



Public Health
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Contact the editor at ChristopherV.Rowe@ky.gov

Kentucky Asks Health Care Providers to Be Alert for Possible Swine Influenza Cases

Public Health Requests Share of Federal Medical Supplies as Precaution

The Kentucky Department for Public Health (KDPH) is asking health care providers and public health officials to be on the alert for potential cases of swine influenza (swine flu) in Kentucky.

“We are closely monitoring developments involving swine flu cases in the United States, Mexico and abroad,” said Public Health Commissioner William Hacker, M.D. “We continue to provide information to health care providers and other stakeholders about this evolving situation, and are preparing for a wider response should that become necessary.”

While no cases have yet been confirmed in Kentucky, KDPH is asking that physicians, hospitals, public health workers and other health care providers submit samples from any patient testing positive for influenza A or that a health care provider strongly suspects might be infected with swine flu to the State Public Health Laboratory for further testing.

The State Public Health Laboratory can test to determine if the illness is caused by human influenza. Samples that require further evaluation will be sent to the Centers for Disease Control and Prevention, which has the capability to determine whether a patient is infected with the new strain of swine flu. Two documents providing initial guidance were sent to health care providers by KDPH on April 27, 2009, and include links to case definitions for the suspect, probable and confirmed case designations: “Letter to Clinicians” and “Surveillance and Specimen Collection for Swine Influenza A.” [See pages 17 and 20, Ed.] Guidance will be updated as new information becomes available.

The federal government has declared a state of public health emergency to allow federal, state and local governments to prepare for the need for additional response efforts. As part of that declaration, states may request 25 percent of allotted supplies and countermeasures for pandemic influenza, such as antiviral drugs and masks, held by the Strategic National Stockpile. Kentucky has asked for these supplies to be delivered to the state as a precautionary measure, and has been informed they should arrive within approximately one week.

“Kentucky’s public health officials and medical community have been preparing for widespread cases of a new strain of influenza, often referred to as pandemic flu, for several years,” said Gov. Steve Beshear. “That preparation is allowing us to quickly coordinate the appropriate response to protect Kentuckians.”

KDPH also asks that Kentuckians who may have traveled recently to Mexico or other affected areas, or who are planning such travel, be alert for the symptoms of swine flu in the following ways:

- Monitor yourself and travel companions for symptoms of fever, chills, headache, sore throat, cough, body aches, and vomiting or diarrhea.
- If symptoms of influenza-like illness develop within seven days of travel return, seek evaluation by a health care provider as soon as possible.
- Be sure to tell your health care provider about your recent travel and suggest testing for influenza.
- Stay home from work, school and other public places until you are feeling well.

As always, KDPH reminds individuals to take common sense precautions to prevent illness, including: avoiding close contact with those who are ill; staying home when sick; covering the mouth and nose when coughing or sneezing; avoiding touching the eyes, nose or mouth; and frequent hand washing.

The number of swine flu cases in the U.S. continues to grow. The World Health Organization and CDC have reported numerous human cases of a severe respiratory illness in at least three different regions of Mexico, and reports are now coming in from additional countries. The number of cases has risen steadily since the beginning of April 2009. Laboratory testing of patient specimens has confirmed infections with swine influenza ("swine flu") A/H1N1 virus. This is a newly emerging, animal-origin virus that is now being spread from an infected person to another person.

For the latest national information on swine flu, visit: <http://cdc.gov/swineflu>. New information about swine flu in Kentucky, including numbers of probable and confirmed cases, if any, will be posted daily at: <http://healthalerts.ky.gov>.

- Communications Office staff report, Health and Family Services Cabinet.

National Immunization Week

April 25 - May 2, 2009

by Diane Chism, RN

National Infant Immunization Week (NIIW) is an annual observance to highlight the importance of protecting infants from vaccine-preventable diseases and to celebrate any achievements of immunization providers in their community. Community organizations and local health departments can play an important role in ensuring that all our children are appropriately immunized by age two. Health care providers should actively communicate with parents and caregivers about immunizations, especially when improvements in vaccines result in changes to the routine immunization schedule.

Vaccines remain the most successful and cost-effective public health tools available for preventing disease and death from vaccine preventable diseases. They not only help protect vaccinated individuals, but also help protect entire communities by preventing and reducing the spread of infectious disease.

The Kentucky Immunization Program encourages local health departments, private physicians and community organizations to plan activities that will educate parents about immunizations by holding activities during National Infant Immunization Week. Some examples are:

- Highlight the importance and benefits of childhood immunizations especially to new parents by visiting prenatal classes and providing educational materials on vaccine-preventable diseases.
- Collaborate with outside partners by holding health fairs and celebrate any accomplishments that have been achieved.
- Write articles for local newspapers showcasing the importance of immunizations for their children and publish the most current state and national immunization rates.

If your community hosts an NIIW activity, please send information about that activity to the Kentucky Department for Public Health so it can be posted to the NIIW Activities for 2009 Web page. Send e-mail to Diane Chism, RN at Diane.Chism@ky.gov or call (502) 564-4478, ext. 3513, to report those activities or if you have additional questions.

