

# South Dakota Vector-borne diseases, 2008

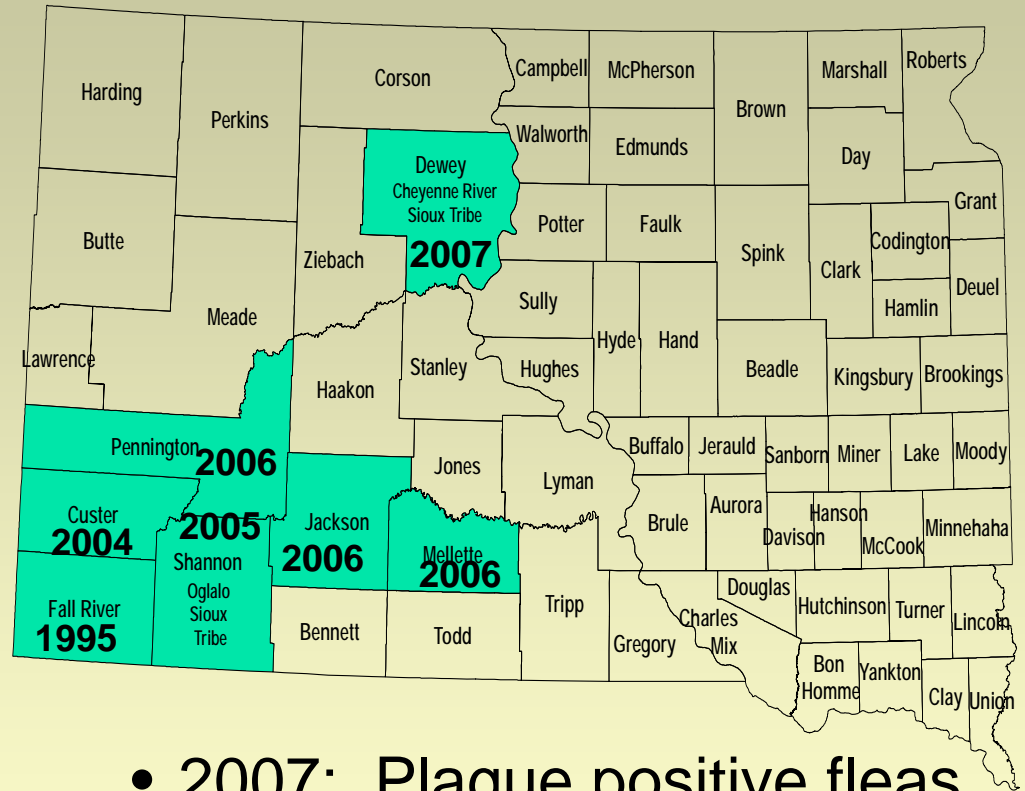
Lon Kightlinger  
Nick Hill

South Dakota Department of Health  
Pierre, South Dakota

<http://doh.sd.gov>

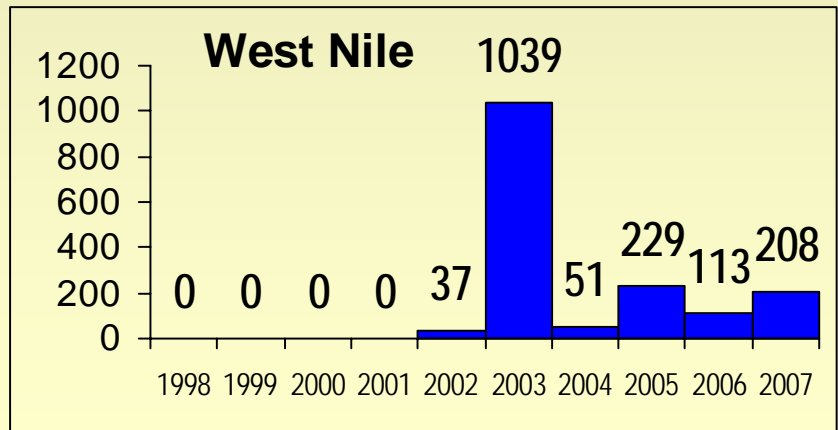
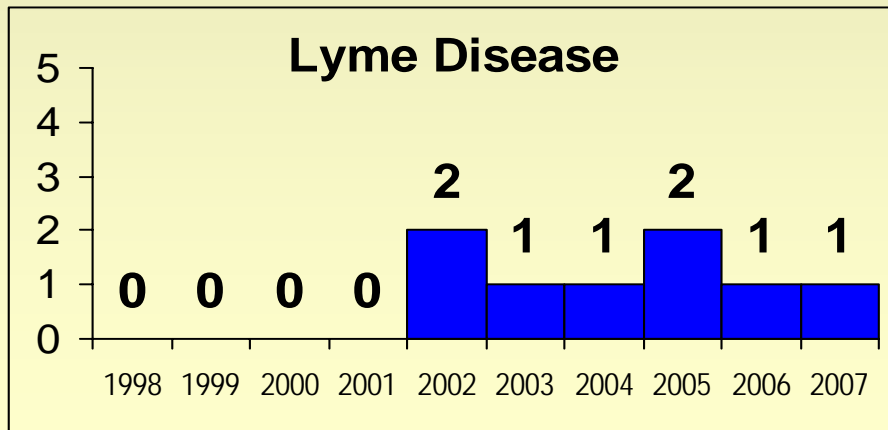
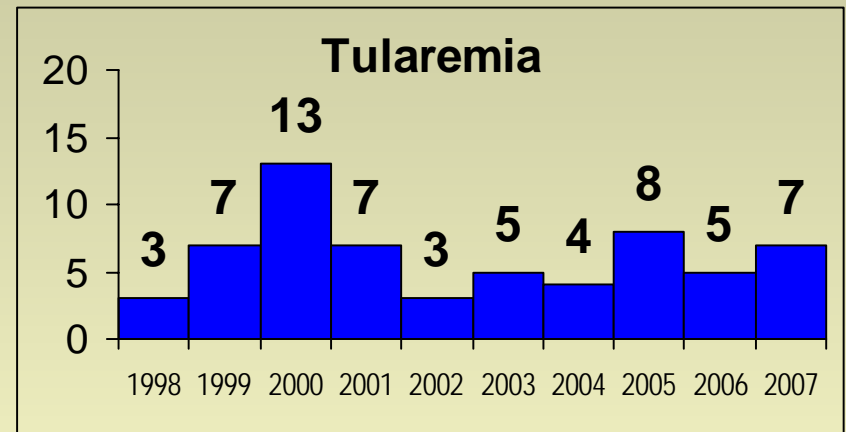
