

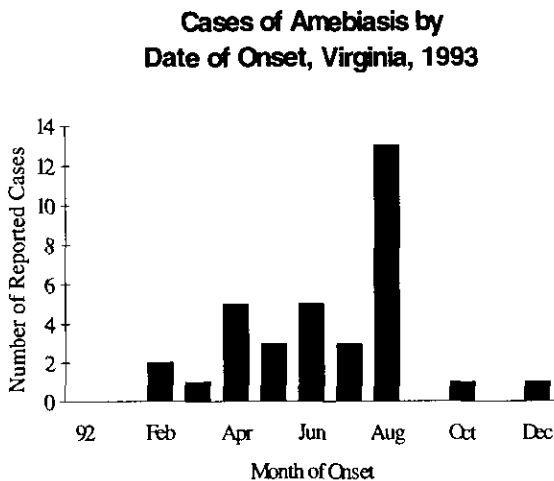
Acquired Immunodeficiency Syndrome (AIDS)

See HIV/AIDS.

Amebiasis

Thirty-four cases of amebiasis were reported in 1993 compared to 36 in 1992 and 31 in 1991. Onset of illness ranged from a low of two cases to a high of 16 cases per quarter. Eighty-five percent of the reported cases had a date of onset between April and August. An outbreak of amebiasis in northern Virginia during the summer contributed to August being the peak month of activity when 13 cases occurred (Figure 1).

Figure 1



Persons in the 10-19 and 20-29 age groups had the highest and similar incidence rates (0.83 and 0.82 cases per 100,000 population, respectively). The other race category had an incidence rate of 1.82 cases per 100,000, blacks 1.13, and whites 0.11. Race was not reported for 10 (29%) of the reported cases. Males were more likely to be reported with this disease than females.

The summer outbreak of amebiasis contributed to a disproportionate number of cases being reported from the northern health planning region. The incidence rate of 1.64 cases per 100,000 population in this region was more than four times greater than any other region.

Anthrax

The last case of anthrax in Virginia was reported in 1970.

Arboviral Infection

The last reported case of arboviral infection occurred in 1990.

Aseptic Meningitis

Aseptic meningitis cases increased in 1993 compared to 1992. The 343 cases reported in 1993 represented an increase of 33 cases over the 310 reported in 1992, but remained well below the 463 cases reported in 1991.

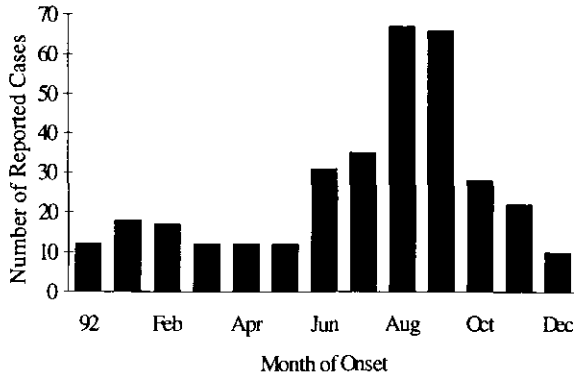
The onset of cases by quarter was highest during the third quarter when 49 percent of the cases occurred. The remainder of the cases were fairly evenly distributed over the other three quarters (Figure 2).

The etiologic agent was reported for only eight of the 343 cases reported. All eight were enteroviruses (five coxsackie-viruses and three unspecified).

The very young were at the greatest risk for this reportable disease. The highest incidence rate was among blacks (6.2 cases per 100,000 population),

Figure 2

Cases of Aseptic Meningitis by Date of Onset, Virginia, 1993



followed by whites (4.3 cases), and other (2.4 cases). Females were as likely as males to be reported.

The northern health planning region had the highest incidence rate (9.0 cases per 100,000 population) of aseptic meningitis for the fourth consecutive year. The eastern health planning region followed with an incidence rate of 7.0 and the central health planning region had the lowest rate at 1.4 cases per 100,000.

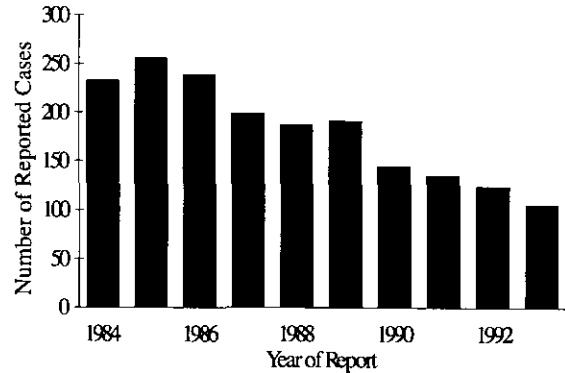
Bacterial Meningitis

Reported cases of bacterial meningitis continue to decrease, a trend which started in 1986. The 105 cases reported in 1993 are the lowest annual number of cases reported during this decline in reported cases (Figure 3).

The most commonly reported etiologic agent in 1993 was *Streptococcus pneumoniae* (48 cases, 45.7%), as presented in Table 8. Cases occurred throughout the year and were fairly evenly distributed by quarter. Infants had the highest incidence rate (30.3 cases per 100,000 population), followed by the 50 and older age group (2.6 cases per

Figure 3

Bacterial Meningitis: Ten Year Trend Virginia, 1984-1993



100,000). The incidence rate for the remaining age groups ranged from a high of 1.3 cases per 100,000 (1-9 age group) to a low of 0.5 (10-19 age group).

Blacks had twice the incidence rate as whites (3.1 and 1.4 cases per 100,000 population, respectively). Incidence rates for females and males were similar. Incidence rates by health planning region

Table 8. Etiology of Bacterial Meningitis Cases Reported in Virginia, 1993

Organism	Number of Cases	Percent of Cases
<i>Escherichia coli</i>	2	1.90
<i>Haemophilus influenzae</i>	5	4.76
<i>Listeria monocytogenes</i>	7	6.67
<i>Mycobacterium tuberculosis</i>	1	0.95
<i>Serratia marcescens</i>	1	0.95
<i>Staphylococcus:</i>		
<i>S. aureus</i>	2	1.90
<i>S. epidermidis</i>	2	1.90
unspecified	1	0.95
<i>Streptococcus:</i>		
<i>S. pneumoniae</i>	48	45.71
Group A	1	0.95
Group B	10	9.52
Group D	1	0.95
<i>S. faecium</i>	1	0.95
<i>S. sanguis</i>	1	0.95
unspecified	3	2.86
<i>Vibrio unspecified</i>	1	0.95
Unspecified	18	17.14
TOTAL	105	100.00

ranged from 2.6 cases per 100,000 population in the eastern region to 1.0 in the central region.

Twenty-two deaths due to bacterial meningitis were reported in 1993. The majority (59.1%) of the deaths were due to *S. pneumoniae* infection and occurred primarily in the very young and elderly.

Meningitis caused by *N. meningitidis* is included under the heading Meningococcal Infection.

Botulism

The last case of reported botulism in Virginia occurred in 1991.

Brucellosis

No cases of brucellosis were reported in Virginia in 1993. The last case of brucellosis was reported in 1991.

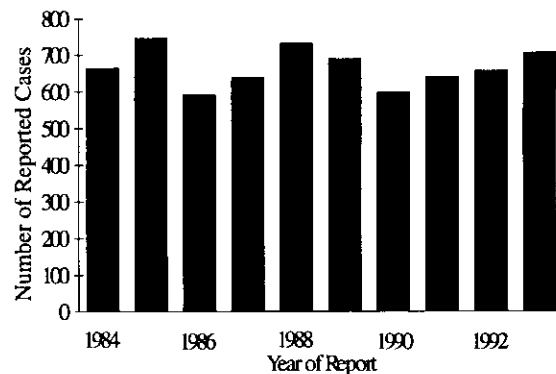
Campylobacteriosis

Reported cases of campylobacteriosis have increased annually since 1991 with the largest annual increase occurring between 1992 and 1993 (50 cases, 7.6%), as shown in Figure 4.

The majority of the cases (67%) occurred during the spring and summer months, followed by the fall and winter months. The incidence rate for infants was twice as high as any other age group. Race was not reported for 362 of the 706 cases. Of the cases where race was reported 297 were white, 37 were black, and 10 were in the other race category. Females were almost as likely as males to be reported.

Figure 4

**Campylobacteriosis: Ten Year Trend
Virginia, 1984-1993**



The northwest health planning region had the highest incidence rate (18.3 cases per 100,000 population), followed by the central region (17.6 per 100,000), the northern region (10.5 per 100,000), the southwest region (8.7 per 100,000), and the eastern region (6.6 cases per 100,000 population).

Chancroid

Three cases of chancroid were reported in 1993 compared to zero cases in 1992.

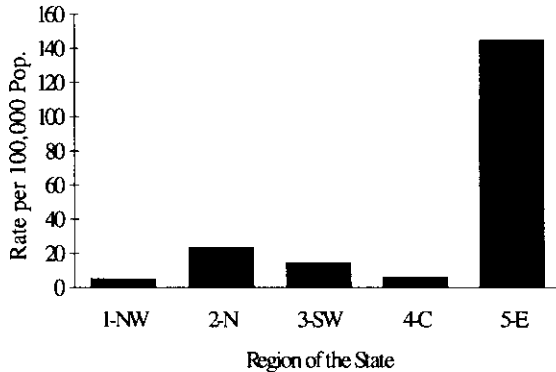
Chickenpox

Reported cases of chickenpox were down in 1993 compared to 1992. The 25.4 percent decrease in reported cases in 1993 follows two consecutive years of an annual increase in reported cases.

The disproportionate number of cases reported from the eastern health planning region (78.5%) is probably an artifact of reporting rather than an unusual occurrence of this reportable disease. Incidence rates by health planning region were as follows: eastern, 144.9 cases per 100,000 popula-

Figure 5

**Chickenpox Rate by Region
Virginia, 1993**



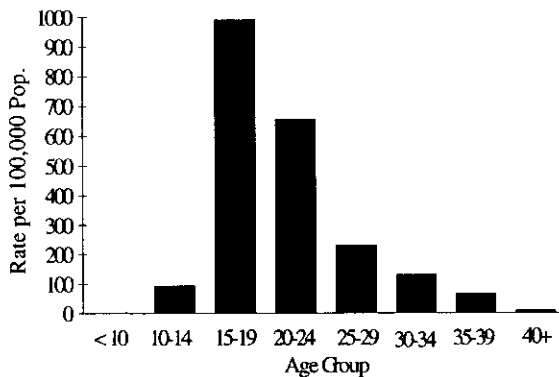
tion; northern, 23.3 per 100,000; southwest, 14.5 per 100,000; central, 5.9 per 100,000; northwest, 5.1 per 100,000 (Figure 5).

***Chlamydia trachomatis* Infection**

During 1993, 11,389 cases of *Chlamydia trachomatis* infection were reported. Forty-seven percent were black (5,409 cases, 463.2 per 100,000),

Figure 6

***Chlamydia trachomatis*: Rate by
Age Group, Virginia, 1993**



27.1% of the cases were white (3,085 cases, 63.7 per 100,000), two percent were in the other race category (228 cases, 69.3 per 100,000), and 23.4% of the cases were race unspecified. The majority of the cases (80.2%) were between the ages of 15 and 29, with 68.6% of the cases in the 15-24 age groups (7,809 cases, 809.0 per 100,000), (Figure 6). The female to male ratio was 14:1. It should be noted that health department screening is limited to females.

