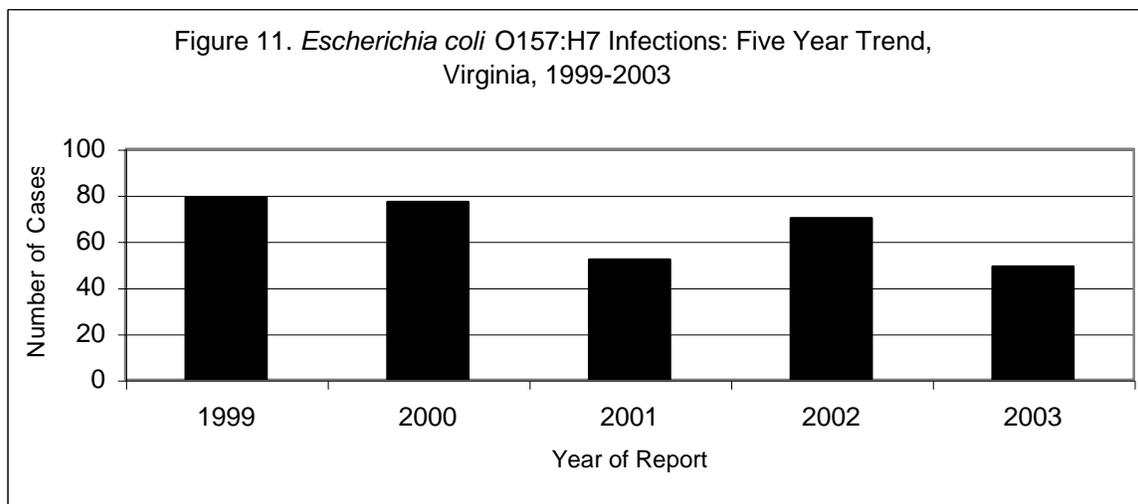
Ehrlichiosis

Twelve cases of ehrlichiosis were reported in Virginia during 2003 (Figure 10). This is a 200% increase over the five-year average of 4 cases per year. The 30-39, 40-49 and greater than 50 years age groups had incidence rates from 0.2 to 0.3 cases per 100,000. Only one case was reported in the 10-19 year age group and no cases were reported in the other age groups. The white and black populations had the same incidence rate (0.1 cases per 100,000) and males had a slightly higher rate than females (0.2 versus 0.1 per 100,000). Each health planning region reported between two and four cases, except the southwest region, which had no cases. For all cases, reported onset occurred between April and September.



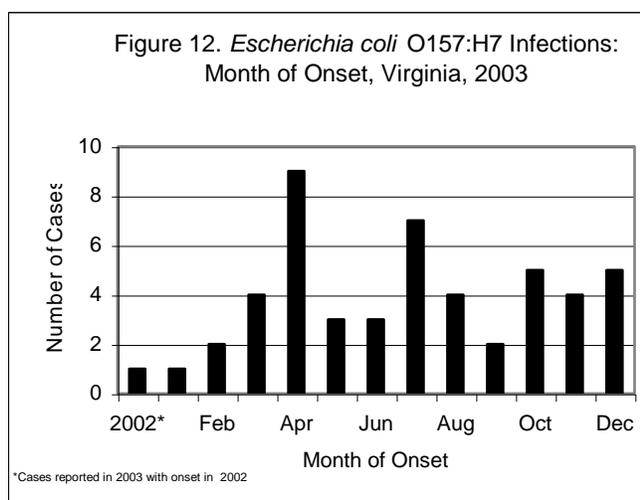
Escherichia coli O157:H7 Infection

E. coli O157:H7 became a reportable disease in Virginia in 1999. In 2003 there were 49 cases reported, a 29% decrease from the four year average of 69.5 cases per year (see Figure 11 for ten year trend). Children in the 1-9 year age group had the highest incidence rate (1.7 per 100,000), followed by infants (1.0 per 100,000). Race was reported for 59% of cases and among those the white population had a higher incidence rate (0.5 per 100,000) compared to the black population (0.1 per 100,000).



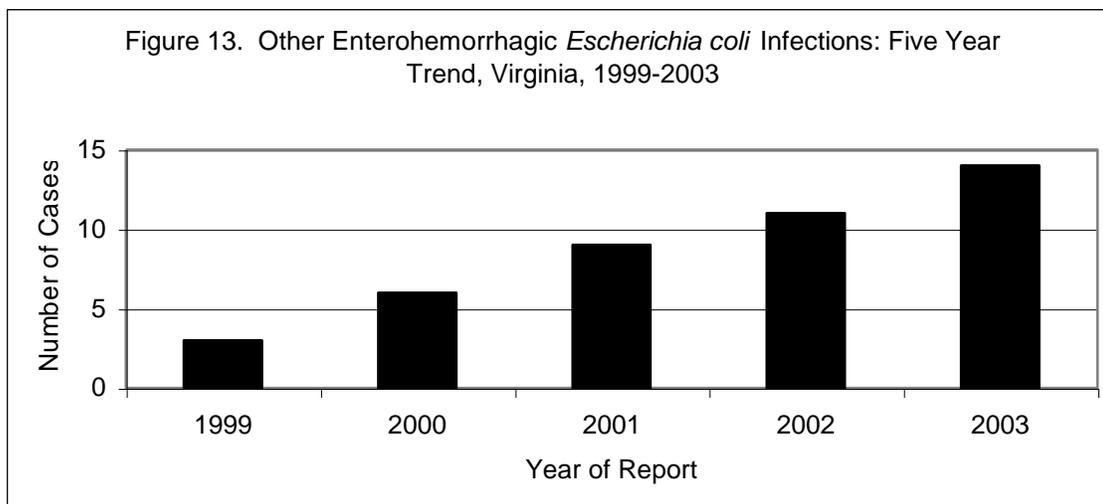
Females also had a higher incidence rate than males (0.9 per 100,000 versus 0.4 per 100,000). The lowest number of cases occurred in the first quarter (January to March) (Figure 12). By health planning region, the highest rates were found in the northwest and central regions (1.1 and 1.0 cases per 100,000, respectively).

One outbreak of *E. coli* O157:H7 was reported from the central region (see Table 10.)



Other Enterohemorrhagic *Escherichia coli* Infections

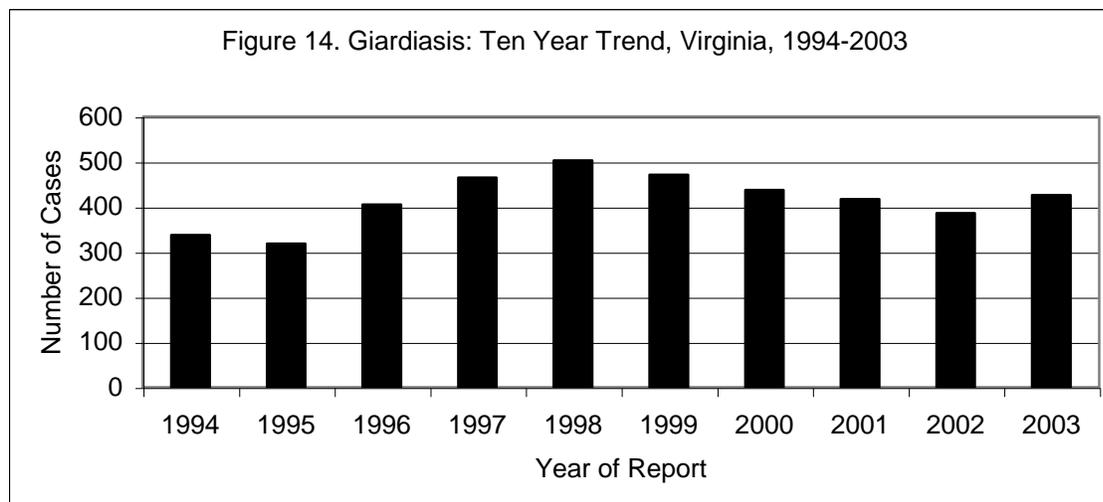
Other enterohemorrhagic *E. coli*, in addition to O157: H7, are also reportable. Fourteen cases of these infections were reported in Virginia during 2003 (Figure 13). This is 2.4 times the average of 5.8 cases reported per year for the past four years. Infants had the highest infection rate (0.2 per 100,000), followed by children 1-9 years old (0.7 per 100,000). The other age groups had infection rates between zero and 0.1 per 100,000.



All cases were in the white population (0.1 per 100,000) and were evenly split between males and females (6 cases, 0.2 per 100,000 for both). For two cases, sex was not reported. The northwest health planning region reported a rate of 0.4 cases per 100,000 while the other regions reported rates between 0.1 and 0.2 cases per 100,000. More than 75% of cases occurred during the second and third quarters of the year.

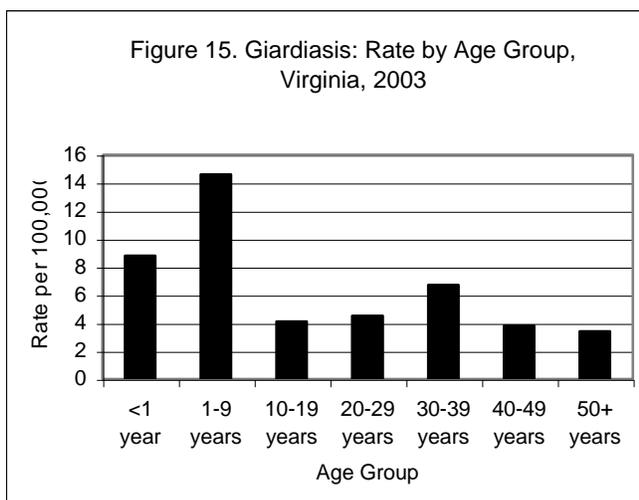
Giardiasis

There were 426 reported cases of giardiasis in Virginia during 2003 (Figure 14). This is an increase over the 386 cases reported in 2002, but a 4% decrease from the average of 442.8 cases reported each year over the past five years.



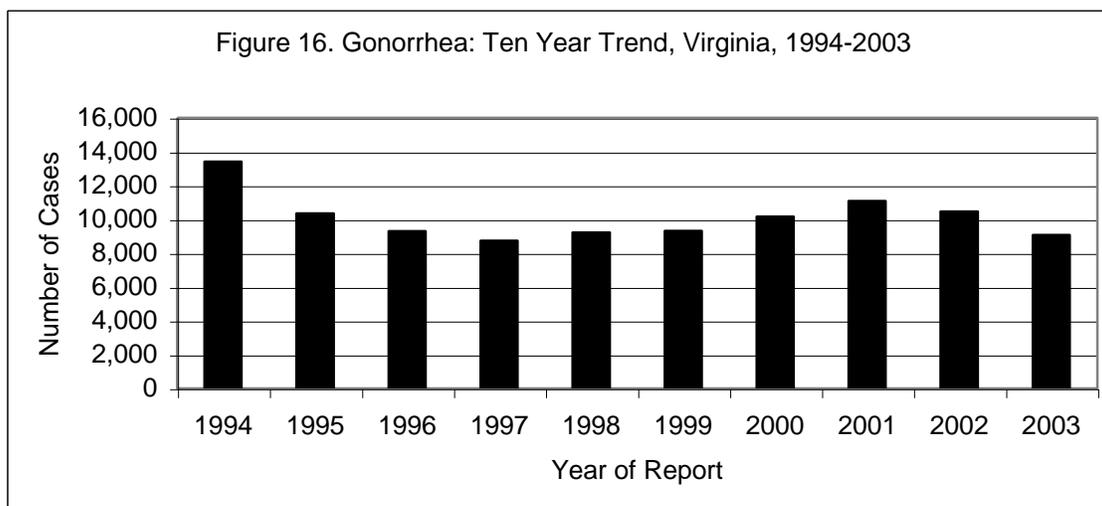
The 1-9 year age group had the highest number of cases and highest incidence rate (128 cases, 14.6 per 100,000), followed by the less than one year age group (9 cases, 8.8 per 100,000) and the 30-39 year age group (77 cases, 6.7 per 100,000) (Figure 15).

The white population had an incidence rate of 3.6 cases per 100,000, followed by the black population with 2.8 cases per 100,000, and the other race group with 0.6 cases per 100,000. Males had a higher incidence of giardiasis than females (6.5 versus 4.8 per 100,000, respectively). The northern and northwest regions had the highest incidence rates (7.8 and 6.6 per 100,000, respectively), while the southwest region had the lowest incidence rate (4.0 per 100,000). Cases occurred throughout the year.

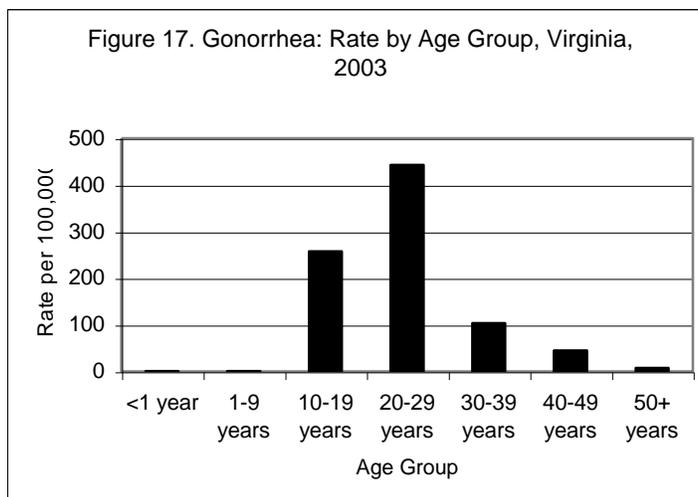


Gonorrhea

In Virginia, 9,062 cases of gonorrhea were reported during 2003 (Figure 16). This is a 10% decrease from the five year average of 10,048 cases per year. The highest rates of gonorrhea were reported in the 20-29 year age group (442.8 per 100,000) and the 10-19 year age group (257.3 per 100,000).



The 30-39 year age group also had a high rate at 103.8 per 100,000 (Figure 17). The reported rate in the black population (467.8 per 100,000) was more than 22 times the rate in the white population (20.8 per 100,000). Females had a slightly higher rate (127.9 per 100,000) than males (117.3 per 100,000). Incidence of gonorrhea was highest in the eastern and central health planning regions (251.8 per 100,000 and 195.8 per 100,000, respectively). The other regions had rates between 30.3 and 83.5 cases per 100,000. Cases occurred throughout the year.

