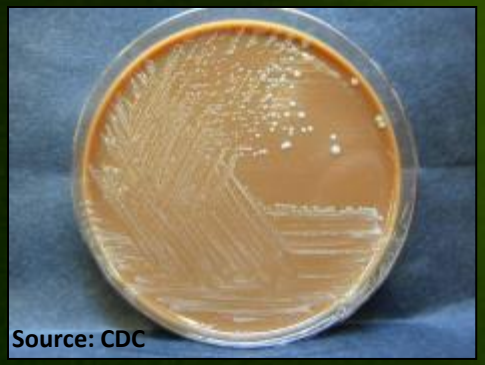
Tularemia

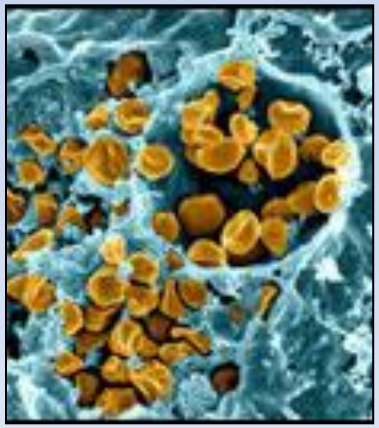

Source: CDC

Source: CDC

American dog tick *(Dermacentor variabilis*)

Tularemia

- Caused by *Francisella tularensis*
  - Gram negative bacteria
- First described from ground squirrels in Tulare Co., CA in 1912*
- Two primary biovars (type A and B)
  - Type A associated with arthropod vectors (biting flies, ticks) and mammalian hosts (rabbits, rodents, hares, ground squirrels)
    - Tends to cause more virulent infections
  - Type B associated with water
    - Tends to cause less virulent infections**
- Considered a Category A bioterrorism agent



Source: CDC

*McCoy and Chapin. 1912 J. Infect Dis; 10:61-72
**Farlow et al., 2001. J. Clin Micro: 3186-3192

Symptoms of Tularemia

Incubation 1-21 days

Case fatality proportion: 0-14% (higher for type A in eastern US)

Six classic forms:

1. Ulceroglandular: Ulcers on the skin or mouth, swollen and painful lymph glands, swollen and painful eyes, and a sore throat
   - Most common
   - Tick or fly bites and animal contact usual exposure
2. Glandular: regional lymphadenopathy but no cutaneous lesions
3. Oculoglandular: photopobia, tearing, conjunctivitis, small yellow conjunctival ulcers or papules
   - Associated with exposure to contaminated fingers, splashes and aerosols

Source: CDC

Symptoms of Tularemia

Six classic forms (continued)*:

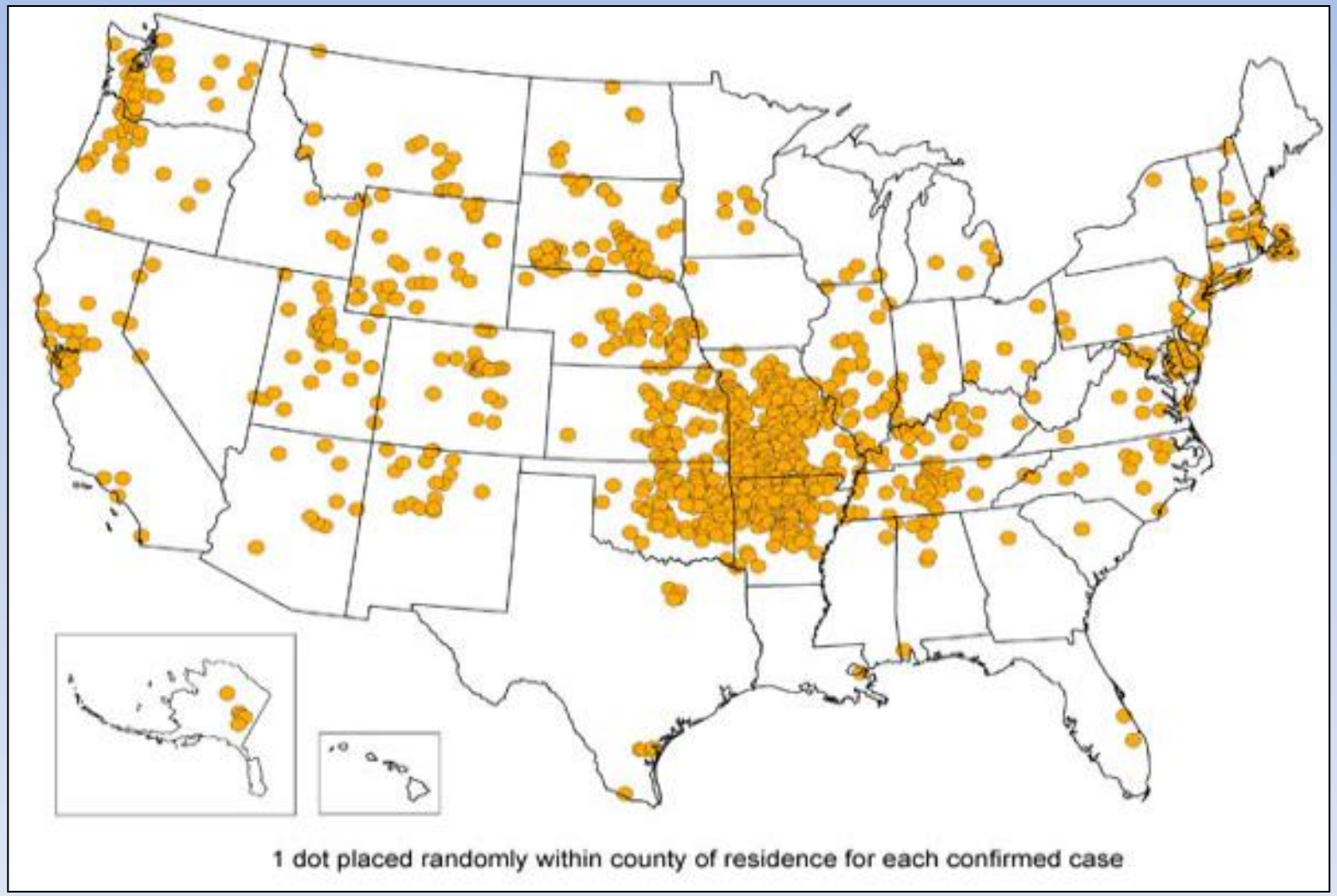
4. Pharyngeal: fever, sore throat, exudative pharyngitis
   - Associated with contaminated food or water