Additional information regarding NIIW can be by following [this link](http://www.cdc.gov/vaccines/events/niiw/default.htm) (<http://www.cdc.gov/vaccines/events/niiw/default.htm>).

- Diane Chism, RN, is a Health Educator and Field Staff Supervisor in the Kentucky Immunization Program, Department for Public Health.

State Lab Earns Prestigious Accreditation

College of American Pathologists Honors State Public Health Lab

The State Public Health Laboratory, a division of the Kentucky Department for Public Health (KDPH), was recently accredited by the College of American Pathologists (CAP). CAP accreditation is a prestigious honor awarded to only a handful of public health labs.

The CAP accreditation places KDPH at the forefront of public health labs in the country, only a few of which have met CAP's rigorous accrediting standards. About 6,000 private, hospital-based labs have CAP accreditation, but only approximately five public health labs have achieved accreditation.

In March, Gov. Steve Beshear joined public health officials to celebrate the lab's accomplishment and tour the facility. At the event, he told health officials and staff from the lab that, "This accreditation illustrates the high standards maintained by our state public health lab. Although many may not realize it, Kentuckians rely on the work of our public health lab technicians every day—and for countless reasons. Their role in maintaining the health and well-being of our state is tremendous."

KDPH Lab Director Stephanie Mayfield Gibson was congratulated by CAP for the "excellence of services being provided" at the State Public Health Lab. The lab provides an array of services, including newborn metabolic screening, disease culture testing and bioterrorism preparedness training support and services.

The CAP Laboratory Accreditation Program, begun in the early 1960s, is recognized by the federal government as being equal to or more stringent than the government's own inspection program. During the CAP accreditation process, inspectors examine the laboratory's records and quality control of procedures for the preceding two years. CAP inspectors also examine the entire staff's qualifications, the laboratory's equipment, facilities, safety program and record, as well as the overall management of the laboratory. This stringent inspection program is designed to specifically ensure the highest standard of care for the laboratory's patients.

CAP is a medical society serving nearly 16,000 physician members and the laboratory community throughout the world. It is the world's largest association composed exclusively of pathologists and is widely considered the leader in laboratory quality assurance. CAP is an advocate for high-quality and cost-effective medical care.

- Communications Office staff report, Health and Family Services Cabinet.

Kentucky Public Health Laboratory by the Numbers

3 million

Number of tests conducted each year in the laboratory

55,000

Average number of initial specimens received by the lab to be screened for newborn metabolic disorders. Each specimen undergoes a minimum of 49 tests.

153,000

Number of infectious disease screenings and confirmations, including HIV, chlamydia, syphilis, gonorrhea, and respiratory viruses, such as influenza

2,000

Number of rabies tests

7,800

Number of tests conducted for other diseases such as viruses and various bacterial infections

8,000

Number of environmental tests conducted at the lab, including bioterrorism and chemical terrorism, milk, food, inorganic and organic materials and water. These tests are performed by various methods such as chromatographic techniques and molecular pulse field gel electrophoresis for fingerprinting environmental and clinical specimens during outbreaks (peanut butter, salmonella, etc.).

52

Number of lab employees, including a pathologist, biochemical geneticist, medical laboratory scientists, chemists, medical technologists, medical laboratory technicians, information technologists, procurement specialist and other support staff

5

Approximate number of independent public health laboratories in the country that currently hold accreditation from the College of American Pathologists

(Numbers are averages per year)

Farmers' Markets, Roadside Stands, and Food Safety

Kentucky Department for Public Health Guidelines for Sampling at Farmers' Markets and Certified Roadside Stands

The Food Safety Branch in the Kentucky Department for Public Health (KDPH) works in collaboration with the Kentucky Department of Agriculture (KDA) to allow farmers to provide customer samples of their products in a safe and sanitary manner. Providing samples at farmers' markets allows consumers to try a product before purchasing. This can be beneficial not just for common products, but also when the farmer offers a new or different product that the customer has not tried before. Since farmers at such markets make sales primarily on taste, sampling is an excellent marketing tool.

It is equally important to recognize that unsafe growing and harvesting practices and/or unsafe sampling methods can adulterate or contaminate food products and result in foodborne illness. Consequently, vendors engaged in allowing the sampling of food products should be aware of the importance of practicing the basic principles of food safety, from the farm to the table.

The partnership of KDPH and KDA aims to assist farmers with recognizing the importance of pairing samples with appropriate sanitation practices for dispensing food to members of the public. Preventing illness from occurring and damaging marketing efforts is beneficial to the farmer and the consumer. Good hygiene and food protection practices also reduce the risk of larger-scale foodborne outbreaks among those who patronize farmers' markets.

Sanitation requirements may vary depending on the type of food products being sampled and the sanitary facilities available at the location of the sampling. Some food items are much lower in risk due to the nature of the product, while others are at a higher risk, due to temperature maintenance requirements or to a documented past association with foodborne illness outbreaks. For the purposes of this KDPH Sampling Guidance Document, the following definitions apply:

Sample: A sample is defined as a food product promotion where a bite-size portion of a food (or foods) is offered free of charge to demonstrate its characteristics. A whole meal, individual hot dish, or whole sandwich is not recognized as a sample.

