



West Nile Virus

Lancaster County 2003



PUBLIC | Every One.
HEALTH | Every Day.
| Every Where.



West Nile Virus Survey

Lancaster County Residents 2003

Cheryl Lockett, RN, BSN
Public Health Nurse
Communicable Disease



Objectives

- Purpose
- Design and Logistics
- Response
- Findings
- Implications



Purpose

To assess the impact of WNV in Lancaster County

- \$ Cost
- Productivity
- Community and Personal Health
- Future educational needs
- Benefit of cost-control measures



Design and Logistics

- Mailed to all lab confirmed cases
- Kept to one page
- Personalized cover letter signed by the health director
- Gave a deadline
- Followed up with phone call if survey not returned.
- Closed end questions
- Asked about actual out of pocket expenses
- Days missed of work
- Affect of WNV on activities of daily living
- Demographics



Dear

The Lincoln Lancaster County Health Department is conducting a survey of people who had a positive lab test for West Nile Virus (WNV) in 2003.

Your answers to the short survey are important to help understand the impact of West Nile Disease on the people in Lancaster County. The survey will only take 5-10 minutes to fill out.

Completed forms are kept strictly confidential. Your name will not be released. A copy of the final report will be made available to you upon request.

Please return this survey by July 2, 2004. If you have any questions please call Cheryl Lockett, RN at 441-6215. Thank you for your assistance.

Sincerely,

Bruce D. Dart, MS
Health Director



Response

- 129 Cases of lab confirmed WN V in Lancaster County in 2003. Two deaths.
- 98 surveys were either returned or phone interviews were done.

76% Return rate



Lab Costs

WNV testing at the NPHL \$45

98 Survey responses - Total lab cost \$4,410

129 lab confirmed cases - \$5805

Does **not** include:

Other testing in hospital/Dr. office

Total NPHL testing in Lancaster County

Approximate 20% positivity rate state wide

Total could be as much as \$29,025 for Lanc



Outpatient Costs

Doctor Visits = 261

Total Dr. Visits = \$16,965

Urgent Care visits = 14

Total Urgent Care Visits = \$980



WN Fever Case:

"When I first started having symptoms I specifically asked my doctor if I had WNV. He said no. After 2 months of being sick the ER finally tested me and on Halloween of 2003 tested positive".



WN Fever Case

“First symptoms were headache, rash and enlarged lymph nodes. Was misdiagnosed as probably having lymphoma and was sent to a surgeon for a lymph node removal, came back negative, and further revealed WNV.”



Hospital Costs

Emergency Room Visits = 58

Total ER Visits = \$50,460

Inpatient Acute Care Stays = 32
people for a total of 252 days

Total Acute Care Cost = \$656,712*

* Highest individual costs was \$109,452



WN Fever Case:

“My doctor misdiagnosed my WNV, thinking it was hairy cell leukemia. I was undergoing chemotherapy for it when they discovered I had WNV. I was admitted with a 104 temp.”



WN Encephalitis Cases:

“I had encephalitis and meningitis along with WNV. The onset was sudden, rapid and severe.”

“Lost ability to speak or write and otherwise semi-coherent until almost out of the hospital.”



Rehabilitation Costs

Physical Therapy visits = 231 days*

Total PT Cost = \$30,723

Rehab Hospital Stay = 9 individuals had a total of 143 days

Total Rehab Hospital Stay = \$282,854*

***Highest individual rehab stay was \$110,768**

***Highest # of visits for PT was 108**



Encephalitis case under 29yr

“Was unable to walk without aid of a walker, vision problems (had to re-train eyes), unable to write, muscle ticks, twitches (still today), sleep disturbances, headaches.”

www.journalstar.com



Casey Baker, a 19-year-old sophomore at Nebraska Wesleyan University, is recovering from encephalitis, a result of contracting West Nile virus over the summer.



While experts advise Nebraskans not to panic, the effects of the mosquito-borne virus reach beyond frail, elderly residents. Here, a few who know.