The fewest cases were reported in the first quarter and the most in the second quarter. The eastern health planning region had the highest rate of *Chlamydia trachomatis* infections (304.3), followed by the central region, with 191.6 cases per 100,000 population.

The data are expected to be an underestimate of the incidence of *Chlamydia trachomatis* infections because (1) screening has been limited to high risk females attending certain public health clinics, (2) as many as 75% of women and 25% of men with uncomplicated *C. trachomatis* infection are asymptomatic, and (3) persons with gonorrhea presumptively treated for *C. trachomatis* infection are not included in the case counts. The Centers for Disease Control and Prevention (CDC) estimate the morbidity due to this organism to be twice that of gonorrhea. There were 11,620 cases of gonorrhea reported in Virginia in 1993, suggesting that there were more than 22,000 *C. trachomatis* infections last year, according to CDC estimates.

Congenital Rubella Syndrome

No cases of this condition have been reported in Virginia since 1981.

Diphtheria

The last case of this vaccine preventable disease in Virginia was reported in 1989.

Ehrlichiosis, Human

No cases of this disease were reported in Virginia in 1993. Ehrlichiosis is not an officially reportable disease, however, reports are recorded when they are received. Two cases were reported in 1992.

Encephalitis, Primary

Forty-four primary encephalitis cases were reported during 1993 compared to 43 cases in 1992. The etiologic agent was reported as viral for 27 of the reported cases. Of these, 11 were specified as herpesvirus, one as Epstein-Barr virus, and 15 as virus unspecified.

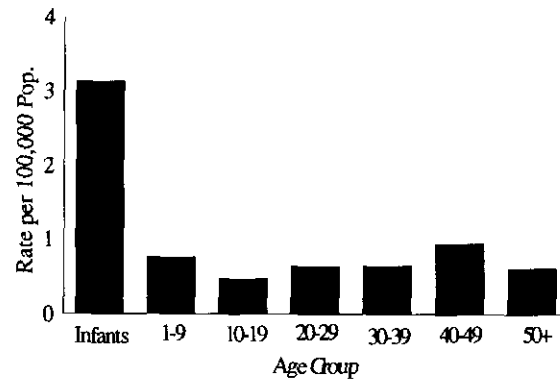
Cases occurred throughout the year but peaked during the spring and summer months. Two cases had an onset in 1992 and onset was not reported for seven cases. The incidence rate was three times as high for infants than any other age group (Figure 7). Blacks were at a greater risk for this disease than whites and persons in the other race category, and males had a slightly higher incidence rate than females.

The eastern health planning region reported the highest number of cases and had the highest incidence rate (18 cases, 1.1 per 100,000 population).

Eight deaths were reported in the primary encephalitis cases. The persons who died ranged in age from 18 to 73.

Figure 7

Primary Encephalitis: Rate by Age Group, Virginia, 1993



Encephalitis, Post-Infectious

Seven cases of post-infectious encephalitis were reported in 1993, a decrease of six cases (46.1%) compared to 1992. Three cases occurred in the first and third quarters, one case occurred in the fourth quarter, none in the second quarter.

Cases ranged in age from one to 51 years, with a mean of 18.9. Race was reported as white for three cases and not stated for the remaining four. Three cases were female and four were male.

Six of the seven cases reported were from the northern health planning region and one was from the central health planning region.

Fifth Disease

Fifth disease is not an officially reportable disease in Virginia, however, reports are recorded when they are received. Although Fifth disease usually produces a mild self-limited illness, severe complications of infection can occur. Two cases of Fifth disease were reported in 1993. Both of the cases were white males age 10 and 11. One case

each was reported from the northern and eastern health planning regions. No deaths were reported.

Foodborne Outbreaks

Fifteen foodborne outbreaks were reported in 1993. These are summarized in Table 9. The number of persons who became ill ranged from three to 54 for each outbreak. *Salmonella* was the etiologic agent most often identified with these outbreaks. Four of the five *Salmonella* outbreaks were associated with one privately owned restaurant business. Implicated meats in these restaurant-associated outbreaks of salmonellosis were culture positive for two *Salmonella* species (*S. ohio* and *S. typhimurium*).

Fungal Diseases

Fungal diseases other than histoplasmosis are not officially reportable in Virginia, however, selected fungal diseases are recorded when reported. In 1993, recorded fungal diseases other than histoplasmosis included seven cases of cryptococcosis, four cases of coccidioidomycosis, and one case of blastomycosis.

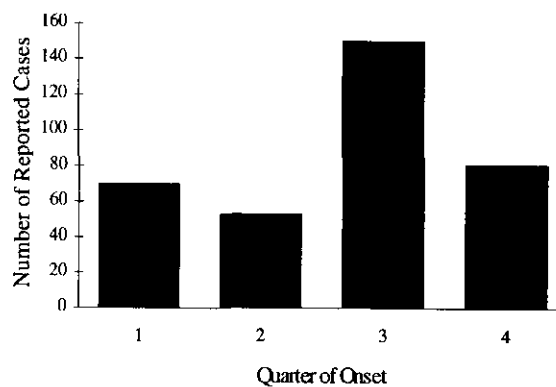
Meningitis caused by *Cryptococcus neoformans* is included under the heading Other Meningitis.

Giardiasis

Reported cases of giardiasis (373 cases) increased in 1993 by 2% over the 366 cases reported in 1992. Cases occurred throughout the year with peak activity occurring during the third quarter (Figure 8).

Figure 8

Cases of Giardiasis by
Quarter of Onset, Virginia, 1993



The incidence rate was highest for young children (12.2 cases per 100,000 population), followed by adults age 30-39 (7.0). Race was not reported for 160 (43%) of the cases. Of the cases where race was reported, persons in the other race category were more likely to be infected than blacks or whites. Females were just as likely to be reported with giardiasis as males.

The northern health planning region had the highest incidence rate (8.9 cases per 100,000 population) and the central region had the lowest (3.9).

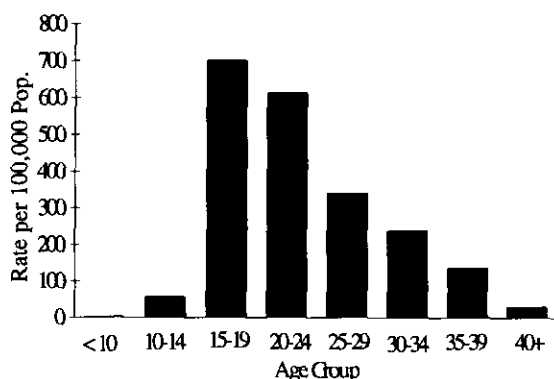
Gonorrhea

Gonorrhea continued to be the most frequently reported disease in Virginia. In 1993, 11,620 cases of gonorrhea were reported, representing a 23.6% decrease from 1992. This is the third year since 1987 that the number of gonorrhea cases declined compared to the previous year.

Nearly three-fourths (71.1%) of all gonorrhea in Virginia occurred in the 15 to 29 age range (8,259 cases, 536.7 per 100,000), with the highest incidence rate occurring in the 15-19 age group (3,102

Figure 9

**Gonorrhea: Rate by Age Group
Virginia, 1993**

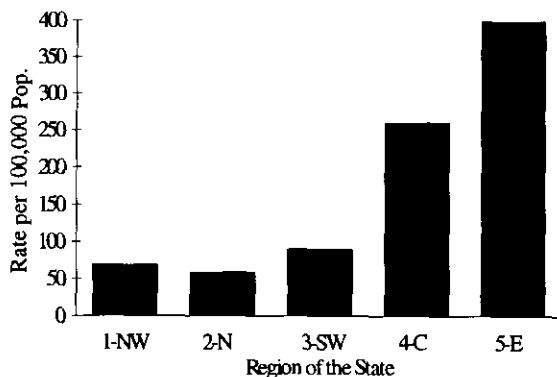


cases, 700.8 per 100,000), (Figure 9). Persons age 20-29 had an incidence of 470.4 per 100,000.

Eighty two percent of the cases were black (9,546 cases, 817.4 per 100,000), seven percent were white (772 cases, 15.9 per 100,000), one percent were other race (66 cases, 37.3 per 100,000) and ten percent were race unspecified (1,236 cases). The rate in males was 217.3 compared to 159.0 per 100,000 females.

Figure 10

**Gonorrhea: Rate by Region
Virginia, 1993**



The eastern health planning region reported the most cases (6,299 cases, 398.7 per 100,000), followed by central (2,763 cases, 260.1 per 100,000), southwest (1,120 cases, 89.9 per 100,000), northwest (860 cases, 58.7 per 100,000), and northern (578 cases, 69.2 per 100,000), (Figure 10).

Granuloma Inguinale

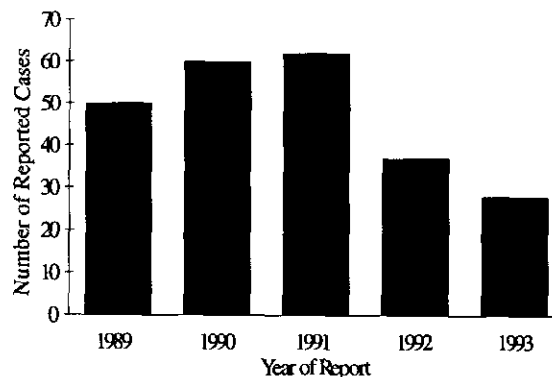
No cases of granuloma inguinale were reported in 1993. Cases of this disease were last reported in 1990.

**Haemophilus influenzae
Infection, Invasive**

Invasive *Haemophilus influenzae* infections (including five cases of meningitis) declined from 37 cases reported in 1992 to 28 cases in 1993 (Figure 11). Most (67.9%) of these infections occurred during the fall and winter months.

Figure 11

**Invasive H. influenzae: Five Year Trend
Virginia 1989-1993**



Infants had the highest incidence rate (4 cases, 4.2 per 100,000), followed by adults age 50 and older (10 cases, 0.7 per 100,000). Sixteen cases occurred in whites (0.3 per 100,000) and eight occurred in blacks (0.7 per 100,000); race was not reported for four cases. The incidence rate was somewhat higher in females than males (0.5 per 100,000 vs. 0.4 per 100,000).

Most cases were reported from the eastern (11 cases, 0.7 per 100,000) and northern (9 cases, 0.6 per 100,000) health planning regions. The other regions reported from one to four cases.

Three deaths due to invasive *H. influenzae* were reported in 1993. Two of the deaths were in children (ages 6 and 11) and one was in a 78 year old male.

Meningitis caused by *H. influenzae* is also included under the heading Bacterial Meningitis.

Hansen's Disease (Leprosy)

No cases of this reportable disease were reported in Virginia in 1993 compared to two cases in 1992.

