

Rocky Mountain Spotted Fever

Agent: *Rickettsia rickettsii* (bacteria)

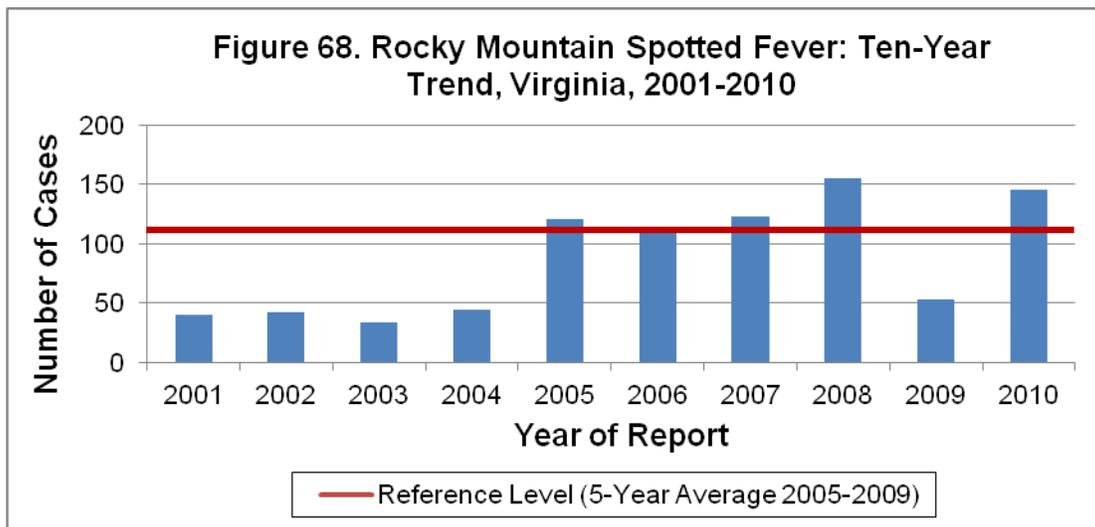
Mode of Transmission: Transmitted to humans by the bite of an infected American dog tick. Ticks must be attached for at least 4 to 6 hours to transmit the bacterium.

Signs/Symptoms: Persons with Rocky Mountain spotted fever (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 and spreads to the rest of the body. The rash is seen in only 40% to 60% of cases.

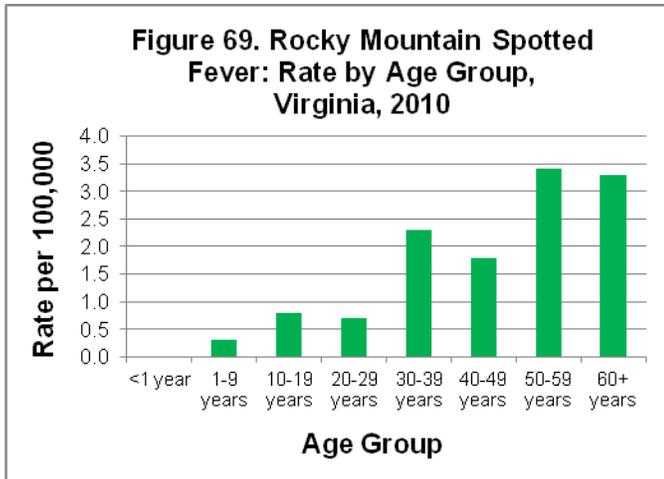
Prevention: Minimizing tick bites by avoiding likely American dog tick-prone habitats such as open fields with tall brush and weeds, old fields with early succession forest growth, or brushy vegetation along trails. Repellents containing DEET, Picaridin, BioUD, IR3535, or oil of lemon eucalyptus as active ingredients are effective against ticks and should be applied to exposed areas of skin before entering tick habitats. When in tick-prone habitats, light-colored clothing should be worn with pants legs tucked into socks, and shirts tucked into pants. Permethrin-based repellants should be applied to clothing, socks and shoes. After visiting tick habitats, a person should thoroughly check all body surfaces for ticks and, if found, attached ticks should be removed as soon as possible. American dog ticks are frequently found feeding on a person's 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 from 1970 to 1982, the case-fatality rates have declined in recent years to <1% of cases reported from 2001 to 2010. One possible explanation for this decrease is prompt disease recognition and increased availability and appropriate use of effective antibiotics.

In 2010, 145 cases of RMSF were reported in Virginia. This number represents a substantial increase from the 53 cases reported in 2009; however, it is slightly lower than the 155 cases reported in 2008, and is 28% higher than the five-year average of 113.2 cases per year (Figure 68).

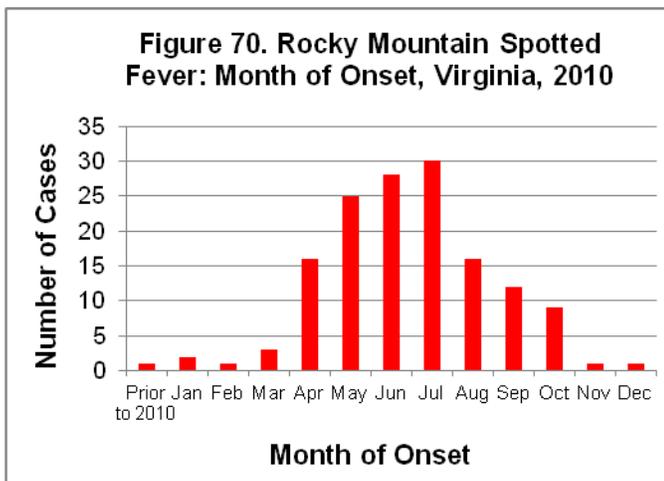


In 2010, RMSF incidence rates were highest in those aged 50 to 59 years (3.4 per 100,000) and 60 years and older (3.3 per 100,000) (Figure 69). No infants were reported with RMSF and rates in the remaining age groups ranged from 0.3 to 2.3 per 100,000. Although previous national studies have shown a higher incidence for RMSF in children aged less than 10 years, more recent national data indicate a shift in age distribution, with the highest rates among adults aged 40-64 years.



Information on race was missing for 53% of reported cases. Among cases for which race information was reported, the white population had a slightly higher incidence (0.9 cases per 100,000) than the black population (0.8 cases per 100,000), and the “other” race group had a lower rate (0.2 per 100,000). The rate among males was slightly higher than the rate for females (2.2 and 1.5 per 100,000, respectively).

The central and northwest regions of Virginia had the highest incidence (3.4 and 3.0 per 100,000, respectively) and rates in other regions ranged from 0.8 to 2.0 per 100,000. For nearly half of all cases (48%), symptoms began between April and June, and for another 40%, symptom onset occurred from July to September (Figure 70). This is consistent with peak activity periods for American dog ticks and other tick species in Virginia. Among cases reported in 2010, two deaths were attributed to RMSF and occurred in adult males, one each from the central and southwest regions.



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