Public Health Update

Wednesday, July 21, 2004

NPS Public Health Program Welcomes Two New Officers

Two newly commissioned U.S. Public Health Service Officers joined the NPS public health team in May. LTJG Adam Kramer is now stationed in Flagstaff, Arizona and LT George Larsen is stationed at Gardiner, Montana.

After leaving the IMR in January for my new post at WASO, a group of Public Health Program officers and park representatives met to discuss how best to fill the IMR assignment. After looking into several alternatives, it was decided that for almost the same cost, two more junior level officers could be utilized and located closer to some of the larger parks. This scenerio allowed for an additional staff member and better service to several parks due to the proximity of assignment.

LTJG Adam Kramer comes to the Corps and to our program from Maricopa County, Arizona (Phoenix) where he was working as the lead for the local health departments chain restaurant inspection team. Adam has a Master of Public Health degree, a strong food safety background and broad experience in other environmental health issues as well. Adam also has extensive experience in developing computer-based public health tracking (data) and training programs.

LT George Larsen comes to us from the Consumer Health Services Division of the Wyoming Department of Agriculture. George has a Master of Science degree in Food Science and has recently served as the chair of a joint research project between the state and the Centers for Disease Control and Prevention. This research project involvved investigating the public health issues surrounding the recreational use of hot springs.

Both officers are already hard at work experiencing their first NPS summer.

By: CAPT Chuck Higgins, Director

West Nile Virus Activity

Source: material edited from Centers for Disease Control and Prevention (CDC)

During the week of July 7- - 13, a total of 30 human West Nile virus illness cases were reported from four states (Arizona, California, Colorado, and Iowa). During 2004, a total of 10 states have reported a total of 108 cases of human West Nile virus (WNV) illness to CDC. Of these, 66 (61%) were reported from Arizona. Sixty-one (58%) of the 108 cases occurred in males; median age of patients was 52 years (range: 1- - 84 years); dates of illness onset ranged from April 23 to July 5; and three cases were fatal.

In addition, during 2004, a total of 1,080 dead corvids and 108 other dead birds with WNV infection have been reported from 29 states, and 42 WNV infections in horses have been reported from 11 states (Alabama, Arizona, California, Idaho, Missouri, North Carolina, Oklahoma, South Dakota, Tennessee, Texas, and Virginia). WNV seroconversions have been reported in 167 sentinel chicken flocks from four states (Arizona, California, Florida, and Louisiana). Three seropositive sentinel horses were reported from Puerto Rico. A total of 362 WNV-positive mosquito pools have been reported from 14 states (Arizona, California, Georgia, Illinois, Indiana, Louisiana, Michigan, Missouri, New Jersey, Ohio, Pennsylvania, Tennessee, Texas, and Virginia).

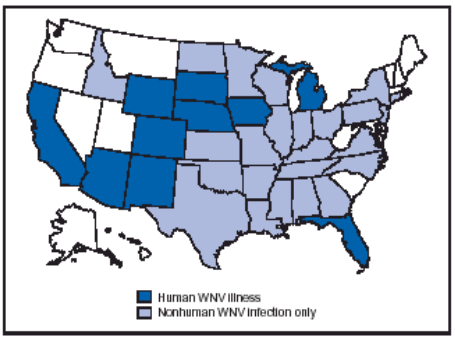
Additional information about national WNV activity is available from CDC at http://www.cdc.gov/ncidod/dvbid/westnile/index.htm and at http://westnilemaps.usgs.gov.

TABLE. Number of human cases of West Nile virus (WNV) illness, by state — United States, 2004*

State	Neuroinvasive disease†	West Nile fever§	Other clinical/ unspecified¶	Total reported to CDC**	Deaths
Arizona	47	12	7	66	2
California	9	11	0	20	0
Colorado	1	11	0	12	0
Florida	1	1	0	2	0
Iowa	1	0	0	1	1
Michigan	1	0	0	1	0
Nebraska	0	1	0	1	0
New Mexico	0	3	0	3	0
South Dakota	1	0	0	1	0
Wyoming	0	1	0	1	0
Total	61	40	7	108	3

* As of July 13, 2004.
† Cases with neurologic manifestations (e.g., West Nile meningitis, West Nile encephalitis, and West Nile myelitis).
§ Cases with no evidence of neuroinvasion.
¶ Illnesses for which sufficient clinical information was not provided.
** Total number of human cases of WNV illness reported to ArboNet by state and local health departments.

