Rocky Mountain Spotted Fever

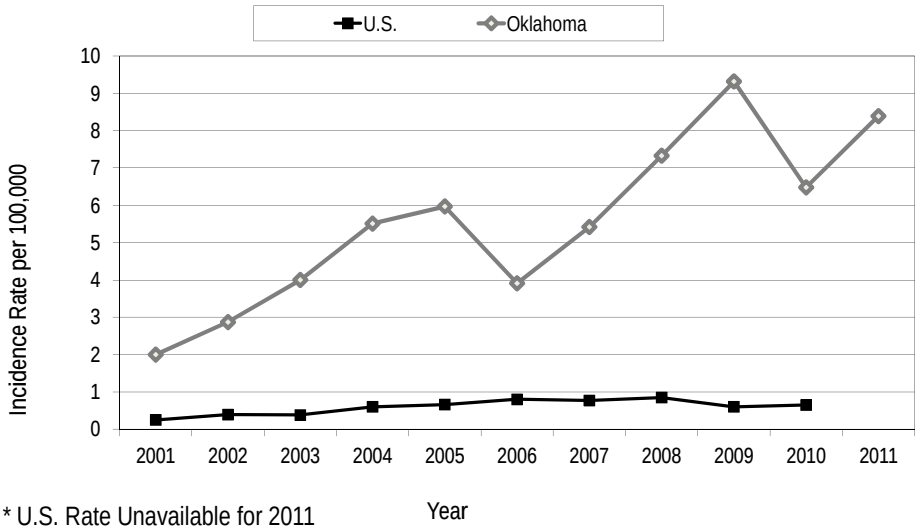
2011 Case Total	334	2011 Incidence Rate	8.90 per 100,000
2010 Case Total	243	2010 Incidence Rate	6.48 per 100,000

Rocky Mountain spotted fever (RMSF) is caused by the bacterium *Rickettsia rickettsii*, which is most often transmitted to humans via the American dog tick (*Dermacentor variabilis)*. Oklahoma consistently reports one of the highest annual incidence rates (IR) in the United States, along with North Carolina, Arkansas, Tennessee and Missouri. In 2011, there was a 27% increase in the IR of RMSF in Oklahoma as compared to 2010. Eastern Oklahoma has higher rates of disease due to its more favorable tick habitat. Counties with the highest IR in 2011 were Latimer (188.27 per 100,000, n=21) and Pushmataha (164.19 per 100,000, n=19). RMSF is largely a seasonal disease, with 66% of cases reported during the warmer months of May to August when ticks are most active.

The highest incidence of RMSF occurred among persons who reported their race as American Indian (25.80 per 100,000, n = 83), which is 3 times higher than the overall rate in Oklahoma in 2011. The IR among males was 1.8 times higher than that of females. Fever was present in all cases of RMSF; other prominent symptoms include headache and myalgias. Although the classic clinical triad for RMSF is considered to be fever, rash and a tick bite, a rash was present in only 24% of this year's cases. When present, the rash was most frequently found on the patient's trunk or legs. Known tick bites or exposure to wooded or tick infested areas were reported by 40% and 7% of all cases, respectively, suggesting that many exposures to infected ticks go unrecognized.

Serologic testing is the most widely available and frequently used laboratory method for diagnosis. A four-fold change in titer between acute (within a week of onset) and convalescent (2 to 4 weeks later) specimens confirms the diagnosis. Treatment should NOT be delayed while awaiting laboratory confirmation. The mortality rate is 3–5%, but death is rare with prompt diagnosis and treatment. There was one death in Oklahoma in 2011 – a 45 year old white female who presented with altered mental status, fever and a petechial rash, but was diagnosed with acute cholecystitis and severe sepsis and was never treated for RMSF. Doxycycline is the treatment drug of choice among all age groups.

Incidence Rate of Reported Rocky Mountain Spotted Fever
By Year
Oklahoma and U.S., 2001 – 2011*



* U.S. Rate Unavailable for 2011

Descriptive and Clinical Summary of Reported Rocky Mountain Spotted Fever Cases, Oklahoma, 2011 (N = 334)

	Number (%)	Incidence Rate per 100,000
Gender		
Male	215 (64%)	11.58
Female	119 (36%)	6.28
Age	Median Age: 46 years (Range: 21 months – 84 years)	
Age Groups		
0-4	8 (2%)	3.03
5-18	41 (12%)	5.69
19-50	149 (45%)	9.25
>50	136 (41%)	11.76
Race		
White	169 (50%)	6.24
American Indian	83 (25%)	25.80
Black or African American	5 (1%)	1.80
Native Hawaiian or Pacific Islander	1 (<1%)	22.89
Unknown	76 (23%)	-
Hispanic or Latino Ethnicity	6 (2%)	1.81
Symptoms		
Fever	334 (100%)	-
Headache	199 (60%)	-
Myalgias	184 (55%)	-
Rash	81 (24%)	-
Rash location (N=81)		
Trunk	30 (37%)	-
Legs	30 (37%)	-
Arms	17 (21%)	-
Face	9 (11%)	-
Palms/Soles	5 (6%)	-
Hospitalization	28 (8%)	-
Death	1 (<1%)	-
Exposures		
Recognized tick bite	135 (40%)	-
Exposure to wooded or tick infested area	24 (7%)	-