

Colorado Zoonoses: To everything there is a Season



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Tularemia

Tularemia



Disease caused by
the tiny, Gram
negative bacterium
*Francisella
tularensis*

Modes of transmission



Francisella tularensis

Environmental persistence and survival

- Infects animals
- Can be present and persist for long periods in water, mud and decaying animal carcasses



Modes of transmission



Tick vectors for Tularemia



ROCKY MOUNTAIN WOOD TICK

Dermacentor andersoni

&

AMERICAN DOG TICK

D. variabilis

Fly vectors of Tularemia



Deer fly
(*Chrysops* spp.)



Mosquitoes
(*various species*)

Tularemia clinical presentation



1. Ulceroglandular/glandular
2. Ocular
3. Oculoglandular
4. Genital
5. Oropharyngeal
6. Typhoidal
7. Pneumonia

Antibiotic Treatment

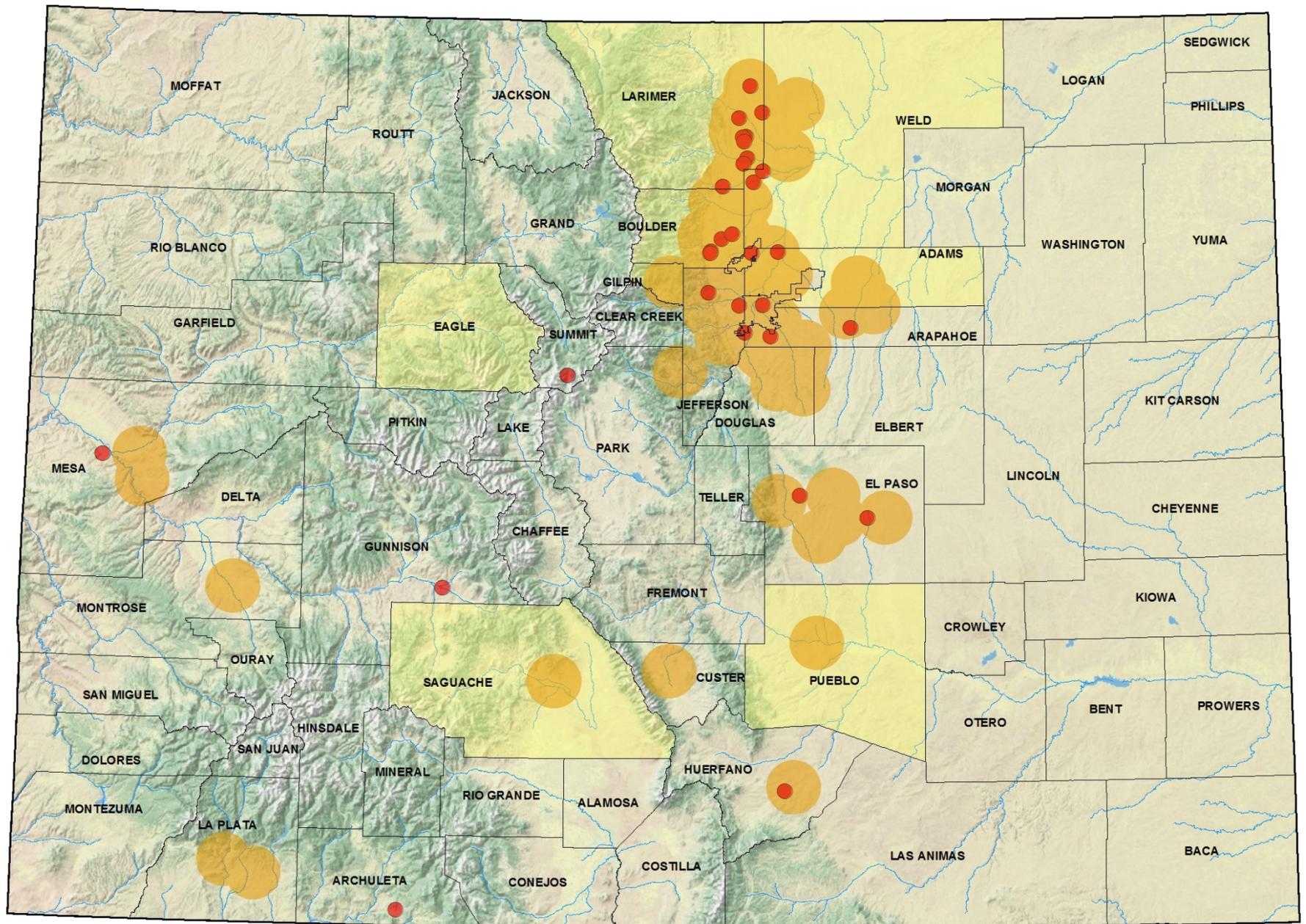
- Doxycycline or tetracycline
- Streptomycin and gentamicin for severe disease
- Fluoroquinolones are not FDA approved
- It can take weeks to recover
- Immunity is generally considered to be life-long.



