

West Virginia EPI-LOG



Division of Surveillance & Disease Control

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Statewide Disease Facts & Comparisons

Certificate of immunization a valuable new public health tool

In accordance with the West Virginia compulsory school immunization law (WV 16-3-4), all children entering school for the first time must be immunized against diphtheria, pertussis, tetanus, polio, measles and rubella.

To help ensure these children are immunized in a timely manner, a standard certificate of immunization has been developed for children entering school, licensed day and family care facilities. Until all immunization providers are enrolled and using the West Virginia Statewide Immunization Information System (WVSIIS), the printed certificate of immunization can be used. Health care providers with a computer that has internet access and are enrolled in WVSIIS can print the certificates from WVSIIS with the child's name and immunization history.

Reaching and maintaining a 90% immunization coverage level in children by age two, is a central component of West Virginia and the National Immunization Program's Childhood Immunization Initiative Healthy People 2010 objectives. This goal can easily be achieved by parents who start their children's immunizations at

birth and have them completed by age two. If children start and remain on schedule, all they will need are booster doses of vaccine prior to entering school. In the mean-



time, parents will not be faced with frantically trying to get their child immunized at the last minute to meet the requirements of West Virginia's compulsory school immunization law(16-3-4). The certificates consolidate all the information into one document, making it easier for parents and school officials during the admission process.

Anyone with questions regarding the certificate or other immunization questions should contact the Immunization Program at (800) 642-3634. ☒

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World TB Day A recommitment to the war on tuberculosis

World TB Day, held on March 24 each year, was an occasion for people around the world to recognize the international health threat posed by tuberculosis (TB). It also was a day to recognize the collaborative efforts of all countries involved in fighting TB. It was an opportunity to spread the word that TB can be cured, controlled, and, with diligent efforts and sufficient resources, eventually eliminated.

Globally there are almost 8 million new TB cases annually with over 2 million deaths each year. Over 80% of the world's TB cases occur in just 22 countries; this concentration makes it feasible to target limited resources. Accordingly, the U.S. National Coalition for the Elimination of Tuberculosis (NCET) supports the efforts of the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), the American Lung Association and other partners that have responded to the global TB emergency.

Here in the United States there has been a 5.7% decrease in tuberculosis cases for 2002, as reported by the CDC. This decline is a stark difference from the late 1980's and early 1990's when there was a national resurgence of tuberculosis accompanied by outbreaks of deadly drug-resistant TB. A major cause for the TB resurgence was a deterioration of TB control programs in many parts of the nation.

There is a growing concern that the national interest in TB has begun to wane in recent years. There is

legitimate concern that public awareness of the problem may be diminishing and that communities may again dismantle their control efforts because of the fading concern and growing budget problems faced by many state and local governments. We must never again allow a resurgence of TB in the United States. This time, we must eliminate the disease, not the TB control programs.

Tuberculosis in the United States can be prevented. In 2002, for the first time, over half of U.S. TB cases occurred in foreign-born individuals. Still, 49% of TB cases in the U.S. are "homegrown," occurring in

persons born here. The disease particularly affects the disenfranchised, minorities, homeless, prisoners, persons at risk for HIV/AIDS, health care workers, and inner city and rural poor. In 2001, 30% of all TB cases in the U.S. occurred among black, non-Hispanic

individuals, 25% of the cases occurred among Hispanics, 22% among Asian/Pacific Islanders, 21% among white, non-Hispanics, and about 1% among American Indian/Alaskan Natives. TB is also a particular problem for the U.S. South. The majority of cases in the Southeastern states occur in non-Hispanic blacks. The annual case rates in most of these states are higher than the national average; 85% of the TB cases in these Southeastern states occur in persons born in the United States. West Virginia continues to maintain highly effective TB control and prevention strategies. In 1962, there were 672 cases of TB in the state. By 1992, the number of active cases in WV had declined to 92. In 2002, there were only 30 cases of TB reported in WV.

(See *TB Day*, page 6)



Estimated tuberculosis deaths worldwide, 1990-1999

Controlling breeding sites for mosquitos essential to controlling West Nile, La Crosse

Ah, the arrival of spring! The weather is warming, April showers bring May flowers and foliage ... and swarms of mosquitos are hungry for blood! Yes, the 2003 mosquito surveillance season is underway, and within a few months mosquito activity will increase dramatically. When the 2002 surveillance season ended, 45 counties were positive for West Nile Virus. A total of 75 dead birds, three horses and three humans were found positive

in the state. A total of 40 La Crosse cases were also identified in the state during the 2002 surveillance season (May 1- November 31).

