IDAHO DEPARTMENT OF HEALTH & WELFARE

Disease Bulletin

- Diarrhea Fells Wildland Firefighters
- Continuing March of Antimicrobial Resistance in *Neisseria gonorrhoeae*
- Outbreaks in Idaho: a brief history and current perspective

VOLUME 19 NUMBER 2 • JUNE 2012

Diarrhea Fells Wildland Firefighters

On August 31, 2011, the Black Canyon Fire was ignited by lightning in the southern end of the Lemhi Mountain Range on the Salmon-Challis National Forest near Howe, Idaho. An incident command post and base camp were established in Howe by United States Forest Service fire managers. Responders from Idaho, Colorado, Nevada, New Mexico, Utah, and Wyoming arrived at camp on September 1. Responders included supervisory personnel, firefighting hand crews, crews for fire trucks, a camp crew, employees of a caterer, attendants of a mobile shower trailer, staff for water trucks, and a person delivering and servicing portable toilets.

On September 3, the incident safety officer reported an outbreak of acute gastrointestinal illness affecting about 30 of ~180 responders. An emergency medical response involving ambulances and personnel from multiple services ensued. The Idaho State Emergency Medical Services Communications Center was notified. Emergency departments able to accept patients from the fire camp were asked to collect stool samples for submission to the Idaho Bureau of Laboratories (IBL) for bacterial culture and norovirus testing. Southeastern Idaho Public Health (SIPH) and the Idaho Department of Health and Welfare's Office of Epidemiology, Food Protection, and Immunization (OEFI) conducted an epidemiologic and environmental investigation.

Clinical care was provided at area hospitals and at an alternate site near base camp. Nine ill persons were transported to two hospitals; two persons were hospitalized. Ill persons who were not transported to a hospital were housed in a church, facilitating treatment and segregating ill from well persons to reduce the potential for person-to-person transmission in camp, consistent with infectious diseases guidelines for wildland fire incident management teams. Because of the substantial number of ill responders and the potential impact on local medical providers, one medical center sent medical personnel to the camp to provide clinical care. They were assisted by emergency services personnel. A mobile paramedic clinic responded to cover any additional medical requirements at the camp.

Epidemiologic investigation included a cohort study and case ascertainment. The cohort study, using the responder group as the unit of analysis, implicated a local restaurant as the initial source of illness. Eight (89%) of nine responder groups who had eaten at the restaurant on September 1 had ill persons. None who had eaten elsewhere were ill. A clinical case was defined as vomiting or diarrhea of any duration on or after September 2 in a person associated with the fire camp. Forty-nine cases directly associated with the fire camp were identified, including 5 secondary cases with exposure to the restaurant (Figure). Two secondary cases were among medical responders. Overall, approximately 25% of the ~180 fire and medical responders were ill and incapacitated for at least 1 day. Stool samples were submitted to IBL from two persons treated at one medical center, and both tested positive for norovirus GII by reverse transcriptase-polymerase chain reaction. Control measures implemented at the camp, in addition to cohorting of ill persons off-site, included increased sanitation frequency for common areas and portable toilets and increased emphasis on hand hygiene and maintenance of social distance. Environmental investigation included inspection of the local restaurant by an SIPH environmental health specialist; measures were taken to mitigate food safety deficiencies.

Norovirus is a highly contagious and common cause of foodborne illness. Infection usually presents as acute illness with nausea/vomiting and nonbloody watery diarrhea with abdominal cramps. Norovirus is transmitted primarily through the fecal-oral route, either by the consumption

FIREFIGHTERS CONTINUED ON PAGE TWO

OFFICE OF EPIDEMIOLOGY, FOOD PROTECTION, AND IMMUNIZATION

Idaho Department of Health and Welfare

P.O. Box 83720
450 W. State Street,
4th Floor
Boise, Idaho 83720-0036
WWW.IDB.DHW.IDAHO.GOV

IDAHO DISEASE BULLETIN CONTRIBUTING STAFF

CHRISTINE G. HAHN, MD
State Epidemiologist

LESLIE TENGELSEN, PhD, DVM
Deputy State Epidemiologist

JARED BARTSCHI, MHE
Epidemiology Program Specialist

CARLA BRITTON, PhD, MS
Epidemic Intelligence Service Officer

KRIS CARTER, DVM, MPVM
Career Epidemiology Field Officer

PATRICK GUZZLE, MPH
Food Protection Program Manager

MITCHELL SCOGGINS, MPH
Immunization Program Manager

KATHRYN TURNER, PhD, MPH
Epidemiologic Data and Surveillance Program Manager

ELLEN ZAGER HILL, MS, DLSHTM
Epidemiology Program Specialist

FIREFIGHTERS CONTINUED FROM PAGE ONE

of contaminated food or water or by direct person-to-person spread. Symptoms typically resolve in 1–3 days among otherwise healthy persons. Dehydration is the most common complication, especially among young children and older persons. Outbreaks caused by norovirus are reported annually from such venues as nursing homes, cruise ships, and recreational camps. Norovirus is a reportable disease in Idaho; cases should be reported to your public health district or to OEFI.

During years of high fire activity, >20 wildland fires large and complex enough to require that responders be housed at base camps can occur in Idaho. Base camps might house as many as 1,000 responders and exist for days or weeks. Medical care for certain responder injuries and illnesses is available at the camps, but since patients with conditions beyond the scope of practice for the medical providers at the camps are referred to local clinics and hospitals for care, local clinicians might be the first to identify an illness cluster. Clusters of unexplained acute illness and early stage disease symptoms are reportable within one working day (IDAPA 16.02.10.260).

Providers are encouraged to collect appropriate clinical specimens to identify the etiology of a cluster or outbreak. Collecting stool samples from ≥5 ill persons is recommended. Patients are not charged for laboratory testing at IBL when specimens are collected at the request of Idaho public health and submitted to IBL as part of an outbreak investigation. See www.healthandwelfare.idaho.gov/Default.aspx?TabId=99 for IBL services, sampling and submission guidelines, and sample submission forms.

The American Medical Association offers the primer "Diagnosis and Management of Food-borne Illnesses" free at www.ama-assn.org/ama/pub/physician-resources/medical-science/food-borne-illnesses/diagnosis-management-foodborne.page. Continuing medical education credits related to foodborne illness are available online at www.netce.com/coursecontent.php?courseid=594 (expiration date September 30, 2012).

Figure. Epidemic curve (n = 47*), norovirus outbreak in a fire camp — Idaho, September 2011.