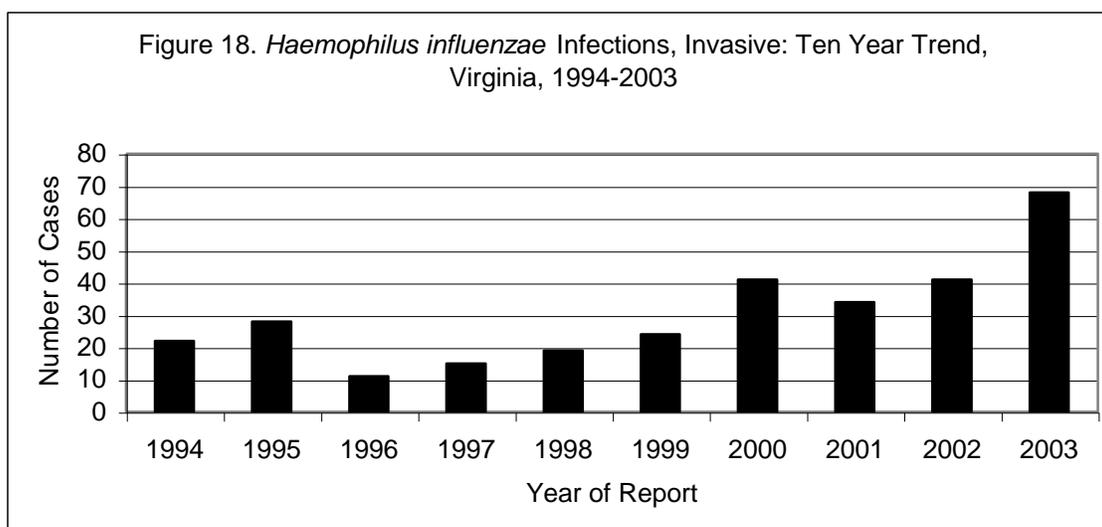


Granuloma Inguinale

No cases of granuloma inguinale were reported in Virginia during 2003. One case was reported in 2001.

Haemophilus influenzae Infection, Invasive

Sixty-eight cases of *H. influenzae* were reported in Virginia during 2003, which is more than two times the five year average of 31.8 cases per year (see Figure 18 for ten year trend). Three (4%) were Hib, 25 (37%) were nontypeable, 7 (10%) were non-B, and 33 (46%) were an unknown type. According to the CDC, typing *H. influenzae* strains is a challenge throughout the United States; the development of molecular assays is needed to improve subtyping of all *H. influenzae* strains.



The highest incidence rate occurred in the less than one year age group with 5.9 cases per 100,000 (including one case of Hib who was not old enough to have received the vaccine). This was followed by the greater than 50 year age group with 2.1 cases per 100,000 (with two cases of Hib). The other age groups had incidence rates between 0.2 and 0.6 cases per 100,000. The white and black populations had the same incidence rate (0.8 per 100,000) and males and females had similar rates (1.0 and 0.9 per 100,000, respectively). The southwest region had the highest incidence rate (1.6 per 100,000), followed by the central and northwest health planning regions (1.4 and 1.1 per 100,000, respectively). The largest proportion of cases (34%) occurred between October and December.

Hantavirus Pulmonary Syndrome

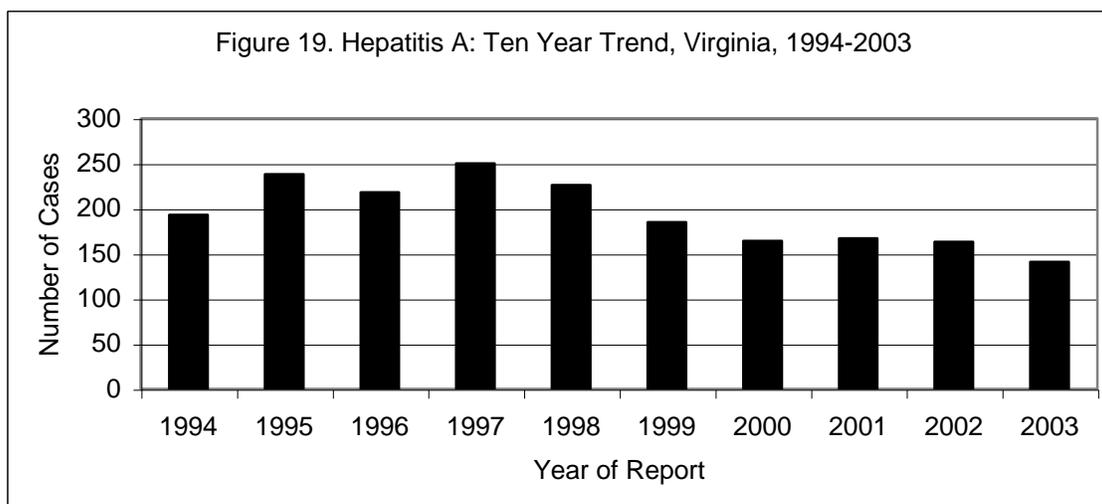
Since May of 1993, when the syndrome was first recognized, there have been 379 cases of hantavirus pulmonary syndrome in the United States resulting in 136 (36%) deaths. No cases of this disease were reported in Virginia during 2003. The last case of hantavirus reported in Virginia occurred in 1993.

Hemolytic Uremic Syndrome (HUS)

In Virginia, HUS became reportable in 1999. Only one case of HUS was reported in 2003, compared to eight reported in 2002 and a five year average of three cases per year. The 2003 case was a male in the 1-9 year age group.

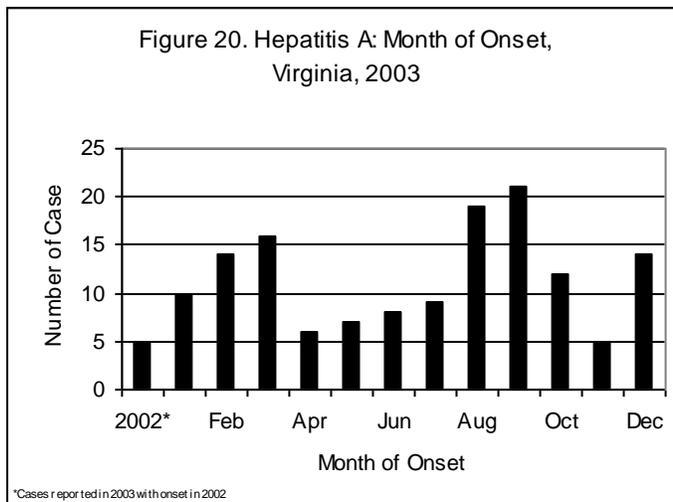
Hepatitis A

There were 141 cases of hepatitis A reported in Virginia during 2003 (Figure 19). This is a 22% decrease from the five year average of 181 cases per year. The 20-29 year age group and greater than 50 year age group had the same incidence rate (2.4 per 100,000) followed by the 30-39 and 40-49 year age groups, both with an incidence rate of 1.9 cases per 100,000.



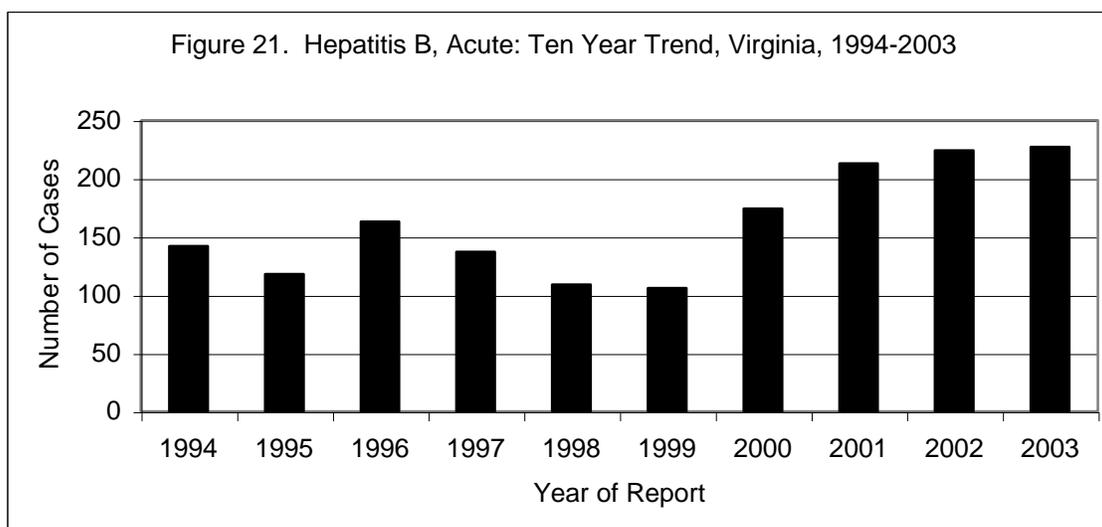
The white population had a higher incidence rate than the black population (1.3 versus 0.8 cases per 100,000) and males had a higher incidence of hepatitis A than females (2.3 versus 1.5 per 100,000). The northern region had the highest incidence rate (3.1 per 100,000) followed by the central region with 2.1 per 100,000. The other regions had rates between 1.1 and 1.4 per 100,000. Thirty-five percent of cases occurred during the third quarter of the year (Figure 20).

The disease is endemic in areas with poor hygienic and sanitation conditions. Countries such as Mexico, and areas of South America, Africa, the Middle East and Asia have a high percentage of their population with antibodies to hepatitis A virus. Of the Virginia cases for which travel risk factor data were available, 12% had travel outside of the United States. Fifty percent of these cases traveled to South or Central America, 7% to the Caribbean, 17% to the Middle East, 17% to Asia or the South Pacific, and 11% to other areas not specified.

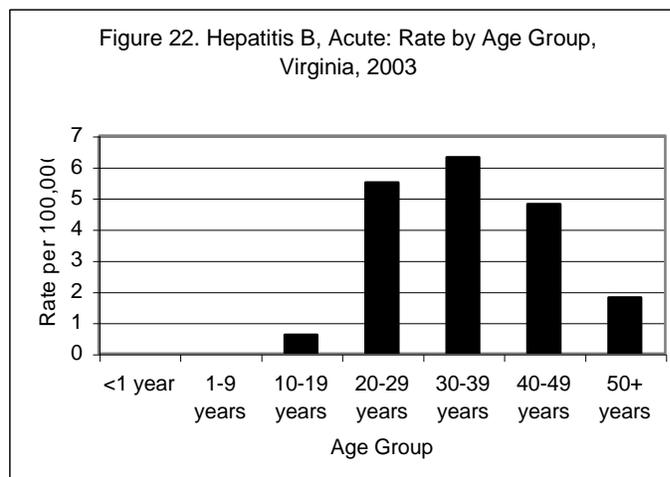


Hepatitis B, Acute

There were 227 cases of acute hepatitis B reported in Virginia during 2003 making this the fourth consecutive year with an increase in reported cases (Figure 21). However, for several years prior to 2001 the test for acute hepatitis B (IgM anti-HBc) was omitted from the Current Procedural Terminology (CPT) codes. Therefore, this test was not done when physicians ordered a hepatitis panel. This was corrected in 2000 and may help explain the noted increase in acute hepatitis B cases starting in 2000.

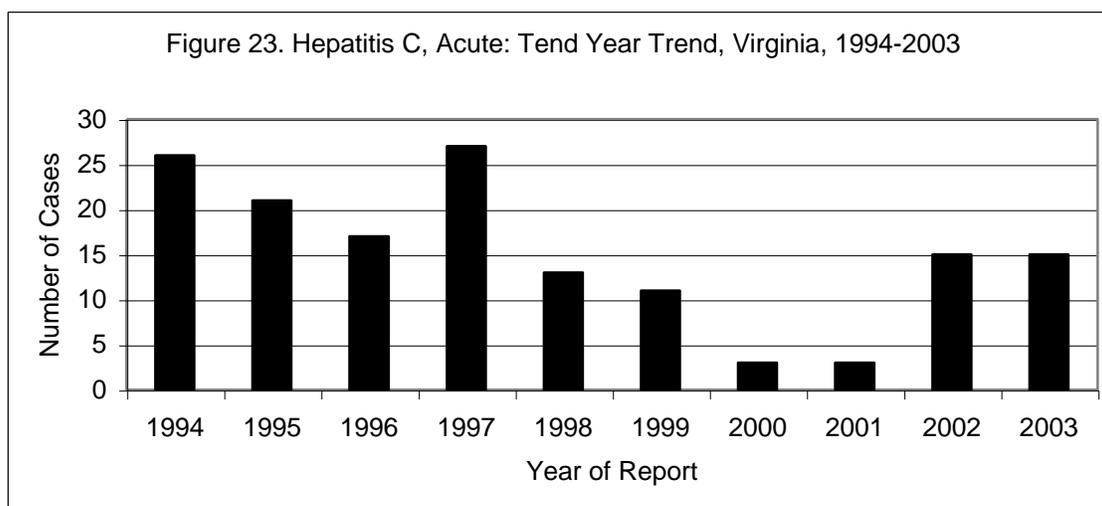


The highest incident rate was reported in the 30-39 year age group (6.3 per 100,000) followed by the 20-29 year age group (5.5 per 100,000). No cases were reported in children under ten years of age (Figure 22). Race was unknown in 41% of cases; however, among cases for which race was known, acute hepatitis B occurred at a rate three times higher in the black population than in the white population (3.9 versus 1.3 per 100,000, respectively). Males had a slightly higher rate (3.3 per 100,000) than females (2.8 per 100,000). The highest rates of disease occurred in the central region (5.3 cases per 100,000) and the lowest rate was seen in the northern region (1.4 per 100,000). Cases occurred throughout the year, with slightly more (30%) occurring in the third quarter.



