



Public Health Update

Thursday, February 05, 2009



National Park Service Epidemiologist-in-Residence Program (EIR)

Each year, dozens of infectious disease case reports and outbreaks are reported among visitors and staff from NPS units throughout the United States. Several factors encourage disease transmission at National Parks, including large numbers of visitors (many international), close person-to-person contact, and exposure to wildlife and disease vectors.

Although the NPS Office of Public Health is responsible for Service-wide disease surveillance and response efforts, the placement of additional epidemiologists, particularly at large parks, would augment local public health capacity and likely improve disease prevention and control activities.

The NPS Office of Public Health is piloting a program this summer for a retired epidemiologist to volunteer and live at either GRCA or YELL.

Three objectives of the program include:

- Provide a park-based volunteer opportunity for a retired epidemiologist
- Encourage the development and implementation of innovative public health projects at a large National Park
- Enhance the capacity of the NPS Office of Public Health

Through a competitive process, one retired epidemiologist will be selected to live and work at either GRCA or YELL during the summer of 2009. The selected EIR will work closely with local park managers but will be primarily supervised by the NPS medical epidemiologist in Albuquerque, NM.

The EIR will work at least 30 hours per week for a minimum of 3 months (maximum 6 months). The EIR assignment will be between April 1, 2009—September 30, 2009. Applications will be accepted until March 6, 2009.

Epidemiologists with 15+ years of experience at the state, local, and/or federal levels are eligible to apply. Educational backgrounds considered include (but are not limited to) nurse, physician, veterinarian, dentist, and Ph.D.-level epidemiologists.

The EIR will receive a small monthly stipend and be reimbursed for work-related expenses. Additionally, appropriate housing (e.g. RV site, furnished room) in or near the park for the duration of the assignment will be provided.

For more information on the program, please contact:

CDR David Wong, MD
Medical Epidemiologist
david_wong@nps.gov
Ph: (505) 248-7806



One Health: A Concept Whose Time Has Come

In the past decade, the headlines have been filled with numerous new diseases of concern: West Nile virus, avian influenza, and SARS. Each of these diseases is zoonotic and, in fact, in the last 30 years 75% of the emerging human pathogens have been zoonotic (originating in other animals). As human populations have grown, the convergence of people and animals and the spaces we inhabit have caused our health and fates to become inextricably intertwined. An emerging concept, One Health, is predicated on the realization that people, domestic animals,

and wildlife share the same planet, the same ecosystems, and many of the same diseases. One Health advocates cooperation between human and veterinary medicine to combat zoonotic diseases and to promote health of all species and the environment.

The concept of One Health is not new, the theory was promoted by William Osler and Rudolf Virchow in the 1800's and revisited by Calvin Schwabe in the 1960's. But recent health emergencies are revitalizing the concept for application today. Many human and animal medicine organizations, including the American Medical Association and the American Veterinary Medical Association, have endorsed the concept as a strategic need in health care transformation.

The NPS dual mission of resource protection and enjoyment places the Service in a unique position to implement One Health. The NPS Office of Public Health is charged with protection of visitor health while the NPS Biological Resource Management Division Wildlife Management and Health Program addresses wildlife health issues. Through these programs, the NPS supports both human and veterinary medical expertise functioning independently but also performing collateral duties to de facto perform in a One Health approach. Collaboratively the programs are piloting joint disease surveillance projects and a disease outbreak investigation team (DOIT) as demonstration projects for the effectiveness of a One Health approach. Additionally, the programs are networking with other agencies and organizations, in part through membership on the national One Health Joint Steering Committee.

One Health is a concept whose time has come. Expect to see much more on One Health as a global approach for addressing health. And expect to see the NPS continue to use the One Health concept to promote health of visitors, employees, and the natural heritage the Service is entrusted to preserve.

Public Health Update will start to feature One Health articles regularly in our quarterly issues!

Opening of Seasonal Water Systems

Many remote ranger stations, campgrounds, and seasonal housing units at National Parks are unused and closed during the off season. These facilities are often served by small potable water systems that are drained and winterized to prevent freezing. These systems need special attention when they are placed back into service to ensure that the water produced and delivered to the user is safe to drink.

