

# West Virginia EPI-LOG



## Division of Surveillance & Disease Control

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Epidemiology	(304) 558-5358
Immunization	(304) 558-2188
STD Program	(304) 558-2950
TB Control	(304) 558-3669

## Statewide Disease Facts & Comparisons



## BIOTERRORISM PREPAREDNESS

### West Virginia health care providers ponder worst-case scenarios at November conference

The Infectious Disease Epidemiology Program (IDEP) provided a quarterly training on November 13 at Stonewall Jackson Lake State Park. The focus was Bioterrorism (BT) preparedness. The training was attended by 174 people (71 local health department (LHD) nurses; 41 LHD sanitarians; 26 other LHD administrators, BT coordinators, and clerical staff; 6 regional epidemiologists; and 30 DSDC staff). Fifty counties were represented.

The training was a team effort. Presentations were made by Dr. Danae Bixler and her IDEP staff and by Dr. Andrea Labik, Director of the Office of Laboratory Services (OLS). Eleven IDEP staff helped coordinate the training.

The purpose of the training was to provide state and local health department staff with training about the clinical aspects of the major BT agents as well as with training in surveillance and epidemiologic response procedures in the state bioterrorism/threat preparedness plan. The training provided local health departments with some guidance for their local BT planning. The training also provided the state and local staff with an overview of the procedures for response to a smallpox outbreak.

The morning session focused on the clinical aspects, epidemiology and laboratory confirmation of the Centers for Disease Control (CDC) Category A BT diseases, i.e. diseases caused by BT agents that have been weaponized and have the highest mortality rates (anthrax, botulism, plague, small-

pox, tularemia, and viral hemorrhagic fevers such as Ebola, Marburgm Lassa fever, etc.) Presentations were made by Dr. Bixler, Andrea Burnett, Ram Nambiar of IDEP, and Dr. Andrea Labik of OLS.

The afternoon session, conducted by Dr. Harlan Amandus, IDEP, focused on surveillance and epidemiologic procedures being prepared for the state's threat preparedness plan and IDEP's Smallpox Surveillance Protocol. A table top exercise involving a theoretical smallpox outbreak in West Virginia was presented to illustrate the smallpox response procedures in the protocol.

**Highlights of this fictional scenario are on the next page of this edition of the *West Virginia EPI-LOG*, but please remember that this scenario is purely speculative. It is impossible to predict if or when any such incidence of bioterrorism might occur. ✕**

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## IMAGINING THE WORST: A Theoretical Smallpox Outbreak in West Virginia

During the November 13 Bioterrorism Preparedness training conducted by the Infectious Disease Epidemiology Program (IDEP), Dr. Harlan Amandus took participants through an imaginary smallpox outbreak in West Virginia. The purpose of this exercise was to speculate as to how public health officials might respond to such a nightmare scenario. While the events portrayed below are purely fictitious, they serve as a reminder that bioterrorism is something we must all be prepared for.

### Friday, November 13

**3:30pm:** Rhonda Kennedy at Kanawha/Charleston Health Department (KCHD) is sitting at her desk ready to leave Sunday to visit relatives in Florida. With one foot already out of the door she is thinking about her Thanksgiving plans. Then the telephone rings ...

A physician at Charleston Area Medical Center (CAMC) calls to report a 30-year old male patient with fever and rash on face, hands, and feet who has come into the emergency room (ER) one hour ago. No lab test for smallpox or chickenpox. The doctor suspects it to be smallpox. He wants to know where he can get some vaccine.

#### Patient's Clinical History:

- Fever (102 F) onset four days ago (Nov 9).
- Rash onset two days ago (Nov 11).
- Rash all in vesicular/pustular stage of development.
- Headache and backache.
- Very weak and prostrate when brought to the ER.

The physician describes the rash from the CDC chart for evaluating patients for smallpox.

**5:00pm:** CAMC sends blood specimen to laboratory services for varicella testing. Rhonda notifies the KCHD health officer and the IDEP Duty Officer. They go to CAMC and confirm that the case meets the clinical case definition and high priority rating.

**5:45pm:** CAMC also confirms that case meets clinical case definition.

**7:00pm:** Loretta Haddy, State Epidemiologist, Dr. Bixler, and IDEP team join Dr. Cathy Slemp, State Health Officer, at the West Virginia Bureau for Public Health (WVBPH). Dr. Slemp coordinates a conference call held with CDC, KCHD, and CAMC.

CDC requests that CAMC send blood and vesicular fluid samples to CDC for smallpox testing. Samples are sent by courier.