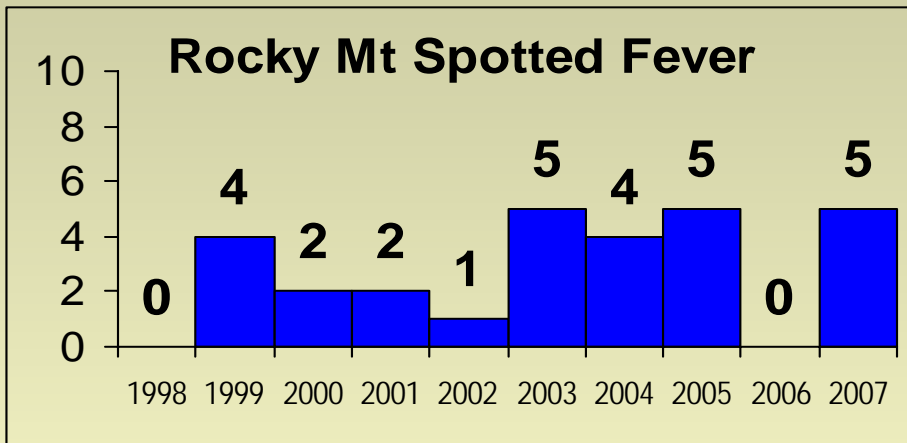
# Plague finds South Dakota

- 1995: sero-positive fox, badger, coyote Fall River County near WY border.
- 2004: *Y. pestis* isolates from prairie dog, Custer County.
- 2005: Prairie dog plague on Oglala Sioux Indian Reservation.
- 2006: Plague detections in Jackson, Pennington, Mellette Counties.