2014

The Year of the Rabbit





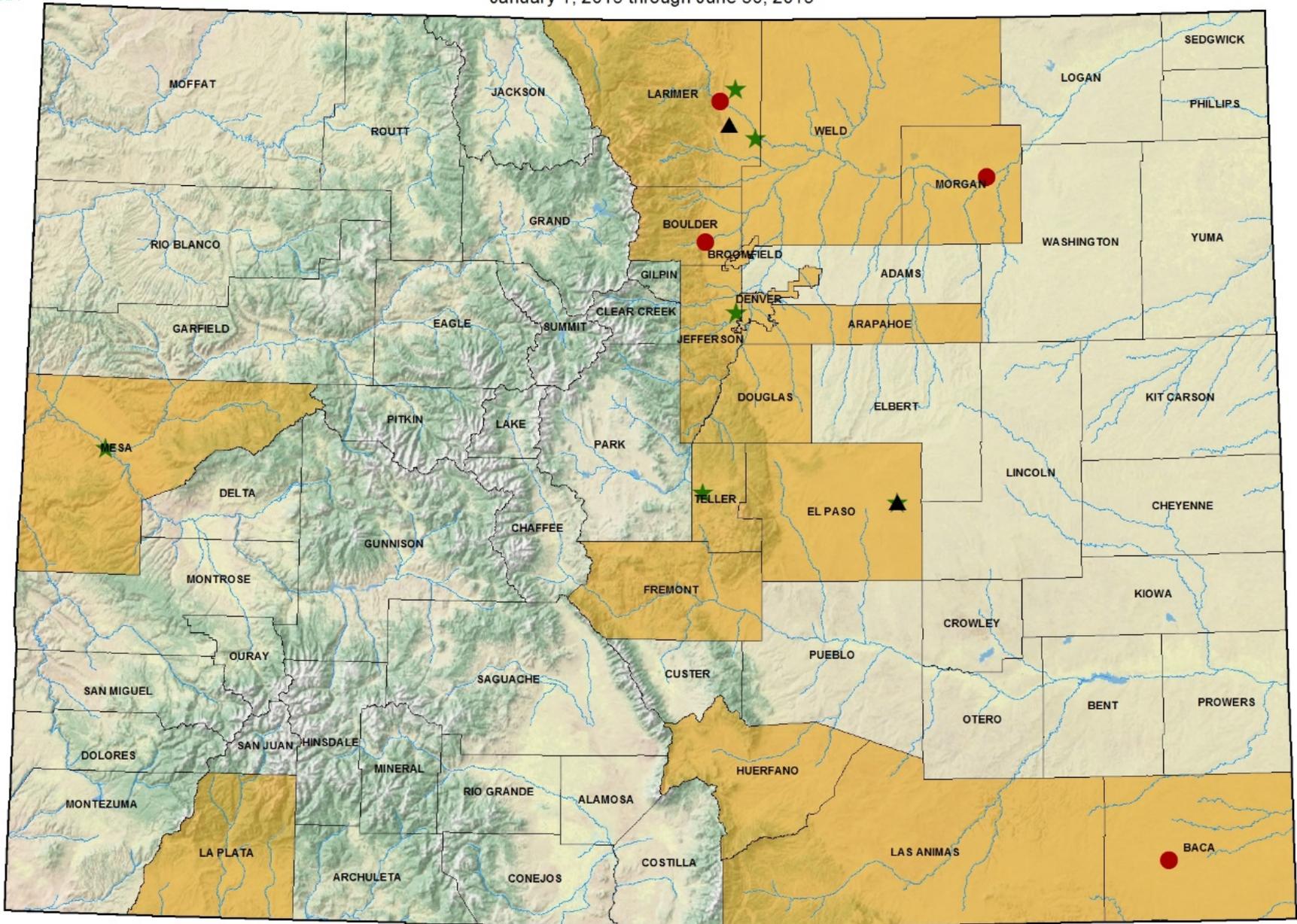
2015

The Year of the Rodent



2015 Tularemia Surveillance in Colorado

January 1, 2015 through June 30, 2015



17 Tularemia Positive Specimens

- ▲ Domestic Animal
- Insect
- Rodent
- ★ Wildlife

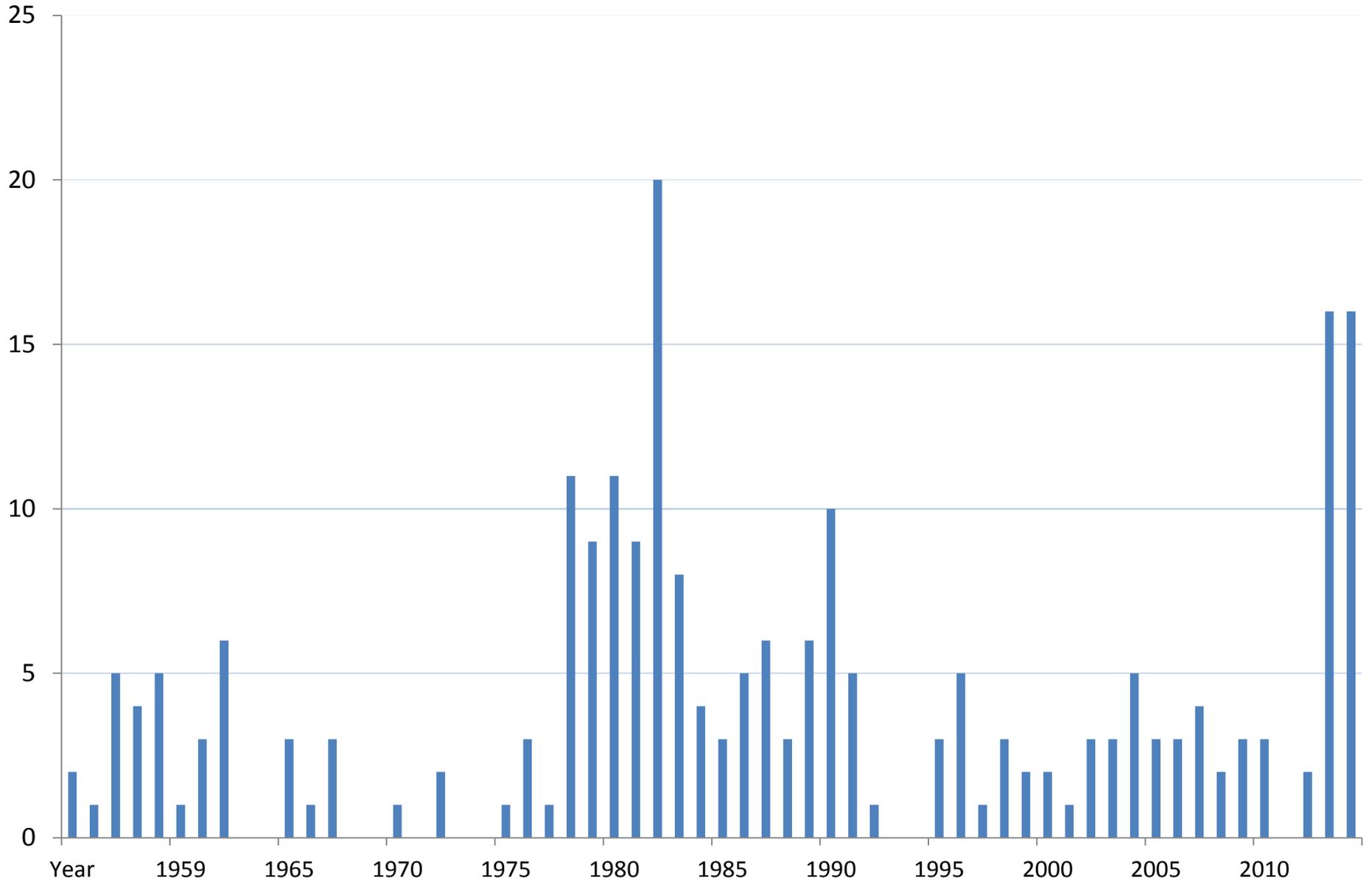
Counties Testing Animals For Tularemia

Animal Tularemia Surveillance, 2015

Specimen Type	Negative	Positive	Total	%
Rodent	6	6	12	50
Wildlife	22	9	31	34
Total	28	15	43	42