### Saturday, November 14

**8:00am:** More cases. CDC informs state health departments that 200 clinically confirmed cases have been reported in 20 other states. No lab confirmation yet. No explanation for the

source of exposure.

Three more cases of fever and rash in vesicular/pustular stage are reported: One more at CAMC in Charleston, one at Cabell Huntington Hospital, and one at St. Joseph Hospital, Wood County. Blood samples and vesicular samples are sent to CDC.

**8:05am:** Rhonda cancels her trip to Florida

**8:30am:** Dr. Slemp informs the Governor. The Governor calls the FBI and demands that a Federal emergency be declared.

**5:00pm:** CDC reports to WVBPH that the first WV case is positive for smallpox and 187 cases in other states are confirmed positive. CDC ships vaccine to the states.

**6:00pm:** The President declares a Federal emergency and the Federal Response Plan (FRP) goes into effect.

**7:00pm:** The local scene:

- Hordes of reporters, satellite dishes, and news networks in the 3 counties at the hospitals.

- Panic among the local and national politicians and the general public.

- Hospitals/health departments across the county are deluged with calls.

**9:00pm:** State and Federal teams arrive in Charleston, Huntington, and Wood County: WVBPH, West Virginia State Police, West Virginia Office of Emergency Services, Federal Bureau of Investigation, and Federal Emergency Management Agency. CDC says we are on our own.

### Sunday, November 15

**8:00am:** State and local health department clinical teams visited each of the three hospitals.

- They interview the cases, develop a list of all contacts, and update their clinical history.

- They confirm that the cases are in isolation rooms.

- They assure that Infection Control Nurses have instructed isolation room staff in airborne precautions.

- Begin to review all febrile and rash illness case reports.

- Brief ER physicians on recognizing smallpox.

Regional epidemiologist and head sanitarian send out alert in media as does WVBPH. A notice is sent to each health care provider to immediately report cases of febrile patients with a rash.

**10:00am:** Nurses and sanitarians in the three local health departments began calling case contacts. They identify 40 case contacts (20 in Kanawha Co., 10 in Cabell Co., and 10 in Wood Co.) and 160 household members. The contact tracing teams prepare to call the contacts.

### Monday, November 16

**7:00pm:** All contacts were reached and referred to the vaccination clinic. Of the 40 contacts and household members, 4 would not report for vaccination for religious reasons; 5 were immunocompromised and were not vaccinated. All 9 were quarantined to their home.

(See *Smallpox*, page 3)

*(Smallpox, continued from page 2)*

The clinical teams interviewed each case and determined their travel history during the last three weeks. Of the four cases, three had been to Washington D.C. at a teachers conference, and one had been on a vacation in New York City. Travel histories (CDC forms 2A and 2D) and sources of exposure (CDC forms 4A and 4D) are faxed to CDC.

CDC reports that all cases in the 20 affected states had attended shows in New York City, Washington, D.C., and Orlando, Florida on November 3.

A list of attendees at those shows were compiled from Box office reservation records and sent to each state. 48 West Virginia residents had attended those events (30 from Charleston, 10 from Huntington, and 8 from Morgantown).

**7:00pm:** Al Qaeda announces that they had disseminated smallpox in three theater facilities in New York City, Washington, D.C., and Disneyworld.

**Wednesday, November 18**

Forty-two new cases have been reported in 6 counties, bringing the total number of smallpox cases in West Virginia to 48.

**12:00noon:** The county health department clinical staff with help from IDEP interview all cases. All are primary cases with no epidemiological links to other cases. All attended the events in New York City, Washington, and Orlando.

**9:00pm:** Interviews of new cases identify 210 contacts (plus 1,050 household members), together with 40 contacts from previous cases (plus 160 household members), for a total of 250 contacts (including 1,210 household members) for surveillance. Of the 1,460 contacts and household members under surveillance, 1,100 are vaccinated.

**Tuesday, November 24**

Fifty-five new cases are reported in 6 counties. Ten are part of the first wave linked to the NYC, DC, and

Orlando exposures. There have now been a total of 103 smallpox cases in West Virginia, including 510 direct contacts and their 2,550 household members.

**QUESTIONS FOR PARTICIPANTS:**

- Do you consider quarantine in some or all 6 counties?
- How do you enforce house quarantine for the growing number of non-vaccinated contacts?
- What quarantine procedures would you consider, if any? Close the airport? Roads? Lock down affected counties?
- How do you identify and vaccinate designated persons who can pass in and out of quarantine area to provide basic services and supplies?
- How long are quarantine measures left in effect?