5. Typhoidal: febrile illness, no lymphadenopathy
   - No direct exposure association-exposure to potential tick bites, outdoor exposure, should be sought

6. Pneumonic: fever, chills, cough , pneumonia
   - Often associated with occupational exposure e.g. sheep shearers, farmers, landscapers, lab workers

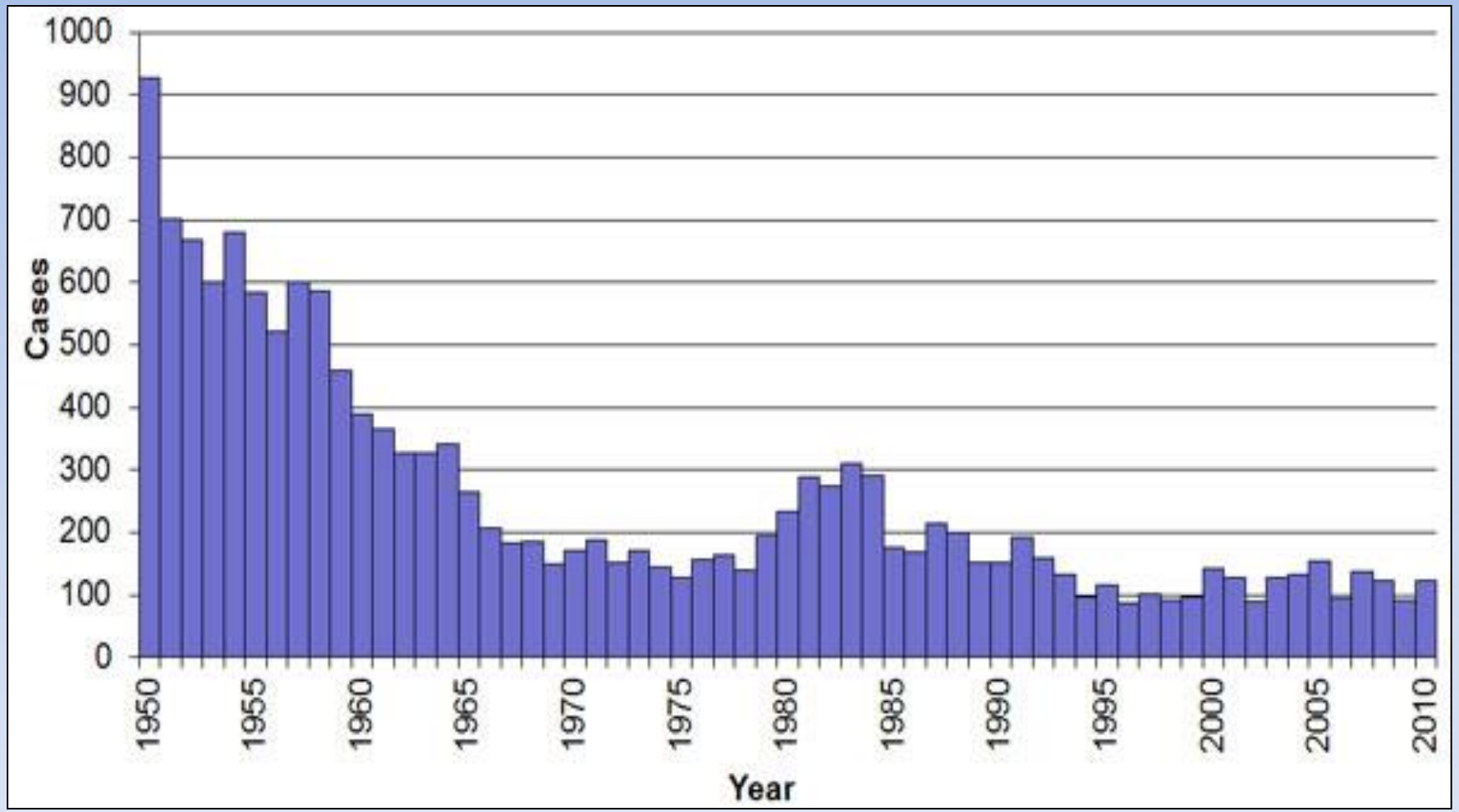
* Mandell et al, Principals and Practices of Infectious Diseases, 2005 pp 2674-2685