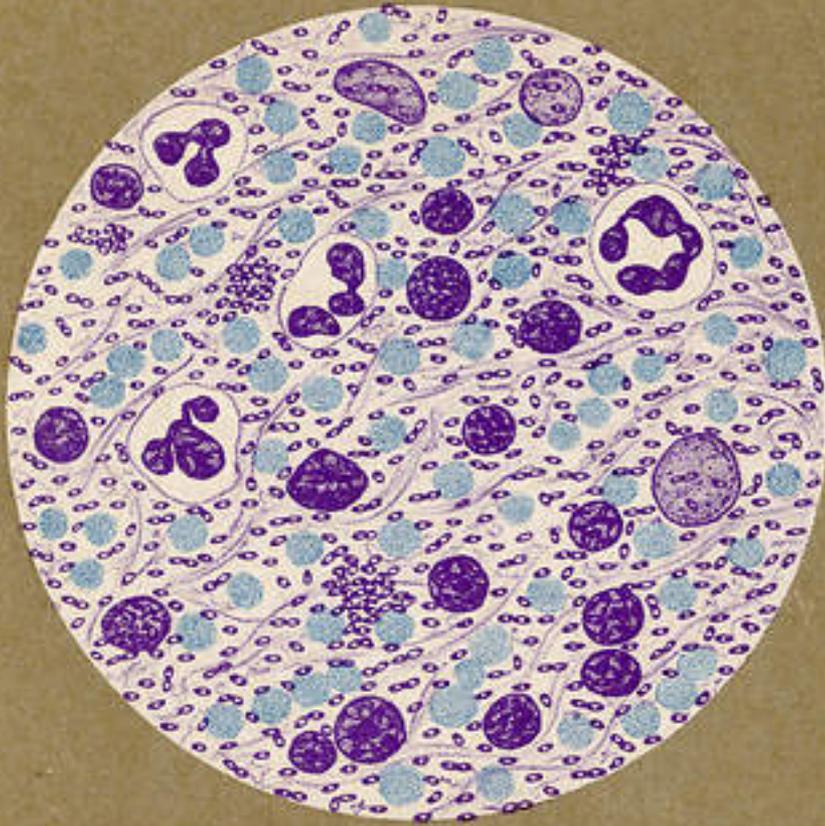


Human tularemia cases, 1955 to 2015



PLAGUE

Plague



PESTE BUBONIQUE
(FROTTIS DE RATE)

800
1



PESTE BUBONIQUE
(CULTURE)