Make sure you plan ahead and allow plenty of time before these buildings or campgrounds are to be occupied. You will need to check to see that everything is working properly, make all the necessary repairs, and test the water before being able to use the system. It is very helpful to have a written protocol and checklist to make sure you don't leave out any important steps.

The first step in the process is to visually check all the components of the system for damage over the long winter. Don't forget the storage tank hatches and screens, and look for rodents or birds that may have moved in. Check the well head for evidence of flooding or damage to the sanitary seal, and inspect the pumphouse for broken pipes or water damage from leaking roofs. If not already done, this is a good time to replace hoses and clean fittings on the chemical feed equipment. Most importantly, make sure the heating system is working properly and turned on.

After this initial inspection and repair of any problems you found, it is time to turn on the power to your pump and treatment equipment. Get a fresh batch of chemicals mixed up, and make sure the chlorinator is working properly. For systems with cartridge or bag filters, these should also be replaced at this time. The first water from the source should be wasted at the pumphouse and not pumped through the filters or to the tank since it is often discolored and can have a lot of sediment.

Once the water is clear and the chlorine pump is working, it is time to divert the water to the tank and start pressurizing the system. Fill the tanks and flush water through the entire distribution system by opening up all hydrants, blowoffs, and faucets. Start with a higher than normal chlorine level (2.0 mg/l – 4.0 mg/l) and leave in the lines for at least 24 hours.

After the 24 hours are over, flush the lines again to remove the high chlorine. When the residual is back to your normal operating level (usually around 0.5 mg/l),

collect at least two bacteriological samples at different locations and times. When two consecutive samples are negative, the water is safe to drink and ready for visitors or staff.

Office of Public Health Committees

As a mechanism for consensus building and advice, the Office of Public Health uses standing committees made up of various US Public Health Service Officers and Civil Service employees who work around the system in different programs, parks or regions. Each issue will highlight two of these committees and some of the issues they are concentrating on. The standing committees are:

- Emergency Response
- Infectious Disease and Disease Surveillance
- Science
- Food Safety
- Wastewater
- Water (Drinking and Recreation)
- Back-country
- PHP Annual Meeting
- Commissioned Corps
- IT and Website

Emergency Response



Response and recovery actions taken during emergencies such as natural or man-made disasters involve making provisions for temporary shelter, emergency medical care, and restoration of critical utilities such as power, water and transportation systems. Many of these actions address basic human needs: safe and adequate food, drinking water and shelter. Disposal of liquid and solid wastes is often adversely affected and may lead to significant pest problems. Exposure to hazardous materials, including chemical, biological and radioactive substances, is also frequently encountered and may require early assessment, medical intervention and abatement. Public health professionals are uniquely qualified to provide emergency support functions addressing many of these

critical issues through hazard identification, evaluation, and control. Major emergencies quickly overwhelm local resources and may require a national response focus.

The unique National Park Service, Public Health Program (NPS-PHP) structure provides a cadre of professionals with expertise in general environmental/public health, industrial hygiene, occupational health and safety, injury prevention and control, hazardous materials/waste, spill response and engineering (civil, structural, environmental, mechanical). The professionals who staff the NPS-PHP stand ready to respond to emergencies by assisting in the mitigation and abatement of environmental and public health hazards resulting from natural or man-made causes throughout the United States and its territories. The NPS-PHP staff are well trained, talented and knowledgeable professionals prepared to respond and assist the NPS in the recovery from crisis.

During disasters and other emergencies, the NPS-PHP staff typically performs response activities that involve water, food, liquid waste/sewage, solid waste, housing/emergency mass shelters, hazardous materials, vector control, and other disease follow up and response issues. The Emergency Response Committee was formed to provide guidance and direction to the NPS on the availability of human resources available during emergency incidents in the National Park Service. The Committee is also charged to balance the needs of the USPHS on a nationwide basis with the emergency response needs of the NPS in times of disasters or other emergency or critical incidents.