Sick of West Nile

BY MARK ANDERSEN
Lincoln Journal Star

Slipping at clouds of mosquitoes, Casey Baker watched as her father struggled with a boat trailer during the July Fourth weekend at Loveland Reservoir in northern Kansas.

As they rested, Casey joked with her mother that one of them surely would catch West Nile virus.

Still recovering from West Nile encephalitis last week, the 19-year-old Nebraska Wesleyan University sophomore no longer sees the humor.

On the seventh night of her ordeal — hospitalized with a relentless headache, fever, tremors, fluttering eyes and vomiting — Casey wished instead to tell her mother goodbye.

"And that I loved her," she said, breaking into tears. "Because I didn't think I was going to make it through the night. It was just too hard to fight. I didn't have any control over my body. I couldn't take the pain anymore, and I was ready to give up."

As Nebraskans worry through their second West Nile season, either downplaying or over-dramatizing the risks, Casey's words draw a sharp perspective.

Officials are quick to temper fears of a viral epidemic. Of the 15,721 deaths that occurred in Nebraska in 2002, West Nile virus caused seven.

Most people exposed to the West Nile virus when an infected mosquito bites them do not get sick. About 20 percent develop West Nile fever, an uncomfortable but relatively minor illness.

Serious cases of viral meningitis and encephalitis occur in about one in 150 infected people. Meningitis is an infection of the membrane that lines the blood brain barrier, the virus that prevents most viruses and bacteria from reaching the brain. Encephalitis occurs when the infection already everywhere else in the body permeates that membrane.

Nebraska had 783 confirmed or probable "cases" of West Nile in every 2,200 state residents this summer, but experts say the virus and has been traced for them.



Barb Peeter and her husband, Randy, rest on one of the two daily walks the Collier Middle School teacher takes as part of her post-West Nile virus recovery. Peeter, who developed meningitis and encephalitis, is recovering — but slowly. "I understand why it kills elderly people," she says of the mosquito-borne virus.

The West Nile trail

Dark regions indicate areas of West Nile infection in 2002 and 2003 and an indicator placed in the counties where they occurred. Infections are most numerous near irrigated lands.



Source: Nebraska Health and Human Services. © MATT VAN DYCKE/Lincoln Journal Star

Nile encephalitis include inflammation of the brain, disorientation, convulsions and paralysis.

The two additional deaths announced Tuesday being the total of Nebraskans who have died from West Nile so far this year so far. At least 79 Nebraskans have contracted the most serious infections, meningitis or encephalitis.

Most people can accept these odds, as they face a greater risk of dying in a car accident.

For the unlucky few who win this lottery, however, the statistics discount some of their suffering. Sandra Wilshire recently celebrated her 67th birthday lying paralyzed and unable to speak at Lincoln's LH Medical Center. Last Oct. Aug. 5, she complained of body aches, said her husband,

resemble that of a flu, such as fever and muscle weakness. There may be a rash, symptoms of West

School board approves budget

Members also begin work on replacing retiring LPS Superintendent Phil Schoo.

BY JOANNE YOUNG
Lincoln Journal Star

Two weeks into the new school year, the Lincoln Board of Education gave final approval Tuesday night to its 2003-04 budget.

Members also approved guidelines for a subcommittee to represent the board as it intervenes in a state funding lawsuit. And they set a special meeting to narrow proposals for a search firm it plans to hire in replacing retiring Lincoln Public Schools Superintendent Phil Schoo. Six public forums have been set to gather community input about the post.

The board approved its \$243.7 million general fund budget on a 6-0 vote. Board President Keith Pertyman was excused from the meeting.

Under that budget, property taxpayers will be charged approximately \$1,302.54 per \$100 of property valuation. That amount covers the school's general fund and all other funds, including bonds.

The owner of a \$150,000 home, for example, would pay \$1,953 in school taxes next year.