**Monday, November 30**

Things have taken a real ugly, nasty turn ... and YOU are the state health officer providing advice to the Governor:

- Should you change the vaccination strategy?
- Do you go to mass vaccination? If so, who would be vaccinated?
- Should you continue ring vaccination?
- Would you continue contact tracing while mass vaccination continues?

**Friday, January 1**

Mass vaccination is offered to the entire population of West Virginia.

**Tuesday, March 1**

There have been no new smallpox cases for two weeks.

Ring vaccination, isolation and quarantine of cases and non-vaccinated contacts is successful due to community support. The disease is not eradicated, but under control in West Virginia.

**Epilogue**

Naturally we all hope the scenario described above never occurs. Nevertheless, surviving such an event with the fewest losses depends on being prepared. ☒

**HEALTH ALERT**  
**Norwalk-like illness serious, easy to control**

West Virginia, like other parts of the country, is currently experiencing an unusual wave of viral gastroenteritis, caused possibly by the Norwalk-like virus and similar viral pathogens. Several outbreaks have been reported in West Virginia nursing homes.

Symptoms of Norwalk-like virus illness include nausea, vomiting, diarrhea, and abdominal cramps. Headache and low-grade fever may also occur. Persons usually recover within 1-2 days without serious or long-term health effects. Spread occurs readily in households, especially if index (first) case is a child or is vomiting.

Norwalk-like virus or viral particles is present in the stool and vomit of infected people. It is spread primarily through person-to-person contact, or food, water or ice contaminated by a person with the illness.

Persons can reduce their chance of getting infected by frequent hand washing, prompt disinfection of contaminated surfaces with 10% bleach solution, and prompt washing of soiled articles of clothing. If food or water is thought to be contaminated, it should be avoided. Ill food handlers and patient care staff should be excluded until well and should practice meticulous hygiene on return to work because asymptomatic viral shedding can continue 7-10 days after illness. Ill patients should be isolated until well because of the ease of transmission from one person to another.

If you have any questions, please do not hesitate to contact the Infectious Disease Epidemiology Program at (304) 558-5358. ☒

West Virginia AIDS and HIV Infection Cases by Age Group, Gender, Race and Risk Behavior Cumulative through December 31, 2002*						
Characteristic	AIDS		HIV		Total	
	#	%	#	%	#	%
<b>Age Group~</b>						
Under 5	8	1	7	1	15	1
5-12	2	<1	1	<1	3	<1
13-19	11	1	32	5	43	2
20-29	218	18	236	37	454	24
30-39	543	44	243	38	786	42
40-49	328	27	98	15	426	23
50 and Over	127	10	29	4	156	8
<b>Total</b>	<b>1237</b>	<b>100</b>	<b>646</b>	<b>100</b>	<b>1883</b>	<b>100</b>
<b>Gender</b>						
Male	1058	86	466	72	1524	81
Female	179	14	180	28	359	19
<b>Total</b>	<b>1237</b>	<b>100</b>	<b>646</b>	<b>100</b>	<b>1883</b>	<b>100</b>
<b>Race</b>						
White	990	81	391	59	1381	73.3
Black	232	18	224	37	456	24.2
Oher/Unknown	15	1	31	4	46	2.4
<b>Total</b>	<b>1237</b>	<b>100</b>	<b>646</b>	<b>100</b>	<b>1883</b>	<b>100</b>
<b>Risk Behavior</b>						
<b>Adult</b>						
MSM	688	56	279	44	967	52
IDU	198	16	122	19	320	17
MSM/IDU	71	6	19	3	90	5
Coagulation Disorder	39	3	7	1	46	2
Heterosexual Contact	121	10	102	16	223	12
Transfusion/Transplant	34	3	6	1	40	2
No Identified Risk	3	0	3	0	6	0
Other^	73	6	100	16	173	9
<b>Subtotal</b>	<b>1227</b>	<b>100</b>	<b>638</b>	<b>100</b>	<b>1865</b>	<b>100</b>
<b>Pediatric</b>						
Coagulation Disorder	1	11	0	0	1	6
Mother HIV Positive	9	89	8	100	17	94
<b>Subtotal</b>	<b>10</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>18</b>	<b>100</b>
<b>Total Adults &amp; Pediatrics</b>	<b>1237</b>	<b>100</b>	<b>646</b>	<b>100</b>	<b>1883</b>	<b>100</b>

**MSM = Men having Sex With Men; IDU = Injecting Drug User**

\* AIDS data includes April 1984 through December 31, 2002, and HIV data includes January 1989 through December 31, 2002.