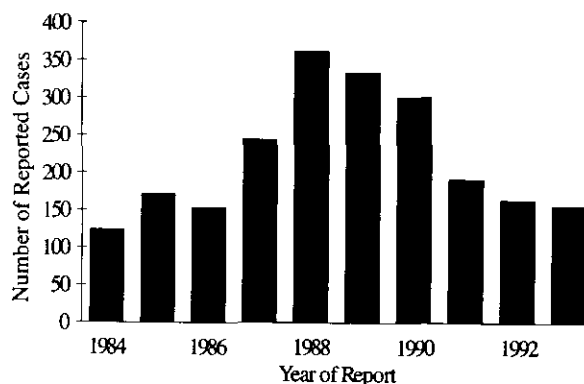
Hepatitis A

Reported cases of hepatitis A (156 cases) continued to decline, a trend that began in 1989 and is shown in Figure 12. The occurrence of cases by quarter ranged from 27 to 40. Peak activity occurred during the first half of the calendar year.

Adults between the ages of 20 and 39 were most at risk for hepatitis A. The average age of reported cases was 31.4. Persons in the other race category were almost three times more likely to be reported with hepatitis A than blacks or whites. The inci-

Figure 12

Hepatitis A: Ten Year Trend Virginia, 1984-1993



dence rate among males (2.7 cases per 100,000 population) compared to females (2.3) was less notable.

The northern health planning region reported the most cases and had the highest incidence rate of all regions (81 cases, 5.5 per 100,000 population).

Hepatitis B

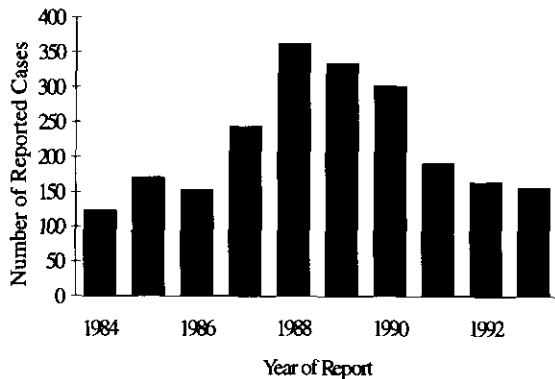
Hepatitis B cases decreased for the eighth consecutive year. The total of 157 cases reported in 1993 is the lowest number reported annually in the last ten years (Figure 13).

No seasonal trend was noted in the dates of onset of the cases. Young adults (age 20-29) were at the greatest risk of disease with an incidence rate of 5.4 cases per 100,000 population.

Blacks had a much higher incidence rate (5.5 per 100,000) than the other two race categories (1.7 per 100,000 for whites and 0.6 for other races). More cases were female and the incidence rate for females was higher than for males (2.7 vs. 2.3 cases per 100,000 population, respectively).

Figure 13

**Hepatitis B: Ten Year Trend
Virginia, 1984-1993**



Incidence rates by region ranged from a high of 3.3 cases per 100,000 population in the southwest health planning region to a low of 1.3 in the north-west region.

There were three deaths among the 157 cases reported in 1993. The average age of the two males and one female who died was 59.

Hepatitis Non-A Non-B

Fifty-four cases of hepatitis non-A non-B were reported in 1993 compared to 48 cases in 1992. Almost half of the cases experienced onset during the third quarter.

Persons in the 30-39 age group were most likely to be reported with this disease (2.0 cases per 100,000 population), followed by the 40-49 age group (1.9). No cases were reported in persons less than 20 years old.

The incidence rate for blacks was more than three times higher than whites and males were more likely to be reported than females.

Incidence rates were similar for the southwest and central health planning regions (1.6 and 1.5 cases per 100,000 population, respectively) as were the eastern and northwest health planning regions (0.6 cases and 0.5 cases per 100,000 population, respectively).

One hepatitis non-A non-B associated death was reported in 1993.

Hepatitis C virus (HCV) has been identified as the primary etiologic agent of hepatitis non-A non-B in the United States. A screening test for the detection of HCV antibodies was licensed in 1990. Twenty-eight (65%) of the hepatitis non-A non-B cases reported in Virginia in 1993 were reported to be positive for antibodies to HCV.

Hepatitis Unspecified

The number of reported cases of hepatitis unspecified decreased in 1993 to 43 from 53 reported in 1992. The peak occurrence for cases was during the second quarter when 33% of the cases had onset, compared to 26% during the fourth quarter, 21% during the first quarter, and 19% during the third quarter. Four cases had onset in 1992.

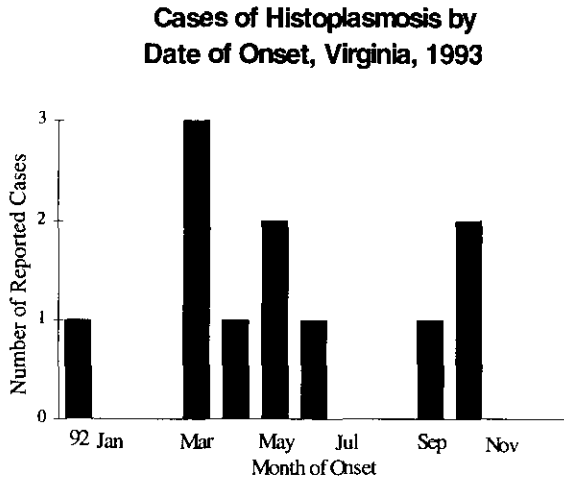
Case rates by age ranged from a high of 4.8 cases per 100,000 population in the 50 and older age group to a low of 0.35 in the 10-19 age group.

Persons in the other race category were more likely than blacks and whites to be reported with this disease, and males were more likely to be reported than females. No deaths due to hepatitis unspecified were reported.

Histoplasmosis

Reported cases of histoplasmosis decreased from 14 in 1992 to 11 in 1993. Illness onset peaked during the second quarter when forty percent of the cases with a 1993 onset date occurred (Figure 14). One of the 1993 cases actually occurred in 1992. Cases ranged in age from 27 to 68, with a mean of 45. Seven of the reported cases were white, one was black, and three were race unknown. The male to female ratio was 4.5:1. At least one case was reported from each of the five health planning regions, with a high of five cases from the central region and two cases each from the northwest and northern regions.

Figure 14



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

HIV Infection

During 1993, 1,471 HIV infections were reported, bringing the cumulative total of cases reported since 1989 to 5,825. Twenty-five percent of the cumulative HIV infections were reported in 1993. Trends in HIV infection are important because they are likely to be predictive of future AIDS trends.

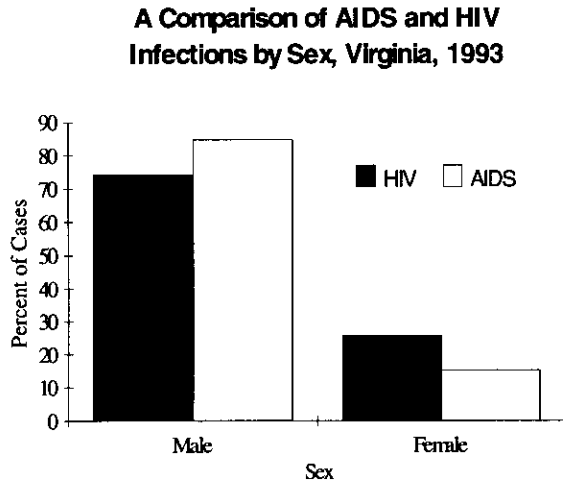
Males represented the majority (1,093 cases, 74.3%) of the HIV infection reports and were three times more likely to have the infection than females (36.0 per 100,000 vs. 12.0 in females). During 1993, the majority of HIV cases reported were in blacks (906 cases, 61.6%). Whites represented 34.7% of the HIV infections while other minorities represented 2.7%. Race was not reported in 15 cases. Nonwhites were 6.7 times more likely than whites to be infected, having an incidence rate of 70.4 per 100,000 compared to 10.5 in whites.

Over one-third (36.2%) of the reported cases of HIV infection were in the 15-29 age range, with the majority of cases between the ages of 20 and 39 (1,088 cases, 74.0%). Persons in their thirties had a higher incidence rate than persons in their twenties (601 cases, 55.6 per 100,000 vs. 487 cases, 44.4 per 100,000, respectively). Twenty pediatric HIV infections were reported in 1993. Of these children, seven (35.0%) were infected through maternal transmission.

Compared to AIDS, persons with HIV infection were more likely to have become infected through heterosexual contact (13.9% HIV vs. 10.6% AIDS)

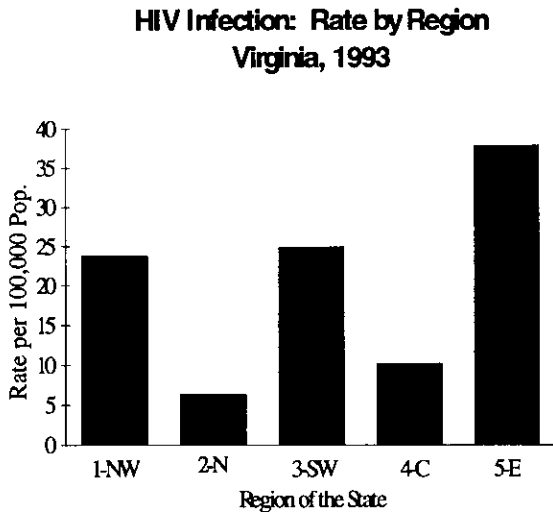
and less likely to attribute their infection to men having sex with men (MSM) (31.8% HIV vs. 51.9% AIDS). Females comprised a much larger proportion of HIV infections (25.7%) than AIDS cases (15.3%), as shown in Figure 15.

Figure 15



The largest incidence rate was calculated for the central health planning region (37.8 per 100,000), followed by the eastern region (33.2 per 100,000), and the northern region (24.9 per 100,000). The southwest region experienced an incidence rate of

Figure 16

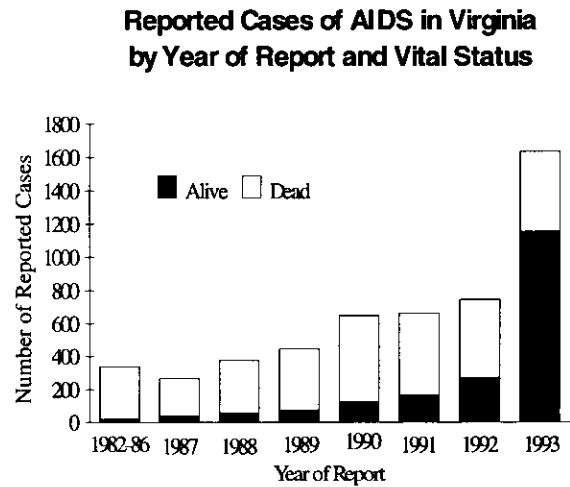


10.2, while the rate in the northwest was 6.3 per 100,000 (Figure 16).

AIDS

On January 1, 1993 the AIDS surveillance case definition for adolescents and adults was expanded to include three additional clinical conditions (pulmonary tuberculosis, recurrent pneumonia, and invasive cervical cancer) as well as a laboratory marker of severe immunosuppression (CD4+ T-lymphocyte count <200 cells per μ L) in HIV-infected persons. This expansion resulted in a large transient increase in AIDS cases reported.