Reported Cases of Tularemia, United States 2001 - 2010



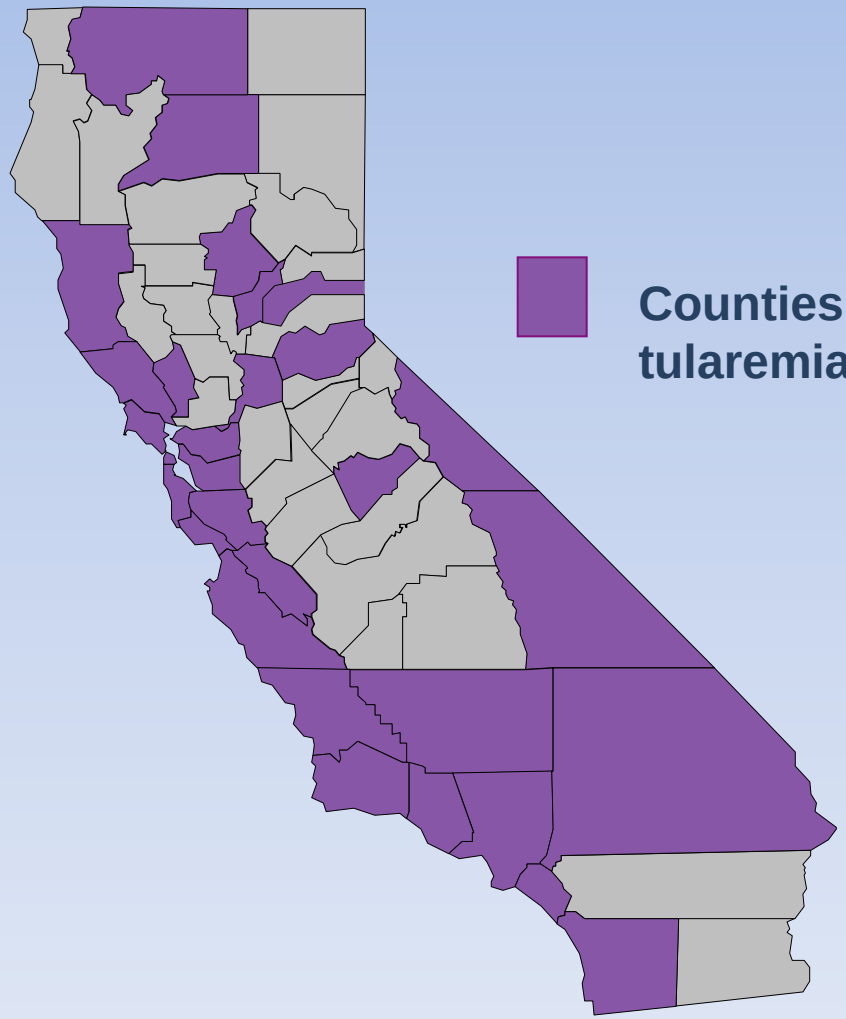
http://www.cdc.gov/tularemia/statistics/map.html

Reported Tularemia Cases by Year, United States, 1950 - 2010



http://www.cdc.gov/tularemia/statistics/year.html

Tularemia Surveillance
California 1980 - 2013



Counties that reported human tularemia cases

Transmission

- Biting arthropod (such as tick, deerfly)
- Exposure can also occur through contact with an infected carcass
- Eating / drinking contaminated animals or infected water sources
- Inhalation of bacteria
- NOT spread person-to-person

To find out more about tularemia in California, visit the CDPH website at:

http://www.cdph.ca.gov/healthinfo/discond/Pages/Tularemia.aspx

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