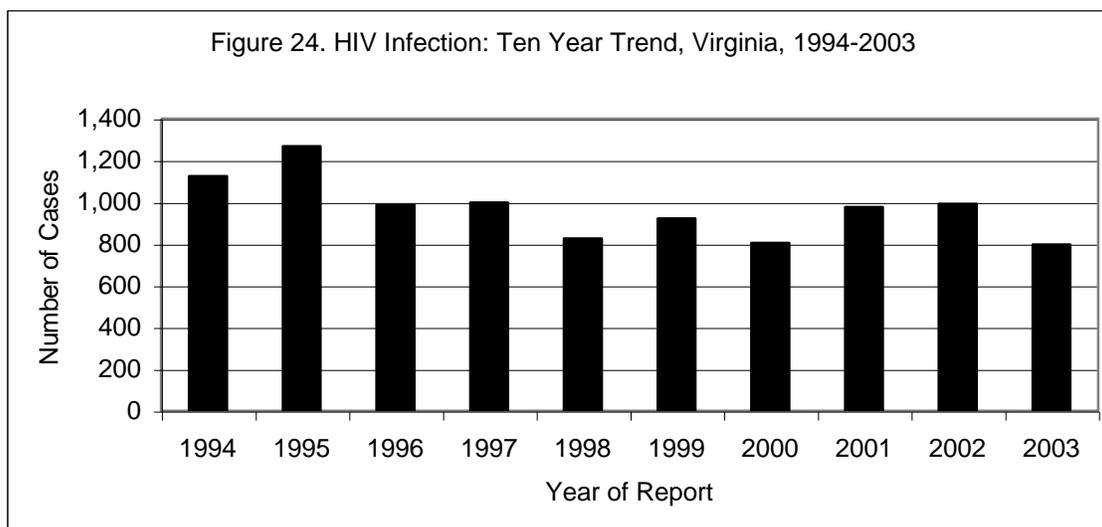
Hepatitis C, Acute

Fifteen cases of acute hepatitis C were reported in Virginia during 2003 (Figure 23). This was the same number of cases as reported in 2002, but a 67% increase over the five year average of 9 cases per year. The highest incidence rate was reported in the 20-29 year age group (0.4 per 100,000) followed closely by the 30-39 and 40-49 year age groups, both with rates of 0.3 per 100,000. No cases were reported in children less than ten years of age. The white and black populations had similar rates of acute hepatitis C infection (0.2 and 0.1 per 100,000, respectively). There was no difference in rate between males and females. The southwest health planning region reported the highest incidence rate (0.6 per 100,000) followed by the central and eastern regions, both with rates of 0.2 per 100,000. No cases were reported from the northwest region. Forty percent of cases were reported during the third quarter of the year.



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

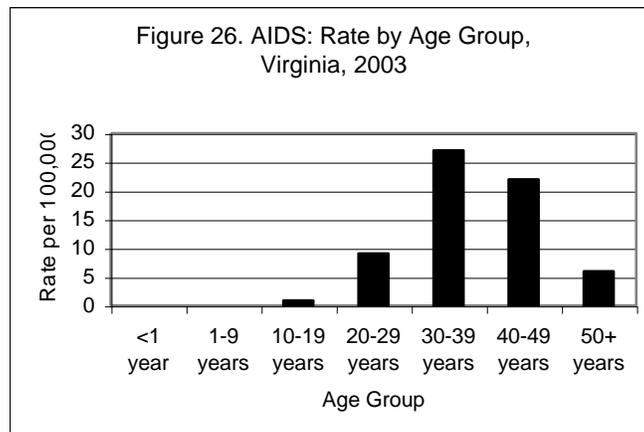
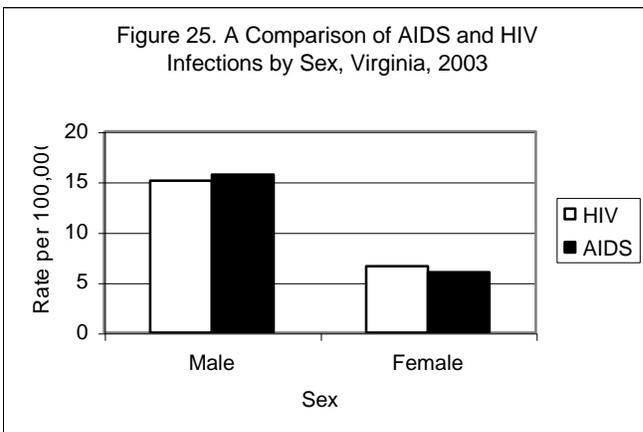
There were 797 cases of HIV reported in Virginia during 2003, a 12% decrease from the average of 904 cases per year for the past five years and the lowest number of cases reported since 1990 (see Figure 24 for ten year trend). The 30-39 and 20-29 year age groups had similar incidence rates (25.7 and 21.6 per 100,000, respectively), followed by the 40-49 year age group (15.8 cases per 100,000). The other age groups had incidence rates between zero and 3.1 per 100,000. The rate in the black population was almost 10 times the rate in the white population (34.7 versus 3.8 per 100,000). The other race category had an incidence rate of 1.2 per 100,000.



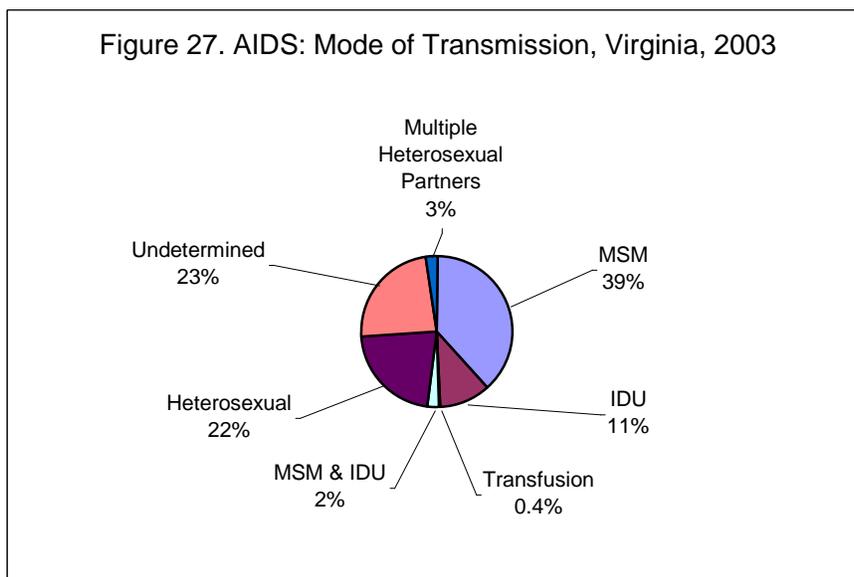
The incidence in males was more than twice that (15.1 per 100,000) of females (6.6 per 100,000) (Figure 25). The central health planning region reported the highest incidence rate (17.4 per 100,000). The eastern and northern regions followed with 14.6 and 12.4 cases per 100,000, respectively. The other regions reported much lower rates (3.3 per 100,000 in the southwest and 3.2 per 100,000 in the northwest region).

AIDS

During 2003, 793 AIDS cases were reported in Virginia. This is the lowest annual number of cases reported since 1993. Thirty-nine percent of cases (312) were reported in the 30-39 year age group (27.0 cases per 100,000) and 33% (259) were reported in the 40-49 year age group (22.0 cases per 100,000). No cases were reported in children less than 10 years of age (Figure 26). The black population had 8.2 times the disease rate of the white population (34.6 versus 4.2 cases per 100,000). As with HIV, AIDS was reported more often in males than in females (15.7 versus 6.0 cases per 100,000, respectively) (see Figure 25). The most common modes of transmission for AIDS morbidity were Men having Sex with Men (MSM) (39%), followed by undetermined risk factors (23%) and heterosexual contact (22%) (Figure 27).



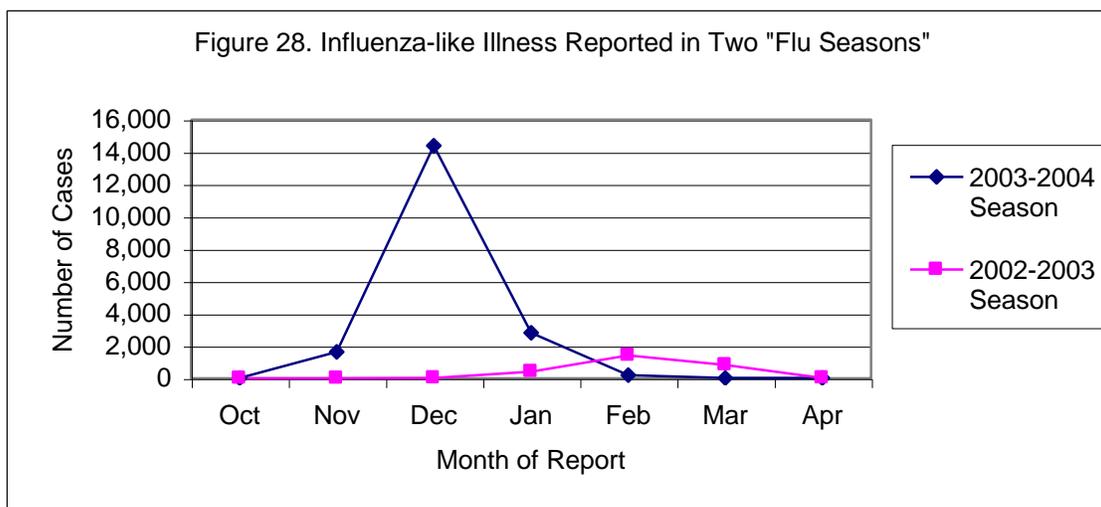
The most cases were reported from the northern region (304 cases, 15.6 per 100,000), followed by the central region with 179 cases (14.3 per 100,000). The lowest rate occurred in the southwest region (5.4 per 100,000).



Influenza

In Virginia, influenza generally begins to increase in November and starts to decrease in March or April. During that time the Virginia Department of Health conducts active surveillance. Active surveillance includes recruiting sentinel physicians around the state to report the weekly number of cases of influenza-like illness (ILI) seen at their office. An ILI case is defined as any person with a fever greater than 101° F and a cough and/or sore throat in the absence of a known cause. Six weeks of baseline data are collected and a threshold level is determined. The influenza activity level for the state is assigned based on the number of health planning regions above threshold level. Levels, in order of severity, include: sporadic, local, regional, and widespread.

Virginia began collecting baseline data for the 2002-2003 influenza season in October, and active data collection continued through April. Peak activity occurred in early February. The Division of Consolidated Laboratory Services (DCLS) tested 245 specimens for influenza virus and 93 (38%) were positive. Forty-three specimens (46%) were type A (29 of which were sub-typed as A/New Caledonia/20/99(H1N1)) and 50 specimens (54%) were type B (B/Hong Kong/1434/02). During the 2003-2004 season, 376 specimens were tested by DCLS. One hundred fifty eight were influenza A; no influenza B was detected. Eighty-eight of the positive influenza A were subtyped and found to be type A H3. The CDC further subtyped seven of these specimens, which were found to be A/Korean/770/2002-like (H3N2). H3N2 is a drifted strain, also called Fujian, which predominated throughout the US during 2003-2004. Overall, many more cases of influenza and influenza-like illness were reported in the 2003-2004 season than the 2002-2003 season (Figure 28).



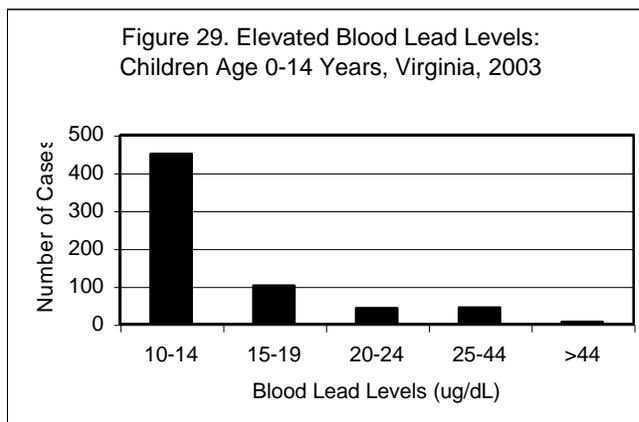
Influenza is also reported through a passive surveillance system throughout the calendar year. In 2003, 18,765 influenza cases were reported via this system, compared to 3,486 reported in 2002 and 1,963 reported in 2001. Of these 18,765 cases, only 1,843 were reported in the 2002-2003 season (January and February, 2003); the remaining 16,922 were reported for the 2003-2004 influenza season (November and December, 2003). Two outbreaks due to Influenza A were investigated in two different military facilities in the fall of 2003. Fourteen outbreaks due to influenza were reported in hospitals and nursing homes during November and December 2003 (see Table 10.)

Kawasaki Syndrome

Eleven cases of Kawasaki syndrome were reported in Virginia during 2003. This is the same number of cases reported in 2002, but a 60% decrease from the five-year average of 27.4 cases per year. Children in the less than one-year age group had a slightly higher incidence rate than those in the 1-9 year age group (2.0 per 100,000 versus 1.0 per 100,000, respectively). No cases were reported in the other age groups. Cases were evenly spread between black, white, and other populations with rates between 0.1 and 0.2 cases per 100,000. Seven cases occurred in males (0.2 per 100,000) compared to four in females (0.1 per 100,000). No cases were reported from the southwest health planning region; rates in the other regions ranged from 0.1 and 0.2 per 100,000. Cases were reported throughout the year.

Lead - Elevated Blood Levels in Children

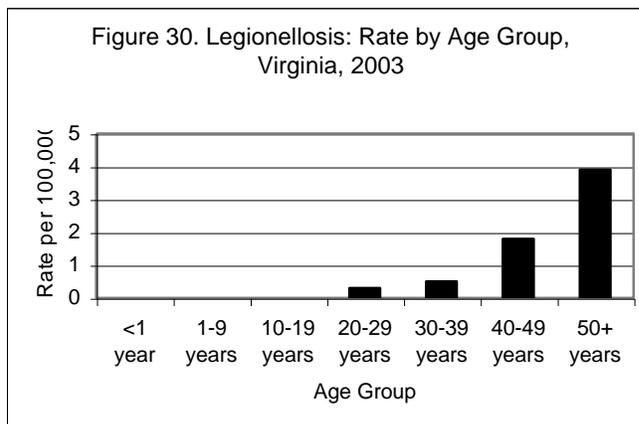
Virginia law requires reporting of elevated venous blood lead levels. There were 644 cases of elevated blood levels reported in children less than 15 years old during 2003. This is a slight decrease from the five-year average of 680.8 cases per year. Blood lead levels (BLL) in the 10-14 $\mu\text{g}/\text{dL}$ range are above normal but require no treatment. BLL in the 15-19 $\mu\text{g}/\text{dL}$ range require nutritional education and more frequent screening, while a range of 20-24 $\mu\text{g}/\text{dL}$ requires medical and environmental evaluation and environmental remediation. Levels of 25-44 $\mu\text{g}/\text{dL}$ and >44 $\mu\text{g}/\text{dL}$ require medical and environmental interventions. Among children with elevated blood lead levels, 70% fell in the 10-14 $\mu\text{g}/\text{dL}$ range, 16% fell in the 15-19 $\mu\text{g}/\text{dL}$ range, 7% fell in the 20-24 $\mu\text{g}/\text{dL}$ range, and 7% fell in the 25-44 $\mu\text{g}/\text{dL}$ range. One percent (6 children) had lead levels greater than 44- $\mu\text{g}/\text{dL}$ (Figure 29).