^ Other risk behavior includes cases reported with no risk identified that have been closed to follow-up.

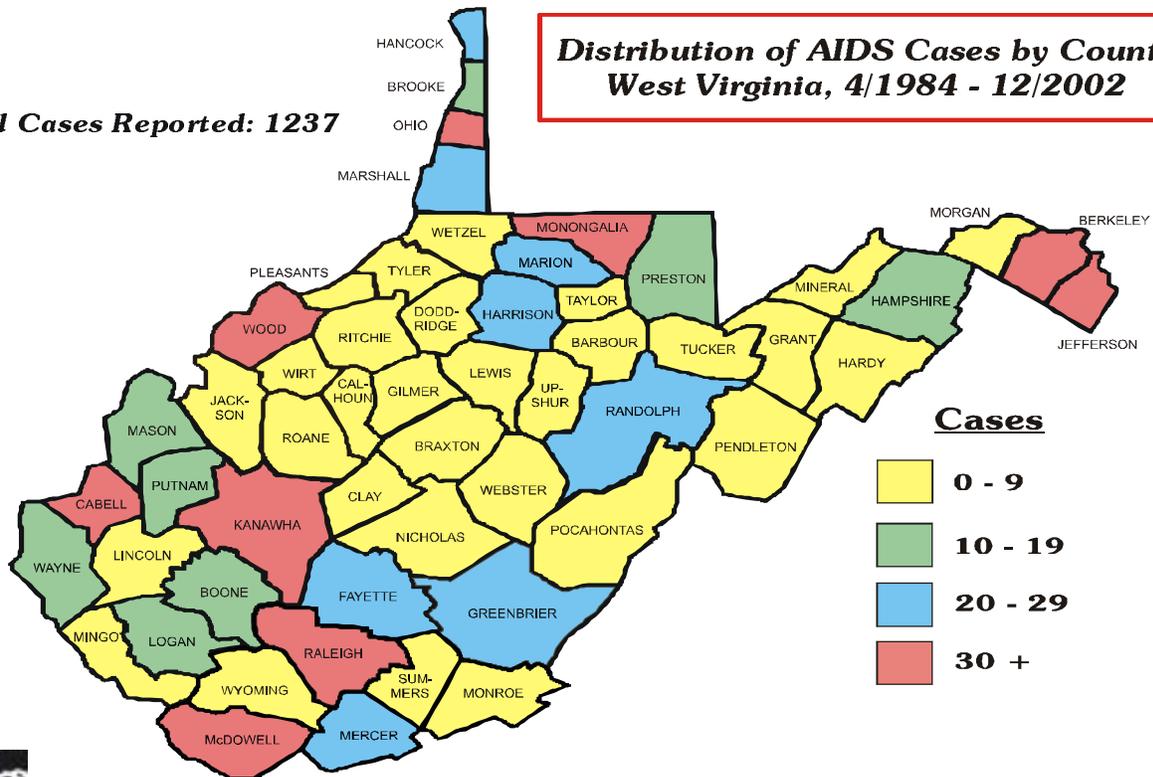
~ Age group intervals depicted in the table above may not be uniform due to:

- a) Small number of cases in the under 13 age groups.
- b) Cases twelve years of age and under are pediatric cases.
- c) 13-19 being the adolescent age group.



