

California Arbovirus Surveillance Bulletin # 3

Week 5 Friday, February 3, 2006

Weekly Summary

Comments

Humans:

No human cases have been reported in 2006.

2005 SUMMARY:

In 2005, 928 human West Nile virus (WNV) infections were identified from the following local health jurisdictions: Alameda (1), Amador (4), Butte (25), Calaveras (2), Colusa (2), Contra Costa (11), El Dorado (1), Fresno (63), Glenn (13), Humboldt (1), Imperial (1), Kern (67), Kings (32), Los Angeles (47), Madera (19), Merced (28), Nevada (4), Orange (17), Placer (35), Plumas (1), Riverside (104), Sacramento (177), San Bernardino (34), San Diego (1), San Francisco (2), San Joaquin (36), San Mateo (1), Santa Barbara (2), Santa Clara (5), Shasta (1), Solano (5), Sonoma (1), Stanislaus (92), Sutter (9), Tehama (4), Tulare (60), Tuolumne (1), Ventura (1), Yolo (12), and Yuba (6). Of the 928 infections, 101 were initially detected in asymptomatic individuals through screening done at blood banks; 42 individuals later developed symptoms. Eight of the 101 presumptively viremic blood donors did not confirm in follow-up testing, and were subsequently removed from the list. In addition to the individuals detected at blood banks, four individuals who had no symptoms for WNV were detected through the local health department. Of the 873 WNV cases with symptoms, 301 were classified as West Nile neuroinvasive disease cases, 524 as West Nile fever, and 48 were of unknown clinical presentation. The median age for all symptomatic cases where data is available was 51 years (range: 2-95 years). 478 (55%) of the cases were male. There were 18 WNV-related fatalities reported in California in 2005, from Amador (1), Butte (1), Fresno (2), Kings (3), Madera (1), Riverside (5), Sacramento (1), San Bernardino (1), San Joaquin (1), Stanislaus (1), and Tulare (1) counties. The median age of the 18 fatalities was 79 years.

Horses:

The California Department of Food & Agriculture reported no new case of equine WNV from the past two weeks. The 2006 YTD is zero.

Dead Birds:

Since January 1, 2006, the hotline has received 1,265 dead bird reports. This week, 49 dead birds collected from 18 counties were tested for WNV via RT-PCR.; all were negative for the virus.

The 2006 YTD total is one positive dead bird out of 90 tested (1.1%).

Mosquito Pools:

WNV: CVEC reported no positive WNV mosquito pools for the past two weeks. The 2006 YTD total for the State is 0.

WEE: CVEC also reported no WEE positive mosquito pools during these two weeks. The 2006 YTD total = 0.

Sentinel Chickens: WNV: VRDL reported no seroconversions during the past two weeks. The 2006 YTD = 0.

WEE. VRDL reported no WEE seroconversions for the past two weeks. The 2006 YTD= 0.

Website Information:

For updated information on WNV, please visit the California WNV website, www.westnile.ca.gov, the CDC website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov. Please go to the Vector website at <http://vector.ucdavis.edu/arbo.html> for flock location and more information on WNV and other vector-borne diseases.

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TEST SUMMARIES for 2006

Humans and Horses

| | | Number Tested | WNV Positive | | WEE Positive | | SLE Positive | | Other Positive | |
|---------------|------|---------------|--------------|-------|--------------|-------|--------------|-------|----------------|-------|
| | | | Imported | Local | Imported | Local | Imported | Local | Imported | Local |
| Humans Tested | Week | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horses Tested | Week | N/a | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Dead Birds

| | Number Tested | WNV Positive |
|------|---------------|--------------|
| Week | 49 | 0 |
| YTD | 90 | 1 |

Sentinel Chickens and Mosquito Pools*

| | | Number Tested | WNV Positive | WEE Positive | SLE Positive | Other Positive |
|----------------|------|---------------|--------------|--------------|--------------|----------------|
| | | | | | | |
| | YTD | 471 | 0 | 0 | 0 | 0 |
| Mosquito pools | Week | 223 | 0 | 0 | 0 | 0 |
| | YTD | 289 | 0 | 0 | 0 | 0 |

*Total has been adjusted to include local agency submission

National Comments:

West Nile virus (WNV) activity was detected in 48 states, New York City (NYC), and the District of Columbia (DC) in 2005, compared to 47 states, Puerto Rico, DC, and NYC in 2004. A total of 2,819 human WNV cases were reported for 2005 (as of January 10, 2006) from 42 states. In 2004, 2,470 cases had been reported from 40 states, DC, and NYC. In 2005, of 2,644 cases with available data, the median age was 51 years (range: 3 months-98 years) and 1,496 (57%) of the cases were male. Forty-three percent of the cases were neuroinvasive. There have been 105 WNV-related fatalities reported as of January 10, 2006. The median age of the 100 decedents where data is available was 76 years (range: 36-98 years).

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TEST PROTOCOLS

Dead Birds:

All bird species, except chickens, doves, and pigeons, from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Positive RAMP and Vec-Tests from oral swabs from corvids are no longer confirmed. Other bird species are tested by singleplex RT-PCR and confirmed with a second primer set.

Dead birds are necropsied at the California Animal Health and Food Safety (CAHFS) Laboratories and kidney tissue from the dead birds are forward to the UC Davis Center for Vectorborne Diseases (CVEC) for WNV using the PCR Taqman assay. Organ pools from PCR positive carcasses are tested using cell culture for virus isolation. The WNV Dead Bird Surveillance Coordinator, Ryan Carney, can be reached directly at (510) 412-6254.

Sentinel Chickens:

Dried blood spot specimens from sentinel chickens submitted each week to the DHS Viral and Rickettsial Disease Laboratory (VRDL) are tested for the presence of antibodies to West Nile virus (WNV), western equine encephalomyelitis (WEE), and St. Louis encephalitis (SLE) viruses by EIA and IFA. The VRDL performs additional testing, including plaque reduction neutralization (PRNT), on specimens from sentinel chickens from geographic areas where WNV is detected for the first time. The VRDL also forwards selected serum to CVEC for additional testing for WNV, WEE, and SLE antibodies as needed.

Mosquito Pools:

All mosquito pools are screened for WEE, SLE, and WNV viral RNA using a Taqman multiplex RT-PCR. CVEC will cease confirmation testing on PCR-positive pools of *Cx. tarsalis* and *Cx. quinquefasciatus* but will continue to confirm multiplex PCR-positive results for other mosquito species using singleplex RT-PCR.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch) and the Viral and Rickettsial Disease Laboratory Branch, Division of Communicable Disease Control, California Department of Health Services, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Al Hom by phone (510) 412-6252, FAX (510) 412-6263, or email [ahom@dhs.ca.gov].