Low Risk Food: A low risk food is defined as a shelf-stable, non-potentially hazardous food from an approved source that has been processed in such a manner as to render the item incapable of supporting the rapid and progressive growth of pathogenic microorganisms. Low risk foods include, but are not necessarily limited to, the following: baked goods, including breads and cakes; cookies; candies; jams; jellies; preserves; honey; sorghum; and shelf stable, value-added foods.

High Risk Food: A high risk food is defined as a non-shelf stable, potentially hazardous food from an approved source that requires temperature maintenance and is capable of supporting the rapid and progressive growth of pathogenic microorganisms or any particular food which has been shown to be epidemiologically linked to increased risk for foodborne illness. High risk foods include, but are not necessarily limited to: meat, poultry, dairy, and seafood products; garlic in oil mixtures; raw seed sprouts; and other agricultural commodities such as fresh fruits and vegetables that are offered in "ready-to-eat" form and which do not receive a cook or kill

step during processing. This category would also include products made from agricultural commodities that do not receive a kill step, such as unpasteurized juices and cider.

Sampling Requirements for Vendors:

(1) A vendor who engages in food product sampling, as defined above (product sample distributed free of charge for promotional and educational purposes only), exclusively at a KDA-registered farmers' market or a Kentucky Farm Bureau certified roadside stand may do so without obtaining a permit to operate as either a "temporary food service establishment" or as a "farmers' market temporary food service establishment," provided the requirements in this section are met.

(2) Each farmers' market or certified roadside stand vendor that engages in the sampling of "high risk" food products must successfully complete a "farm to table" food safety certification program developed by KDA. The program shall address, at a minimum, the following:

- Good Agricultural Practices (GAPs);
- Employee hygiene and hand washing;
- Time and temperature controls for potentially hazardous foods;
- Safe preparation and handling of ready-to-eat foods;
- Protection of food from human and environmental contamination;
- Utensil cleaning and sanitizing requirements;
- Potable water requirements;
- Proper procedure for washing fruits and vegetables;
- Allowable foods/approved source foods;
- Specific food safety hazards associated with ready-to-eat foods;
- Approved disposal of waste water;
- The application process for the temporary food-service permits at farmers' markets;
- The Cabinet's right to inspect;
- Expectations and responsibilities of farmers' markets boards/managers with regards to ensuring that all vendors operate in compliance with all pertinent food safety rules/regulations; and
- Other items deemed relative to food safety and public health protection.

(3) KDA shall provide a certificate of completion to each individual who successfully completes the training program.

(4) The "farm to table" food safety training certification for individuals engaged in high risk food product sampling is valid for 24 months from the date issued.

(5) Each vendor engaged in sampling of high risk food products at a KDA-registered farmers' market or Kentucky Farm Bureau certified roadside stand must prominently display their certificate of completion at the sampling location. The KDPH and/or its agents will issue a "Notice to Cease Operation" to any vendor at the above locations who is engaged in the sampling of high risk foods and does not have a valid KDA certification.

(6) Any vendor engaged in product sampling must at a minimum provide:

- An approved hand washing station. The station shall consist of a container of potable water of sufficient size to provide enough water for the entire sampling event, and

be equipped with a free-flowing dispensing valve. The container should be raised off the ground to allow a catch basin under the spigot. The hand washing station shall also be equipped with hand soap and disposable paper towels.

- A means of protecting the samples from dust and other environmental contaminants;
- A means to prevent contamination by “double-dipping” (i.e., toothpicks, single portion containers, disposable utensils, etc.); and
- A method to minimize bare hand contact with the food, such as through the use of deli tissue, toothpicks, gloves, disposable utensils, etc.

(7) All food products offered as samples at a farmers’ market must have originated from an approved source as defined in KRS Chapter 217.005 to 217.215. This includes products which have been produced under a valid Home Based Processor’s Registration or a Home Based Microprocessor’s Certification.

(8) Samples of foods that require temperature control for safety (potentially hazardous foods) that have not been served to consumers within two hours have to be discarded.

(9) All raw agricultural foods, such as fruits and vegetables, must be thoroughly washed in potable water prior to cutting. This should be completed by the vendor prior to the market, but if facilities are available for the washing at the market it may be completed there. All washed food products for sampling must be stored separately and apart from other unwashed food items and shall be protected from recontamination after washing.

(10) All utensils, cutting boards, etc. used to slice or prepare samples must be washed, rinsed and sanitized prior to use in sampling. Sanitizing can be accomplished through the use of bleach water at a concentration of 50 to 100 ppm. This equals approximately one tablespoon of bleach per gallon of water. Disposable utensils should be used whenever practical.

(11) Vendors must bring an adequate supply of utensils with them for use in the day’s sampling activity or provide temporary facilities for the washing, rinsing, and sanitizing of soiled utensils. This would require a minimum of three containers and an adequate supply of potable water, dish soap, sanitizer (bleach), as well as a dish rack for air drying of utensils.