Figure 17



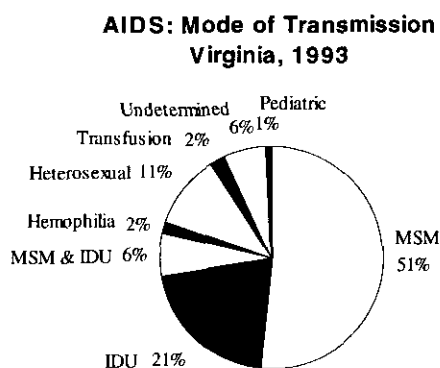
Since the first cases were reported in 1982, the cumulative number of AIDS cases reported through the end of 1993 is 5,121, with 3,229 of these cases known to have died (63.1%). In 1993, 1,634 cases were reported, representing a 118.7% increase over 1992 (Figure 17).

AIDS is caused by the human immunodeficiency virus (HIV). The most common modes of transmission are through unprotected sexual intercourse (especially anal intercourse) and injecting drug use (IDU). During 1993, men having sex with men

(MSM) accounted for the greatest percentage of AIDS cases with 51.9%, followed by IDU (20.6%). An additional 6.3% of cases had both of the above risk factors (Figure 18).

Of the reported AIDS cases, 18.9% were in the 15-29 age range, and the majority were between the ages of 30 and 49 (1,164 cases, 71.4%). The age group with the highest case rate was 30-39 year olds, with 70.4 cases per 100,000 population. Ten pediatric AIDS cases were reported in 1993. The majority of these children were infected via perinatal transmission (7 cases, 70.0%).

Figure 18



This is the first year that the majority of AIDS cases reported were black (833 cases, 51.0%). An additional 742 cases were white (45.4%) and 59 cases were other races (3.6%). Nonwhites were 4.3 times more likely than whites to be reported with AIDS, having a disease rate of 66.3 per 100,000 compared to 15.3 in whites. Males also represented a disproportionate share, with a disease rate 5.8 times higher than females (45.6 vs. 7.9 per 100,000).

The central health planning region experienced the highest incidence rate (45.0 per 100,000), followed by the northern region (36.8 per 100,000), eastern region (23.2 per 100,000), northwest region

(15.1 per 100,000), and southwest region (10.0 per 100,000).

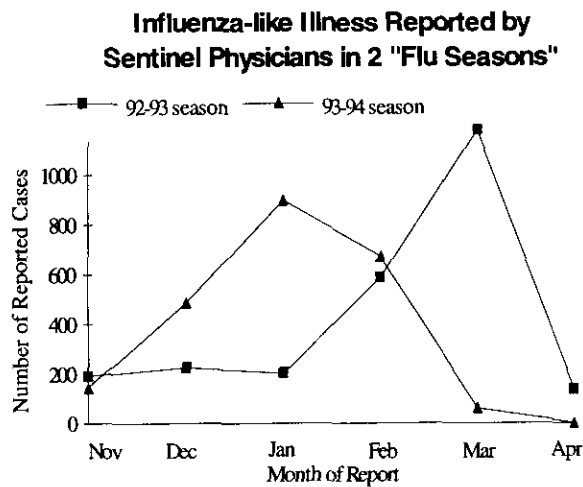
Persons with AIDS develop a variety of life-threatening opportunistic infections due to immunosuppression. The most commonly diagnosed infection is *Pneumocystis carinii* pneumonia (PCP). Nearly half (45.2%) of the cases reported during 1993 developed PCP during the course of their illness. Other frequently diagnosed conditions include Kaposi's sarcoma (8.6%), HIV wasting syndrome (25.3%), *Mycobacterium avium* (17.2%), esophageal candidiasis (18.6%), and HIV encephalopathy (6.6%).

Influenza

The influenza season in Virginia usually runs from the fourth quarter (October - December) of one year through the first quarter (January - March) of the following year. During this period, the health department conducts active influenza surveillance using sentinel physicians from around the state who report cases of influenza-like illness on a weekly basis. In addition, sporadic cases of influenza-like illness are reported throughout the calendar year through our passive disease reporting system. Information from both surveillance systems, along with laboratory identification of viral agents, is used to monitor and define influenza activity in Virginia. During the influenza season, cases are tabulated weekly and used to characterize influenza or influenza-like activity in Virginia as sporadic, regional or widespread.

During the 1992-93 influenza season, influenza type A and type B were isolated in Virginia. Based on sentinel physician data, widespread activity occurred from late February through late March, peaking mid-March. By comparison, during the 1993-94 influenza season, all isolates reported in Virginia were influenza type A. Widespread activ-

Figure 19



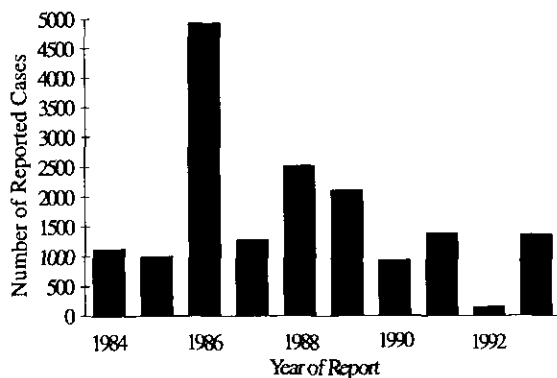
ity occurred from late December to mid-February, with peak activity occurring late January 1994 (Figure 19).

There were 1,363 cases of influenza reported through the passive surveillance system in calendar year 1993, compared to 148 cases in 1992 and 1,392 cases in 1991. The small number of cases reported in calendar year 1992 can be explained by an early 1991-92 influenza season followed by a late season in 1992-93 (Figure 20).

Influenza incidence rates throughout the state for calendar year 1993 ranged from a low of 8.5 cases

Figure 20

**Influenza: Ten Year Trend
Virginia, 1984-1993**



per 100,000 in the northwest health planning region to a high of 59.5 per 100,000 in the southwest region.

Kawasaki Syndrome

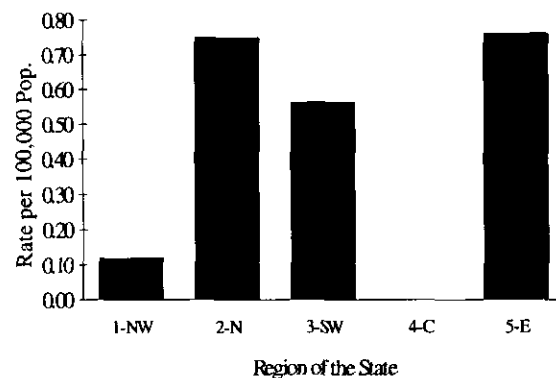
Thirty-one reported cases of Kawasaki syndrome were confirmed in 1993 compared to 27 in 1992. A disease primarily of the young, cases ranged in age from five months to seven years. Cases occurred throughout the year without a seasonal trend noted.

Twenty-seven cases (87%) were in the 1-9 age group. Four of the cases were infants. The incidence rate was highest among blacks (1.1 cases per 100,000 population), followed by persons in the other race category (0.6 cases per 100,000) and whites (0.3 per 100,000). The incidence rate for males and females was similar.

The highest incidence rates were observed in the eastern and northern health planning regions (0.8 cases per 100,000 population each), as illustrated in Figure 21. The incidence rate was 0.6 cases per 100,000 population in the southwest health planning region and 0.1 per 100,000 in the northwest.

Figure 21

**Kawasaki Syndrome: Rate by Region
Virginia, 1993**



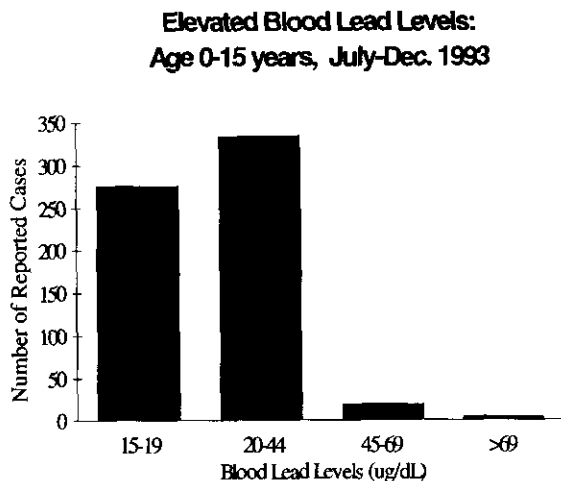
cases were reported from the central health planning region.

Lead - Elevated Levels in Children

On July 1, 1993, elevated blood lead levels in children became a reportable condition in Virginia. Any child age 15 years or younger, with a venous blood lead level greater than or equal to 15 $\mu\text{g}/\text{dL}$, should be reported to the health department. This report summarizes the six months of surveillance data collected during 1993.

Of the 633 children reported, 276 (43.6%) had levels in the 15-19 $\mu\text{g}/\text{dL}$ range, the category for which the Centers for Disease Control and Prevention (CDC) recommends nutritional and educational interventions and more frequent screening; 334 (52.8%) had levels in the 20-44 $\mu\text{g}/\text{dL}$ range, for which CDC recommends medical evaluation and environmental evaluation and remediation; 19 (3.0%) had levels in the 45-69 $\mu\text{g}/\text{dL}$ range, requiring both medical and environmental interventions, including chelation therapy; and four (0.6%) had

Figure 22

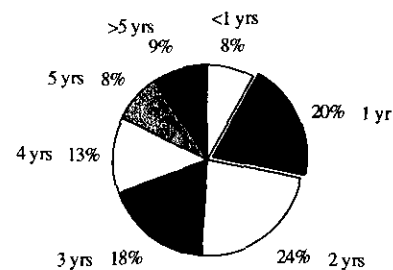


levels over 69 $\mu\text{g}/\text{dL}$, constituting a medical emergency (Figure 22).

Children age two and younger comprised 51.3% of the reported cases and only 59 (9.3%) children were over age five (Figure 23). Race was reported for 425 children: 374 were black, 46 were white and five were in the other race category. More males (367 cases, 58.0%) were reported with lead poisoning than females (266 cases, 42.0%).

Figure 23

Elevated Blood Lead Levels by Age: Virginia, July - Dec. 1993



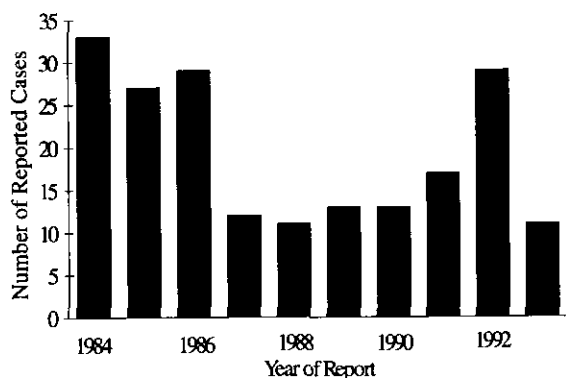
Cases were reported from all of the health planning regions: northwest, 17 cases; northern, 13 cases; southwest, which includes the federally funded lead prevention program in Lynchburg, 138 cases; central, which includes the programs in Petersburg and Richmond, 266 cases; and eastern, which includes the programs in Norfolk and Portsmouth, 199 cases.