Budget committee chairman Jim Garver

See BUDGET, Page 2A

Public hearings

The Lincoln Board of Education plans six forums to allow members of the public to comment on qualities the new Lincoln Public Schools superintendent should possess. Each forum will begin at 7 p.m.

Sept. 16: Lincoln Southeast High School, 2930 S. 37th St.

Sept. 17: Lincoln Northwest High School, 2635 N. 63rd St.

Sept. 18: Lincoln North Star High School, 5601 N. 33rd St.

Sept. 23: Lincoln East High School, 1000 S. 70th St.

Sept. 24: Lincoln High School, 2229 J St.

Sept. 25: Lincoln Southwest High School, 7001 S. 14th St.



Police are asking for information from anyone who might have seen James Hagan's turquoise Peterbilt big rig, particularly on Thursday or Friday. His semi had been towing a white trailer with a black tarp top.

Missing man's case treated as homicide

No one has seen James R. Hagan of Elsie since Thursday.



You can help

Anyone with information about James Hagan can call Crime Stoppers anonymously at (402) 475-5000 or the price of (402) 443-7204.

BY JARIN SANDERSON
Lincoln Journal Star

Lincoln police are treating the search for an Elsie trucker missing since Thursday as a homicide investigation, officials said Tuesday.

James R. Hagan, 56, was driving a large load of cribs on a poster on his own and whether he was abducted there and taken elsewhere, among other possibilities.

They requested help from the Lancaster County Sheriff's Office to search nearby rural areas. Police Chief Tom Cassidy asked for tips from anyone who saw Hagan's truck.

See MISSING, Page 2A



Prescription Costs

- Estimated Prescription Costs - \$3,331
- Estimated OTC Medication Costs - \$2,576
- Total Estimated Medication Costs - \$5,907