(12) At a minimum, each farmers’ market where temporary food service vendors, farmers’ market temporary food service vendors, or other vendors engaged in product sampling operate must provide adequate toilet facilities (permanently installed or portable), conveniently located and accessible to the market vendors and consumers.

(13) Where portable toilet facilities are utilized, at least one portable hand washing station (as defined in number 6 above) must be provided and maintained for consumers and vendors.

(14) Fixed and portable toilet facilities must be maintained in a clean, sanitary condition.

(15) Animals are not allowed in any food handling and sampling display areas.

(16) Each farmers’ market board and/or manager must ensure that all vendors, including those engaged in product sampling, operate in compliance with all pertinent rules/regulations regarding food product marketing at farmers’ markets. Non-compliant vendors will be reported to the appropriate authority (the local health department in the county of operation, KDPH’s Food Safety Branch or KDA).

(17) KDA has responsibility for ensuring that all vendors engaged in product sampling comply with all provisions of these guidelines. KDPH or its agents retain the authority to monitor all

vendors engaged in product sampling and, where necessary, initiate enforcement action with regards to non-compliant vendors. All violations noted by the health officials must be corrected immediately by the vendor. If violations are not corrected, a “Notice to Cease Operation” will be issued to the vendor.

(18) KDPH may revise or amend this policy in the event that federal, industry, or science-based changes in guidance are necessary for the protection of public health.

In summary, providing samples at farmers’ markets is an important strategy used by vendors with the goal of increasing product sales. However, it is vital to both the farmer and consumer that these products are processed using safe and sanitary methods in an approved location, in order to prevent foodborne illness. It is the shared duty of the KDPH’s Food Safety Branch, local health departments, and KDA to ensure that good agricultural practices are being implemented, and that the consumer will be able to safely enjoy the fruits of farmers’ labors at local markets.

- Food Safety Branch staff report, Department for Public Health.

K HELPS: The Kentucky Health Emergency Listing of Professionals for Surge

Volunteer Health Professionals Program Strengthening State's Response to Emergencies

by *Rebecca Gillis*

Public health emergencies and natural disasters are unpredictable and can strike at any time. In the event of a large-scale public health emergency, health and medical systems would be overwhelmed with people seeking treatment. The need to meet this demand would be critical. It is important to be prepared to deal with events like these by having medical volunteers to provide an important surge capacity during this period.

In 2005, the Kentucky Department for Public Health (DPH) established the Kentucky Health Emergency Listing of Professionals for Surge (K HELPS) program, a state-based system to register medical professionals and others interested in volunteering during public health emergencies or disasters.

K HELPS complements existing Medical Reserve Corps (MRC) programs, which are community-based organizations utilizing medical professional volunteers to supplement existing local emergency and public health resources for emergency response. Currently, all 120 counties in Kentucky are covered by MRC units. More information about the MRC units in Kentucky can be found at www.medicalreservecorps.gov.

Volunteers can register with K HELPS at <https://khelps.chfs.ky.gov> and will be assigned to the MRC unit in their geographical area. The local MRC unit will complete the approval process and will serve as the primary point of contact for volunteers. The program is set up to allow volunteers to get involved at any level.

- **SERV-KY (State Emergency Registration of Volunteers) Affiliation:** Approval based upon meeting standards for background check, signed KYEM 50 form, signed Code Of Conduct/Confidentiality form, and if a medical volunteer—verification of credentials. SERV KY affiliated volunteers would be called on to respond only after MRC lists have been exhausted. This group would be provided necessary just-in-time training if called to an event.
- **BASIC MRC Affiliation:** MRC approved volunteers who completed SERV-KY requirements and minimal training requirements.
- **INTERMEDIATE MRC Affiliation:** MRC approved volunteers who completed SERV-KY requirements, BASIC MRC training, and recommended core competency training.
- **ADVANCED MRC Affiliation:** MRC approved volunteers who completed all previous requirements. MRC volunteers are given the opportunity to train with Emergency Support Function (ESF) 8 health and medical strike teams. Volunteers can choose team(s) based on interest/experience. The list of teams will likely expand over time.

Upon the decision to activate volunteers, the K HELPS system has the ability to alert volunteers by e-mail and telephone. MRC volunteers should only respond after ensuring the safety of their home and family.

Kentucky's goal is to have 5,000 volunteers credentialed, trained and ready to respond to any public health emergency or disaster. All health workers are invited to register. During Hurricane Gustav, K HELPS called upon MRC units across the state to help staff the shelter set up in Louisville at the Fair and Expo Center where 1,500 evacuees from the New Orleans area were sheltered. In total, 47 volunteers from 18 different units across the state gave over 500 hours. More recently, during the 2009 winter ice storm that affected 102 counties in Kentucky, MRC volunteers were used in a variety of ways. MRC units across the state used 204 volunteers for a total of 2,436 hours. Because local communities can subtract volunteer time from the match necessary for FEMA reimbursement, the estimated \$40,466 in time given by MRC volunteers will have a positive impact on Kentucky's recovery process.