FIGURE. Areas reporting West Nile virus (WNV) activity — United States, 2004*



* As of 3 a.m., Mountain Standard Time, July 13, 2004.

To protect against mosquito bites and thereby reduce the chance of illness:

1. Apply insect repellent containing DEET (N, N-diethyl-meta-toluamide) when you're outdoors.

2. When possible, wear long-sleeved clothes and long pants treated with repellents containing permethrin or DEET since mosquitoes may bite through thin clothing. Do not apply repellents containing permethrin directly to exposed skin. If you spray your clothing, there is no need to spray repellent containing DEET on the skin under your clothing.

3. Consider staying indoors at dawn, dusk, and in the early evening, which are peak mosquito biting times.

4. Limit the number of places available for mosquitoes to lay their eggs by eliminating standing water sources.

For additional information consult the NPS ZED - WNV Main Page website. http://www.nps.gov/public_health/zed/wnv/wnv.htm

Norovirus Has Our Number

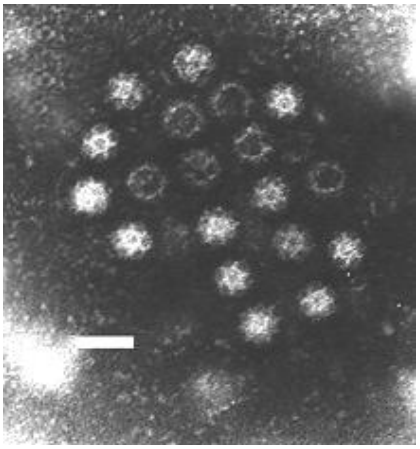
Norovirus, the leading cause of gastrointestinal illness in the United States (the one that got the cruise ships) has not left the parks out of its rounds. In the last several years, at least six small to medium sized outbreaks have occurred within the NPS system.

We have investigated transmission of norovirus at Yellowstone, Grand Canyon and Yosemite, and like the rest of the country, are just beginning to learn how to deal with this well adapted virus.

Norovirus is a small round virus that causes what most people would most likely describe as the "24-hour stomach flu." Not a relative of influenza (a respiratory illness) norovirus is very easily transmitted person to person, by contaminated objects and if it gets into food or water. While ill, people, the only known host for this virus, shed very large numbers of virus particles and it probably takes less than 100 particles to infect another person.

Symptoms usually begin within 24 to 48 hours after exposure and consist of nausea, vomiting and diarrhea, sometimes with stomach cramping. Fever is not usually present. The illness is short-lived with most people over it within a day. Some may experience illness for two days, and for some, it may last even less than 24 hours. There is no treatment, but patients should be careful not to become dehydrated.

People who are sick with norovirus illness can often vomit violently or have explosive diarrhea without warning. Therefore, housekeeping, kitchen, maintenance, law enforcement, and emergency medical staff have a greater risk of exposure to norovirus than the general population. However, everyone can help limit the spread of this organism through some fairly



Electron Micrograph of Norovirus

simple approaches. While these recommendations are especially important during an outbreak of illness, they are also good day-to-day practices.

General Sanitation

Use a recommended sanitizer to:

1. Clean entire premises at least daily.
2. Clean frequently handled items and surfaces on an hourly basis, including courtesy phones, railings, service counters, kiosks, chair backs, tables, cup holders, etc.
3. Employee dorms should be included in the sanitation plan.