Legionellosis

Eleven cases of legionellosis were reported in 1993, a decrease from the 29 cases reported in 1992 (Figure 24). Males accounted for 72.7% of those reported (incidence rate 0.3 per 100,000 versus 0.1

Figure 24

**Legionellosis: Ten Year Trend
Virginia, 1984-1993**



per 100,000 for females); age ranged from 33 to 78 years. The incidence rate for blacks (3 cases, 0.3 per 100,000) was 1.5 times that for whites (8 cases, 0.2 per 100,000).

Nine (81.8%) persons had at least one of the following risk factors: cancer, organ transplant recipient, renal dialysis, systemic corticosteroid use, diabetes mellitus or cigarette smoking. Six persons reported smoking ten or more cigarettes per day. One person had none of the above risk factors and no information was reported on another.

From one to three cases were reported from each of the health planning regions. There were three deaths, all in males age 49 to 67.

Leptospirosis

No cases of leptospirosis were reported in 1993. Two cases of this disease were reported in 1992.

Listeriosis

Twenty-three cases of listeriosis were reported in 1993 (including seven cases of meningitis), compared to ten cases in 1992. Persons with listeriosis ranged in age from newborn to 89 years (mean = 53 years). Four of the 23 cases reported in 1993 were infants, two were in the age group 20-29 years and the remainder were age 41 or older. More cases were reported among females (13 cases, 0.4 per 100,000) than males (10 cases, 0.3 per 100,000). Of the 20 persons for whom race was reported, two were in the other race category (0.6 per 100,000), four were black (0.4 per 100,000) and 14 were white (0.3 per 100,000).

From two to eight cases were reported from each of the health planning regions. Rates ranged from 0.1 per 100,000 in the eastern region to 1.0 per 100,000 in the northwest.

Two deaths due to listeriosis were reported; one 61 year old female and one 78 year old male.

Meningitis due to listeriosis is also included under the heading Bacterial Meningitis.

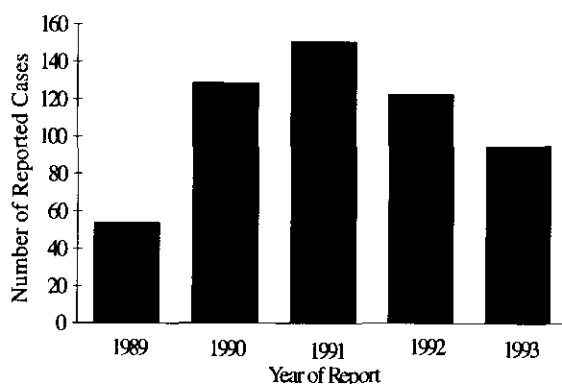
Lyme Disease

Ninety-five cases of Lyme disease were reported in Virginia in 1993, a decrease from the 123 cases reported in 1992. Figure 25 shows the five year trend since Lyme disease became a reportable condition in 1989.

Three-fourths (75.8%) of cases had onset between April and September 1993 (Figure 26). Persons with Lyme disease ranged in age from two to 84 years (mean = 37 years). Incidence rates per 100,000 ranged from 0.8 for age group 10-19 years

Figure 25

**Lyme Disease: Five Year Trend
Virginia, 1989-1993**

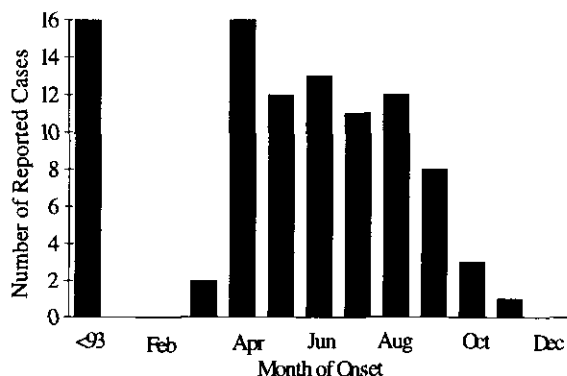


to 2.2 for age group 20-29 years. Males accounted for 63.2% of reported cases (incidence rate 2.0 per 100,000 vs. 1.1 per 100,000 for females). The rate among whites (78 cases, 1.7 per 100,000) was approximately twice that of either blacks (9 cases, 0.8 per 100,000) or persons in the other race category (3 cases, 0.9 per 100,000). Race was not reported for five persons.

The predominant symptoms reported were erythema migrans (66.3%) and arthritis (29.5%). Other symptoms reported were radiculoneuropathy (6.3%), Bell's Palsy (4.2%), lymphocytic meningi-

Figure 26

**Cases of Lyme Disease by
Date of Onset, Virginia, 1993**



tis (3.2%), encephalitis or encephalomyelitis (2.1%) and 2nd or 3rd degree atrioventricular block (2.1%). Serologic testing was positive for 43.2% of cases, negative for 21.1% and not reported for 35.8%. For early disease, serologic test results are usually negative.

Cases were reported from all health planning regions with the highest incidence rate in the northern health planning region (34 cases, 2.3 per 100,000). *Borrelia burgdorferi* has been isolated from rodents in Accomack and York counties. Infected ticks have been identified in Accomack County and on military bases in Caroline, Fairfax and York counties. There have been no human isolates from Virginia to date.

Lymphogranuloma Venereum

No civilian cases of lymphogranuloma venereum were reported in Virginia during 1993. Six cases had been reported in 1992.

Malaria

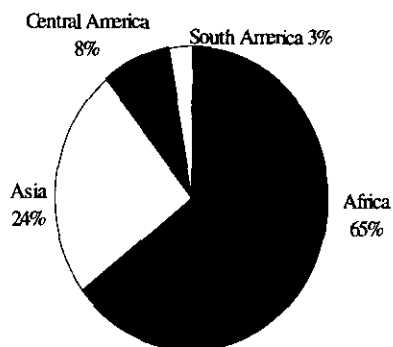
Forty-one cases of malaria were reported in 1993, a slight decrease from the 47 cases reported in 1992. Cases were reported in all age groups except infants. The incidence rate was higher for males than females (0.8 per 100,000 vs. 0.5 per 100,000). The other race category had the highest incidence rate (10 cases, 3.0 per 100,000), compared to blacks (22 cases, 1.9 per 100,000) and whites (6 cases, 0.1 per 100,000). Race was not reported for three persons.

Cases occurred in each quarter of the year, with the fewest in the first quarter (6 cases) and the most in the third (17 cases). Thirty-one (75.6%) were from the northern health planning region, for a rate of 2.1 per 100,000. The rates in the other regions ranged from 0.1 to 0.7 per 100,000.

Species was reported for 34 cases: 18 *Plasmodium falciparum*, 15 *P. vivax* and 1 *P. malariae*. Country of disease acquisition was reported for 37 cases; 24 had a history of travel to Africa, nine to Asia, three to Central America and one to South America (Figure 27).

Figure 27

Cases of Malaria by Place of Acquisition, Virginia, 1993



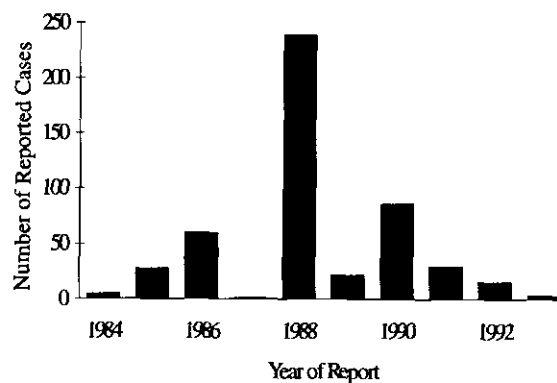
Measles

Four cases of measles were reported in 1993, the lowest number reported since 1987, and well below the ten year mean of 49.1 cases per year (Figure 28). All cases were acquired outside Virginia: one in Florida and three outside the United States.

Three of the persons reported with measles were in the age group 10-19 years and one was in the age

Figure 28

**Measles: Ten Year Trend
Virginia, 1984-1993**



group 20-29 years. All were white; males and females were equally affected.

Three cases were reported from the southwest health planning region and one from the central region.

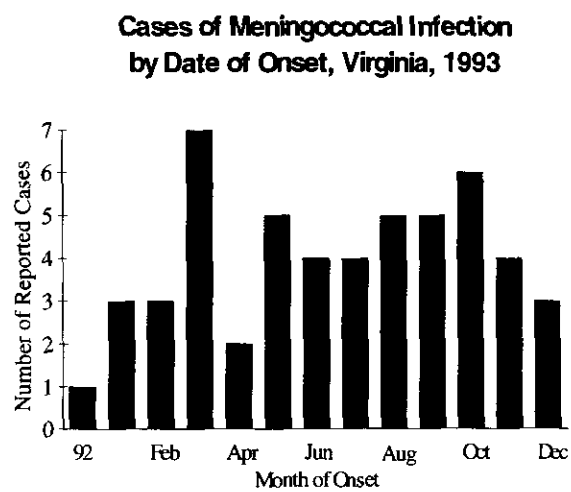
Meningococcal Infection

The number of cases of meningococcal infection decreased to 52, down from the 61 cases reported in 1992. Infants had the highest incidence rate (12.5 per 100,000), followed by persons in the age groups 10-19 years and 1-9 years (1.2 and 1.1 cases per 100,000, respectively).

The incidence rate for blacks was about 2.5 times higher than for whites (1.6 cases per 100,000 vs. 0.6 cases per 100,000). Slightly more cases were reported among males (27 cases, 0.9 per 100,000) than females (25 cases, 0.8 per 100,000).

Onset of illness was distributed fairly evenly throughout the year, with slightly more cases occurring in the third quarter (27.0%), (Figure 29). Among the health planning regions, the incidence

Figure 29



rate ranged from 0.3 per 100,000 in the southwest to 1.1 per 100,000 in the central region.

Serogroup was reported for 24 cases: 11 were group C, nine group B, two group Y, one group A and one group W-135. The organism was isolated from cerebrospinal fluid in 17 cases, from blood in 19 cases, and from both in nine cases.

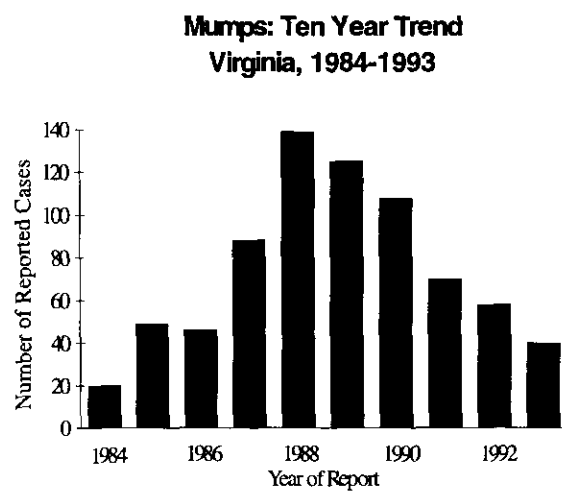
Three females, ranging in age from 14 to 72 years, died from meningococcal infections.