Visit www.chfs.ky.gov/dph/epi/preparedness/KHELPS.htm or contact your local health department to learn more about the K HELPS program. Registration will soon be available for MRC Summer 2009 Workshop to be held July 2009 at the Lexington Center. This training will give an orientation to the K HELPS/MRC program, summarize the Strategic National Stockpile (SNS) program which allows for quick delivery of critical medical interventions to the public during an emergency, and allow volunteers to train for discipline specific role in a Point of Distribution (POD).

In times of need, Kentucky helps.

Current Emphasis

The current emphasis at KHELPS is on recruiting physicians, nurses, pharmacists, social workers, counselors, EMT/paramedics, respiratory therapists and clinical laboratory technicians.

Rebecca Gillis is the Preparedness Branch Manager, Department for Public Health.

Hot Tub Folliculitis Outbreak Resulting from a Resort Rental Unit Stay in March 2008

Education, Proper Maintenance, and Regulation Are Keys to Prevention

by Jasie K. Logsdon, B.S., M.P.H.

Background

Pseudomonas aeruginosa folliculitis (hot tub rash or hot tub folliculitis) is a community-acquired skin infection that results from the bacterial colonization of hair follicles after exposure to contained, contaminated water (e.g. whirlpools, spas, swimming pools, water parks, bathtubs).¹ Hot tub folliculitis first appears as itchy bumps and develops into dark red tender nodules and/or small pus-filled pimples. The eruptions typically involve the trunk and upper parts of the arms and legs. The rash can be extensive and may affect all areas of the body but is usually most severe under areas covered by a swimsuit. It may be accompanied by headache, nausea, vomiting, abdominal cramps, sore throat, rhinitis, sore eyes, and fever.

Diagnosis of hot tub folliculitis is usually made by visual examination and exposure history. However, a physician may obtain samples from the pus-filled bumps for bacterial culture to confirm the diagnosis. In a one year period throughout the United States, eight confirmed and two suspected *Pseudomonas aeruginosa* waterborne disease outbreaks were documented; five of these outbreaks involved spas, one involved a pool, and four involved both spas and pools.² This report describes an outbreak investigation conducted at a resort near Lake Cumberland through a coordinated effort between environmentalists and epidemiologists.

On March 25, 2008, the environmentalist at the McCreary County Health Department received a phone call from a concerned parent whose daughter had spent the previous weekend in a cabin at a resort near Lake Cumberland. The daughter had subsequently developed a painful rash and swollen hands and feet, and reported that several others were exhibiting similar symptoms. The complainant, a healthcare professional, was concerned that his daughter had a *Staphylococcus aureus* infection (staph infection). The complainant stated that approximately 30 people could have been exposed to the hot tub and potentially had symptoms. The regional epidemiologist based at the Lake Cumberland District Health Department (LCDHD) was contacted by another concerned parent stating that her daughter, a Marine, was sick. She reportedly had a rash, swollen hands and feet, and had been quarantined by the Marine Corps at a base in North Carolina.

An investigation was initiated by the LCDHD. Initial information gathering revealed that the resort on Lake Cumberland rents and manages cabins that are privately-owned homes. This rental program is not inspected or permitted by the health department because the cabins are considered individually-owned homes. The hot tubs in these cabins are "home-grade" hot tubs and do not fall under health department regulation.

Investigation Methods

The LCDHD epidemiologist contacted the Kentucky Department for Public Health (KDPH) Division of Epidemiology and Health Planning to advise and consult with state health officials about the investigation. LCDHD environmentalists also contacted the KDPH Division of Public

Health Protection and Safety on March 25, 2008, and were instructed to collect a 300 mL water sample from the suspect hot tub to be sent to a private laboratory for analysis.

The LCDHD epidemiologist began case identification on March 25, 2008. A total of 11 people were identified as having been at the suspect cabin during the weekend of March 21 – 23, 2008. A case was defined as any individual who had visited the Lake Cumberland resort over the weekend and subsequently developed a rash within 24 hours of last exposure to the hot tub. Phone interviews were conducted using a standardized pool exposure outbreak investigation questionnaire by the LCDHD epidemiologist. The questionnaire contained questions about: symptoms; medical treatment and diagnosis; lab testing; others with similar illness, including names and contact information; close contact with others; sharing of personal items; and exposure to pool, hot tub or sauna. Individuals were asked if they had shared any personal items or if they had other common exposures such as sleeping in the same bed.

Results

Case 1

A 20-year-old female had visited the resort over the weekend of March 21-23, 2008, and developed symptoms on March 23. She experienced painful swelling of lower extremities, making it difficult to walk, and a rash on her legs, stomach, thighs, back, and arms; she vomited frequently after symptom onset. She sought medical attention on March 25 and was given the preliminary diagnosis of staph infection from two physicians and one physician's assistant. Scrapings of the rash were sent for laboratory testing.