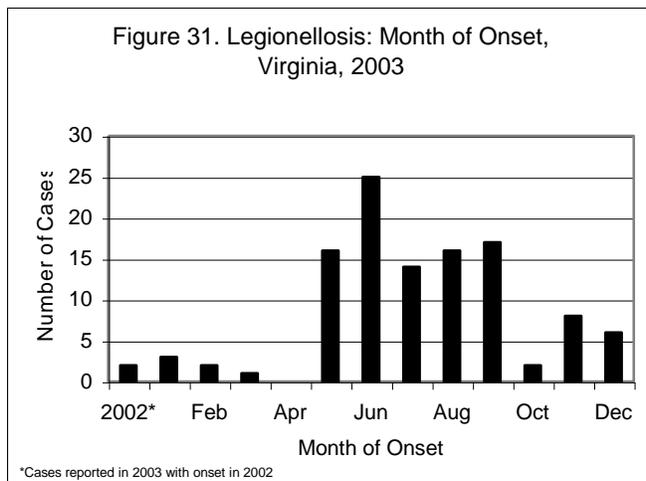
The majority of elevated blood lead level cases were reported in 1-9 year olds (587 cases, 66.9 per 100,000) followed by the less than one year old population (49 cases, 47.8 per 100,000). Eight cases were reported in 11-14 year olds (1.6 cases per 100,000). Race data was not reported for twenty-eight percent of cases. Among cases for which race was reported, 277 were in the black population (40.6 cases per 100,000), 130 were in the white population (6.9 cases per 100,000) and 54 were in the other race category (1.7 cases per 100,000). Rates were similar between males and females (22.7 versus 20.7 per 100,000). The central health planning region reported the highest rate of elevated blood levels in children (112.2 per 100,000), followed by the southwest region (50.0 per 100,000). The other regions reported between 12.4 and 38.2 cases per 100,000.

Legionellosis

There were 110 cases of legionellosis reported in Virginia during 2003. This is more than a 200% increase from the 35 cases reported in 2002 and the five-year average of 35.8 cases per year. The difference between 2003 and 2002 data was seen mostly in an increase of cases in the 40-49 year age group (200%) and the 50 years and older age group (175%). The incidence rate ratio for males and females also increased from 1.5 in 2002 to 2.3 in 2003. The rate ratios for black and white populations did not change from 2002 to 2003.



In 2003 the 50 years and older age group had the highest number of cases and incidence rate (80 cases, 3.9 per 100,000), followed by the 40-49 year age group (21 cases, 1.8 per 100,000). No cases were reported in those less than 20 years of age (Figure 30). The black population reported a slightly higher rate than the white population (1.5 versus 1.3 per 100,000, respectively) and the rate in males was more than twice the rate in females (2.1 compared to 0.9 per 100,000, respectively).



The northwest health planning region reported the most cases and the highest incidence rate (37 cases, 3.4 per 100,000). The other regions reported incidence rates between 0.6 and 1.6 cases per 100,000. Eighty percent of cases were reported during the second and third quarters of the year (Figure 31).

Leprosy (Hansen's Disease)

No cases of leprosy were reported in Virginia during 2003. The last reported case occurred in 2001.

Listeriosis

Eighteen cases of listeriosis were reported in Virginia during 2003. This is a 53% increase over the five-year average of 11.8 cases per year. Five cases (27%) were reported with primary bacteremia, five with meningitis, and eight with non-specified infections.

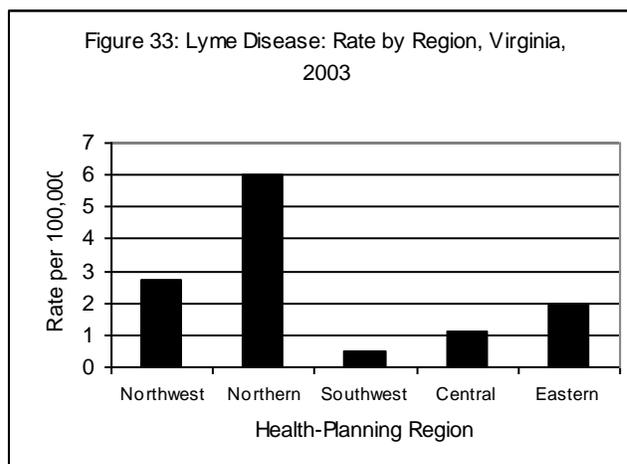
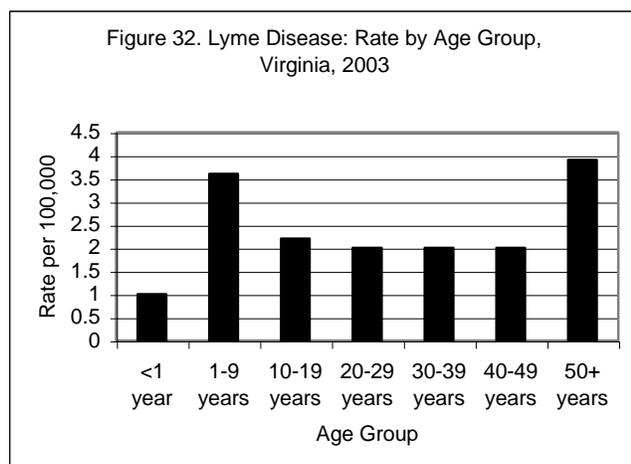
Infants less than one year of age had the highest infection rate (4 cases, 3.9 per 100,000). One of these infants was born to a symptomatic mother who had eaten a meat and cheese dish from El Salvador. The 50 years and older age group had the second highest incidence rate (13 cases, 0.6 per 100,000). Race was not reported for 44% of the cases. For cases with a known race, eight were white and one was black; both populations had an incidence rate of 0.1 cases per 100,000. Cases were reported equally in males and females (9 cases each, 0.2 per 100,000). Four cases reported eating foods such as soft cheeses and cold cuts in the two months prior to onset of symptoms. For most cases, however, no potential sources of infection were identified.

The northern and southwest health planning regions reported the highest incidence rates (0.4 per 100,000, each). The other regions had slightly lower rates (between 0.1 and 0.2 per 100,000). The first and third quarters of the year yielded 39% and 33% of cases, respectively.

Lyme Disease

There were 202 cases of Lyme disease reported in Virginia during 2003, which is a 22% decrease from the 259 cases reported in 2002, but a 33% increase from the five-year average of 151.8 cases per year. Reported symptoms included erythema migrans (61%), joint swelling (41%), Bell's Palsy (9%), radiculoneuropathy (5%), encephalitis (3%), and lymphocytic meningitis (1%).

The highest number of cases and the highest incidence rate was reported in the 50-year and older age group (79 cases, 3.9 per 100,000). This was followed by the 1-9 year age group (32 cases, 3.6 per 100,000). Rates of 2.2 per 100,000 or lower were reported in the other age groups (Figure 32). The white population had more than nine times the rate of the black population (2.8 versus 0.3 per 100,000, respectively). Similar incidence rates were reported for males and females (2.7 and 2.6 cases per 100,000, respectively). The northern health planning region had the highest incidence rate of 6.0 per 100,000, followed by the northwest region with 2.7 per 100,000 (Figure 33). The majority (78%) of cases had onset dates in the second and third quarters of the year.



Lymphogranuloma Venereum

No cases of lymphogranuloma venereum were reported in Virginia during 2003. The last case was reported in 2000.

Malaria

Sixty cases of malaria were reported in Virginia during 2003. This is a 67% increase over the 36 cases reported in 2002, though only a 6% increase over the five-year average of 56.4 cases per year. The highest number of cases and the highest incidence rate was reported in the 30-39 year old age category (24 cases, 2.1 per 100,000). No cases were reported among infants. The other age categories had rates between 0.3 and 1.2 per 100,000. By race, the highest infection rate was reported in the black population (1.3 per 100,000). The white population and the other race category had

similar infection rates (0.3 and 0.2 per 100,000, respectively). Males had a slightly higher rate than females (1.0 versus 0.6 per 100,000, respectively).

The highest number of cases and the highest incidence rate was reported from the northern health planning region (34 cases, 1.7 per 100,000). The other regions reported rates between 0.3 and 0.8 per 100,000. Among cases, 48% had onset between July and September 2003.

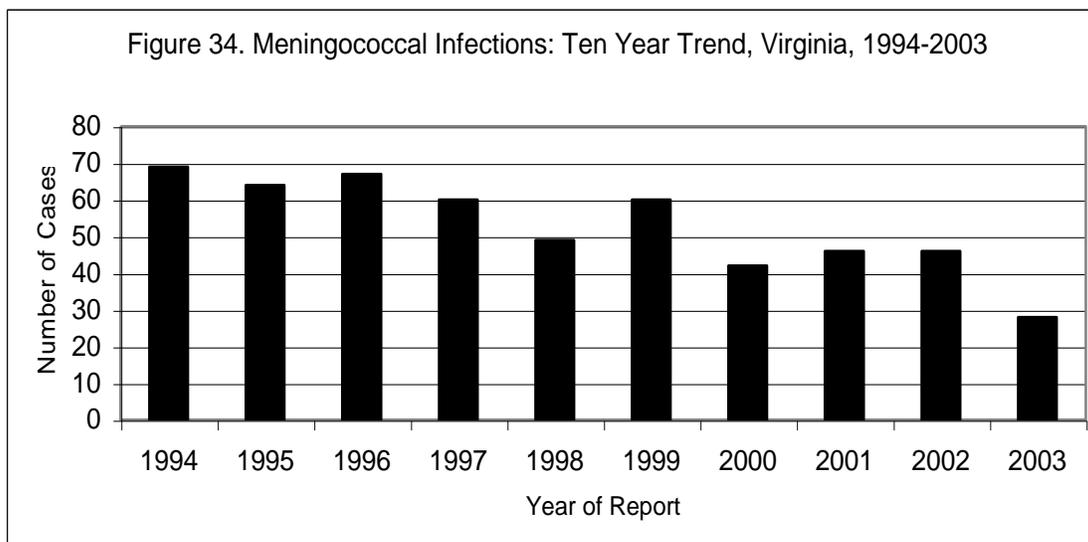
Travel to countries outside the United States within the four years preceding illness was noted for 51 of the 60 cases. These included several countries in Africa (38), South America (9), India (3), and Pakistan (1).

Measles

No cases of measles were reported in Virginia during 2003. The last reported case occurred in 2001.

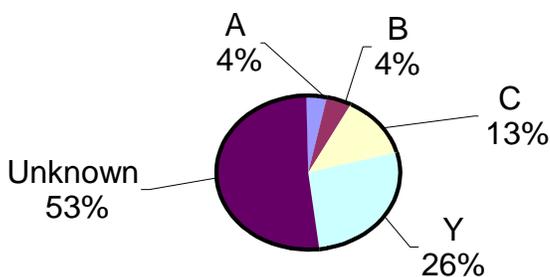
Meningococcal Infection

There were 28 reported cases of meningococcal infection in Virginia during 2003 (Figure 34). This is the lowest number reported in over 20 years.



Serogroups identified were as follows: six (21%) were group Y, 3 (11%) were group C, 1 (4%) was group B, and 1 (4%) was group A (Figure 35). The highest incidence rate was reported in the less than one-year age group (3.9 per 100,000). Rates between 0.1 and 0.6 per 100,000 were reported in the other age groups. A higher rate was reported in the black population (0.4 per 100,000) than in white population (0.2 per 100,000). The male and female populations had similar rates of infection (0.4 and 0.3, respectively).

Figure 35. Meningococcal Serogroups, Virginia, 2003

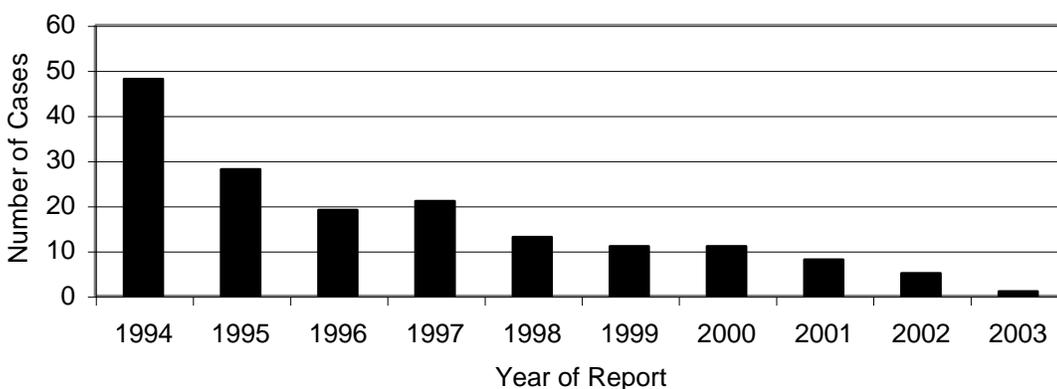


The southwest region reported the highest incidence rate at 0.8 per 100,000. The other health planning regions reported similar rates between 0.2 and 0.4 per 100,000. Sixty-eight percent of cases occurred during the first two quarters of the year.

Mumps

One case of mumps was reported in Virginia in 2003 (Figure 36). This is a 90% decrease from the average of 9.6 cases per year for the past five years and continues a general downward trend seen over the past ten years. The case was a male patient older than 50 years of age from the central health planning region.

Figure 36. Mumps: Ten Year Trend, Virginia, 1994-2003



Ophthalmia Neonatorum

Ten cases of ophthalmia neonatorum were reported in Virginia during 2003. Of the ten infected infants, seven were males and three were females (0.2 and 0.1 cases per 100,000, respectively). Four cases each were reported in the black (0.3 per 100,000) and white (0.1 per 100,000) populations. Race was not reported for two of the infants.