- 2007: Plague positive fleas from ghosted prairie dog town, Cheyenne River Sioux Reservation.
- **No human cases, yet.**

# South Dakota vector-borne disease, 1998-2007



2 cases of SLE in 2003

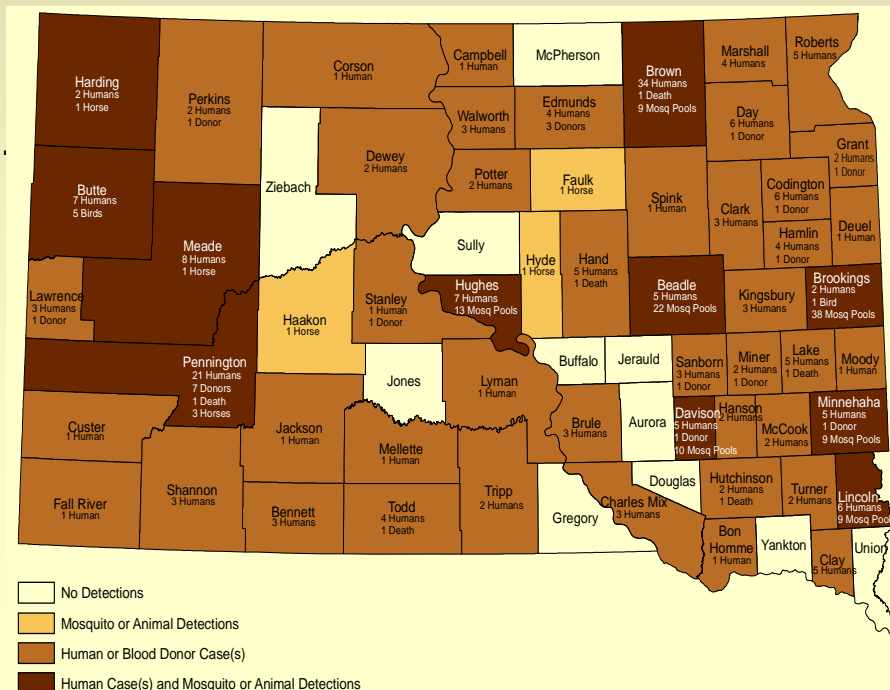
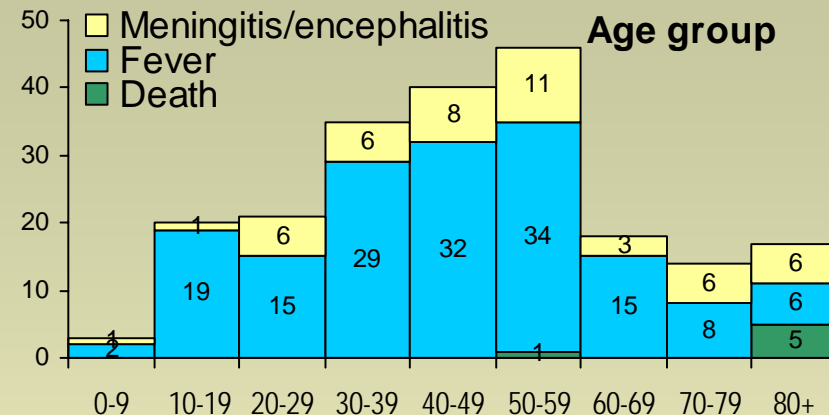
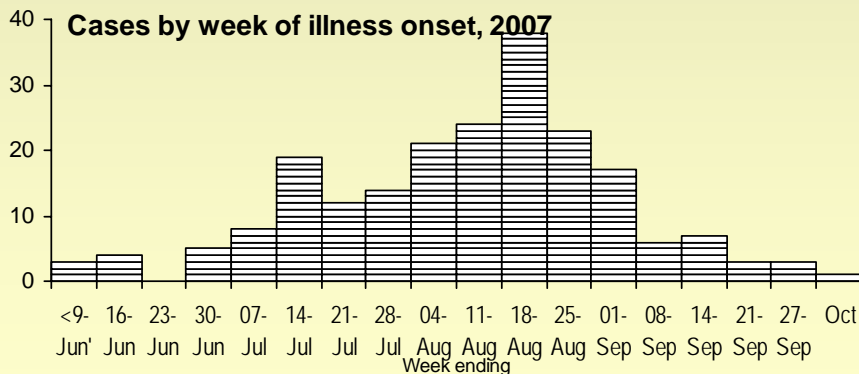
# West Nile update: South Dakota 31 December 2007