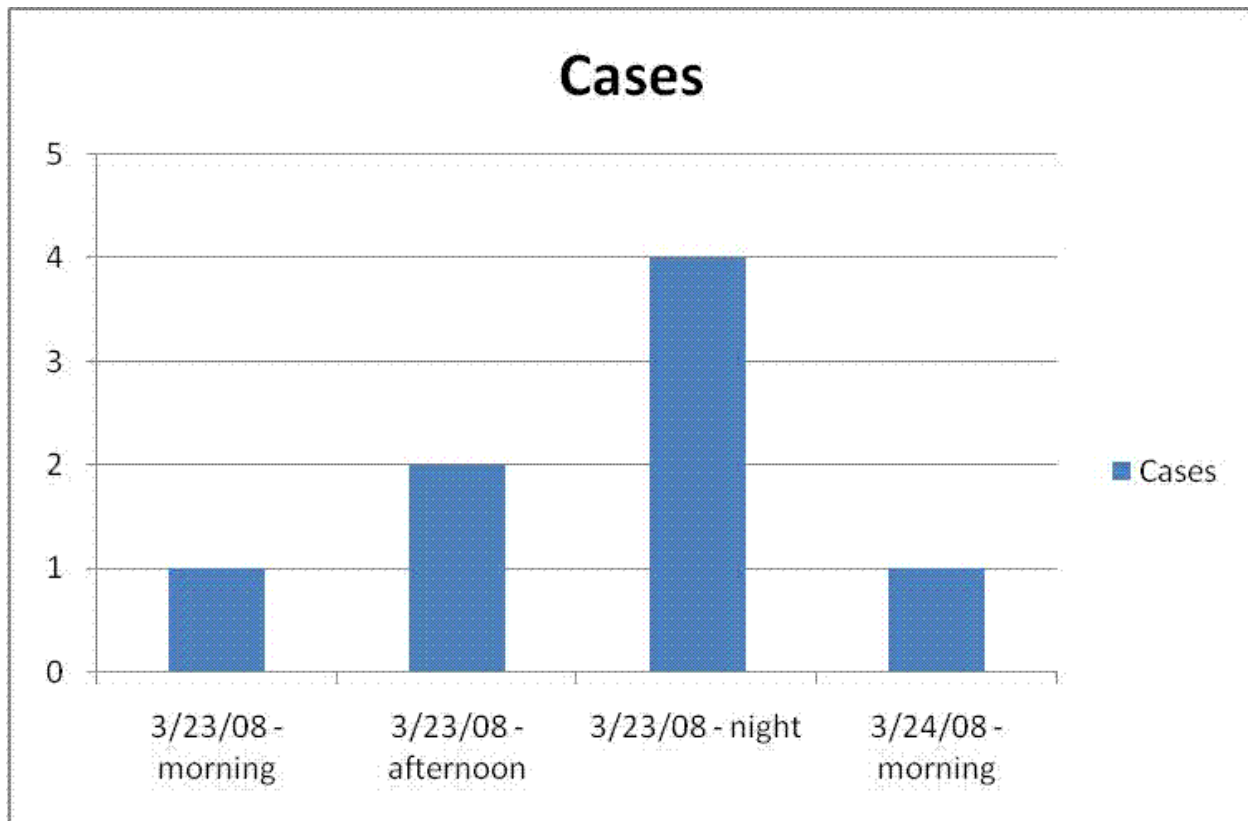
Case 2

A 19-year-old female Marine stationed in North Carolina, who had visited the resort over the weekend of March 21-23, 2008, began exhibiting symptoms on March 24 during her drive back to North Carolina. She stated that she had a rash on her legs, felt "funny," and her toes and hands were aching. She sought medical attention at the base infirmary and was immediately quarantined to her room with a preliminary diagnosis of staph infection. Blood work was done, but the LCDHD was unable to make contact with anyone in the infirmary to obtain the results. Both individuals had spent time in a hot tub at the cabin.

Through further telephone interviews, eight total cases of hot tub folliculitis were identified that met the case definition, with affected individuals ranging in age from 3-years-old to 54-years-old. All individuals involved sought medical treatment, and four patients had samples collected for laboratory confirmation. Of the four laboratory samples, three were positive for *Pseudomonas aeruginosa* and the fourth was identified as "mixed skin flora."

The mean age of cases was 20-years-old and seven (88%) of cases were female. Of the eleven individuals who were present at the cabin over the weekend of March 21-23, 2008, eight (73%) spent time in the hot tub. The epidemiologic curve identifying the number of cases and timeline in which they reported illness is shown in Figure 1.

Figure 1: Epi curve displaying time of onset (by 8-hour intervals) of hot tub rash illnesses in patrons at a Lake Cumberland Resort Park cabin during March 21-23, 2008.



The water sample collected from the hot tub was identified as positive for *Pseudomonas aeruginosa* by Lab Corp. On March 27, the resort was asked to drain, thoroughly clean, and sanitize all hot tubs. A follow-up inspection was made on April 1, 2008, to sample the hot tub after cleaning. Results from the follow-up water sampling were negative for *Pseudomonas aeruginosa* and *E. coli*, indicating that the hot tub was adequately cleaned and sanitized.