Outbreak, Foodborne

Twelve foodborne outbreaks were reported in Virginia during 2003 (see Table 8 on following page). The number of ill persons per outbreak ranged from six, in an outbreak of *Salmonella enteritidis*, to 176 ill in an outbreak of *Clostridium perfringens*. The etiologic agent was confirmed as viral for four outbreaks (all norovirus) and bacterial for seven. One outbreak had an unknown etiologic agent. The main contributing factors to the outbreaks included improper food handling (i.e., not keeping the food at the correct temperature or not cooking it for the correct amount of time), infected food handlers, and unlicensed caterers.

Outbreak, Nosocomial

A nosocomial outbreak is defined as a group of illnesses with a common etiology among patients in a medical care facility (hospital or nursing home), where those patients acquired the illness while confined to that facility. Fifty-eight nosocomial outbreaks were reported in Virginia during 2003. All of the outbreaks were due to norovirus (see Table 9). Symptoms included nausea, vomiting, and diarrhea. In each situation the appropriate outbreak control measures were taken. Control measures include, but are not limited to, any one of the following: hand washing education, cohorting of ill patients, keeping ill staff at home until three days after their symptoms subside, and cleaning contaminated surfaces with disinfectant.

Outbreak, Other

Twenty-nine other outbreaks were reported to the Virginia health department during 2003 (see Table 10). The largest outbreak occurred on a military base where 867 people were infected with Influenza A. Two small outbreaks of methicillin resistant *Staphylococcus aureus* occurred in two different prisons in the state. Appropriate control measures were instituted and no new cases were reported. *Histoplasma capsulatum* (histoplasmosis) infection was reported in three cases that had been exposed to a construction site. Histoplasmosis is a fungus that is endemic in the eastern and central United States. The organism grows as a spore in soil and inhalation of the spores can cause an influenza-like illness. Two outbreaks had an unknown etiologic agent. One of these was a rash illness in a school. The cases followed a national trend of rashes among school children with unknown etiology. Environmental and laboratory samples could not provide a definitive diagnosis. The other outbreak with unknown etiology occurred among individuals who had participated in a fishing expedition to Guatemala. Cases had bloody diarrhea, abdominal cramps, muscle aches and general malaise. *Shigella* infection was suspected, but laboratory tests were negative. Other outbreaks in 2003 were caused by infections with norovirus, *E. coli* O157:H7, *Shigella* and *Campylobacter*.

Outbreak, Waterborne

No waterborne outbreaks were reported in Virginia during 2003.

Table 8. Foodborne Outbreaks Confirmed in Virginia, 2003

Onset Date	Locality	Number of Cases	Etiologic Agent	Vehicle	Place Where Outbreak Occurred	Factors Contributing to Outbreak
3/14/2003	Chesterfield County	55	Norovirus	Unknown	Restaurant	Infected food handler
4/23/2003	Richmond City/Henrico County	72	Norovirus	Chicken suspected	Caterer	Infected food handler suspected
5/31/2003	Fairfax County	160, multiple parties	Norovirus	Multiple food items suspected	Hotel	Infected food handler suspected; possible person to person and environmental transmission
6/22/2003	Newport News	176	<i>Clostridium perfringens</i> suspected	Ribs suspected	Church supper	Unlicensed caterer
7/12/2003	Albemarle County	9	<i>Salmonella enteritidis</i>	Raw egg containing entree	Restaurant	Time/temperature abuse
7/13/2003	Wythe County	19	<i>Staphylococcus aureus</i> toxin	Ham	Family reunion pot luck	Time/temperature abuse
8/3/2003	Henrico County and Mississippi	17	Unknown	Chicken suspected	Belize	Unknown
10/31/2003	Henrico County	6	<i>Salmonella enteritidis</i>	Raw egg containing entrée	Private home	Time/temperature abuse
11/11/2003-01/02/2004	Multi-state	11	<i>Salmonella saintpaul</i>	Chicken, ground beef, lettuce, and tomatoes suspected	Several Restaurants	Unknown
11/18/2003	Fairfax County	18	Norovirus	Lettuce implicated	Restaurant	Infected food handler
11/18/2003	Radford	14	Enterotoxigenic <i>Escherichia coli</i>	Unknown	Office party pot luck	Unknown
12/12/2003	Richmond City	59	<i>Salmonella typhimurium</i> DT104	Round of beef	Hotel	Unknown

Table 9. Nosocomial Outbreaks Confirmed in Virginia, 2003

Onset Date	Locality	Number of Cases	Etiologic Agent	Mode of Transmission	Place Where Outbreak Occurred
1/3/2003	Henrico County	201	Norovirus	Person to person	Nursing Home
1/5/2003	York County	19	Norovirus	Person to person	Nursing Home
1/6/2003	Montgomery County	50	Norovirus	Person to person	Nursing Home
1/7/2003	Campbell County	34	Norovirus	Person to person	Nursing Home
1/8/2003	Roanoke County	69	Norovirus	Person to person	Hospital
1/8/2003	Wythe County	97	Norovirus	Person to person	Nursing Home
1/16/2003	Norfolk	50	Norovirus	Person to person	Nursing Home
1/18/2003	Hopewell	89	Norovirus	Person to person	Nursing Home
1/19/2003	Botetourt County	53	Norovirus	Person to person	Nursing Home
1/20/2003	Louisa County	59	Norovirus	Person to person	Nursing Home
1/21/2003	Henrico County	76	Norovirus	Person to person	Nursing Home
1/22/2003	Hampton	22	Norovirus	Person to person	Nursing Home
1/22/2003	Chesterfield County	45	Norovirus	Person to person	Nursing Home
1/22/2003	Hanover County	39	Norovirus	Person to person	Nursing Home
1/23/2003	Nelson County	81	Norovirus	Person to person	Nursing Home
1/24/2003	Virginia Beach	49	Norovirus	Person to person	Nursing Home
1/24/2003	Lynchburg	50	Norovirus	Person to person	Nursing Home
1/26/2003	Danville	129	Norovirus	Person to person	Rehab Center
1/27/2003	Lynchburg	26	Norovirus	Person to person	Nursing Home
1/27/2003	Bristol	101	Norovirus	Person to person	Nursing Home
1/29/2003	Augusta County	55	Norovirus	Person to person	Nursing Home
1/30/2003	Henrico County	60	Norovirus	Person to person	Nursing Home
2/5/2003	Roanoke City	44	Norovirus	Person to person	Hospital
2/7/2003	Roanoke County	101	Norovirus	Person to person	Nursing Home
2/8/2003	Mathews County	25	Norovirus	Person to person	Nursing Home
2/12/2003	Culpeper County	80	Norovirus	Person to person	Nursing Home
2/17/2003	Green County	35	Norovirus	Person to person	Nursing Home
2/19/2003	Nottoway County	45	Norovirus	Person to person	Nursing Home
2/22/2003	Mecklenburg County	81	Norovirus	Person to person	Nursing Home
2/25/2003	Montgomery County	60	Norovirus	Person to person	Nursing Home

Table 9. Nosocomial Outbreaks Confirmed in Virginia, 2003

Onset Date	Locality	Number of Cases	Etiologic Agent	Mode of Transmission	Place Where Outbreak Occurred
2/26/2003	Virginia Beach	34	Norovirus	Person to person	Nursing Home
2/27/2004	Lynchburg	9	Norovirus	Person to person	Nursing Home
3/1/2003	Franklin County	46	Norovirus	Person to person	Nursing Home
3/1/2003	Galax	102	Norovirus	Person to person	Nursing Home
3/7/2003	Bedford County	40	Norovirus	Person to person	Nursing Home
3/14/2003	Albemarle County	92	Norovirus	Person to person	Nursing Home
3/23/2003	Danville	30	Norovirus	Person to person	Nursing Home
3/26/2003	Chesterfield County	44	Norovirus	Person to person	Nursing Home
4/5/2003	Albemarle County	81	Norovirus	Person to person	Nursing Home
10/4/2003	Chesterfield County	11	Norovirus	Person to person	Nursing Home
10/22/2003	Culpeper County	13	Norovirus	Person to person	Nursing Home
11/6/2003	Wythe County	64	Norovirus	Person to person	Nursing Home
11/10/2003	Pittsylvania County	90	Influenza	Person to person	Nursing Home
11/19/2003	Chesterfield County	5	Influenza A	Person to person	Hospital
11/25/2003	Salem	23	Influenza	Person to person	Hospital
11/28/2003	Henrico County	41	Influenza	Person to person	Nursing Home
11/28/2003	Staunton	63	Influenza	Person to person	Nursing Home
12/3/2003	Henrico County	29	Influenza A	Person to person	Nursing Home
12/11/2003	Appomattox County	3	Influenza	Person to person	Nursing Home
12/11/2003	Lynchburg	54	Influenza	Person to person	Nursing Home
12/12/2003	Charlottesville	6	Influenza	Person to person	Nursing Home
12/12/2003	Charlottesville	20	Influenza	Person to person	Nursing Home
12/13/2003	Giles County	6	Influenza	Person to person	Nursing Home
12/15/2003	Lynchburg	59	Influenza A	Person to person	Nursing Home
12/22/2003	Bath County	12	Influenza	Person to person	Nursing Home
12/28/2003	Tazewell County	3	Influenza	Person to person	Nursing Home
12/30/2003	Fairfax County	17	Influenza	Person to person	Nursing Home
12/31/2003	Fairfax County	14	Norovirus	Person to person	Nursing Home

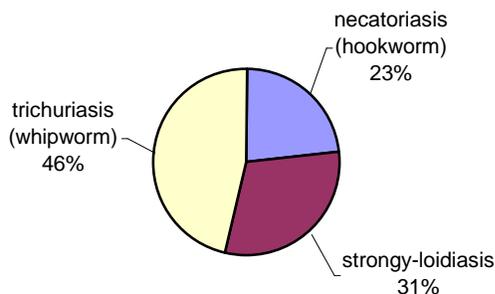
Table 10. Other Outbreaks Confirmed in Virginia, 2003

Onset Date	Locality	Number of Cases	Etiologic Agent	Mode of Transmission	Place Where Outbreak Occurred
1/6/2003	Lynchburg	26	Norovirus	Person to person	Alzheimer's Center
1/12/2003	Roanoke City	48	Norovirus	Person to person	Assisted living
1/17/2003	Petersburg	52	Norovirus	Person to person	Convalescent Center
1/17/2003	Hanover County	114	Norovirus	Person to person	Convalescent Center
1/21/2003	Chesterfield County	43	Norovirus	Person to person	Convalescent Center
1/22/2003	Dinwiddie County	4	Norovirus	Person to person	Psychiatric Ward
1/22/2003	Henry County	243	Norovirus	Person to person	Rehab Center
2/1/2003	Norfolk	2	Streptococcal Disease, Group A, invasive	Unknown	Assisted living
2/4/2003	Orange County	19	Norovirus	Person to person	Home for developmentally disabled adults
2/28/2003	Virginia Beach	80	Norovirus	Person to person	Rehab Center
2/28/2003	Henrico County	13	Norovirus	Unknown	Restaurant
3/9/2003	Prince William County	4	Methicillin Resistant <i>Staphylococcus aureus</i>	Person to person	Jail
3/14/2003	Shenandoah County	3	<i>Histoplasma capsulatum</i>	Contaminated soil	Renovation site
3/16/2003	Fairfax County	26	Norovirus	Person to person	Field trip
3/18/2003	Chesterfield County	32	Rash, unknown agent	Unknown	Elementary school
3/19/2003	Accomack County	2	Streptococcal Disease, Group A, invasive	Unknown	Assisted living
3/22/2003	Multi-county	6	<i>Escherichia. coli</i> O157:H7	Unknown	Regional
3/29/2003	Smyth County	12	Norovirus	Person to person	School
4/4/2003	Greene County	10	Streptococcal Disease, Group A, invasive	Wound contamination	Dementia facility
5/3/2003	Henrico County	3	Methicillin Resistant <i>Staphylococcus aureus</i>	Person to person	Jail
5/8/2003	Multi-district	10	Gastrointestinal illness, unknown agent	Unknown	Fishing trip to Guatemala
6/5/2003	Chesterfield County	14	<i>Shigella</i> species	Person to person	Daycare
6/14/2003	Hanover County	17	<i>Shigella</i> species	Person to person	Daycare
6/19/2003	Multi-state	87	<i>Campylobacter</i> species	Unknown	Bike tour
6/22/2003	Fairfax County	20	Norovirus	Unknown	Wedding reception
9/8/2003	Scott County	55	<i>Shigella sonnei</i>	Person to person	School
9/25/2003	Chesterfield County	12	Norovirus	Person to person	Daycare
10/26/2003	Newport News	867	Influenza A	Person to person	Military base
11/2/2003	Petersburg	318	Influenza A	Person to person	Military base

Parasites, Intestinal

In addition to amebiasis, cryptosporidiosis, cyclosporiasis, and giardiasis, other selected parasitic infections are recorded when reported to public health. In Virginia during 2003, laboratory confirmed cases of other intestinal parasites included: three cases of necatoriasis (hookworm), four cases of strongyloidiasis, and six cases of trichuriasis (whipworm) (Figure 37). Cases were reported from all age groups except infants; rates by age group ranged from 0.1 to

Figure 37. Other Intestinal Parasites, Virginia, 2003
(Represents 13 cases of infection)

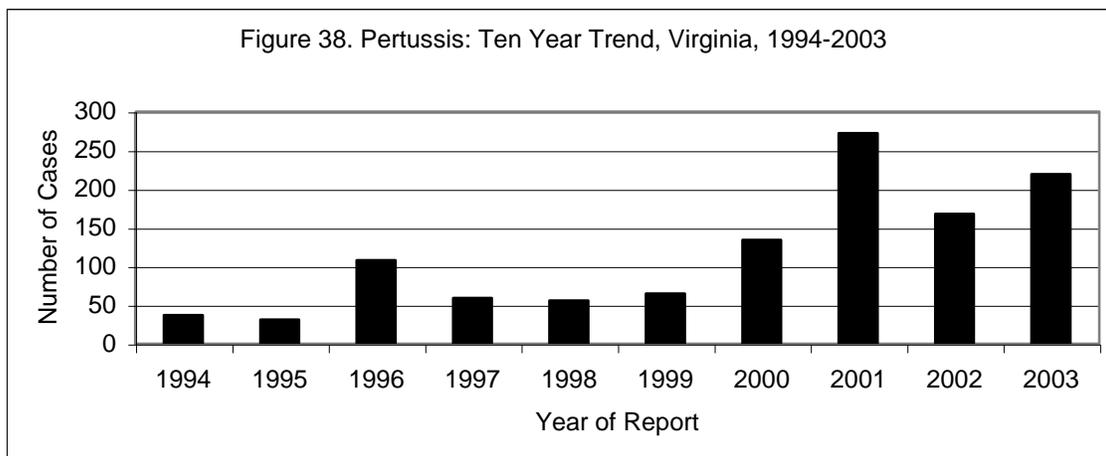


0.4 cases per 100,000. Eight (62%) cases were reported from the black population and one (8%) from the other race category. Four (31%) cases had an unknown race. There were seven males (54%) and six females (46%). Cases were spread throughout the state and incidence rates in health planning regions ranged from 0.1 per 100,000 in the eastern region to 0.3 in the northwest region.