The Infectious Disease Epidemiology Program is gearing up for another season of arbovirus surveillance (May 1 - November 31). The Southeastern Cooperative Wildlife Disease Study (SCWDS) at the University of Georgia will be testing dead birds from West Virginia, for West Nile virus, again this year. The goal is to test up to 1000 dead birds and 1000 mosquito pools (mosquito pools contain



Water collecting in discarded tires is a perfect breeding ground.

25-50 mosquitoes of the same species) for the presence of arboviruses during the 2003 surveillance season.

Now is the time to take action to reduce mosquito populations around your community and home. Those leaves last fall were beautiful, but if they clog gutters and back up rainwater, they provide the perfect breeding site for mosquitoes. Emptying standing water from toys, bottles, cans, tires and other containers can reduce the number of mosquitoes around the home. No container of water is too small to become a breeding site. Changing water in your bird bath weekly keeps the birds happy and the mosquitoes away. Such spring cleaning of the yard outside one's home can make for a more enjoyable summer.

Speaking of being outside, remember to take precautions when outdoors during peak mosquito feeding times (dusk to dawn). When outdoors during mosquito season, people can protect themselves by wearing loose, light-colored clothing and applying a repellent containing DEET. When using repellents also follow the manufacturer's directions, and never apply products containing DEET to faces and hands of children. ☒



Entomologists say that a single mosquito can lay up to 300 eggs in less than one ounce of water!



Even a small jar in a pile of garbage can be literally crawling with mosquito larvae.

West Nile Virus: Questions & Answers for Physicians

What is West Nile virus?

West Nile is a flavivirus, the causative agent of a potentially lethal encephalitis that affects horses, birds, and people.

What are the signs and symptoms of West Nile virus?

West Nile is most commonly recognized in patients presenting with aseptic meningitis or encephalitis during the summer and early fall. Other neurological manifestations may include ataxia and extrapyramidal signs, cranial nerve abnormalities, myelitis, optic neuritis, polyradiculitis, and seizures. The greatest risk factor for severe neurological disease is advanced age.

West Nile fever is the mildest clinically recognized form of the disease. Patients may present with sudden onset of fever, malaise, gastrointestinal symptoms, eye pain, headache, myalgia, rash, and lymphadenopathy. Duration of this self-limited illness is three to six days.

Preliminary data from clinical investigations conducted during the 2002 Arbovirus season are elucidating an expanding spectrum of neurological disease. Emerging and evolving clinical syndromes include: movement disorders, parkinsonism, rhabdomyolysis and acute flaccid paralysis.

How can I make the diagnosis of West Nile virus?

Testing by the antibody capture enzyme-linked immunosorbent assay (MAC-ELISA) is available free of charge through the Office of Laboratory Services (OLS) at WVDHHR. Call 304-558-3530 to make arrangements.

- The most efficient diagnostic method is detection of IgM antibody to WNV in serum or cerebral spinal fluid (CSF) collected within 8 days of illness onset using the IgM antibody capture enzyme-linked immunosorbent assay (MAC-ELISA). Demonstration of West Nile IgM antibody in the CSF by MAC-ELISA is diagnostic. All specimens positive for WNV antibodies should be referred to OLS for confirmation.

- Patients with specimens drawn within 7 days of onset of symptoms that are found negative by MAC-ELISA should have a convalescent specimen drawn at least two weeks later.

Due to the fact that IgM antibodies may persist for greater than one year, residents in endemic areas may have persistent IgM antibodies from a previous infection that is unrelated to their current illness. Since West Nile virus was present in our state last year acute and convalescent serum specimen collection and submission are recommended to confirm acute infection.

- A four-fold rise in titer between acute and convalescent serum is also diagnostic. Acute sera should be drawn within seven days of onset, and convalescent sera should be drawn at least 2 weeks later.

- Patients with encephalitis/meningitis should also be tested for La Crosse encephalitis, eastern equine encephalitis, and St. Louis encephalitis during arbovirus season.

