

## **Rocky Mountain Spotted Fever**

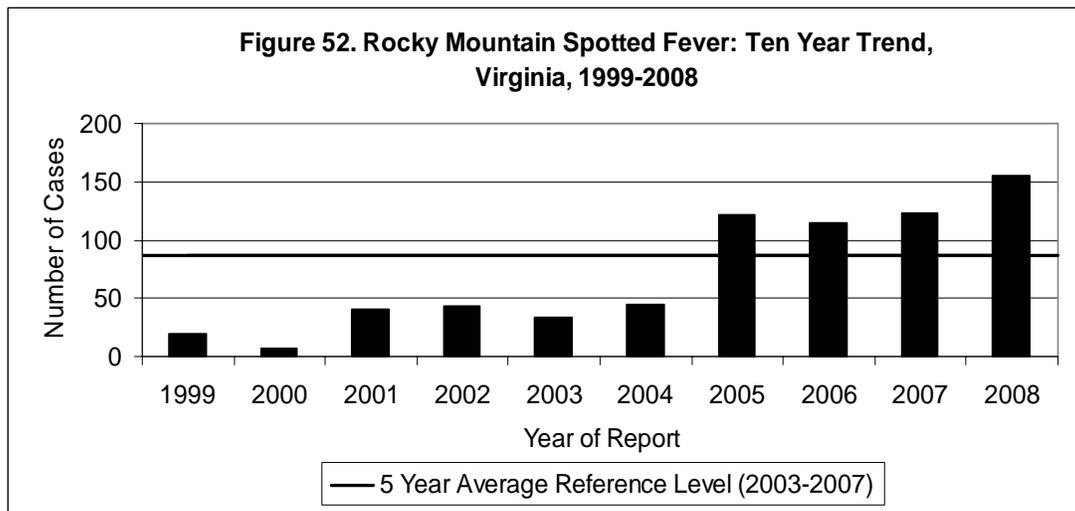
**Agent:** *Rickettsia rickettsi* (bacteria)

**Mode of Transmission:** Rocky Mountain spotted fever (RMSF) is transmitted to humans by the bite of an infected American dog tick. Ticks must be attached while feeding for at least 4 to 6 hours to transmit the infection.

**Signs/Symptoms:** Persons infected with RMSF may have a sudden onset of fever, severe headache, muscle pain, nausea and vomiting. Three to five days after onset of illness, a rash may develop that starts on the hands and feet then spreads to the rest of the body. The rash is seen in only 40% to 60% of cases. Fatalities from RMSF typically begin to occur on the fifth day of infection.

**Prevention:** Avoid being bitten by ticks. Avoid American dog tick-prone habitats such as open fields with tall brush and weeds, old fields with early succession forest growth, or brushy vegetation along forest margins and trails. Wear light-colored clothing with pants legs tucked into socks, apply a permethrin-based repellent to clothing (e.g., a clothing treatment to shoes, socks and pants) and an approved repellent to exposed skin. Thoroughly check your body for ticks after visiting tick-prone habitats and remove attached ticks as soon as possible. American dog ticks are frequently found feeding on the neck or head, or in hair at the base of the scalp.

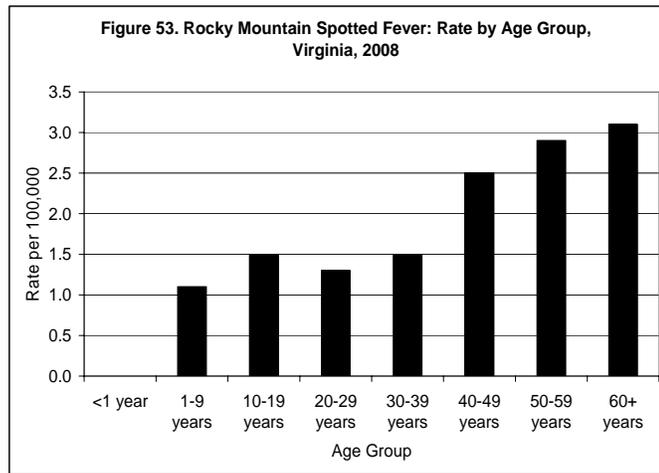
**Other Important Information:** RMSF can be difficult to diagnose in the early stages, but without early intervention, may be fatal in up to 30% of untreated patients. Although the national case fatality rates ranged from 3% to 8% of all reported cases in the United States in the period from 1970 to 1982, national case fatality rates have declined in recent years to <1% of cases reported from 2001 to 2007.



In 2008, 155 cases of RMSF were reported in Virginia. This is an increase of 26% from the 123 cases reported in 2007, and a 77% increase from the five year average of 87.4 cases per year (Figure 52). The recent increase in the number of reported cases may be attributed to the fact that more local health department resources are being devoted to following up on laboratory reports of RMSF, but it may also represent an actual increase in RMSF activity. The increased number of RMSF cases since 2004 has not been

accompanied by an increase in human fatalities. Among the 513 human cases reported in Virginia from 2005 to 2008, no deaths were attributed to RMSF.

Incidence rates were highest in persons aged 40 years and older (2.5 to 3.1 per 100,000) (Figure 53). Although previous national studies have shown a higher incidence for RMSF occurring in children < 10 years of age, more recent data indicate a shift in pattern to a higher rate among adults aged 40-64 years.



Incidence in the white population (1.4 per 100,000) was more than twice the incidence in the black population (0.6 per 100,000.) Males had a slightly higher rate than females (2.1 and 1.8 per 100,000, respectively). The central and southwest regions of Virginia had the highest incidence (3.2 and 2.5 per 100,000, respectively.) The rates in other regions ranged from 1.1 to 1.9 per 100,000. The majority of cases (90%) had onsets from April through September (Figure 54) with the highest number of cases occurring in June and July. These months are consistent with the activity peaks for tick species in Virginia.