Disease caused by the Gram negative bacterium
Yersinia pestis

PLAGUE

NORTH AMERICA

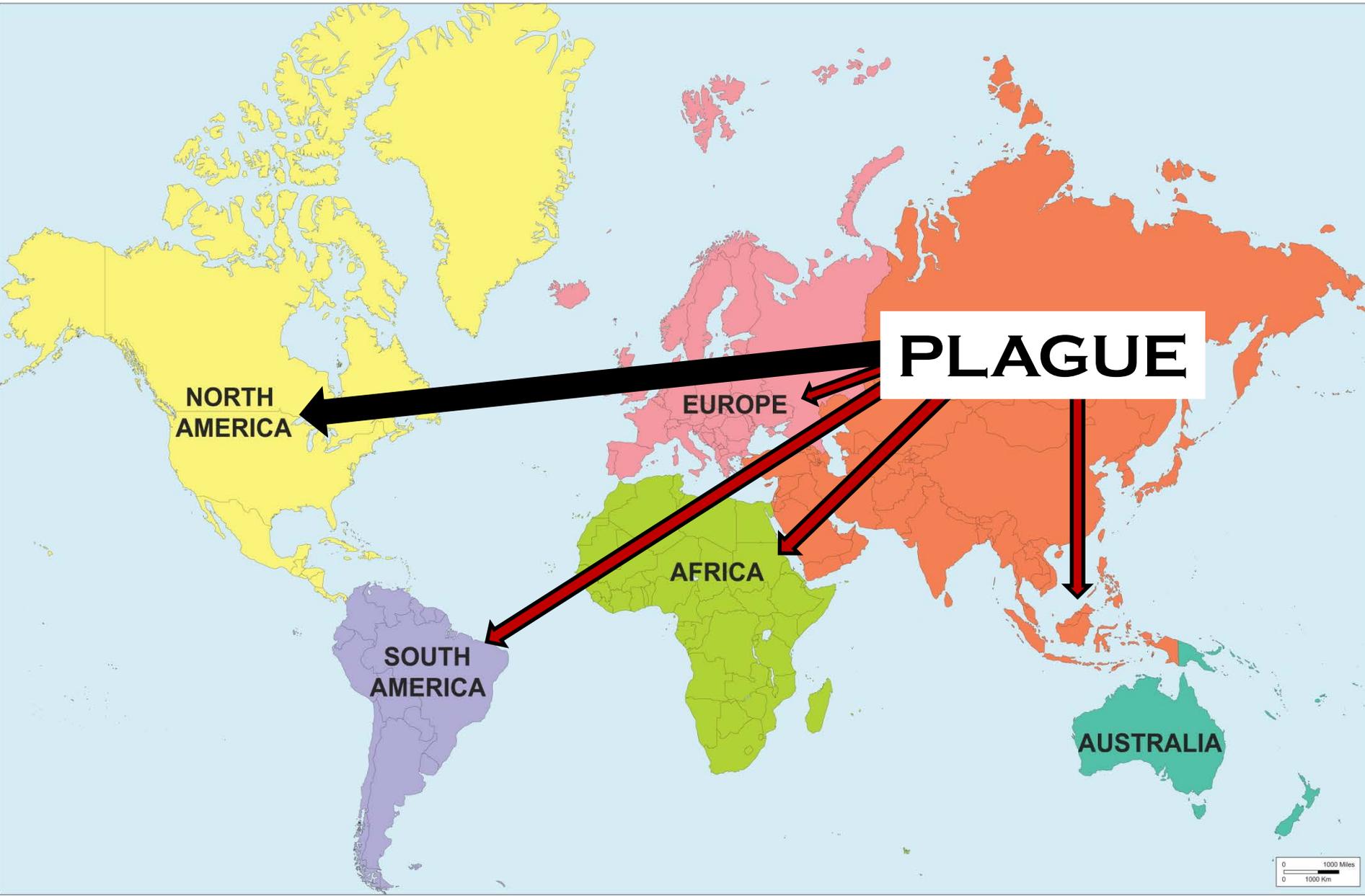
EUROPE

AFRICA

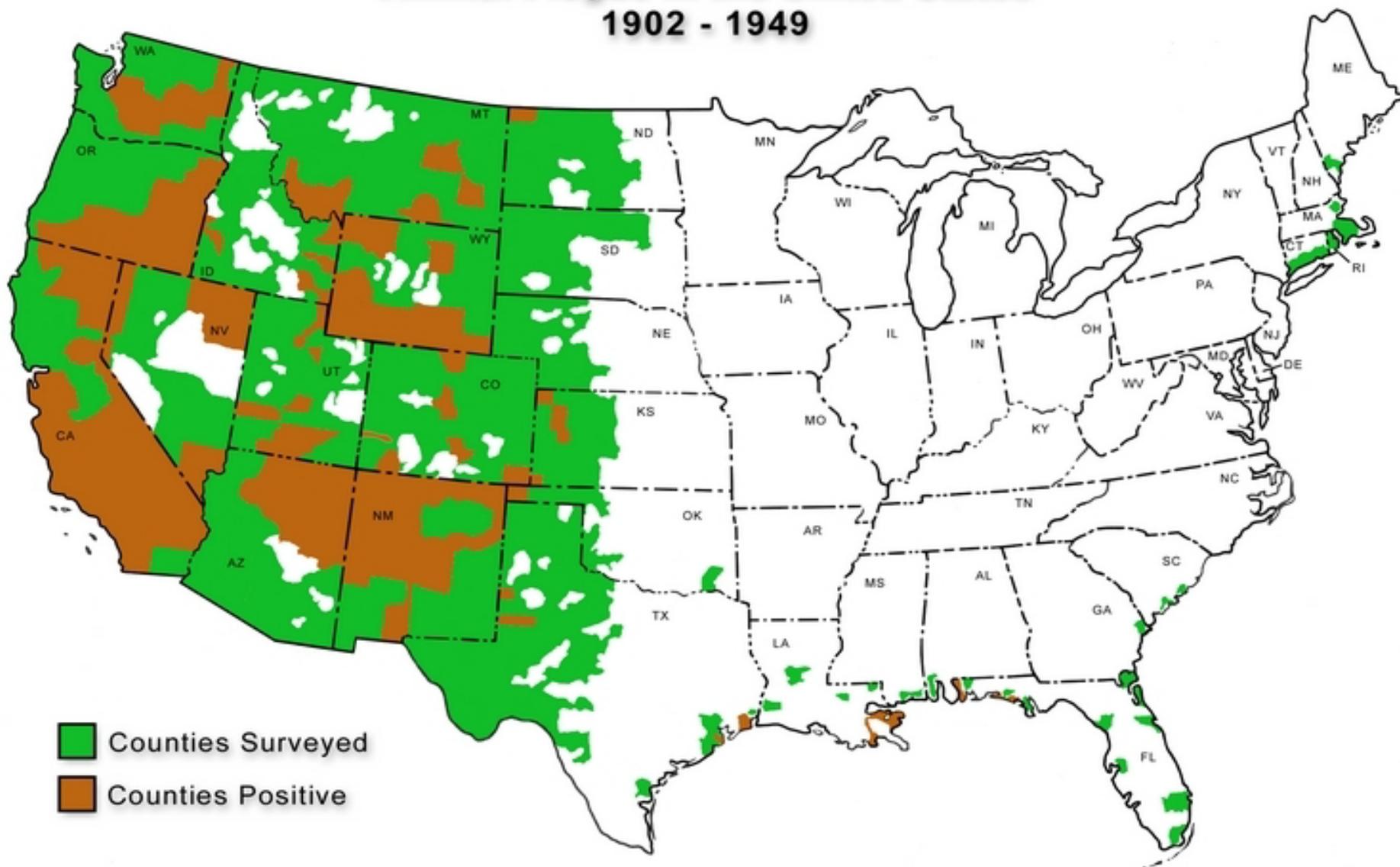
SOUTH AMERICA

AUSTRALIA