Mumps

The number of reported cases of mumps declined for the fifth year in a row, to 40 cases in 1993 (Figure 30). Most cases were reported in the age group 1-9 years (18 cases, 2.3 per 100,000), followed by eight cases each in the age groups 10-19 years and 20-29 years (1.0 cases per 100,000 and 0.7 cases per 100,000, respectively). The oldest person reported with mumps was 36 years old.

Blacks had the highest incidence rate (8 cases, 0.7 per 100,000) followed by whites (23 cases, 0.5 per 100,000) and persons in the other race category

Figure 30



(1 case, 0.3 per 100,000); race was not reported for eight persons. The incidence rate was twice as high for males (25 cases, 0.8 per 100,000) as females (13 cases, 0.4 per 100,000).

Eleven cases had onset during the fourth quarter and ten each occurred during the first and third quarters. Only three cases occurred during the second quarter. Nearly three-fourths (72.5%) of cases were reported from the eastern (16 cases, 1.0 per 100,000) and northern (13 cases, 0.9 per 100,000) health planning regions.

Nosocomial Outbreaks

Four nosocomial outbreaks were reported in 1993. Three of the four were characterized by large numbers of patients and staff developing symptoms of gastroenteritis. The etiologic agents in these outbreaks were believed to be viral. No deaths occurred as a result of these three outbreaks.

The fourth outbreak, which began in 1992 and continued into 1993, consisted of an increased number of colonizations/infections due to *Pseudomonas cepacia*. Most positive cultures were from patients

in an intensive care unit and approximately half of those infected developed pneumonia. Two deaths were associated with this outbreak.

Occupational Illnesses

During 1993, 111 cases of occupational illness were reported: asbestosis (80.2%), lead poisoning (18.0%), pesticide poisoning (0.9%) and carpal tunnel syndrome (0.9%). The remainder of this section will present further information on the cases of asbestosis and lead poisoning.

Of the 89 persons reported with asbestosis, all but one were male. Age ranged from 40 to 85 years (median=64 years); race was generally not reported. The highest incidence rate occurred in the eastern health planning region (74 cases, 4.7 per 100,000). Fourteen cases were reported from the central region (1.3 per 100,000) and one case from the southwest (0.1 per 100,000). The industries employing the most persons reported with asbestosis were shipbuilding (46 cases, 51.7%), the textile industry (14 cases, 15.7%), the railroad industry (10 cases, 11.2%) and the military (5 cases, 5.6%).

The 20 persons reported with elevated blood lead levels were all men, age 16 to 54 years (median=27.5 years). Cases were reported from the central (75.0%) and eastern (25.0%) health planning regions. Neither the industry in which people worked nor their occupation was reported for any of the cases.

Ophthalmia Neonatorum

Five cases of ophthalmia neonatorum were reported in 1993. *Chlamydia trachomatis* was the

etiologic agent for four of the cases and one was due to *Neisseria gonorrhoeae*. All of the cases were reported from the eastern health planning region.

Other Meningitis

Seventy-three cases of meningitis caused by organisms other than bacteria or viruses were reported in 1993. Forty (54.8%) cases were cryptococcal meningitis; the causative organism was unspecified for the remainder. Although cases were reported in all age groups, including infants, the majority (74.0%) were in adults age 30 and older. Blacks had a higher incidence rate (25 cases, 2.2 per 100,000) than whites (39 cases, 0.8 per 100,000) or persons in the other race category (2 cases, 0.6 per 100,000); race was not reported for seven persons. Twice as many males were reported as females (1.6 per 100,000 and 0.7 per 100,000, respectively).

Of the 19 deaths reported, 14 (73.7%) were due to cryptococcal meningitis. Eight of the persons who died of cryptococcal meningitis had HIV infection. Persons who died ranged in age from 3 to 76 years; all but four were males.

Parasites, Intestinal

In addition to amebiasis and giardiasis, selected reports of other parasitic intestinal diseases are recorded. In 1993, 158 cases of intestinal parasites were reported: 55 cases of ascariasis (roundworm), 48 cases of trichuriasis (whipworm), 46 cases of necatoriosis (hookworm), five cases of strongyloidiasis, and four cases of cryptosporidiosis (Figure 31).

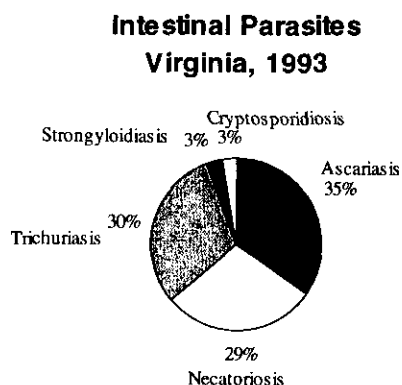
Cases were reported in all age groups except infants, with the highest incidence rates in the age

groups 1-9 years (42 cases, 5.3 per 100,000) and 10-19 years (42 cases, 5.0 per 100,000). The other race category had the highest incidence rate (144 cases, 43.8 per 100,000). The distribution of cases among males and females was almost identical.

By health planning regions, incidence rates ranged from 0.1 per 100,000 in the northwest to 5.4 per 100,000 in the central region.

One death due to cryptosporidiosis was reported in a 46 year old man who had AIDS.

Figure 31



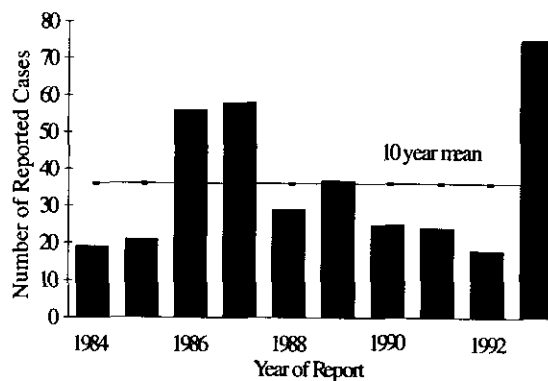
Pertussis

Seventy-five cases of pertussis were reported in 1993, the highest number reported since 1970 and over twice the 10 year mean of 36.2 cases per year (Figure 32).

Children less than 16 years old accounted for 67 (89.3%) cases, including 33 cases in infants (34.4 per 100,000), 19 cases in the age group 1-9 years (2.4 per 100,000) and 15 cases in the age group 10-19 years (1.8 per 100,000). More females (45 cases, 1.4 per 100,000) were reported with pertussis

Figure 32

**Pertussis: Ten Year Trend
Virginia, 1984-1993**

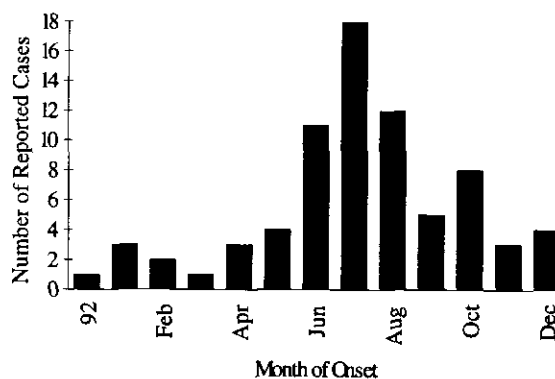


than males (30 cases, 1.0 per 100,000). Race was typically not reported.

Over half (54.7%) of the cases had onset during June through August (Figure 33). The highest incidence rate occurred in the northwest health planning region (34 cases, 4.1 per 100,000) and the lowest in the central region (5 cases, 0.5 per 100,000).

Figure 33

**Cases of Pertussis by
Date of Onset, Virginia, 1993**



Phenylketonuria (PKU)

Seven cases of PKU were reported in 1993 through newborn screening programs compared to three cases in 1992. Four cases were male and three were female.

Plague

No cases of this disease have been reported in Virginia during the twentieth century.

Poliomyelitis

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

Psittacosis

One case of psittacosis was reported in an employee of a pet store who cleaned the bird cages. One case was also reported in 1992.

Q Fever

The last case of Q fever reported in Virginia was in 1987.

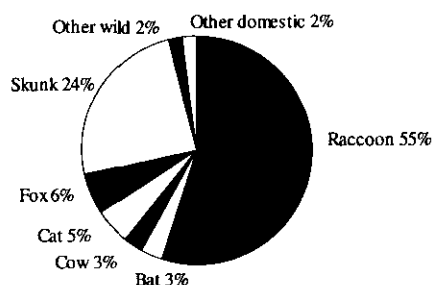
Rabies in Animals

The total number of laboratory confirmed rabid animals for 1993 was 387; a 6.5% increase over the 1992 total of 362. The raccoon rabies outbreak continued its expansion, showing up in seven counties that had not previously reported raccoon rabies: Bedford, Campbell, Floyd, Grayson, Mecklenburg, Patrick, and Wythe.

For the twelfth consecutive year raccoons were the most commonly reported species with rabies. The 213 rabid raccoons accounted for 55% of all rabid animals (Figure 34). Of the 94 (24%) skunks reported, only five were from the skunk endemic area of southwest Virginia. The others were from the raccoon outbreak area and represented either "spillover" from infected raccoons or the transmission of the raccoon rabies virus strain from skunk to skunk.

Figure 34

Species of Animals Positive for Rabies, Virginia, 1993



Other wildlife reported as rabid in 1993 included 23 foxes, 12 bats, 6 groundhogs, and 1 otter. Rabid domestic animals included 19 cats, 11 cows, 4 dogs, and 3 horses. A pet ferret developed rabies one month after escaping from the house for a day and returning with what appeared to be bite wounds.

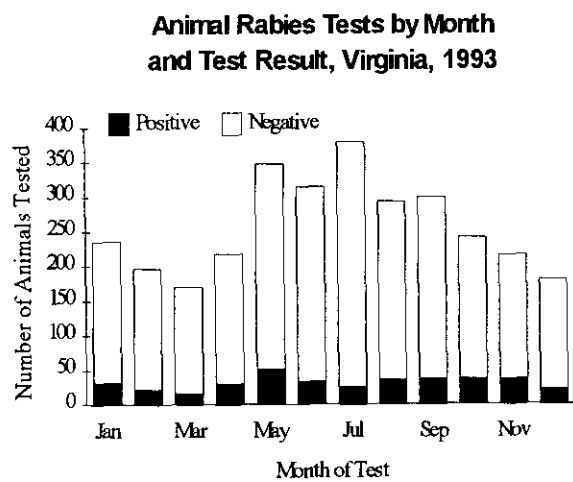
The number of animals tested in 1993 was 3,177; two less than in 1992. The percent positive was slightly higher in 1993 (12% vs. 11%). The most commonly tested animals were cats (30%), dogs (19%), and raccoons (18%). Although skunks only accounted for 5% of the animals tested, 66% of those that were tested were rabid.

The percent positive for raccoons that were tested was 37% while only 2% of cats and less than 1% of dogs were positive.

Fairfax County (including the cities of Fairfax and Falls Church) contributed 9% of the animals tested; 5% each came from Loudoun and Virginia Beach, 4% from Arlington and 3% or less from the rest of the counties and cities. The localities contributing the highest percentage of positive animals to the state total were: Loudoun (8%), Augusta (6%), Page (5%), and Hanover (4%). The number of animals tested is compared to the number positive for each month in Figure 35.