Provisional data

**208 human cases of West Nile virus disease** have been reported to the SD Department of Health

- **Status:** meningitis/encephalitis 23%; fever 77%; acute flaccid paralysis 1%; hospitalized 33%.
- **Deaths:** 6
- **Age:** median 46 years (range 3–91 yr)
- **Gender:** male 57%, female 43%.
- **Race:** White 87%, Am Indian 9%, other 4%
- **Viremic blood donors:** 21

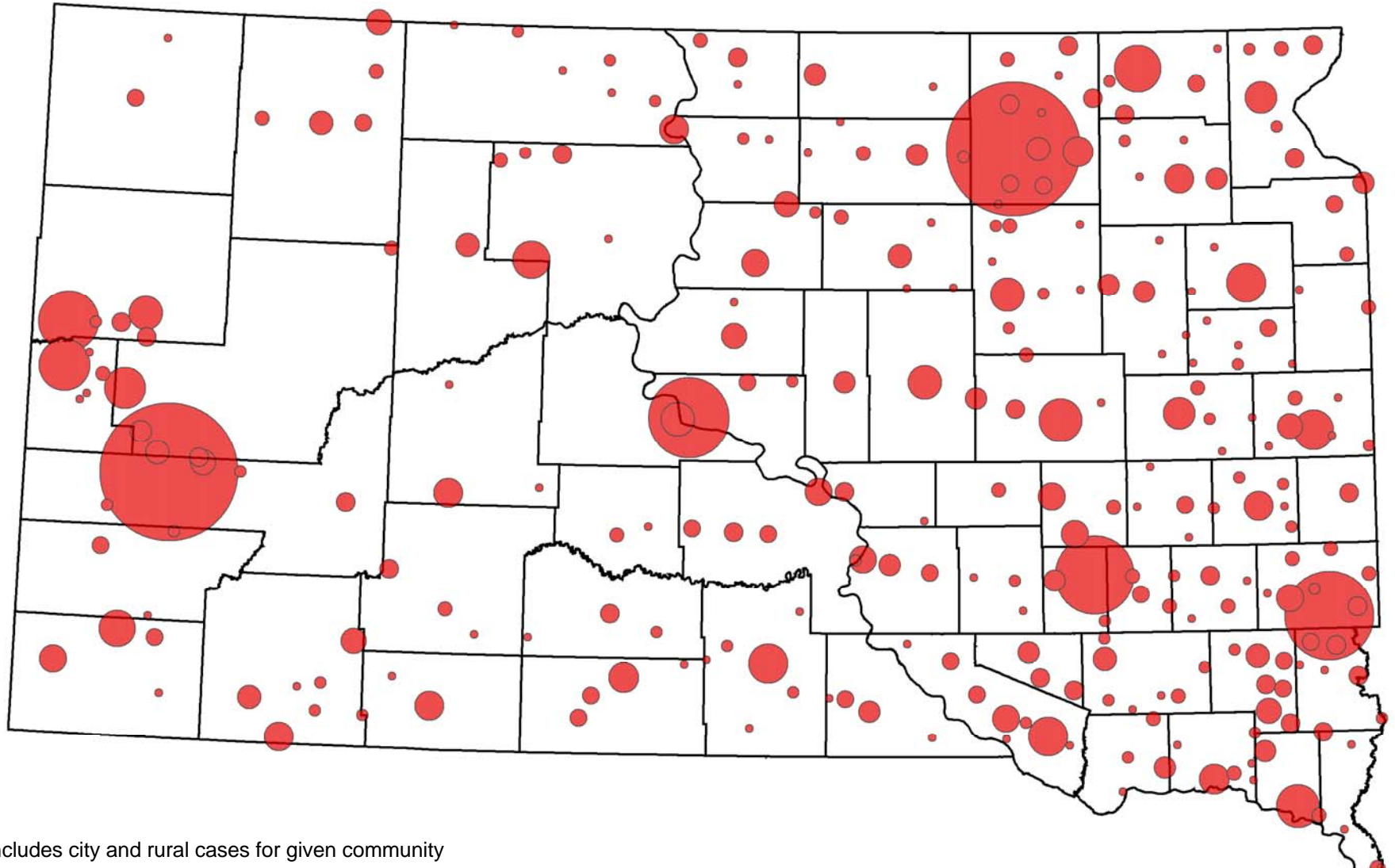
There have also been 8 horses, 6 birds and 110 WNV positive mosquito pools reported.