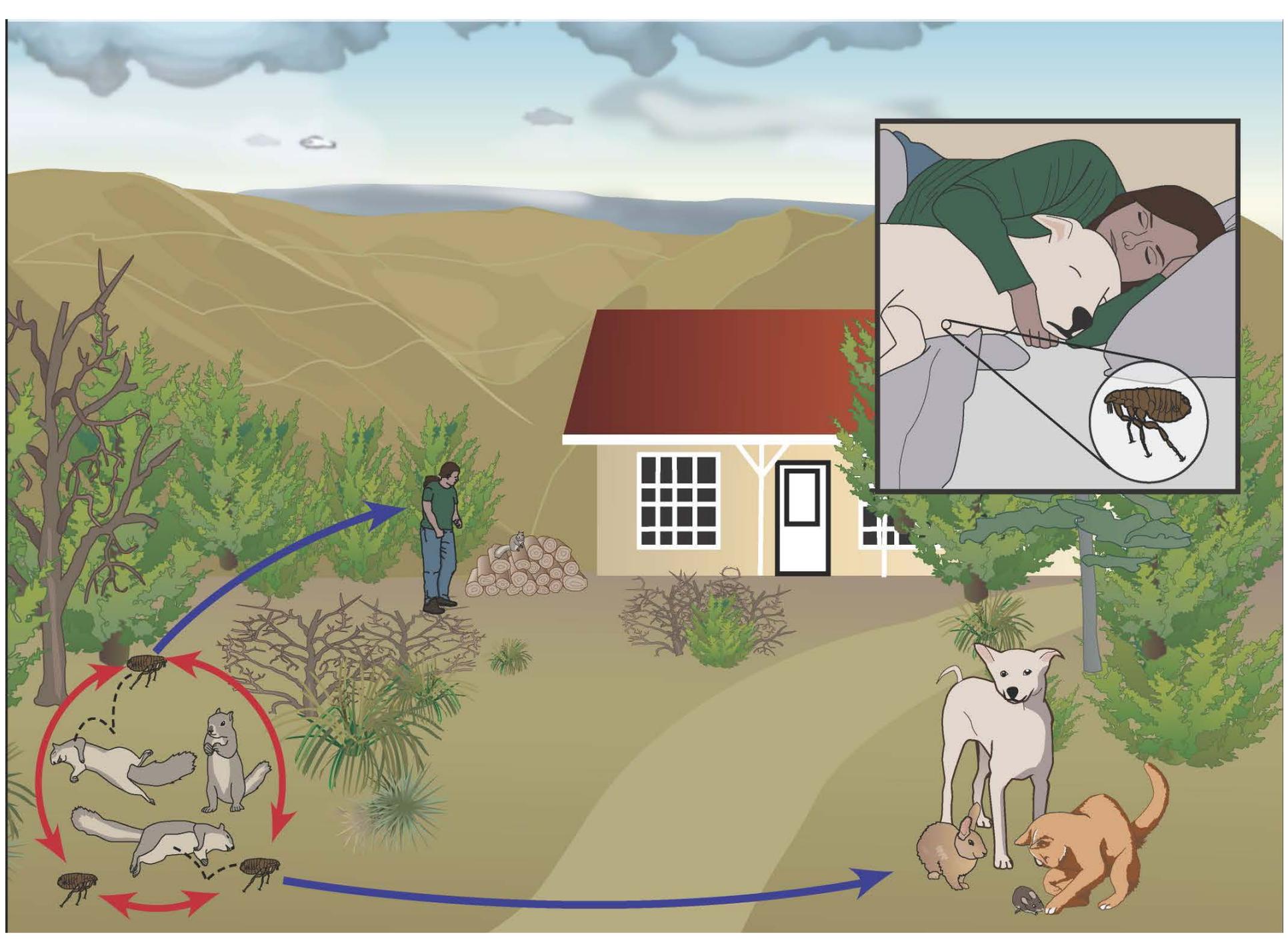
0 1000 Miles
0 1000 Km



Animal Plague in the United States 1902 - 1949



 Counties Surveyed
 Counties Positive

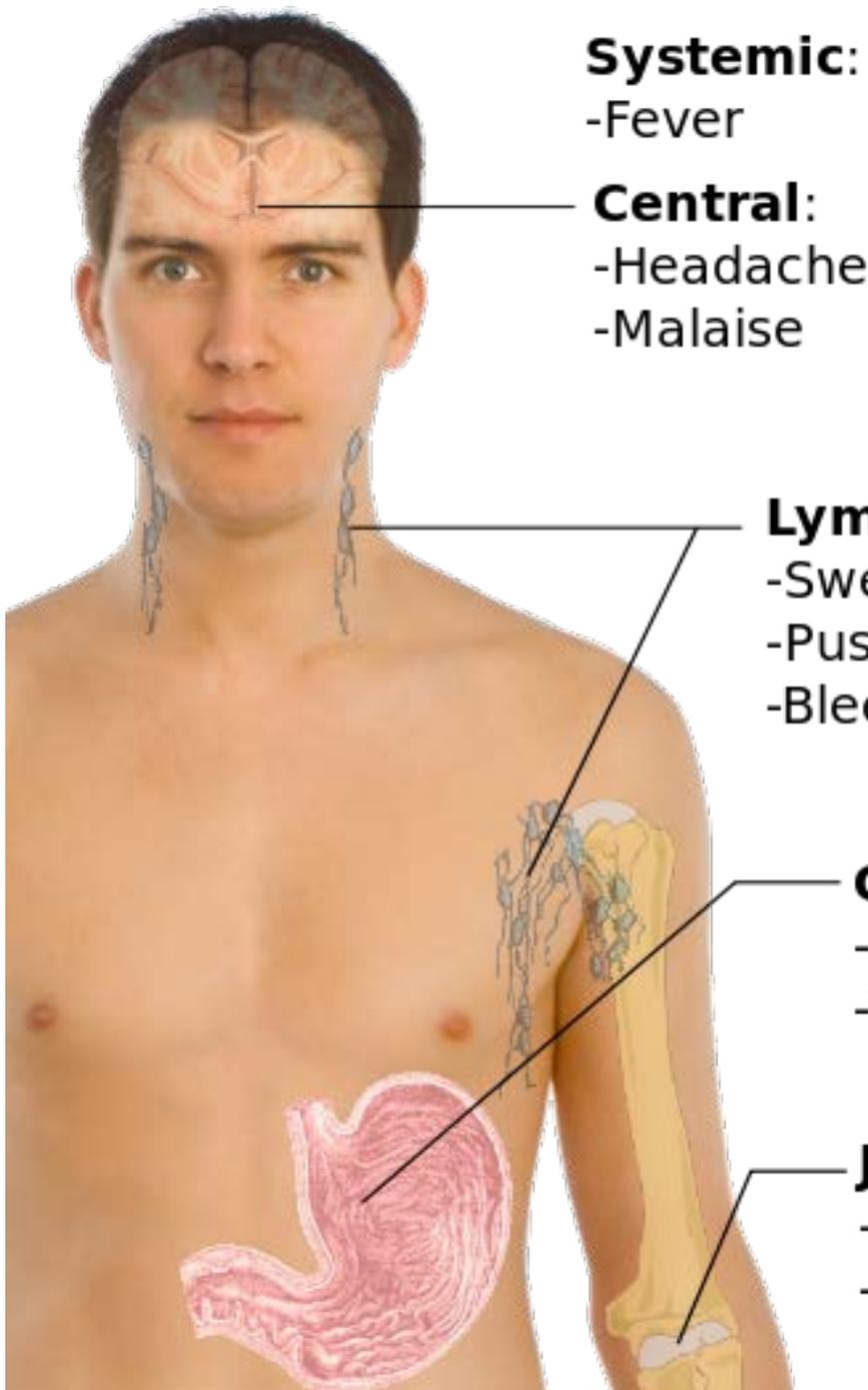




Human exposures



Bubonic plague