Hot tub folliculitis has an incubation period of up to 48 hours after exposure to contaminated water. The rash usually clears on its own within 2-10 days, as it is a self-limiting infection. Usually no treatment is necessary for the infection, with the exception of the use of “anti-itch” medications. Severe infections may be treated with antibiotics. Laboratory testing is usually not pursued by clinicians; however, to rule out staph infections and confirm a hot tub folliculitis outbreak from exposure to contaminated water, cultures must be taken and tested.

This environmental investigation posed some unique challenges for both the environmentalists and the KDPH Division of Public Health Protection and Safety. Since this type of resort is not regulated by the health department as a hotel or recreational water facility, new issues arose with regard to the handling of inspection and recommendations given to the facility. This is an area that the state has yet to address, because the type of resort property in question is considered a private residence that has been “rented.”

An educational pamphlet for hot tub folliculitis that describes the signs and symptoms, causes, and preventive methods, as well as recommendations for hot tub care and maintenance, was created and made available to the resort. The resort's staff was also educated on proper hot tub care and maintenance, and all infected individuals were educated on hot tub rash causes, symptoms, and prevention. The Centers for Disease Control and Prevention recommends maintaining a free chlorine or bromine concentration of 2 to 5 parts per million, pH of 7.2-7.8 and lists other important health and safety guidelines for public spas or hot tubs.³ Individuals are recommended to take precautions such as heeding hot tub safety rules, observing the hot tub and its surroundings, and talking with staff and other hot tub users when choosing to use a hot tub.⁴

In Kentucky, both the Kentucky Division of Laboratory Services (State Public Health Lab) and Morehead State Laboratory have the ability to test water for *Pseudomonas aeruginosa*, the most common cause of hot tub folliculitis.

The state lab tests recreational water from public sources such as hotel pools or hot tubs for *Pseudomonas aeruginosa* upon request. They require two (2) 100 mL samples which must arrive at the lab within 30 hours from the time of collection. For more information about testing available through the state lab, contact Lucinda Mitchell at Lucinda.Mitchell@ky.gov.

Morehead State Laboratory has the ability to perform specialized water testing for *Pseudomonas aeruginosa*, as well as other organisms. In order to submit specimens to the Morehead State Laboratory, two (2) 120mL water samples should be taken and must arrive at the lab within 30 hours of collection. It is important to note that the Morehead State Laboratory will charge \$50 per organism tested. For more information, visit their Web site at <http://www.morehead-st.edu/wtl/>.

Closing Notes

The outbreak investigation at the resort near Lake Cumberland demonstrated the need for a coordinated effort between LHD environmentalists and epidemiologists during outbreak investigations. In addition, further guidelines may need to be developed for facilities available for public use that are privately owned and rented. Because use of these types of properties is legally considered a private agreement between parties rather than public use that should fall under health department regulation, the potential for serious illness remains. This question must be addressed at the state level, with the resulting policies and procedures passed down to the local level for implementation.

¹Krivda, Stephen J. *Pseudomonas* Folliculitis. eMedicine from WebMD online. Available: <http://www.emedicine.com/DERM/topic356.htm>

²Centers for Disease Control and Prevention. Surveillance for Waterborne Disease and Outbreaks Associated with Recreational Water --- United States, 2003—2004. MMWR 2006; 55(SS12);1-24 <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5512a1.htm>

³http://www.cdc.gov/healthyswimming/pdf/spa_operation.pdf

⁴http://www.cdc.gov/healthyswimming/pdf/spa_user_tips.pdf

Jasie K. Logsdon, B.S., M.P.H., is the Regional Epidemiologist at the Lake Cumberland District Health Department.

DPH Letter to Clinicians from April 29, 2009

Dear Clinician:

Human cases of influenza caused by swine-origin influenza A (H1N1) virus (S-OIV). have been found now in patients in several states in the US, as well as in Mexico, Austria Canada, Germany, Israel, New Zealand, Spain, and the United Kingdom.. Today, the World Health Organization raised their current level of influenza pandemic alert from phase 4 to phase 5, the second highest pandemic alert level..

To date, the Kentucky Department for Public Health (KDPH) **HAS NOT IDENTIFIED** any *confirmed* cases of influenza caused by S-OIV here in Kentucky. However, KDPH is investigating and doing testing on some potential cases.

Since the outbreak is in the early stages nationwide, the science is not yet clear about how virulent this new influenza virus strain might be or how readily transmissible it is. Nevertheless, in preparation for a possible worsening scenario, KDPH is issuing this information to providers.

CDC has updated interim case definitions on the following site, as of the early morning of April 29, 2009: http://www.cdc.gov/swineflu/casedef_swineflu.htm. The definition of a *probable* case of S-OIV infection is now defined only as a person with an acute febrile respiratory illness who is positive for influenza A, but negative for H1 and H3 by influenza RT-PCR. So in order for a Kentucky case to be a probable or *confirmed*, specialized laboratory testing must be done. The Division of Laboratory Services at KDPH is able to determine whether a virus specimen is a known circulating human influenza strain. If results do not indicate that the specimen is a known circulating human strain, the Division of Laboratory Services will forward the specimen to the CDC for further analysis. The Division of Laboratory Services anticipates receiving reagents from the CDC for specific influenza S-OIV typing in the near future.