Total Cases Reported: 1237

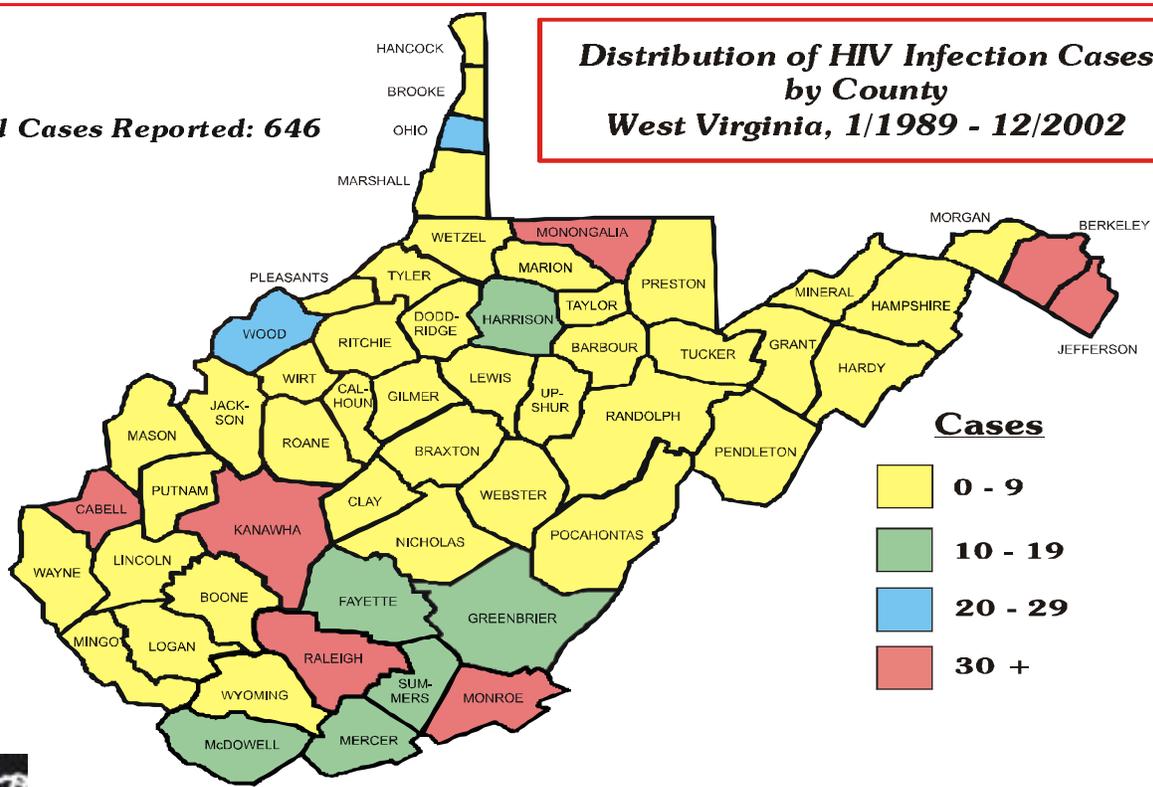
**Distribution of AIDS Cases by County  
West Virginia, 4/1984 - 12/2002**



Division of Surveillance and Disease Control  
West Virginia HIV/AIDS/STD Program

Total Cases Reported: 646

**Distribution of HIV Infection Cases  
by County  
West Virginia, 1/1989 - 12/2002**



Division of Surveillance and Disease Control  
West Virginia HIV/AIDS/STD Program

# West Nile surveillance turns up odd practices

During the 2002 arbovirus surveillance season (May 1 to November 30) 45 counties were positive for West Nile virus. In West Virginia there were 77 positive dead birds, three positive horses and two confirmed human cases. Surveillance for mosquito breeding sites was performed in counties with positive birds and high human populations or where human cases were found. What follows are some of the more unusual findings.

When conducting surveys it's typical for investigators to find tire piles, buckets or containers allowed to fill with rainwater or neglected birdbaths. However, occasionally even West Nile surveillance personnel encountered things that surprised them. According to Greg Chrislip, Public Health Entomologist for the WV Division of Surveillance & Disease Control, "On two occasions during our surveys we found automobile tires stored on the roofs of sheds. No explanations were given for creating these mosquito penthouses."

During another site visit to the home of a confirmed LaCrosse case, a tire swing was noted in the yard. The swing was found to be full of water and mosquito larvae (the species

found were the vector for the LaCrosse virus). The mother was advised to drill a hole in the swing to allow the water to drain, but she was seen cutting the swing down with a kitchen knife as we drove away.

The last finding reported is perhaps the most unusual. During a West Nile follow-up yard inspection investigators noticed that every shrub in the yard had a quart jar of water beside it. When the homeowner was questioned, she informed them that a friend had told her this would prevent dogs from urinating on the shrubs.

"The jars were originally covered with plastic wrap that had weathered away leaving the containers open and allowing mosquitoes the opportunity to lay their eggs," Chrislip says. "There were literally dozens of jars full of mosquito larvae scattered around the yard."

These examples are only a few of the more unusual finds. Depending on the incidence of West Nile virus in West Virginia in 2003, there may be more. In the meantime, Chrislip has this word of advice: "Keep those tires off your sheds and jars of water away from your shrubs!"

More information on arboviruses and mosquito control can be found at the Division of Surveillance & Disease Control website. Log on at <http://www.wvdhhr.org/bph/oehp/sdc/idep.htm#Vector>, and follow the links to the West Nile and Lacrosse encephalitis websites. 

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