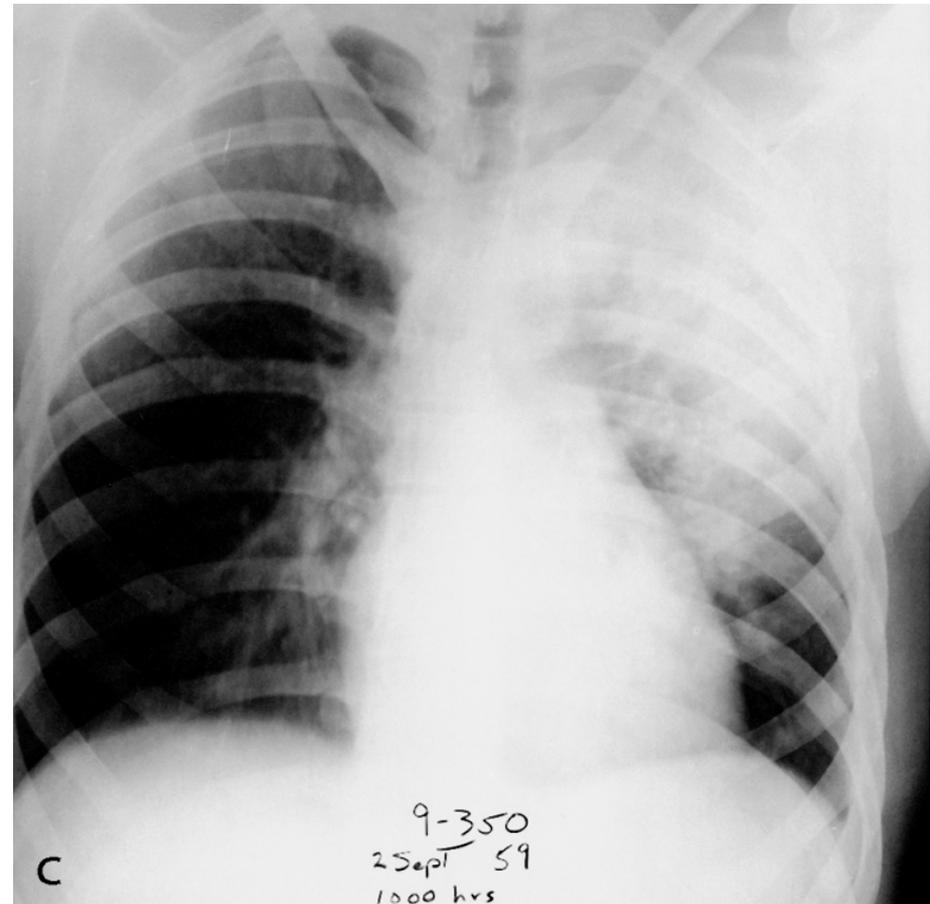
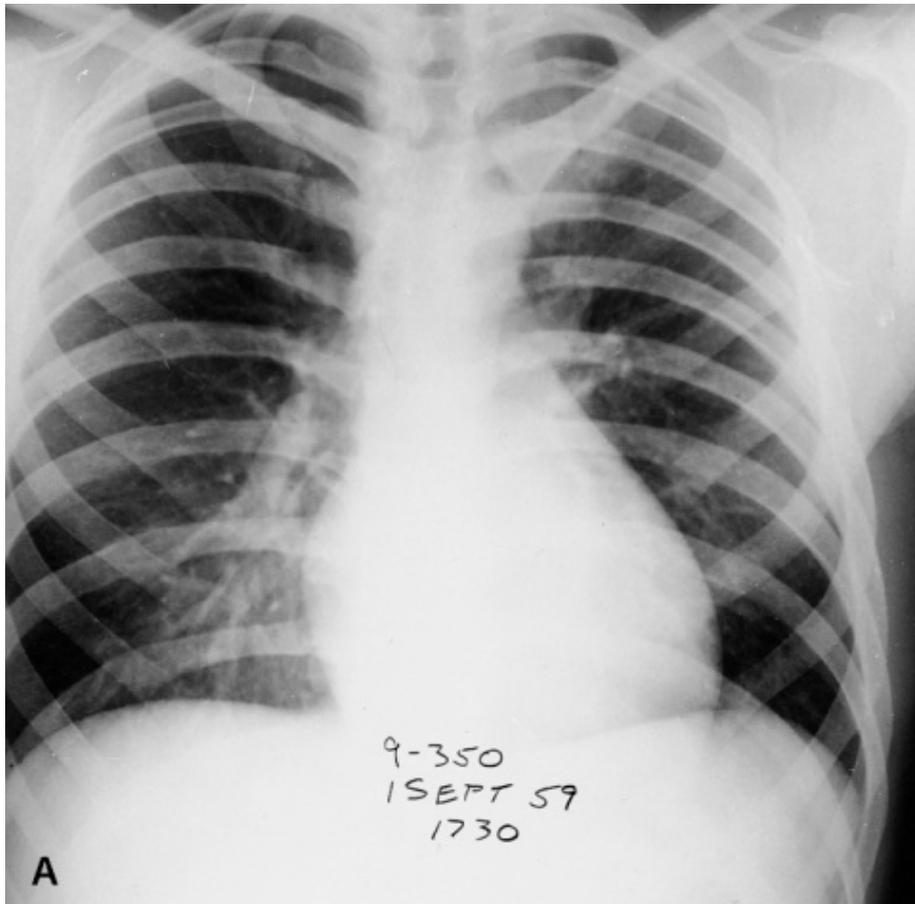
Septicemic plague

- fever, chills, extreme weakness, abdominal pain, shock, and possibly bleeding into the skin and other organs