SD Department of Health phone 800-592-1861  
 SD Department of Health: <http://westnile.sd.gov>  
 SD Cooperative Extension: <http://sdces.sdstate.edu/westnile>  
 CDC: [www.cdc.gov/westnile/](http://www.cdc.gov/westnile/)

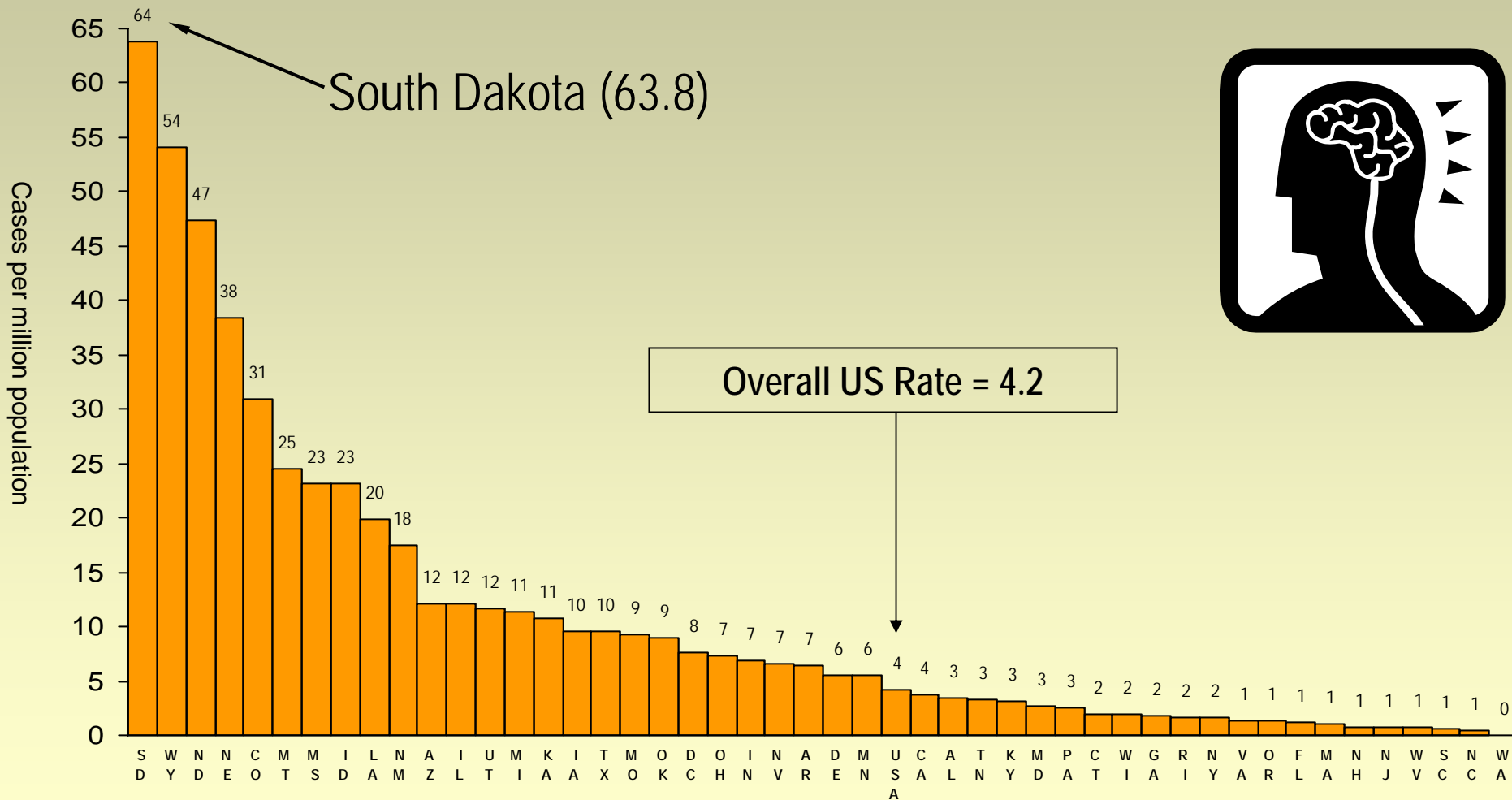
# Community\* West Nile cases, South Dakota cumulative 2002 – 2007, (n=1677 cases)

(size of circles are proportionate to number of cases)



\*includes city and rural cases for given community

# Human WNV neuroinvasive disease by state, mean annual incidence per million population, 1999 - 2007



SOURCE: CDC, MMWR Summary of Notifiable Diseases – United States, 1999-2006

(mean incidence of state's years with human WNV NID cases. West Nile encephalitis and West Nile meningitis are forms of severe disease that affect a person's nervous system. Encephalitis refers to an inflammation of the brain, meningitis is an inflammation of the membrane around the brain and the spinal cord.)