Pertussis

Two hundred nineteen cases of pertussis were reported in Virginia during 2003 (Figure 38). This is a 58% increase over the five year average of 139 cases per year and reflects a general increase in cases seen nationally.

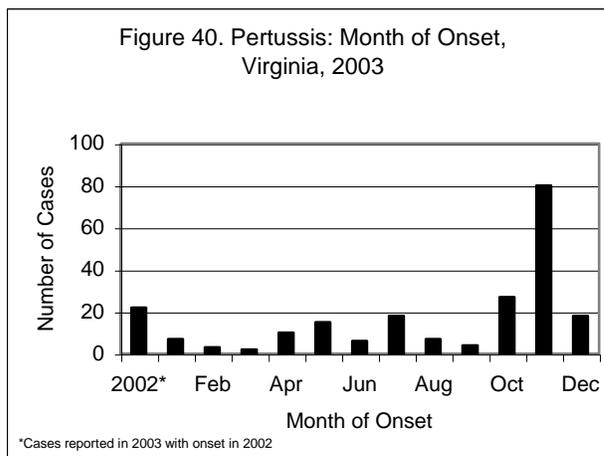
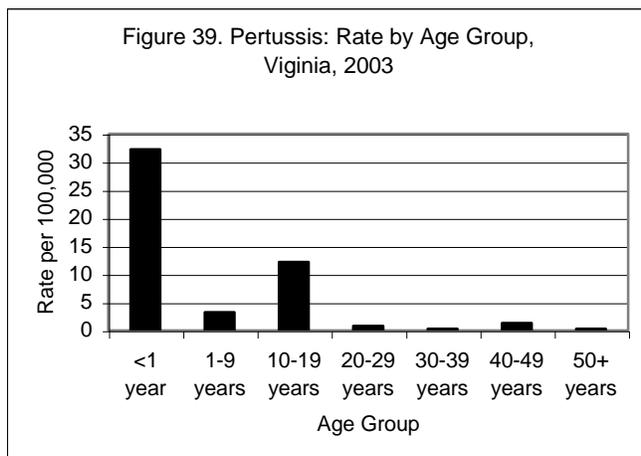
Figure 38. Pertussis: Ten Year Trend, Virginia, 1994-2003



Children less than one year of age had the highest incidence rate of pertussis (32.2 per 100,000), followed by the 10-19 year age group (12.2 per 100,000) (Figure 39). The white population had a higher rate of disease than the black population (3.6 versus 1.4 per 100,000, respectively). A slightly

higher rate of pertussis was reported in the female population (3.1 per 100,000) than in the male population (2.8 per 100,000).

The northwest health planning region had the highest rate of 13.5 cases per 100,000. This region also reported 94 cases due to outbreaks. All the other regions had rates between 0.5 and 1.9 per 100,000. The majority (57.1%) of all cases had reported onset dates between September and December with a peak in November (Figure 40).



Plague

No cases of plague have been reported in Virginia since the nineteenth century.

Poliomyelitis

The last reported case of poliomyelitis in Virginia was reported in 1978.

Psittacosis

One case of psittacosis was reported in Virginia during 2003. The case was a male in the 40-49 year old age group from the northwest health planning region. Prior to 2003, the last reported case of psittacosis in Virginia occurred in 1998.

Q Fever

There were no reported cases of Q fever in Virginia during 2003. The last reported case occurred in 1999.

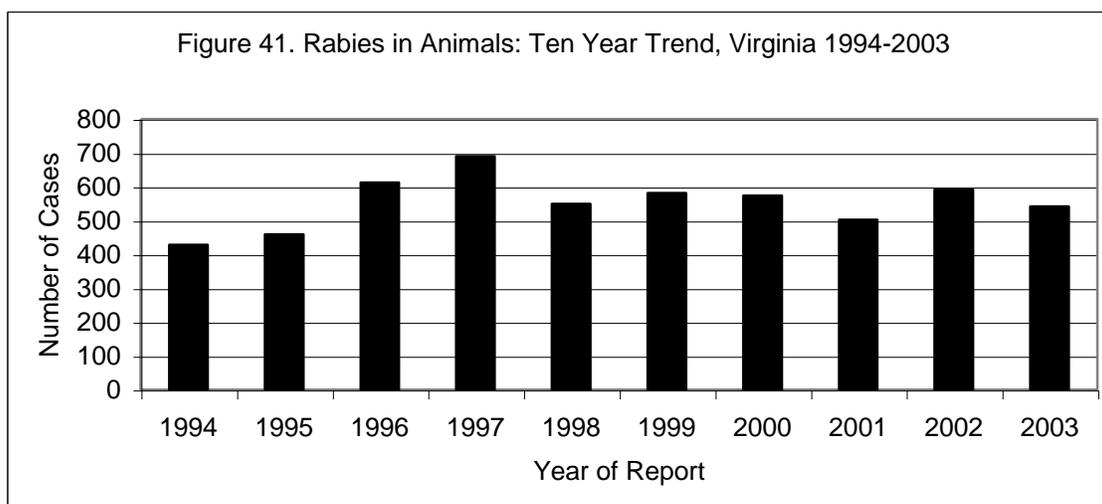
Rabies

Human

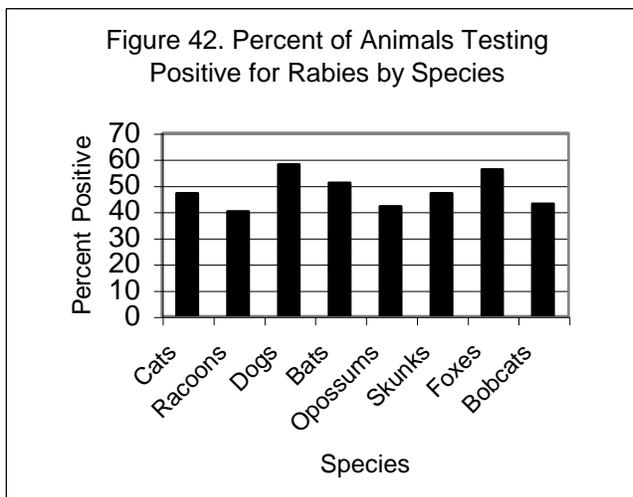
During 2003 one case of human rabies was reported in Virginia. The case was an adult male from the northern health planning region who was infected with a raccoon rabies variant. Though no specific exposure could be determined, the case had lived and worked in an area with endemic raccoon rabies. This was the first instance of a raccoon variant human rabies infection reported in the United States.

Animal

The number of animals testing positive for rabies decreased from 592 in 2002 to 542 in 2003 (Figure 41). Fairfax (including Fairfax County, Fairfax City, and Falls Church) reported the most positive animals (50, 9.2% each), followed by Augusta County and Staunton (29, 5.4%). A total of 3,673 animals were tested for rabies.



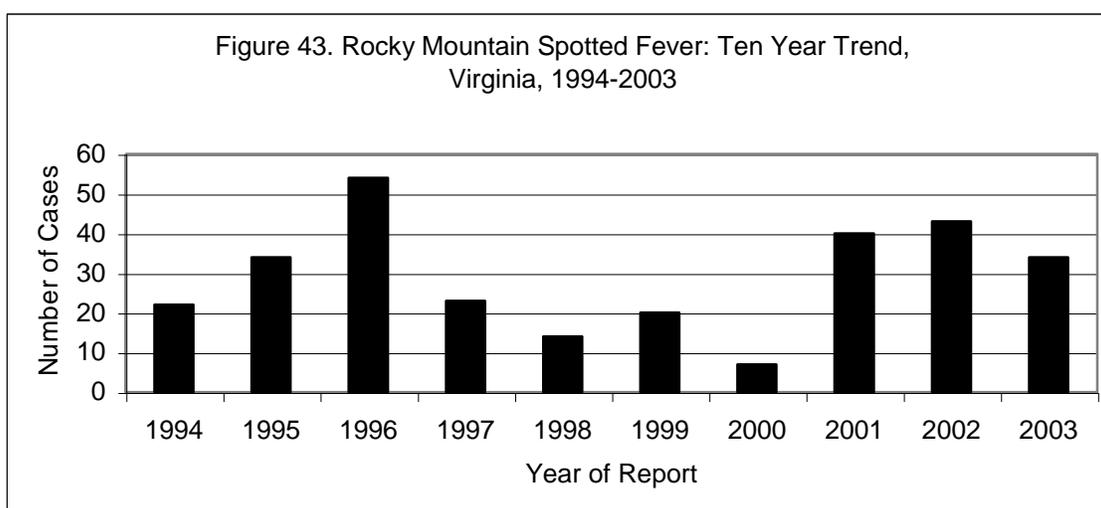
The most commonly tested animals included cats (1,072), raccoons (663), dogs (573), bats (449), opossums (168), skunks (137), and foxes (131). Of these tests, the number positive for rabies included 34 cats (3%), 321 raccoons (48%), 6 dogs (1%), 19 bats (4%), 1 opossum (1%), 92 skunks (67%), and 48 foxes (37%) (Figure 42). While only six bobcats were tested, four were positive (67%). Human exposures were reported from 14 animal species and a total of 112 animals. The ratio of human exposures to rabid animals by species is: 9/19 rabid bats, 1/1 rabid beaver, 1/1 rabid bobcat, 11/10 rabid cows, 39/34 rabid cats, 1/1 rabid coyote, 7/6 rabid dogs, 1/1 rabid donkey, 5/2 rabid horses, 21/48 rabid foxes, 37/321 rabid raccoons, and



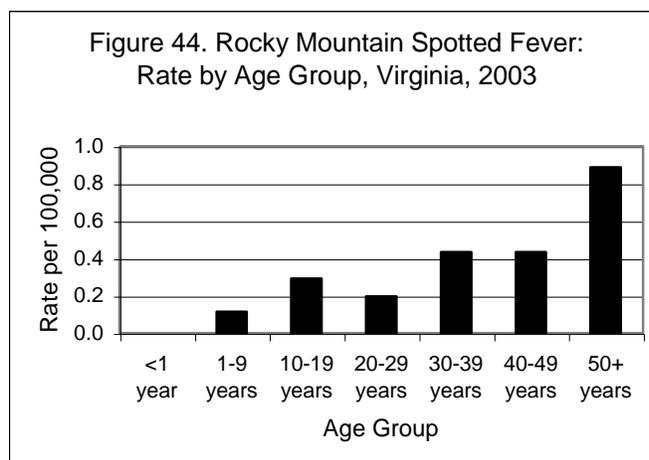
2/92 rabid skunks. A total of 553 people were reported to have received post-exposure prophylaxis and 667 people were reported to have received pre-exposure prophylaxis.

Rocky Mountain Spotted Fever

There were 34 cases of RMSF reported in Virginia during 2003. This is a decrease from the 43 cases reported in 2002, but a 37% increase over the five year average of 24.8 cases per year (Figure 43). The highest rate of RMSF was reported in the 50 years and older age group (18 cases, 0.9 per 100,000). The other age groups had reported rates between 0 and 0.4 per 100,000 (Figure 44). The white and black populations had similar rates of infection (0.5 and 0.4 per 100,000, respectively), while males had a higher rate (0.7 per 100,000) than females (0.3 per 100,000).



The northwest health planning region had the most cases and the highest rate (11 cases, 1.0 per 100,000) followed by the eastern and central regions each with 0.6 cases per 100,000, the southwest region with 0.4 cases per 100,000 and the northern region with 0.1 cases per 100,000. The majority of cases had onset during the second and third quarters of the year.



Rubella

Table 11. Number and Percent of *Salmonella* Infections by Species, Virginia, 2003

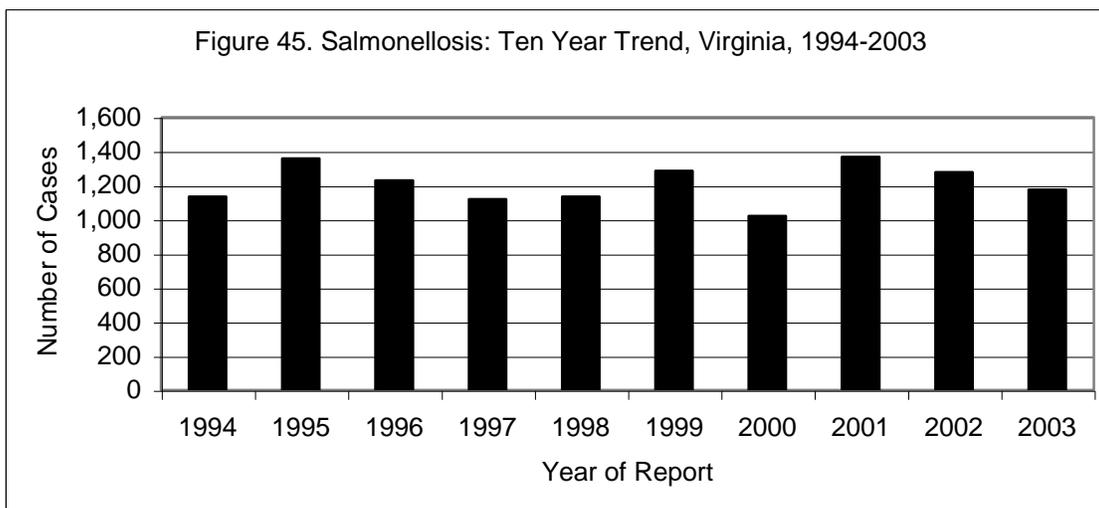
No cases of rubella were reported in Virginia during 2003. One case was reported in 1998.