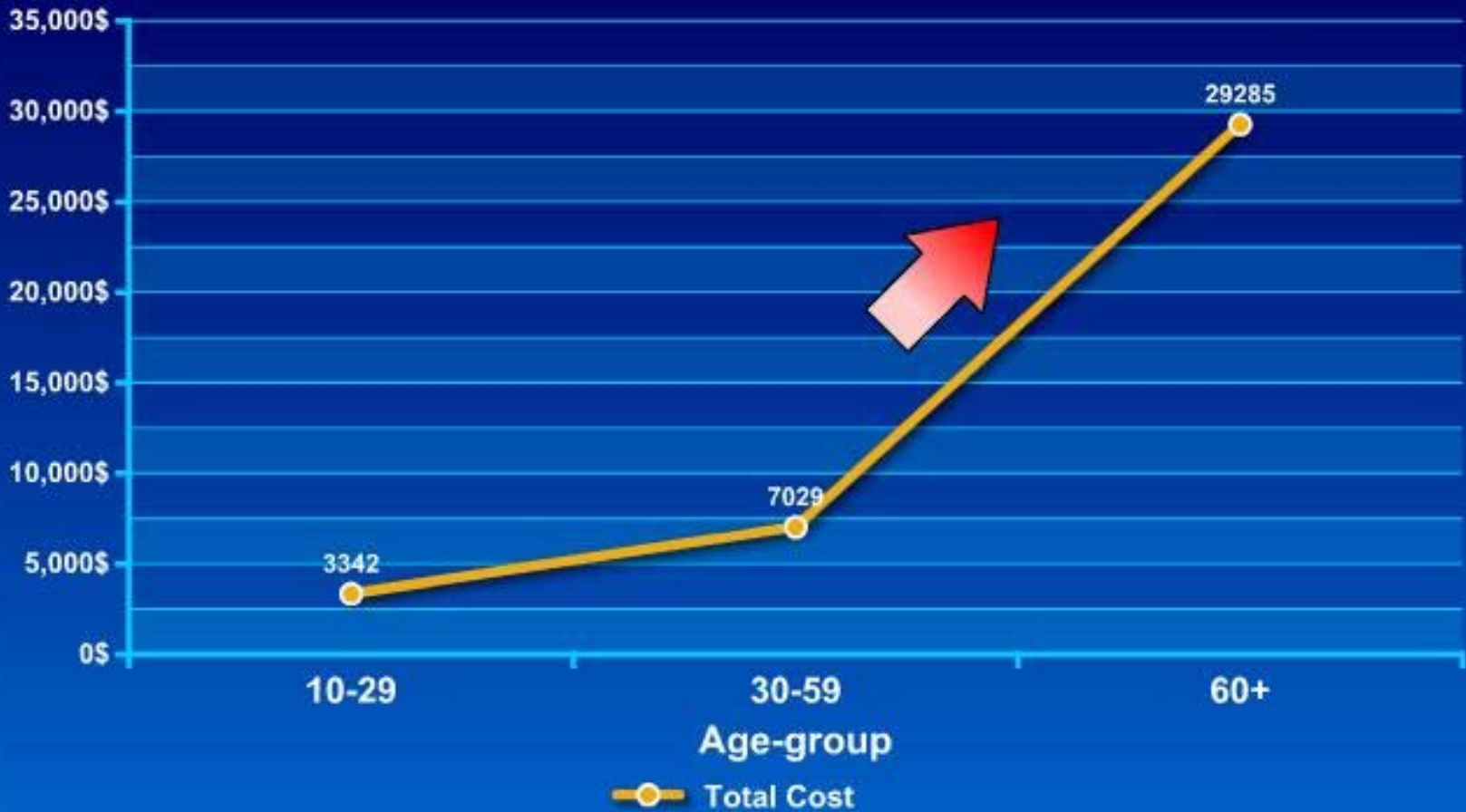


Total Estimated Medical
Cost for WNV in Lancaster
County in 2003

\$1,049,011

WNV Mean Cost by Age-group

Lancaster County-2003





Death Rate Comparison

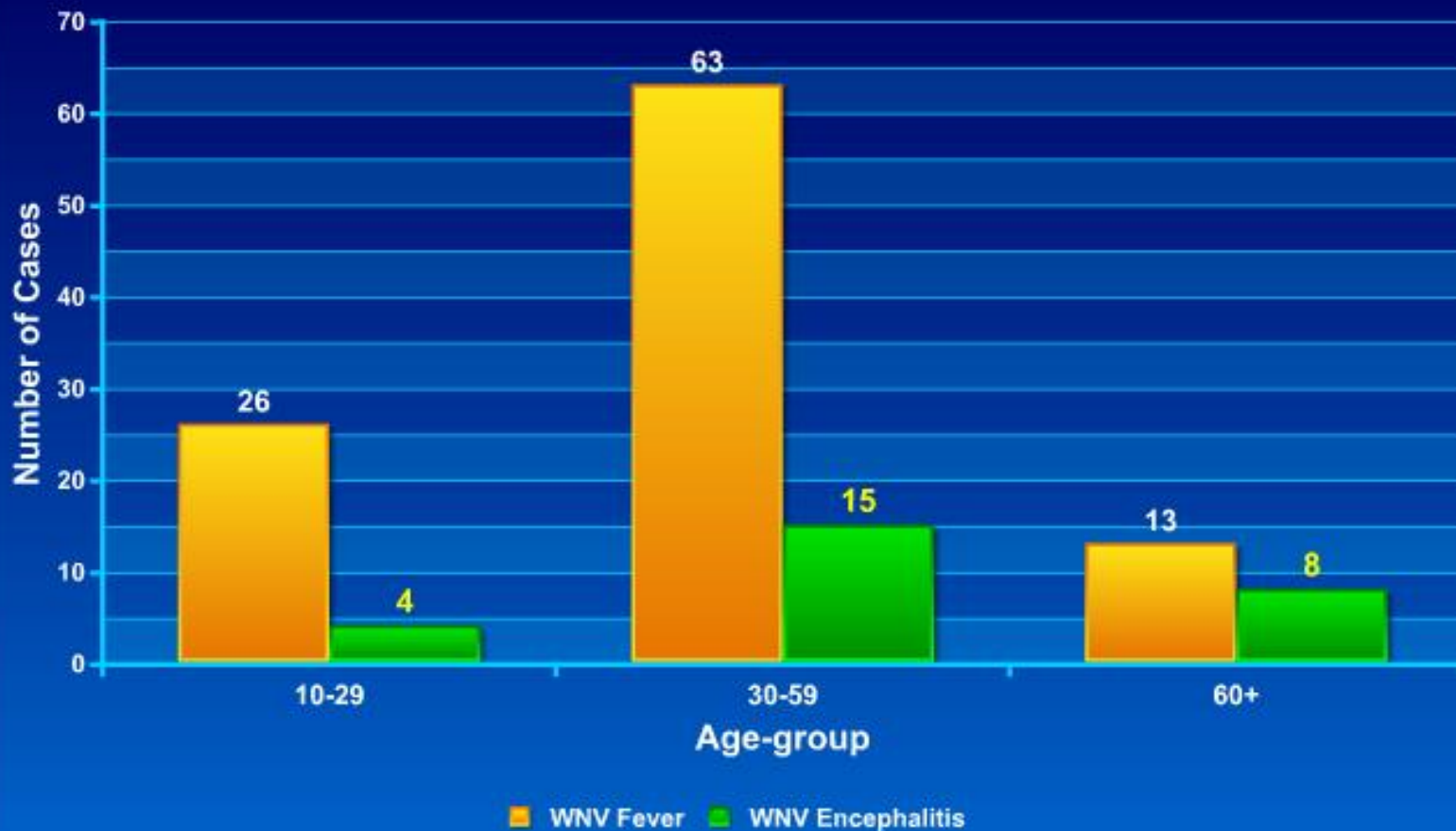
CDC states "Among those with severe illness due to WNV, case-fatality rates range from 3%-15%