(continued on back, page 5)

(*West Nile Virus*, continued from page 4)

Other laboratory clues include CSF abnormalities. Elevated CSF WBC (range 0-1782 cells/mm³) with a lymphocytic predominance has been described. Protein is universally elevated (51 to 899 mg/dL) and glucose is normal.

Peripheral WBC may be elevated and hyponatremia (Na <135 mmol/L) may also occur. A few patients may have abnormalities of bilirubin or transaminases.

Can West Nile virus infection be prevented?

Treatment is supportive, as there is no vaccine, so prevention is key for this mosquito-borne disease. We are asking physicians to be alert and report both suspect and confirmed cases of West Nile to their local health departments immediately. Advise all patients to take the following precautions:

- Remove all old tires, containers, and any item from the environment that can collect standing water and serve as a mosquito breeding site:
 - Empty and change the water in bird baths, fountains, wading pools, rain barrels, and potted plant trays at least once a week, if not more often.
 - Drain or fill temporary pools with dirt.
 - Keep swimming pools treated and circulating, and rain gutters unclogged.
 - Use mosquito repellents when necessary and follow label directions and precautions closely.
 - Use head nets, long sleeves, and long pants if you venture into areas with high mosquito populations.
- Make sure window and door screens are “bug tight.”

Five additional routes of infection have become apparent during the 2002 West Nile season. It is important to note that these other methods of transmission represent a very small proportion of cases. New modes of transmission are via: transplantation, transfusion, breastfeeding, transplacental and occupational exposures (mostly laboratory workers). (More information may be found on the CDC's website at: http://www.cdc.gov/ncidod/dvbid/westnile/clinical_guidance.htm)

How can I get more information?

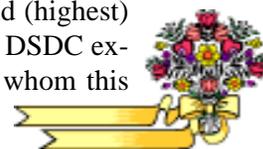
Patient education materials are available on the West Virginia Infectious Disease Epidemiology Program's website at: <http://www.wvdhhr.org/bph/oehp/sdc/westnile.htm>

Several clinical case series and reviews have recently been published:

- *Ann Intern Med*, 2002; 137:173-179.
- *Lancet Infect Dis*, 2002; 2:519-529.
- *N Engl J Med*, 2001; 344:1807-14.
- *Emerging Infectious Diseases*, 2001; 7:654-658; and
- *Emerging Infectious Diseases*, 2001; 7:675-678.

The CDC's West Nile website is at: <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm> ☒

The Division of Surveillance and Disease Control is pleased to announce that the West Virginia Cancer Registry has once again been certified at the Gold (highest) level by the North American Association of Central Cancer Registries. DSDC extends its thanks to cancer registrars throughout West Virginia without whom this accomplishment would not be possible.



(TB Day, continued from page 2)

However, vigilance and an effective Tuberculosis Control Program are instrumental in continuing the decline in cases and eventually eradicating the disease. Until TB is controlled throughout the world, it will remain a very real threat to the citizens of West Virginia. "TB anywhere, is TB everywhere".

The disease is not gone. The seeds of tuberculosis do germinate and appear in our communities. This happens every day. Outbreaks of TB infection and disease still occur all too often in communities throughout the nation, even in affluent, low-incidence communities, such as West Virginia.

What must we do to control and eliminate TB from our communities?

- Physicians must suspect TB in persons with symptoms.
- Laboratories must be available to identify TB in those persons.
- Quality medical care and treatment must be available for individuals with active TB disease and latent TB infection.
- Health department staff must be available to

work with the medical community to make sure that everyone being treated for TB actually takes their medicine. If TB patients do not take their medicine, they can and will develop and transmit drug-resistant TB. Therefore, directly observed therapy for TB patients should be considered as the "Standard of Care".

- Health departments must improve the speed and accuracy of finding persons exposed to TB.
- Health departments must identify their unique high-risk groups and work to eliminate the disease by providing preventive treatment to those at highest risk.
- Health care facilities must maintain infection control to prevent the spread of TB to patients, visitors and medical care personnel within health care facilities.
- TB research efforts now under way in the United States must continue to identify better drugs and tools to treat, prevent and eventually eliminate TB.

To do all of this, our national, state and local governments must not again abandon tuberculosis prevention, control and research efforts.

For further information on tuberculosis, contact your local health department or the State TB Control Program @ 304-558-3669. ☒

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