Congenital Rubella Syndrome

No cases of congenital rubella syndrome (CRS) were reported in Virginia during 2003. There was one case reported in 2001 in an infant whose mother was an immigrant from South America. That was the first reported case of CRS in Virginia since 1981.

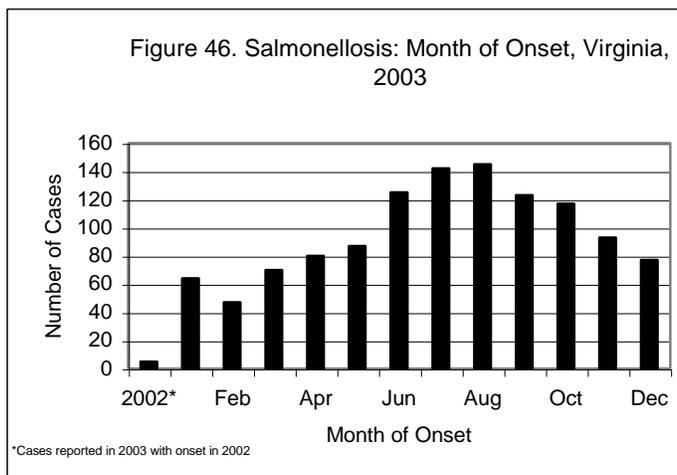
Salmonellosis

There were 1,175 cases of salmonellosis reported in Virginia during 2003. This is a slight (3%) decrease from the five year average of 1,217.2 cases per year (Figure 45). Infants had the highest rate (104.5 cases per 100,000), followed by 1-9 year olds, with a rate of 25.8 cases per 100,000. Rates between 9.3 and 15.3 per 100,000 were calculated for the other age groups. Information on race was missing in 43% of cases, but among those where it was reported, the white and black populations had similar rates of infection (9.3 and 8.2 per 100,000, respectively). Females had a higher rate (17.3 per 100,000) than males (13.4 per 100,000).



Over 100 different *Salmonella* serotypes cause infections in animals and humans; *S. typhimurium* and *S. enteritidis* are the most common types reported nationally and in Virginia (Table 11).

Species Causing Infection	Number of Cases	Percent of Cases
<i>S. typhimurium</i>	254	21.6
<i>S. enteritidis</i>	141	12.0
<i>S. newport</i>	104	8.9
<i>S. heidelberg</i>	65	5.5
<i>S. saintpaul</i>	30	2.6
<i>S. montevideo</i>	20	1.7
<i>S. javiana</i>	16	1.4
<i>S. muenchen</i>	15	1.3
<i>S. braenderup</i>	14	1.2
<i>S. oranienburg</i>	13	1.1
Unspecified	332	28.3
All Others	171	14.5
TOTAL	1,175	100



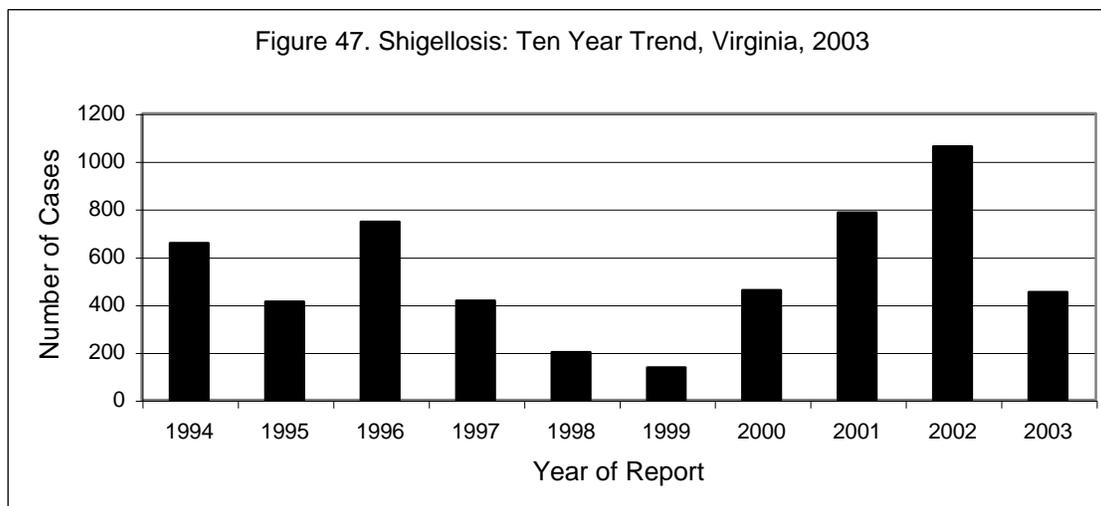
The northern and northwest health planning region reported similar rates of infection (18.3 and 17.8 cases per 100,000, respectively), followed by the central region with 16.2 per 100,000, the eastern region with 13.8 per 100,000, and the southwest region with 13.4 per 100,000. The lowest percent of cases occurred during the first quarter of the year (Figure 46). Four outbreaks of salmonellosis were investigated in 2003 (see Table 8).

Severe Acute Respiratory Syndrome (SARS)

One case of SARS was confirmed in Virginia during 2003. The case was a female greater than 50 years of age who had traveled to Taiwan, Malaysia and Singapore in the four weeks before onset of symptoms. Her exposure most likely occurred in a Singapore hospital, where she had direct contact with patients being treated for SARS.

Shigellosis

There were 451 cases of shigellosis reported in Virginia during 2003, a 15% decrease from the average of 528.2 cases each year for the past five years (Figure 47). The 1-9 year age group had by far the greatest number of cases and highest rate of infection (226 cases, 25.8 per 100,000). This was followed by the less than one-year age group with a rate of 12.7 per 100,000. The other age groups had rates between 1.0 and 4.4 per 100,000. The black population had more than two times the rate of the white population (6.0 versus 2.8 per 100,000), while the other race category had a reported rate of 0.5 per 100,000. Females and males had similar rates of infection (6.0 and 5.8 per 100,000, respectively).



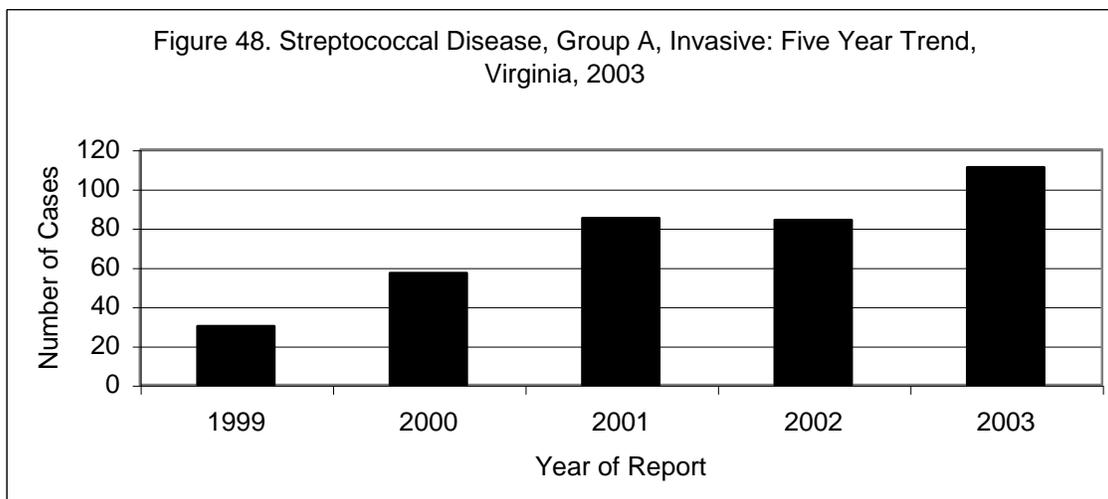
The southwest health planning region reported the highest rate of shigellosis (8.9 per 100,000), followed by the central region (7.7 per 100,000) and the northern region (6.2 per 100,000). The majority of cases (69%) occurred during the second and third quarters of the year. During 2003, three outbreaks of shigellosis were investigated (see Table 10).

Smallpox

The last case of smallpox in Virginia occurred in 1944.

Streptococcal Disease, Group A, Invasive

There were 111 cases of invasive GAS reported in Virginia during 2003. This is a 119% increase over the five-year average of 50.8 cases per year (Figure 48). (GAS became reportable in Virginia in 1999). The highest infection rate was reported in the 50 years and older age group (2.8 per 100,000). The 1-9, 30-39, and 40-49 year age groups all had similar rates of infection (1.3, 1.5, and 1.4 per 100,000, respectively). The black population had a slightly higher infection rate (1.9 per 100,000) than the white population (1.3 per 100,000).



By health planning region, the northwest region reported the highest rate of invasive GAS (2.9 cases per 100,000). The other regions reported between 0.1 and 1.9 cases per 100,000. Most cases (69%) had onset dates in the first two quarters of the year. Two outbreaks of invasive GAS occurred in Virginia during 2003 in the northwest (10 cases) and eastern (2 cases) health planning regions (see Table 10).

Seven deaths were reported in persons with invasive group A streptococcal infection. Four of the deaths occurred in people over 45 years of age and two were reported from the 1-9 year age group. One of the cases in the 1-9 year age group who died had developed streptococcal toxic shock syndrome. Two other cases of invasive GAS were also reported with STSS. Both of these cases were in the 50 years and older age group, and both survived.

***Streptococcus pneumoniae*, Invasive in Children Less than 5 Years of Age**

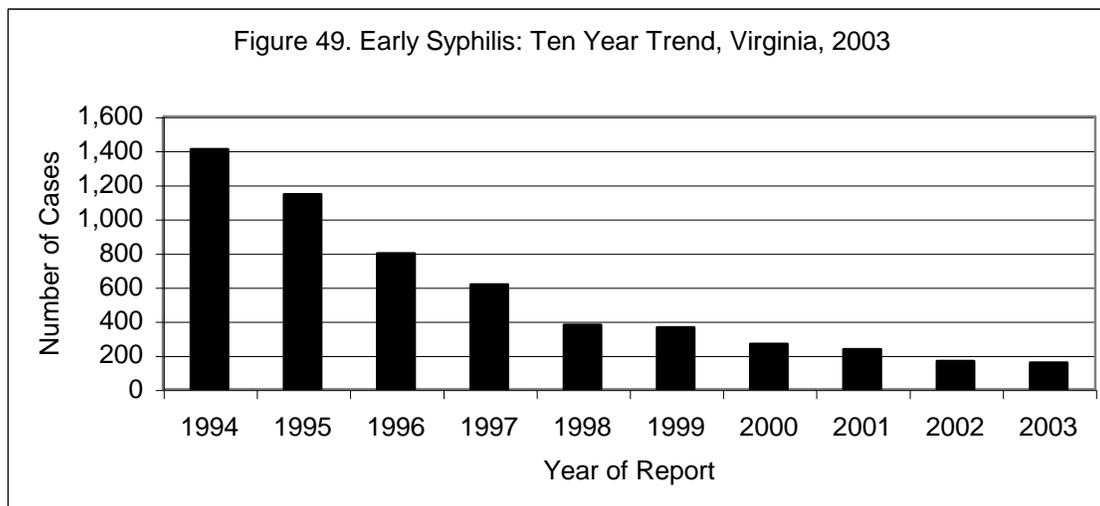
There were 27 cases of *S. pneumoniae* reported in 0-4 year olds in Virginia during 2003. This is a 35% increase from the 20 cases reported in 2002 and a large increase from 2000 and 2001 when no cases were reported. (This disease became reportable in 2000). The rate of infection in the less than one-year age group was 4.2 times higher than the rate in the 1-4 year age group (13.7 versus 3.3 per 100,000, respectively). A higher rate was reported in the black population (11 per 100,000) than in the white population (3.2 per 100,000) and males and females were reported with similar rates of infection (5.4 and 5.6 per 100,000, respectively).

The greatest number of cases and highest infection rate was reported in the eastern health planning region (17 cases, 13.6 per 100,000). The other regions reported rates between 0 and 7.5 per 100,000. Onset occurred in the first quarter for 41% of cases.

Syphilis

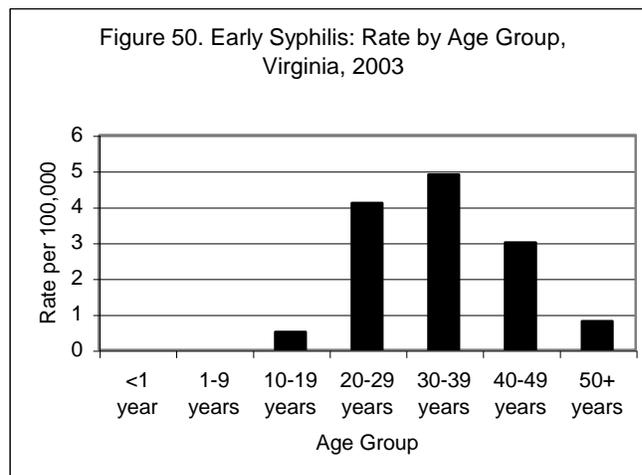
Early Syphilis

Early syphilis is reportable in Virginia and includes primary, secondary and early latent syphilis cases diagnosed within one year from the time of infection. There were 156 cases of early syphilis reported in Virginia during 2003 (Figure 49). This is a 45% decrease from the five-year average of 281.8 cases per year and the lowest reported number since syphilis became a reportable disease.



The age group with the highest incidence rate of syphilis was the 30-39 year olds (4.9 per 100,000), followed by the 20-29 year olds (4.1 per 100,000) and the 40-49 year olds (3.0 per 100,000) (Figure 50). More cases and a higher incidence rate were reported in the black population (6.8 per 100,000), while the white population had a rate of 0.9 per 100,000. Males had a much higher rate than females (3.4 versus 0.9 per 100,000, respectively).

The northern and central health planning regions had the highest incidence rate (3.0 per 100,000, each), while the eastern region had a slightly lower rate (2.5 per 100,000). The southwest and northwest regions reported similar rates (0.7 and 0.5 per 100,000, respectively). Onset of illness was distributed throughout the year.