Lancaster County 2003 - 27

neuro-invasive illness, two deaths or 14.58%

WNV Illness by Age-group

Lancaster County-2003





Days of lost Productivity

- Work Days Missed by cases - 1,171
- Work Days Missed by family - 199

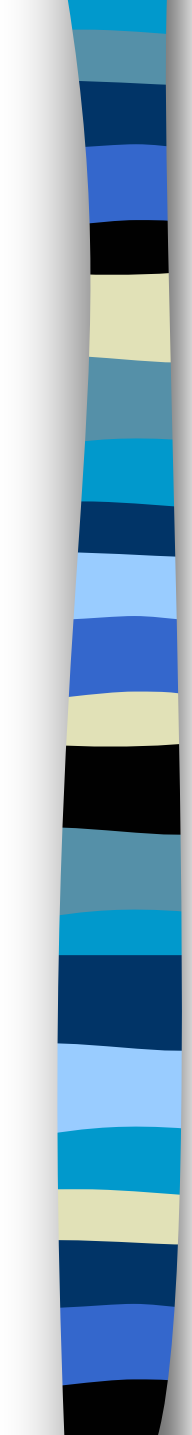
**Total days of lost productivity -
1,370**



WN Fever Cases:

“Continued having off and on mild to severe neck pain and headaches until 2 weeks ago. I had the virus problem 10 months.”

“I am still having neurological problems, including fatigue, seizure, mood shifts, restless leg, ect.”



"Could not drive over 35 mph for 4 months, still affects me at different times, still have dizzy spells, aches, tiredness, joint pain, fuzzy head."

"WNV has been one of the most difficult illnesses I've ever faced. Still 1 year later feeling the effects; migraines accompanied by fever at least once daily and exhaustion.....severely suppressed my immune system."



Implications

- WNV had a major impact on Lancaster County.
- Need for redefined definition of WNV.
- Educational Direction.
- More studies need to be done.
- Need for Vector Control



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