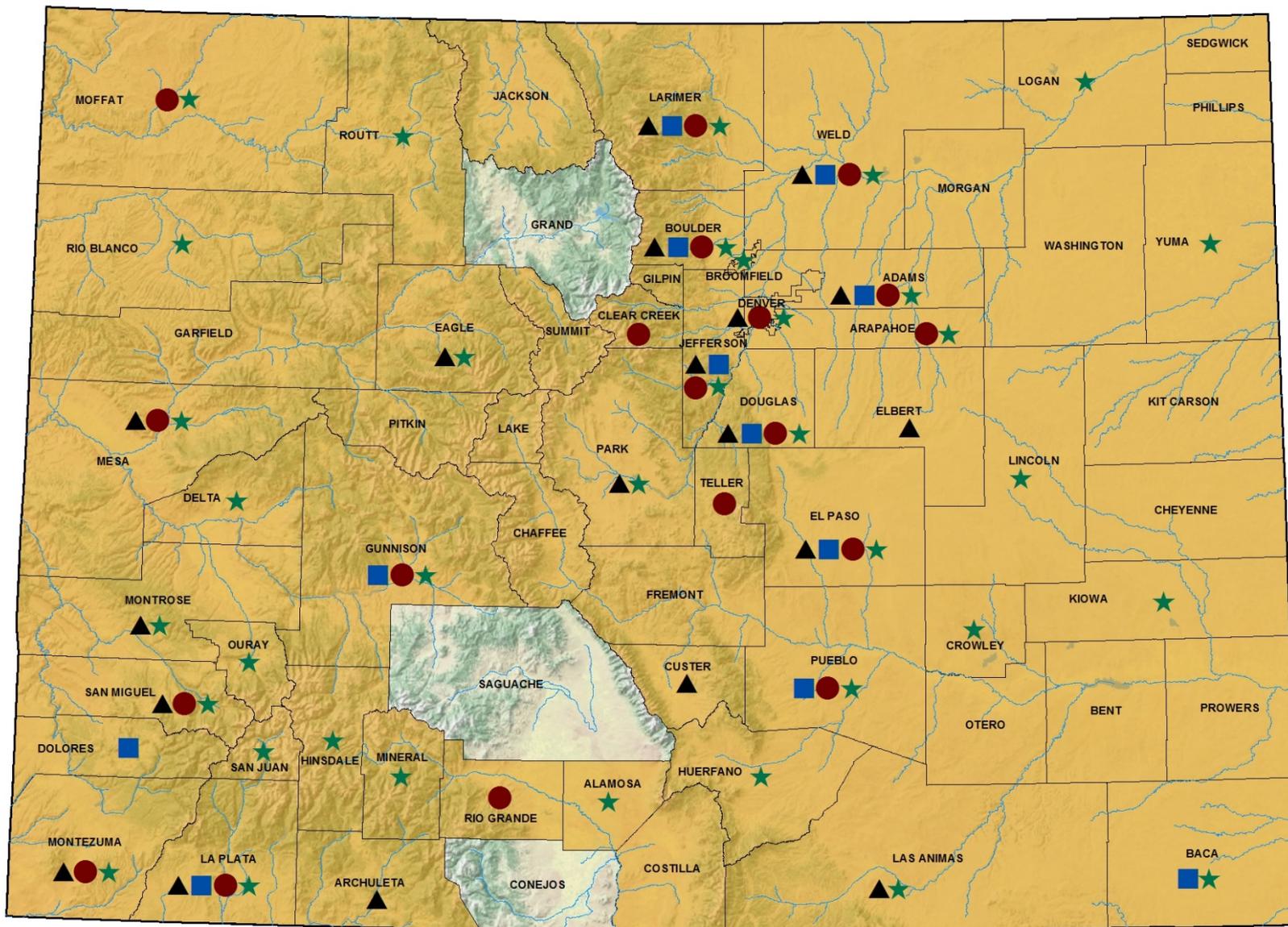


Pneumonic plague

- fever, headache, weakness, and a rapidly developing pneumonia



2005-2014 Plague Surveillance in Colorado



Plague Positive Animals

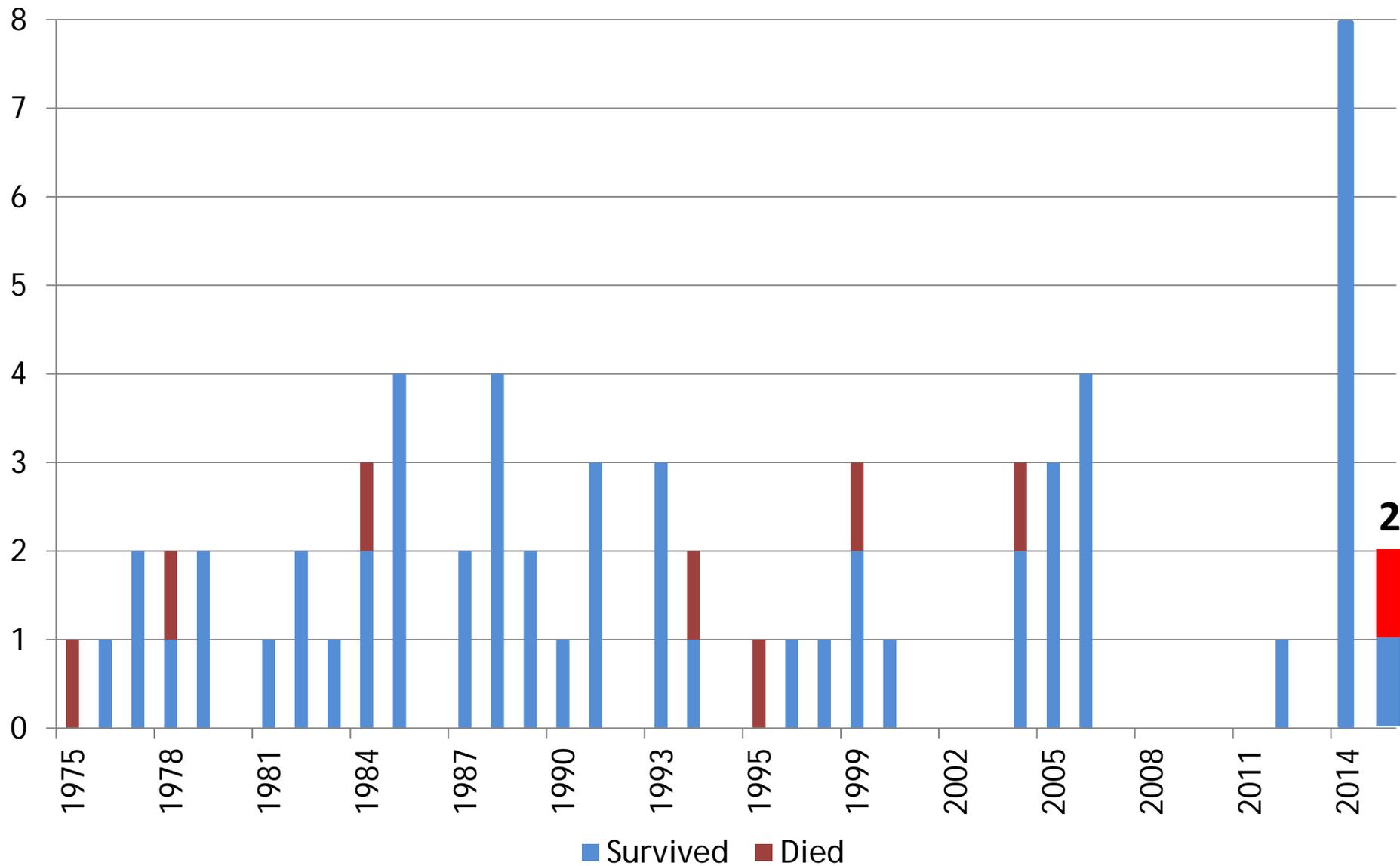
- ▲ Domestic Animal
- Insects
- Rodents
- ★ Wildlife