The percent of rabid animals that exposed humans were as follows: dogs, 100%; cats, 95%; cows, 73%; horses, 67%; bats, 58%; groundhogs, 33%; foxes, 30%; raccoons, 12%; and skunks, 7%. Human exposure was reported for the rabid ferret, but not the otter.

Figure 35



Rabies in Humans

No human rabies cases were reported in 1993. The last reported case occurred in 1953. The number of persons who received postexposure prophylaxis increased between 1992 and 1993, from 302 to 378. This is the highest number reported since we began keeping records in 1985. Preexposure vaccinations were reported for 806 persons, an increase of 126 over 1992.

Reye Syndrome

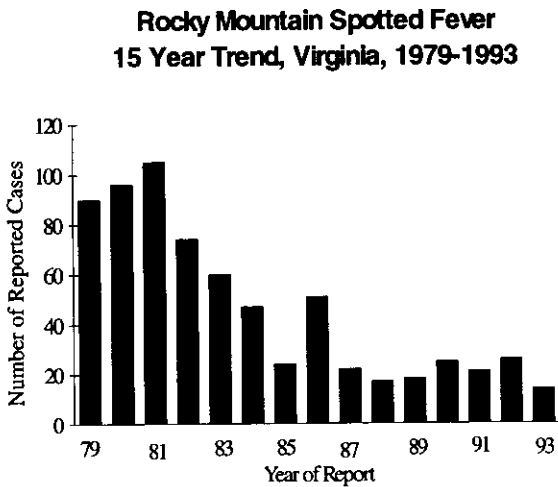
Three cases of Reye syndrome were reported in 1993, two in white females and one in a white male, all from the southwest health planning region. A 16 year old female died. No cases were reported in 1992.

Rocky Mountain Spotted Fever

The number of reported cases of Rocky Mountain spotted fever decreased to 14, the lowest number ever reported in Virginia since surveillance began in 1960. Figure 36 shows the 15 year trend in the number of reported cases of Rocky Mountain spotted fever in Virginia.

The incidence rate was slightly higher among the 40-49 year age group (0.4 per 100,000) than among other age groups (range 0.0-0.3 cases per 100,000). No cases were reported in infants. The average age of reported cases was 40.7. Race was reported for 13 persons, all of whom were white. Almost three times as many males (10 cases, 0.3 per 100,000) were reported with Rocky Mountain spotted fever

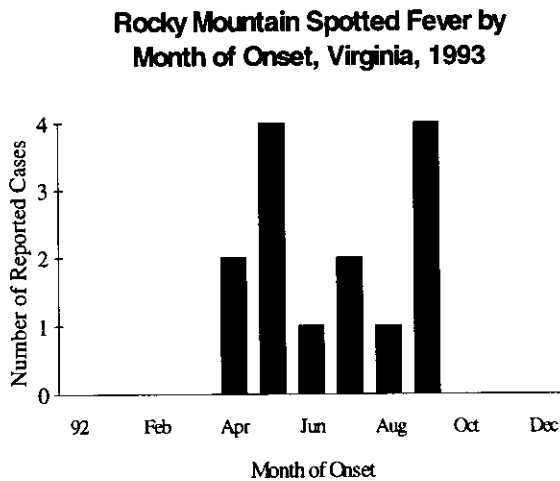
Figure 36



as females (4 cases, 0.1 per 100,000). Onset of illness occurred between April and September 1993 (Figure 37).

Five cases were reported from the northwest health planning region for an incidence rate of 0.6 per 100,000. The remaining health planning regions each reported one to four cases with rates ranging from 0.1 to 0.3 cases per 100,000. No deaths were reported.

Figure 37



Ten (71.4%) persons reported having a rash. Ten had a known tick bite, two had been in a tick infested area, one did not recall any tick exposure, and the exposure status was unknown for one.

Rubella

The last case of rubella in Virginia occurred in 1990.

Salmonellosis

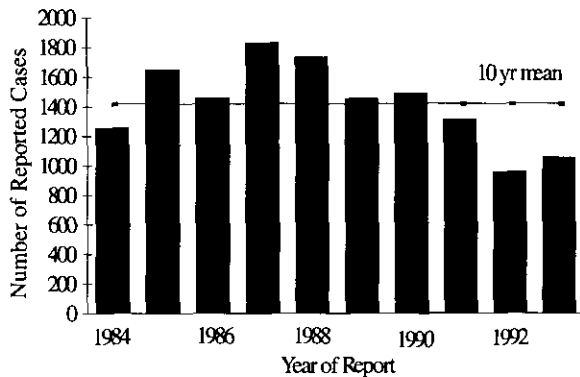
Reports of salmonellosis rose to 1,055 cases in 1993, up from the 957 cases reported in 1992, but below the ten year annual mean of 1,419.2 cases (Figure 38). The most frequently reported species are listed in Table 10.

Table 10. Number and Percent of Salmonella Infections by Species, Virginia, 1993

Species Causing Infection	Number of Cases	Percent of Cases
<i>S. typhimurium</i>	299	28.34
<i>S. enteritidis</i>	168	15.92
<i>S. heidelberg</i>	66	6.26
<i>S. newport</i>	57	5.40
<i>S. hadar</i>	32	3.03
<i>S. ohio</i>	31	2.94
<i>S. thompson</i>	16	1.52
<i>S. muenchen</i>	14	1.33
<i>S. monte</i>	13	1.23
<i>S. agona</i>	12	1.14
Unspecified	172	16.30
All Others	175	16.59
TOTAL	1055	100.00

Figure 38

**Salmonellosis: Ten Year Trend
Virginia, 1984-1993**



The highest rates of illness occurred among infants (138 cases, 144.0 per 100,000) and children age 1-9 years (264 cases, 33.5 per 100,000). The other age groups experienced incidence rates of 9.3 to 12.9 per 100,000. The rate in blacks (173 cases, 15.0 per 100,000) was 1.6 times that of whites (439 cases, 9.3 per 100,000) and five times that of persons in the other race category (10 cases, 3.0 per 100,000). The incidence rates for males and females were virtually identical.

Onset of illness occurred throughout the year, peaking in the third quarter. By health planning region, incidence rates ranged from 12.0 per 100,000 in the southwest to 22.4 per 100,000 in the central region. Four *Salmonella* related deaths were reported in persons ranging from one to 74 years of age.

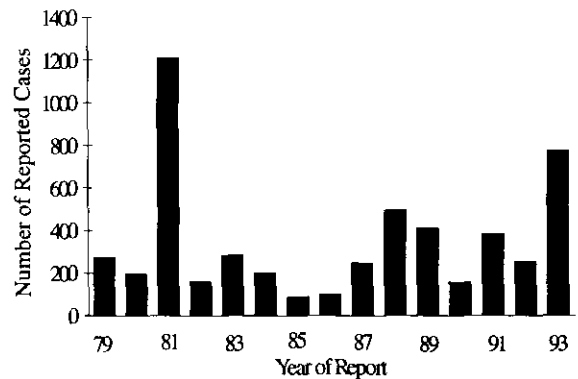
The five *Salmonella* foodborne outbreaks reported in 1993 accounted for 141 cases (see Foodborne Outbreaks section).

Shigellosis

The 776 cases of shigellosis reported in 1993 represent the highest number reported in Virginia since 1981 (Figure 39). Ninety percent (701 cases) were caused by *Shigella sonnei*; 33 cases were due to *S. flexneri*; three to *S. boydii*; and species was not identified for 39 cases.

Figure 39

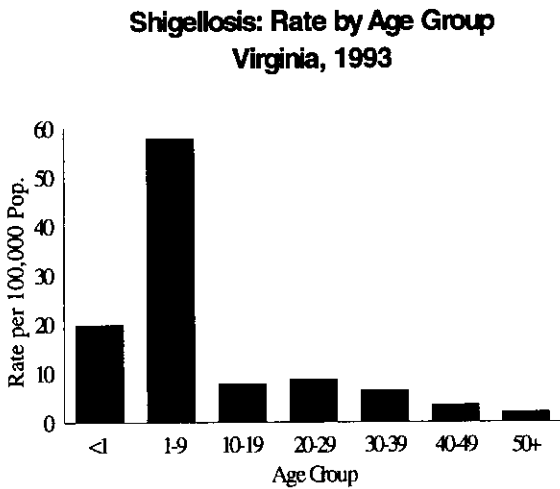
**Shigellosis: Fifteen Year Trend
Virginia, 1979-1993**



Children age 1-9 years comprised 65% of all cases reported, for an incidence rate of 57.9 per 100,000. The rates in the other age groups ranged from 2.1 per 100,000 in persons age 50 and older to 19.8 per 100,000 in infants (Figure 40). The incidence rate was highest in blacks (293 cases, 25.4 per 100,000) as compared to whites (153 cases, 3.3 per 100,000) or persons in the other race category (6 cases, 1.8 per 100,000). Race was not reported for 324 cases. The incidence rate for females was slightly higher than for males (12.8 vs. 11.9 per 100,000).

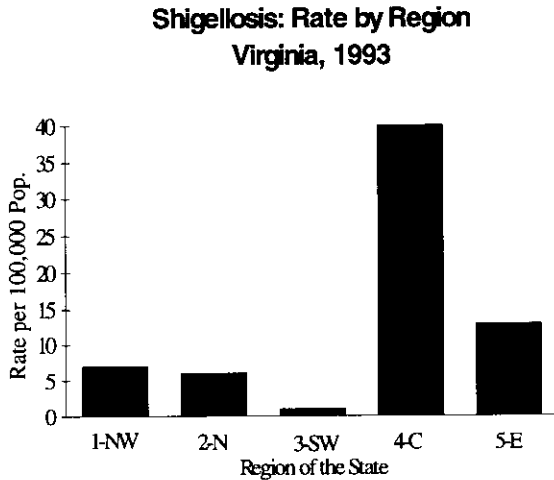
Peak onset occurred during June and July 1993 with 122 and 100 cases, respectively. The incidence rate for the central planning region (39.7 per 100,000) was at least three times that of any other

Figure 40



region (Figure 41). During that time, the Richmond metropolitan area was experiencing a community wide outbreak of shigellosis.

Figure 41



Smallpox

The last reported case of smallpox in Virginia occurred in 1944.

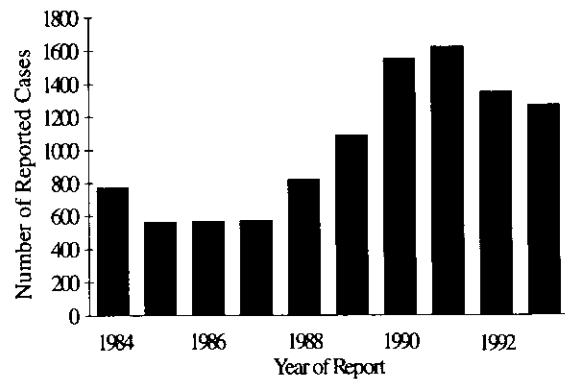
Syphilis

Early Syphilis

Early syphilis includes the primary, secondary, and early latent stages of syphilis. The number of cases of early syphilis reported decreased 5.9% from 1,347 cases in 1992 to 1,268 cases in 1993. This is the second consecutive year since 1985 that there has been a decrease in early syphilis cases compared to the previous year (Figure 42).