Spread of influenza can be prevented through proper handwashing, coughing in one's elbow, and avoidance of contact with sick persons. Kentucky's normal seasonal influenza season has not yet come to a close, though it is waning. Much of the circulating human influenza virus in Kentucky during this season was human H1N1, which was widely resistant to oseltamivir. This situation results in a challenge for providers, both in terms of diagnosis and treatment.

KDPH is asking the health care community to be vigilant in recognizing influenza-like symptoms in patients and to test appropriately. For now, the Division of Laboratory Services would like to receive specimens on patients that meet the CDC criteria for probable or suspected cases, or on those with influenza-like illness who have positive rapid influenza A tests. Before sending to the Division of Laboratory Services, please call your local health department or KDPH's Departmental Operations Center at 1-888-398-0013 for tracking and guidance.

Epidemiological data thus far indicate that the swine-origin influenza A (H1N1) virus appears to be sensitive (susceptible) to the neuraminidase inhibitor antiviral medications zanamivir and oseltamivir. S-OIV is resistant to the adamantane antiviral medications, amantadine and rimantadine. Empiric antiviral treatment should be considered for confirmed, probable or suspected human influenza cases caused by S-OIV. Close contacts of those with probable or confirmed human cases caused by S-OIV should also be treated prophylactically with neuraminidase inhibitors. See the CDC website for more detailed information regarding chemoprophylaxis <http://www.cdc.gov/swineflu/recommendations.htm>. If influenza infection of unknown virus type is being strongly considered for severely ill patients before laboratory testing, clinicians may want to consider treating with both a neuraminidase inhibitor and amantadine or rimantidine. The table below identifies treatment approaches for respiratory infections caused by S-OIV:

Suggested Treatment Approaches

Types of human influenza cases	oseltamivir/zanamivir	amantadine/rimantadine
Suspected or confirmed influenza caused by human H1N1 influenza virus		+
Suspected or confirmed influenza case caused by swine-origin influenza A (H1N1) virus (S-OIV)	+	
Unknown influenza virus infection	+	+

Recommendations for use of antivirals may change as data on antiviral susceptibilities and effectiveness become available. Antiviral doses recommended for treatment of respiratory infections caused by S-OIV in adults or children 1 year of age or older are the same as those recommended for seasonal influenza. Oseltamivir use for children < 1 year old was recently approved by the U.S. Food and Drug Administration (FDA) under an Emergency Use Authorization (EUA), and dosing for these children is age-based. Please see the CDC recommendations (<http://www.cdc.gov/swineflu/recommendations.htm>). If an adverse event is identified regarding the use of an antiviral, please contact the local health department in your jurisdiction for advice on completing the adverse events reporting form.

If influenza is not suspected, please do not treat with the above antivirals, as overuse of them could result in changing susceptibility patterns. In addition, prescribing antivirals to patients to stockpile for future use “just in case” could lead to unintended consequences (<http://www.cdc.gov/flu/professionals/antivirals/side-effects.htm>) and to shortages of antivirals.

KDPH has limited stockpiles of antivirals that can be used for treatment if and when commercially available supplies become exhausted. In addition, KDPH has asked CDC to send Kentucky 25% of the state's allotment from the national stockpile to supplement our supplies.

Thank you for your willingness to work with us toward the identification, prevention and appropriate treatment of influenza. More information, including guidance for care of patients in the home, can be found at <http://www.cdc.gov/swineflu/guidance> As the swine flu situation changes, more updates will be forthcoming.

Surveillance and Specimen Collection for Swine Influenza A (H1N1) Virus from April 27, 2009

The Kentucky Department for Public Health is currently enhancing influenza surveillance activities to monitor for the presence of swine flu in Kentucky. Below are the current recommendations for swine flu surveillance and specimen collection in Kentucky. These recommendations are subject to change as new information becomes available.

The Kentucky Department for Public Health is currently requesting specimen samples for viral culture on all rapid flu tests positive for influenza A. Clinicians should also obtain a respiratory swab for viral culture on anyone who meets the following criteria:

- 1) A person with acute respiratory illness who was a close contact to a confirmed case of swine influenza A (H1N1) virus infection during the case's infectious period, OR
- 2) A person with an acute respiratory illness who traveled to an area where there are confirmed cases of swine influenza A (H1N1) virus infection within 7 days of illness onset.

Close contact is defined as: within about 6 feet of an ill person who is a confirmed or suspected case of swine influenza A (H1N1) virus infection during the case's infectious period.

Acute respiratory illness is defined as: recent onset of at least two of the following: rhinorrhea or nasal congestion, sore throat, cough (with or without fever or feverishness).

Clinicians should consider swine influenza A (H1N1) virus infection in the differential diagnosis of patients with febrile respiratory disease and who 1) live in areas in the U.S. with confirmed human cases of swine influenza A (H1N1) virus infection or 2) who traveled recently to Mexico, California, Texas, New York, Kansas, and Ohio in the 7 days preceding their illness onset.

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