Counties Testing Animals For Plague



Plague in Colorado

1975 to Present





Veterinary Clinic Staff Exposure

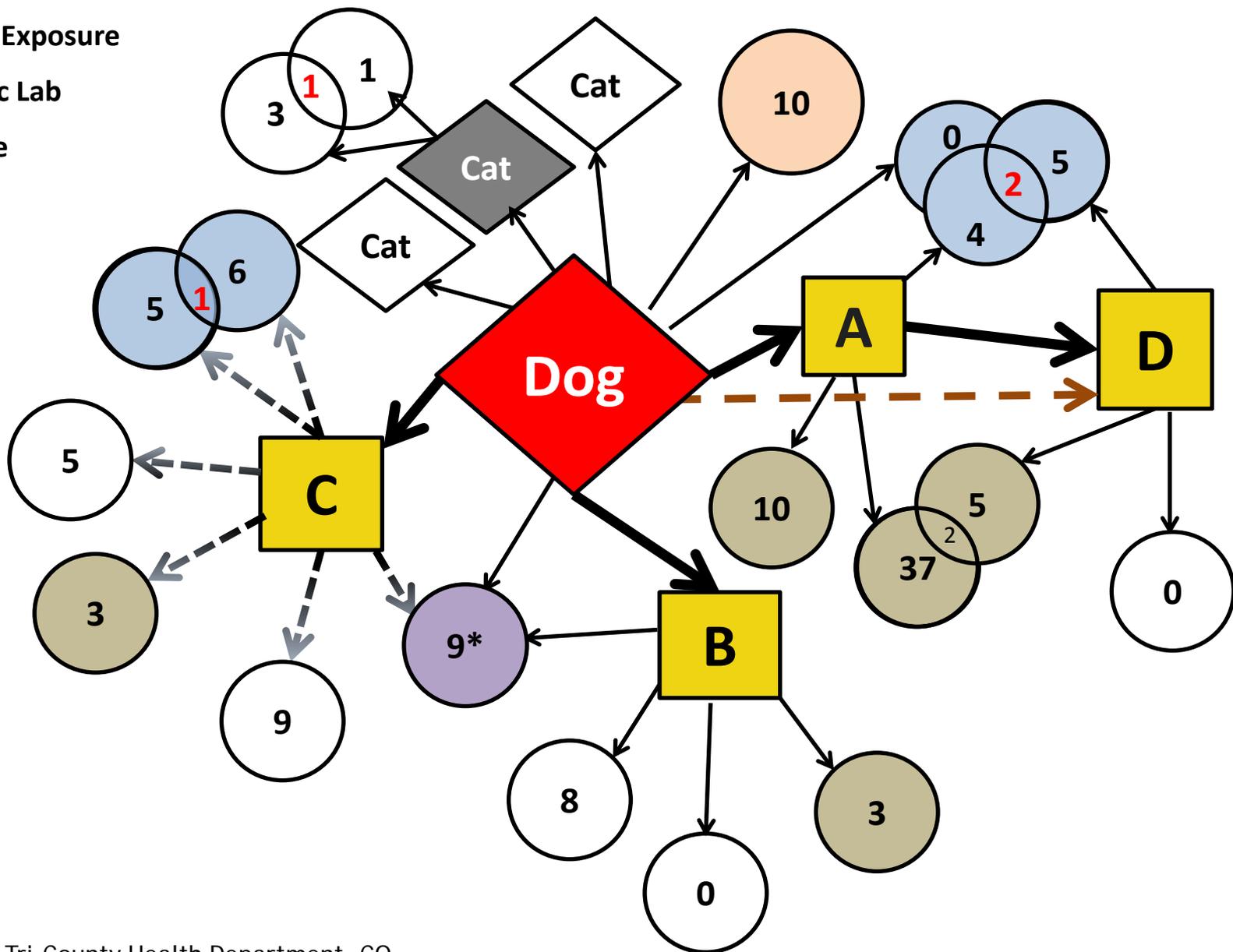
Veterinary Clinic Client Exposure

Personal Contact Exposure

Animal Diagnostic Lab

Hospital Exposure

Animal Exposure



*Slide modified from Tri-County Health Department, CO

DENVER AND THE WEST

16-year-old Larimer County athlete ID'd as septicemic plague fatality

Taylor Gaes died on June 8 after likely contracting rare disease on his family's property

By [Kirk Mitchell](#)
The Denver Post

POSTED: 06/20/2015 11:05:46 AM MDT | UPDATED: 30 DAYS AGO

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Organs

Lungs

Heart

Liver

Kidneys

Pancreas

Small intestine

Tissues

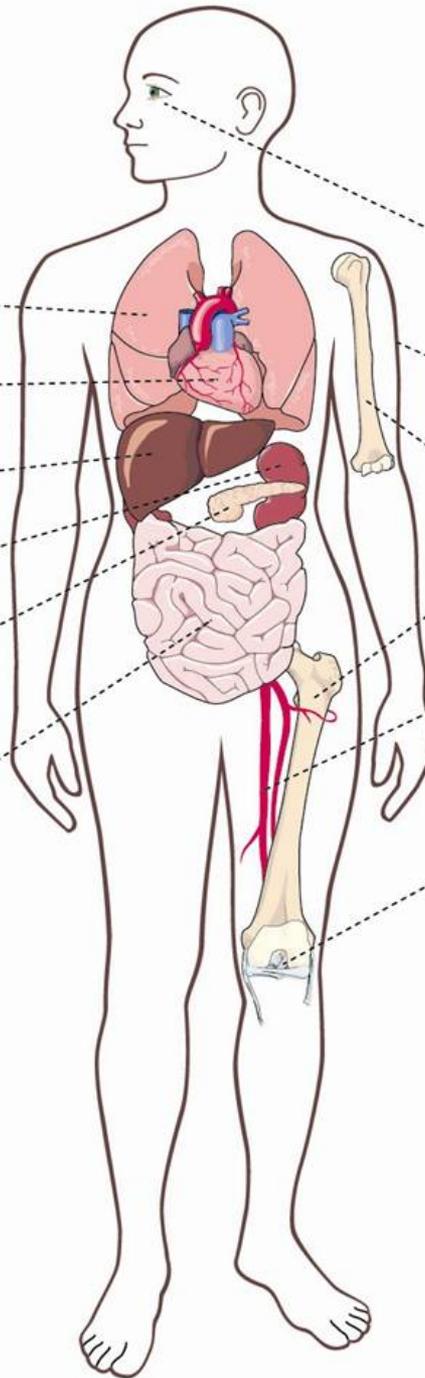
Corneas

Skin

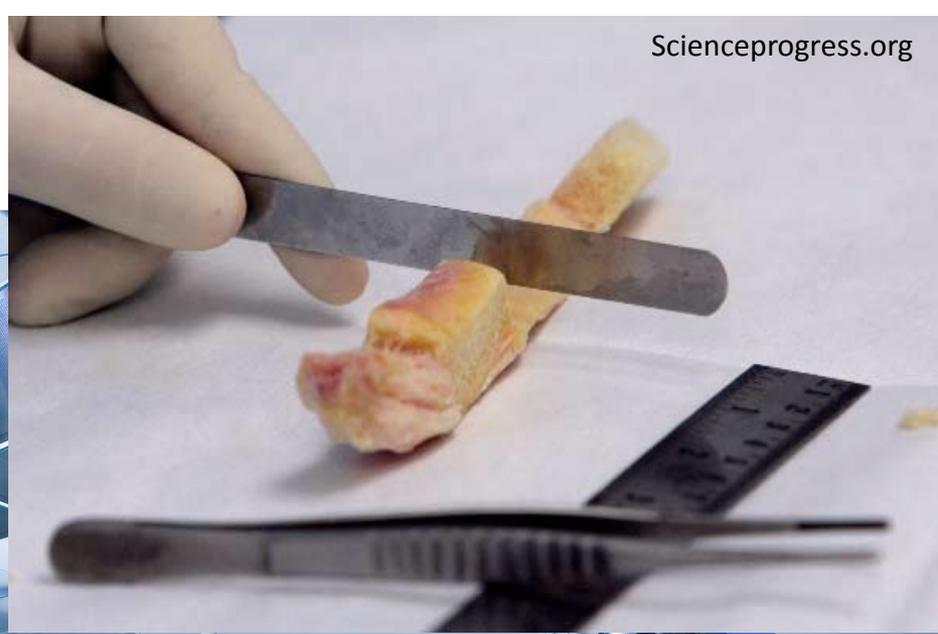
Bone

Blood vessels

Cartilage/
ligaments



Tissue donation





Questions?
Discussion?