Figure 42

Early Syphilis: Ten Year Trend Virginia, 1984-1993



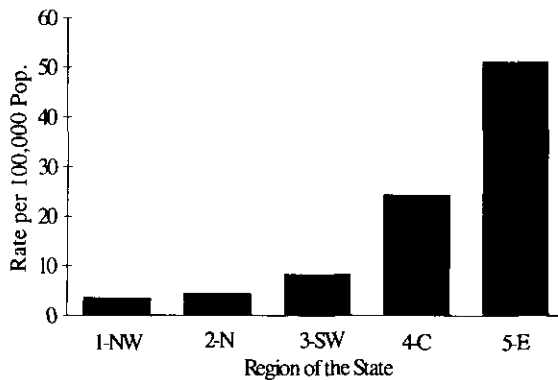
More than half (50.6%) of the early syphilis morbidity was found in the 15-29 age range (642 cases, 41.7 per 100,000). Of these cases, 5.8% were white (74 cases, 1.5 per 100,000), 91.7% were black (1,163 cases, 99.6 per 100,000), and 1.7% were other minorities (22 cases, 12.4 per 100,000). Less than one percent of the cases did not have race reported.

The number of female cases decreased 4.8% from 687 cases in 1992 to 654 cases in 1993. The corresponding decrease in the number of cases in males was 7.0% from 660 cases in 1992 to 614 cases in 1993. The 1993 incidence rate per 100,000 population was 20.7 for females and 20.2 for males.

The eastern health planning region reported the most cases (810 cases, 51.3 per 100,000), followed by the central region (259 cases, 24.4 per 100,000), southwest region (104 cases, 8.4 per 100,000), northern region (65 cases, 7.8 per 100,000), and northwest region (30 cases, 2.1 per 100,000). Incidence rates by region are shown in Figure 43. The disease was fairly evenly distributed throughout the year.

Figure 43

**Early Syphilis: Rate by Region
Virginia, 1993**



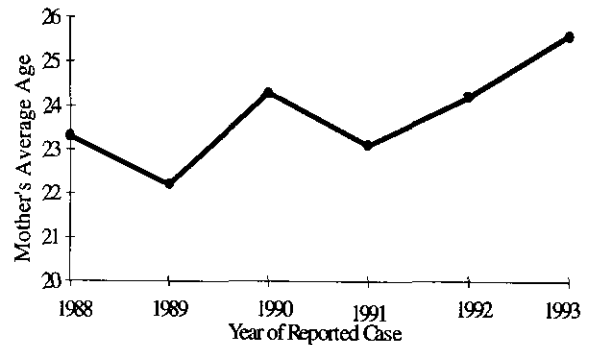
Congenital Syphilis

In 1993, twenty-three cases of congenital syphilis were reported, including one set of twins. Seventeen of the cases were reported from the eastern health planning region, three from the northern region, two from the southwest region, and one in the northwest region. Twenty of the infants were black and three were white.

The mother's average age was 25.6, with a range of 17 to 37 years. Figure 44 illustrates an increasing trend in mother's age over a five year period. More than three-fourths (77.3%) were single parents. Five sought prenatal care during their first trimester, six during the second trimester, and 4 during the

Figure 44

**Congenital Syphilis by Mother's
Average Age and Year of Report,
Virginia, 1988-1993**



third trimester. Seven mothers did not receive any prenatal care.

The 23 congenital cases in 1993 represented a 61.0% decrease from the 59 cases reported in 1992. The decrease in early congenital syphilis may be associated with the 13.1% decrease in early syphilis among women during the previous year, especially those of childbearing age. Due to the nine month gestation period, there is usually a lag that exists between an increase or decrease in early syphilis and congenital syphilis. Using this same theory, it is expected that congenital syphilis for 1994 will decrease, as there was a 4.8% decrease in female early syphilis cases between 1992 and 1993.

Tetanus

The last tetanus case reported in Virginia occurred in 1991.

Toxic Shock Syndrome

Seven cases of toxic shock syndrome were reported in 1993, compared to five cases in the previous year. All occurred in white females ranging in age from 17 to 53 years (mean = 33.9). No deaths were reported. Five cases were reported from the northern health planning region and one each from the southwest and central regions.

Toxic Substance Related Illnesses

No illness in this category was reported in 1993.

Toxoplasmosis

Five cases of toxoplasmosis were reported in 1993, compared to four cases in 1992. Three were from the northern health planning region, with one each from the southwest and central regions.

Four cases occurred in men age 36 to 57 years who had AIDS, all of whom died. Two were black and two were white. There was one nonfatal case in a 30 year old woman whose race was not reported.

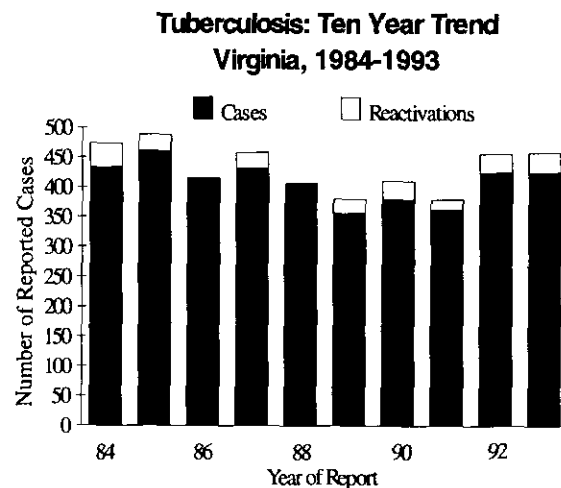
Trichinosis

One case of trichinosis was reported in an adult white male from the northern health planning region. Prior to the onset of his illness, he had eaten raw pork while making sausage. This is the first case of trichinosis reported in Virginia since 1990 when 16 cases were reported as part of an outbreak.

Tuberculosis

Virginia reported 458 tuberculosis cases in 1993, including 34 reactivations of previously diagnosed and treated disease. The annual incidence rate for Virginia was 7.4 per 100,000, compared to 9.8 per 100,000 for the nation. Figure 45 shows the ten year trend for tuberculosis in Virginia.

Figure 45

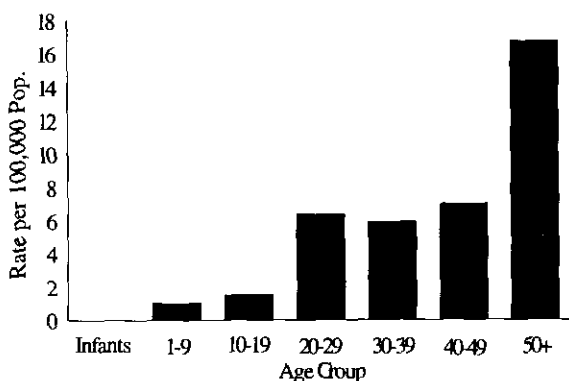


Cases of tuberculosis occurred in all age groups except infants. Persons in the age 50 and older age group were the most likely to develop active tuberculosis (244 cases, 16.8 per 100,000). Eight cases (1.0 per 100,000) were reported in children under age ten (Figure 46). The highest incidence rate occurred among persons in the other race category (120 cases, 36.5 per 100,000), followed by blacks (179 cases, 15.5 per 100,000) and whites (159 cases, 3.4 per 100,000). Almost twice as many males (284 cases, 9.4 per 100,000) were reported with tuberculosis as females (174 cases, 5.5 per 100,000).

The northern health planning region reported the most cases (134 cases, 9.1 per 100,000) but the central region had the highest incidence rate (105 cases, 9.9 per 100,000), as shown in Figure 47. Persons born in countries outside the United States

Figure 46

**Tuberculosis: Rate by Age Group
Virginia, 1993**



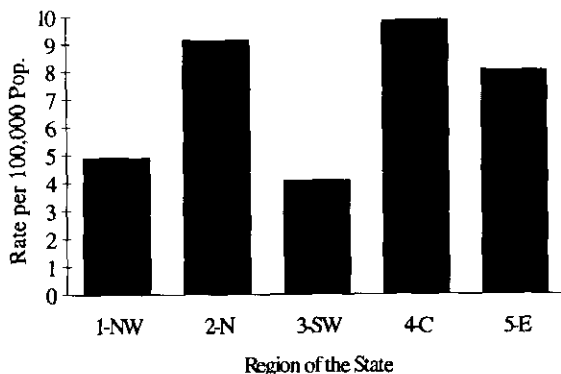
accounted for 142 (31.0%) cases, 101 of whom were reported from the northern health planning region.

Forty-six of the 357 isolates tested were resistant to at least one anti-tuberculosis medication, a 76.9% increase from the 26 drug resistant isolates reported in 1992.

Fifty-seven (12.4%) persons reported with tuberculosis in 1993 died: 43 were diagnosed at death and 14 died during the course of their treatment. However, only nine of the 57 had tuberculosis re-

Figure 47

**Tuberculosis: Rate by Region
Virginia, 1993**



ported as either the cause of death or contributory factor to death.

Tularemia

No cases of tularemia were reported in 1993. Two cases had been reported in 1992.

Typhoid Fever

Seven cases of typhoid fever were reported in 1993, three each from the northern and southwest health planning regions, and one from the central region. The cases ranged in age from 15 to 33 years. Three were female and four were male.

All had either travelled to or lived in another country during the month preceding their onset of illness: India (4 cases), Bangladesh (2 cases) and Indonesia (1 case).

Typhus, Flea-borne

One case of flea-borne typhus was reported in 1993 in an adult white male from the northern health planning region. No cases were reported in 1992.

Vibrio Infection

In 1993, 12 *Vibrio* infections (not including cholera) were reported, including five different species. Four were identified as *Vibrio vulnificus*, four *V. parahaemolyticus*, two *V. hollisae*, one *V. alginolyticus* and one *V. cholerae* non-01.

The specimen source was indicated in nine cases: 77.8% were from wounds, one (11.1%) from stool and one (11.1%) from blood.

Seventy-five percent of the cases occurred during June through September 1993. Those infected ranged in age from 15 to 82 years (mean = 49.8 years). Eleven were male and one was female. Race was not reported for the majority (58.3%) of persons.

All cases were from the eastern health planning region except one each from the northern and southwest regions. No deaths were reported.

Additionally, one case of **cholera** (toxigenic *Vibrio cholerae* O1 Ogawa, El Tor) was reported in 1993. The case was an adult female who had recently traveled to South America where an epidemic of cholera was occurring.

Waterborne Outbreaks

No confirmed waterborne outbreaks were reported in 1993. One had been reported the previous year.

Yellow Fever

No cases of yellow fever have been reported in Virginia in this century.

Yersiniosis

Yersiniosis is not an officially reportable disease in Virginia but 23 reports were received in 1993. *Yersinia enterocolitica* accounted for 87.0% of the cases.

Seventeen (73.9%) cases occurred in children under ten years of age. Race was usually not reported and there was approximately equal distribution among males and females.

From two to eight cases were reported from each of the health planning regions with the highest incidence in the central region (0.8 cases per 100,000).

