

UNDERSTANDING THE INTERACTIONS OF POPULATION DISPERSAL AND MAINTENANCE OF HANTAVIRUS (SIN NOMBRE VIRUS) INFECTION IN DEER MICE

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The deer mouse (*Peromyscus maniculatus*)-Sin Nombre Virus (SNV) system provides an excellent opportunity to develop specific models that will be useful in explaining rodent-borne disease ecology as well as human exposure risk in other systems. Descriptive data concerning population dynamics and habitat associations are crucial to provide the input for a predictive model. However, little data exists related to dispersal among sylvan deer mouse populations, especially in association with SNV. Through dispersal, deer mice enter peridomestic settings and move SNV among populations. In June 2004, sylvan dispersal experiments were initiated (in coordination with experimental studies on dispersal into peridomestic settings) in anticipation of acquiring data related to sylvan deer mouse dispersal as related to SNV. Experiments were conducted at two locations in Montana where pairs of trapping grids (100 traps, 1 ha in size) are located through an on-going Centers for Disease Control and Prevention (CDC) sponsored longitudinal hantavirus study. Ten trap lines (25 traps/line, 360m long) were run at evenly spaced intervals perpendicular to the paired grids. Trapping between grids provides one way of assessing (minimum estimate) dispersal from each of the two grids and allows us to describe characteristics of animals leaving the grids and their antibody prevalence. From June 2004 through October 2005, > 21,700 trap nights were conducted at the Cascade and Polson trap sites. Over 2200 small mammals were captured, including over 150 dispersing deer mice (7%). Although not definitive, initial results indicated that dispersing individuals have a propensity to be adult males, which corresponds to biases that have been associated with SNV antibody positive deer mice.