Recommended Sanitizers

1. Chlorine solution (1,000 – 5,000 PPM) using 5.25% bleach.
   - 1000PPM (1/3 cup bleach : 1 gal. water)
   - 5000PPM (12/3 cup bleach : 1 gal. water)
2. Heat > 170 degrees F
3. Products containing one of the following active ingredients: Activated hydrogen peroxide, Accelerated potassium peroxymonosulphate, Parachlorometa-xylenol (PCMX), and Phenols.
4. Quaternary ammonia compounds MAY NOT BE EFFECTIVE

Employees

1. Screen employees for vomiting, diarrhea, or other "stomach flu" symptoms at the start of each shift.
2. Recommend that ill employees seek medical attention .
3. It is also recommended that employees with gastrointestinal illness remain off duty for at least 72 hours after symptoms end and limit contact with others
4. Monitor employees for obvious signs of illness and send ill employees home.
5. Notify the NPS Public Health Program within 24 hours of any suspected outbreak of gastrointestinal illness among employees.
6. Enforce vigilant hand washing, especially **after** using the restroom, sneezing, coughing, touching any potentially contaminated surfaces, or eating; and **before** handling food, clean food contact surfaces such as utensils, eating, drinking, or smoking.

Guests & Guest Rooms

1. Sanitize a large block of rooms in once session.
2. Avoid cross contamination (i.e. do not use one sanitizing cloth for bathroom surfaces and ice buckets).
3. Use HEPA vacuum bags.
4. Ensure room ice buckets and glasses are sanitized between stays.
5. Linens (including towels, tablecloths, sheets, napkins, and uniforms) that have been soiled to any extent by vomit or stool should be promptly washed and dried separately at high temperature.

Restrooms

1. Reinforce handwashing for employees and guests through the use of signage.

2. Sanitize sinks, handles, and doors hourly.

Food Preparation & Service

1. Suspend self- service operations.

2. Reinforce handwashing policy – this includes wait and bus staff.

3. Reinforce a strict glove and utensil use policy for all food handlers: NO barehand contact with ready- to- eat foods.

By following these recommendations we can help to reduce the number of employees and visitors that are stricken with norovirus and other gastrointestinal-related illnesses.

By: LCDR Jason Thomas, Deputy Director

NPS and CDC Close to Long-Term Partnership Agreement

The Visitor and Resource Protection Directorate, NPS Public Health Program, the Centers for Disease Control and Prevention and Grand Canyon National Park are about to sign an agreement that will set in motion the Grand Canyon Environmental Public Health Project.

CDC / NPS work at GRCA Last Fall

The purpose of this project is to work toward the establishment at GRCA of a model public health program. CDC and NPS plan to work together to test out new thoughts and new approaches to the practice of public health using GRCA as a test site and microcosm of public health issues.

CDC hopes that this work will lead to new practice models that can be transferred to state and local health jurisdictions. NPS will gain access to CDC experts and laboratories as well as benefit from putting these new ideas into practice. Eventually this effort may lead to similar work at other large parks.

In addition to the GRCA work, this agreement will also provide for routine CDC assistance with outbreak response, some laboratory support for Public Health Program activities, as well as collaborations with several CDC groups on NPS issues.

Foodborne Illness Increases in the Summer

Cases of foodborne illness go up in the summertime! There are probably two reasons for this. First, outside temperatures are higher and the bacteria that can cause foodborne illness grow fastest at temperatures that are closer to 100 degrees F. Any foods that sit out of refrigeration in the summer warm faster and get to higher temperatures. The second factor most likely has to do with a change in peoples habits. We cook outside, and go on picnics, have larger outdoor events, fairs and festivals.

Some simple steps to get through this season without contributing to our statistics:

1. **Don't Cross Contaminate**
Take extra care to keep raw meats separated from foods that are already cooked or foods, like lettuce, that will not be cooked. Meats are often contaminated with pathogens. Hands are a huge source of contamination and proper hand washing after the use of the rest room and after handling raw meats is a very simple way to dramatically reduce transmission.
2. **Cook Foods To Proper Temperatures**
Rare steaks are low risk, but ground meats should be cooked to at least 155 degrees F., fish and pork to 145, and poultry to 165 degrees F.
3. **Hold Foods Hot or Cold**
Foods that might allow bacteria to grow such as meats, fish, eggs, dairy and cooked vegetables should always be held hot (135 degrees F. or above) or cold (41 degrees F. or below). Any left- overs or cooked foods should be cooled as quickly as possible to 41 degrees. Don't let foods sit "out" any longer than the length of time it takes to serve and eat a meal.

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In Partnership for nearly 100 years, the National Park Service and the United States Public Health Service have worked to protect the health of visitors in America's Parks !