The committee has been divided into three workgroups to address the following issues:

Work Group 1: Emergency Response within the DOI/NPS IC structure. This workgroup will discuss the role and develop guidance for NPS-PHP Officer's on the requirements and procedures for membership on the NPS/DOI IC Teams. This information will be provided to officers interested in becoming involved with any of these teams.

Work Group 2: Emergency deployment equipment list. Charged with the development of a standard equipment list for supplies and equipment typically needed on a deployment applicable to all response areas including the monitoring and maintenance of safe drinking water, wastewater, food safety, hazardous

materials, industrial hygiene, general safety, and engineering issues.

Work Group 3: Update and re-working of the PHP Deployment Roster. Review the PHP Deployment Roster and determine relevancy of current parameters to provide at-a-glance review of deployable and non-deployable officers to NPS events. Investigate the feasibility of converting the current Microsoft Excel database to a more comprehensive and usable database program that will allow each officer to update the roster on an on-going database, providing the most relevant and updated information on the resources possible to the NPS.

Members of the Emergency Response Committee include:

CAPT Bradley Harris
CAPT Ann Krake
CAPT Theresa McDarmont
CDR A Mark Anderson
CDR Sara Newman
CDR Gregory Robinson
LCDR Amy Chanlongbutra
LCDR Nathan Epling
LCDR Jennifer A Proctor
LCDR Craig Ungerecht
LT Elaine C Wolff
Ms. Shannon J. Swann

Infectious Disease & Disease Surveillance



The NPS Office of Public Health is collaborating with the Centers for Disease Control and Prevention (CDC) to connect National Parks with state health departments.

Since May 2008, the Epidemic Intelligence Service (EIS) Program at CDC has encouraged EIS officers (EISOs) based in state health departments to develop public health projects for NPS units within their jurisdictions. EIS is a 2-year, post-graduate program for physicians, veterinarians, research scientists, and other health

professionals to learn about and practice applied public health.

Two EIS-led projects are proposed (not yet finalized) for FY2009:

1. Wildlife biologist survey—LCDR Stacey Anderson, DVM, MPH (EISO assigned to the Wyoming Department of Health) is leading a Service-wide survey of NPS wildlife biologists. The survey will examine self-perceived risk and attitudes regarding zoonotic diseases (diseases that can be transmitted between animals and humans) and the use of personal protective equipment in the workplace. Results from the survey will help NPS develop interventions to improve safe work practices among field biologists. The survey will be piloted at YELL and GRTE and will be disseminated nationally in April 2009.

2. Tick-borne disease assessment at GETT—LCDR George Han, MD (EISO assigned to the Pennsylvania Department of Health) is leading an assessment of tick-borne disease risk at GETT. Ticks will be collected at various locations in the park during two-week intervals from April–August 2009. Ticks will be identified by species and tested for several diseases, including Lyme disease, Rocky Mountain spotted fever, ehrlichiosis, anaplasmosis, and babesiosis. Risk to the public will be modeled using tick, environmental, and human surveillance data.

Other EIS-led NPS projects are being proposed and considered with EISOs assigned to other state and local health departments.

For further information, please contact:

CDR David Wong, MD
Medical Epidemiologist
david_wong@nps.gov
Ph: (505) 248-7806

Members of the Infectious Disease and Disease Surveillance Committee include:

CAPT Theresa McDarmont
CDR David Wong
LCDR Amy Chanlongbutra
LCDR Adam Kramer
LCDR George Larsen
LT Shane Sims
LT Matt Walburger
LT Elaine Wolff
Paul Schwarz

Commissioned Corps Corner

LT Jeffrey Allen has joined Grand Teton National Park as a project engineer.

LT Allen is a PE with a BS in Civil Engineering from Brigham Young University. Jeff is about to receive his Masters in Civil Engineering from Norwich University in Northfield VT.

LT Allen comes to us from IHS in Sacramento CA where he was a facilities design and construction engineer.

Welcome LT Allen!



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

Program Websites:

Internal:

http://www.nps.gov/public_health/intra/index.htm

External:

http://www.nps.gov/public_health