Congenital Syphilis

One case of congenital syphilis was reported during 2003, in a male from the central health planning region. The mother of the infant was a teenager and did not obtain prenatal care until her third trimester.

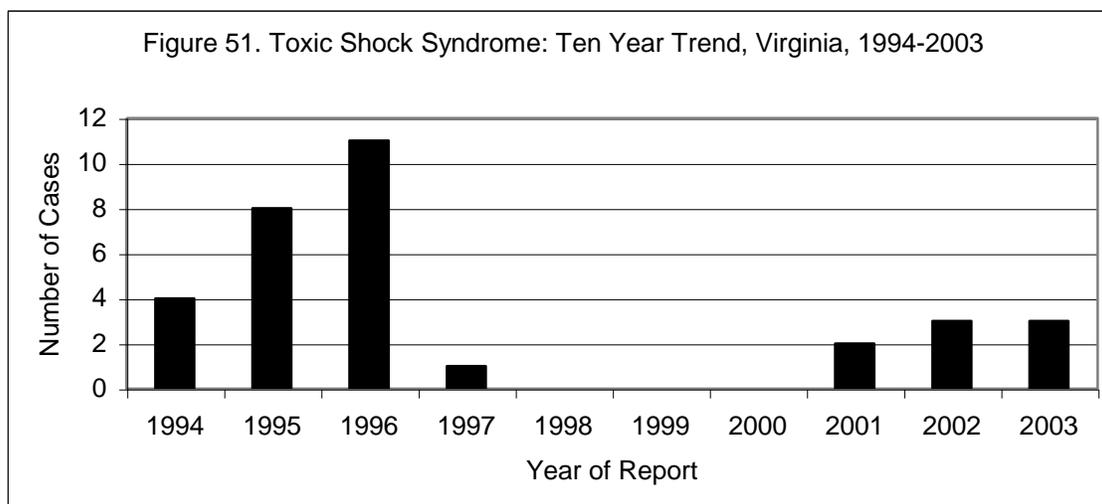
The same numbers of cases were reported in 2002 and 2003, which represents a decrease from the five cases reported in 2001 and six cases reported in 2000. The continued decline in congenital syphilis mirrors the decrease in early syphilis among women.

Tetanus

No cases of tetanus were reported in Virginia during 2003. The last reported case of tetanus occurred in 1998.

Toxic Shock Syndrome

This section summarizes reports of toxic shock syndrome (TSS) due to *staphylococcus aureus*; TSS due to group A streptococci is covered under the invasive GAS section. Three cases of TSS were reported during 2003 (Figure 51). This is the same number of cases reported during 2002 but an increase from the five year average of 1 case per year. One case each occurred in the 1-9, 20-29, and 30-39 year age groups (0.1 cases per 100,000, each).



Two cases were white and one was black; one was male and two were females. Cases came from the northwest, northern, and eastern health planning regions and all of them occurred in the second quarter of 2003.

Toxic Substance-Related Illness

During 2003, 212 incidences of adult toxic substance-related illness were reported in Virginia. Six substances were responsible for the majority of these cases: arsenic (3 cases, 1%), asbestos (87, 41%), cadmium (5 cases, 2%), lead (95 cases, 45%), mercury (11 cases, 5%), and propane gas (6 cases, 3%). Four cases of pneumoconiosis (2%) and one case of mesothelioma (1%) were also reported.

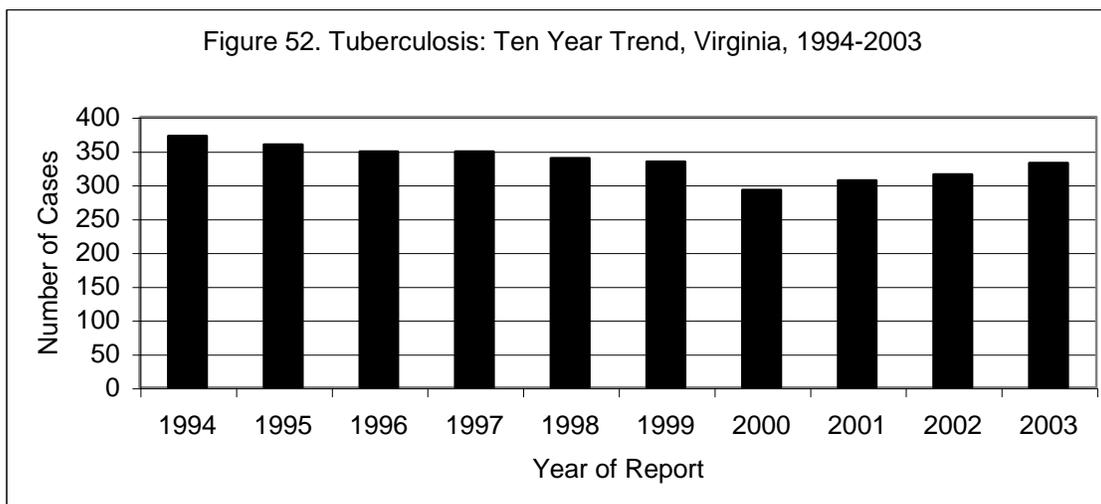
Among the 87 cases of asbestosis reported in Virginia during 2003, 86 cases were males. The mean age was 67.7 years (range, 51 to 92). Race was unknown for 92% of cases. The eastern, central, and northwest regions reported rates of asbestos-related illness of 4.7, 0.15, and 0.1 per 100,000, respectively. No cases were reported from the other regions. Several industries were associated with the asbestosis cases; however, the most common were shipbuilding (68 cases, 78%) and the U.S. Navy (8 cases, 9%).

Trichinosis

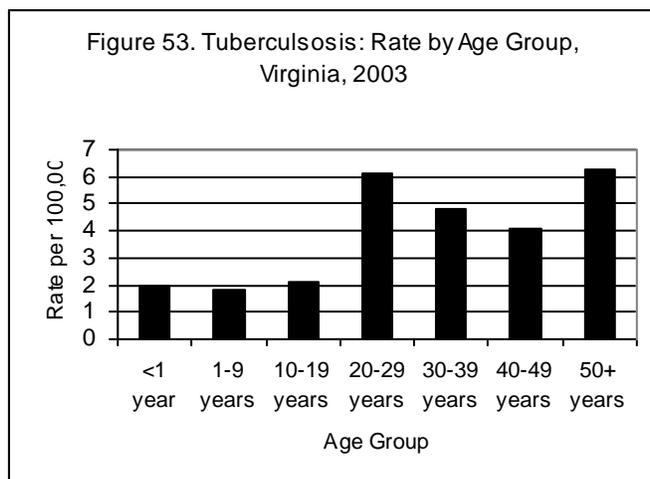
No cases of trichinosis were reported in Virginia during 2003. The last reported case occurred in 1993.

Tuberculosis

There were 332 cases of tuberculosis reported during 2003 (Figure 52). This is a five percent increase over the average of 317.2 cases reported each year for the past five years, and is the highest number of cases reported since 1999. The greater than 50 years age group and the 20-29 year old group had similar rates of TB disease (6.3 and 6.1 per 100,000, respectively). These rates were followed by the 30-39 year age group with 4.8 cases per 100,000 and the 40-49 year age group with 4.1 cases per 100,000 (Figure 53).



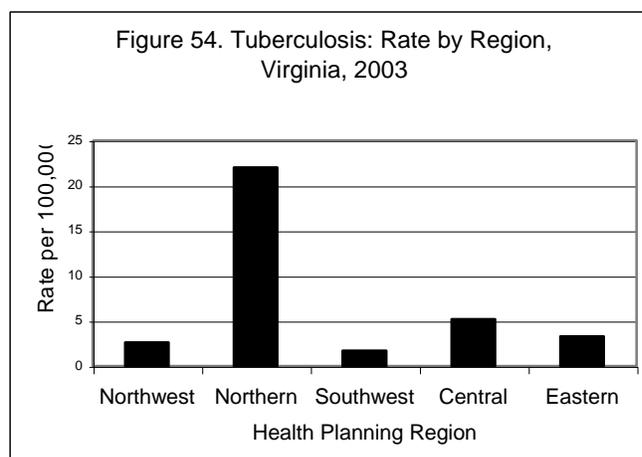
The black population had the highest rate of TB disease (7.0 per 100,000), followed by the other race group with a rate of 2.8 per 100,000. Males had a higher rate than females (5.5 versus 3.5 cases per 100,000).



The northern health planning region reported the highest incidence rate (8.1 per 100,000), followed by the central region (5.2 per 100,000). The other regions reported rates between 1.7 and 3.3 per 100,000 (Figure 54). Most cases were foreign-born (207, 60%).

Of 261 laboratory confirmed cases, 247 (95%) were tested for susceptibility to anti-tuberculosis drugs; a total of 34 cases (14%) were resistant to at least one drug. Two were multi-drug resistant tuberculosis (resistant to INH and rifampin). Co-infection with HIV was reported in 21 cases (6%).

Directly observed therapy (DOT) is an effective way to ensure completion of TB chemotherapy. It involves a health care worker directly observing patients taking their medication. In 1992 only 10% of people with tuberculosis were on DOT. In 2003, 78% of all TB cases utilized DOT. The goal for completion of therapy is that 90% of all TB cases should complete therapy within 12 months. Virginia surpassed this goal in 2002 when completion of therapy was 91%. Fifteen patients died during the treatment period.



Tularemia

Four cases of tularemia were reported in 2003. This is over a 100% increase from the five-year average of 1.4 cases per year. Two cases were reported in the 50-year and older age group while one case each was reported in the 1-9 and 20-29 year age groups (all had rates of 0.1 per 100,000). All four cases occurred in the white population (0.1 per 100,000) and all were male (0.1 per 100,000).

Two cases were from the central health planning region, and the northwest and northern regions had one case each. One case had onset in the third quarter; all other cases occurred in the fourth quarter. Exposures included hunting and skinning rabbits (2 cases) and a tick bite (1 case). One case had no known source of exposure.

Typhoid Fever

Sixteen cases of typhoid fever were reported in 2003. This is a 27% increase over the five-year average of 12.6 cases per year. The highest number of cases and incidence rate was reported in the 1-9 year age group (5 cases, 0.6 per 100,000). The other age groups had rates between 0.05 and 0.3 per 100,000. Race was not reported for ten cases (63%). Of the six cases with a known race, five were reported from the other race category (0.1 cases per 100,000) and one case was white. Males and females had the same incidence rate (0.2 per 100,000).

Twelve cases (0.6 per 100,000) were reported from the northern region while the other regions reported rates of 0 to 0.1 per 100,000. Fifty-six percent of the cases occurred during the first quarter of the year.

Typhus

No cases of typhus were reported in Virginia during 2003. The last case was flea-borne typhus reported in 1993.

Vaccinia, Disease or Adverse Event

Vaccinia became a reportable disease in Virginia in 2003. No cases of vaccinia were reported.

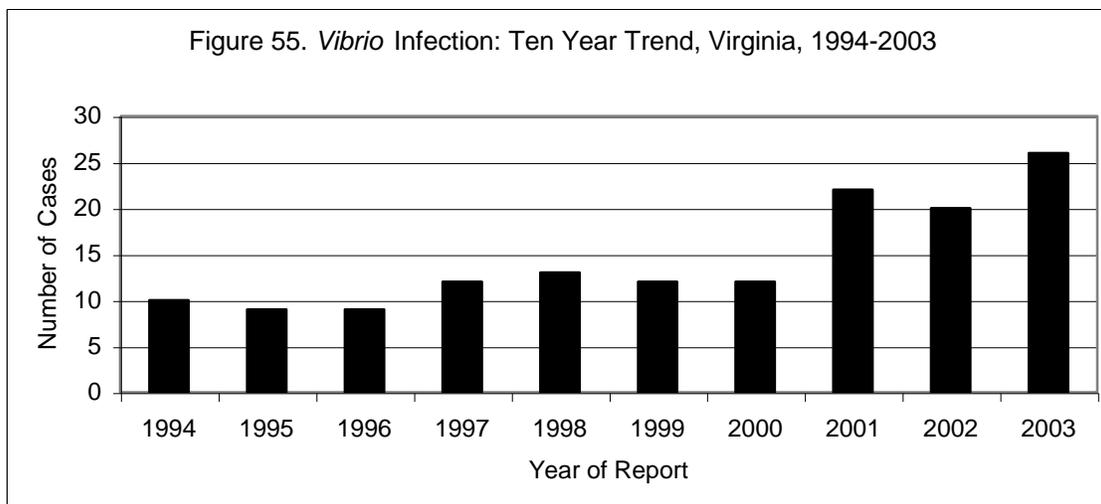
Vancomycin-Resistant *Staphylococcus aureus*

No cases of VRSA have ever been reported in Virginia.

***Vibrio* Infection**

A total of 26 cases of *Vibrio* infections were reported in Virginia during 2003. This is a 65% increase over the average of 15.8 cases per year for the past five years (Figure 55). Among the 26 *Vibrio* cases, 5 cases were caused by *V. parahaemolyticus*, 12 were *V. vulnificus* and 9 were other unspecified species of *Vibrio*.

The 50 years and older age group had the highest incidence rate (0.7 per 100,000), followed by the 40-49 and 30-39 year age groups with 0.4 and 0.3 cases per 100,000, respectively. No cases were reported in infants. Fourteen cases were reported in the white population (0.3 per 100,000) and 0.1 cases per 100,000 were reported in both the other race group and the black population. The rate of *Vibrio* infection in males was three times the rate in females (0.6 versus 0.2 per 100,000, respectively).



The eastern health planning region reported the highest rate of disease (12 cases, 0.7 per 100,000), followed by the northern and central regions, each with 0.4 cases per 100,000. Fifty-eight percent of the cases occurred during the third quarter of the year.

Cholera

No reported cases of cholera occurred in Virginia during 2003. The last case of cholera in Virginia occurred in 1994.

Viral Hemorrhagic Fever

No cases of VHF have ever been reported in Virginia.

Yellow Fever

No cases of yellow fever have been reported in Virginia since the nineteenth century.

Yersiniosis

During 2003 there were three reported cases of yersiniosis in Virginia, all with onset during the fourth quarter of the year. Two cases were reported from the less than one year age group and one case was reported from the 10-19 year age group. One case was from the northern health planning region and two were from the southwest. Two cases were male and one was female. One case was reported from the black population and two were reported from the white population.