# Hantavirus pulmonary syndrome, South Dakota

## 13 cases of Hantavirus pulmonary syndrome in South Dakota, 1987-2007.

- **Deaths:** 4 (31%)
- **Age:** median 26 years (range 10-76 years)
- **Gender:** Male 85%, Female 15%.
- **Race:** White 92%, American Indian 8%.

**Mice are carriers of Hantavirus. The best way to prevent mouse infestation and contact with mice is to remove the food sources, water, and items that provide shelter.**

- Seal up holes inside and outside the home to keep rodents out.
- Trap mice around the home to help reduce the population.
- Take precautions before and while cleaning mouse-infested areas.

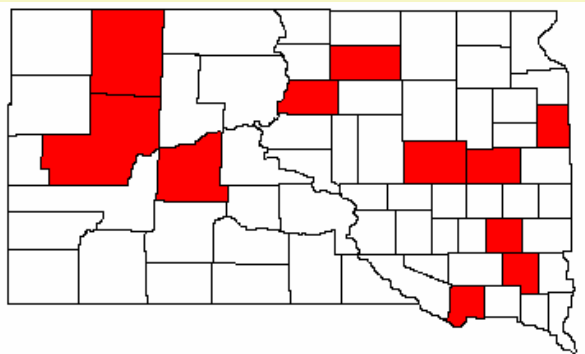
For detailed information on Hantavirus prevention please go to

[www.cdc.gov/mmwr/PDF/rr/rr5109.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5109.pdf)

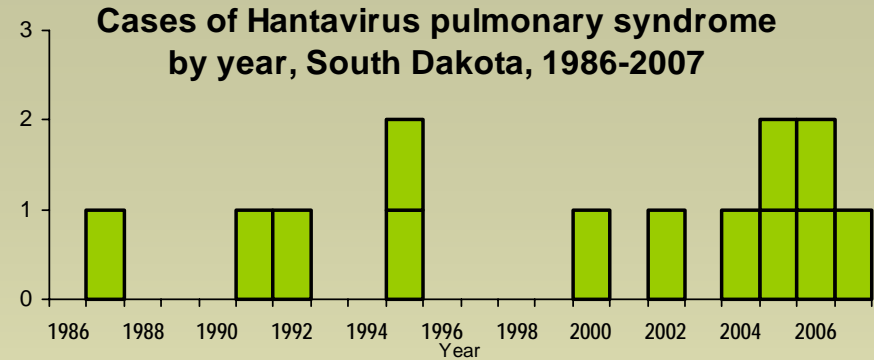
Facts about Hantavirus (brochure):

[www.cdc.gov/ncidod/dvrd/spb/mnpages/HPS\\_Brochure.pdf](http://www.cdc.gov/ncidod/dvrd/spb/mnpages/HPS_Brochure.pdf)

## Counties reporting human residents with Hantavirus pulmonary syndrome, 1987-2007.



South Dakota Department of Health



**More information on Hantavirus illness, prevention and control**  
SD Department of Health phone 800-592-1861  
SD Department of Health: [doh.sd.gov/hantavirus](http://doh.sd.gov/hantavirus)  
CDC Hanta: [www.cdc.gov/ncidod/diseases/hanta/hps](http://www.cdc.gov/ncidod/diseases/hanta/hps)

## Distribution\* of *Peromyscus maniculatus* and Location of HPS Cases as of May 9, 2006 Total Cases (N = 438 in 30 States)



\*Roderic distributions from: Burt WH, Grossenheider RP. A Field Guide to the Mammals. 3rd ed. New York, New York: Houghton Mifflin Company; 1980

CDC



Deer Mice (*Peromyscus maniculatus*) and White-Footed Mice, carriers of Hantavirus, are commonly found in South Dakota. See [www.cdc.gov/ncidod/diseases/hanta/hps/noframes/rodents.htm](http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/rodents.htm)