EPI Update for Friday, July 2, 2010
Center for Acute Disease Epidemiology (CADE)
Iowa Department of Public Health (IDPH)

Items for this week's EPI Update include:

- **Wet conditions prompt West Nile concerns**
- **New antibiotic resistance mechanism identified**
- **Heat stress safety critical for outdoor workers in the summer months**
- **Fireworks safety**
- **Addition to last week's Campylobacter article**
- **Meeting announcements and training opportunities**

Wet conditions prompt West Nile concerns

Recent rains have caused increased amounts of stagnant and pooling water, raising concerns about mosquitoes and the diseases they carry, including West Nile virus. Surveillance has been ongoing for several weeks; current mosquito levels are similar to last year's peak levels. There are more nuisance mosquito species than disease carrying species, but both populations are active.

It is important that people take measures to prevent mosquito bites by:

1. Wearing mosquito repellant. Always read and carefully follow label instructions.
2. Wearing protective clothing, such as long sleeves, long pants, socks and shoes when possible.
3. Paying special attention to peak mosquito hours between dusk and dawn.
4. Checking and replacing torn screens.
5. Removing standing water around the home.

To access Iowa State University Medical Entomology mosquito surveillance data visit: http://mosquito.ent.iastate.edu/ . To access West Nile surveillance data visit: www.idph.state.ia.us/adper/wnv_surveillance.asp.

New antibiotic resistance mechanism identified

Between January and June 2010, three bacterial isolates carrying a newly described resistance mechanism were identified in three different U.S states. This is the first report of the New Delhi metallo-beta-lacatamase (NDM-1) carriage among *Enterobacteriaceae* in the U. S.

- The isolates, 1 each of *Escherichia coli, Klebsiella pneumonia,* and *Enterobacter cloacae* carried the gene that conveys resistance to all beta-lactam agents except aztreonam.
- In the United Kingdom, isolate carriage of this gene has been closely linked to receipt of medical care in India and Pakistan.
- All three U.S isolates were from patients who received recent medical care in India.

Public health is asking physicians to be aware of the possibility for NDM-1—producing *Enterobacteriaceae* in patients who have received medical care in India and Pakistan and specifically ask about this risk factor. Physicians should notify their laboratory of these high-risk patients when submitting specimens to the lab for culture. Carbapenem-resistant isolates from patients who have received medical care within six months in India or Pakistan should be forwarded to the State Hygienic Lab where they will be sent to the CDC for further testing.

For more information on these organisms and CDC contacts for consultation visit www.cdc.gov/mmwr/preview/mmwrhtml/mm5924a5.htm?s_cid=mm5924a5_x .

Heat stress safety critical for outdoor workers in the summer months

As the temperature and humidity rises, don't forget to talk to your patients who work outdoors about the risks of heat stress and how it affects their health and safety. This is especially important for those workers who are 65 years of age or older, are overweight, have heart disease or high blood pressure, or take medications that may be affected by extreme heat. There are five types of heat stress:

1. **Heat stroke** is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature; the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Symptoms include hot, dry skin (no sweating), hallucinations, chills, throbbing headache, high body temperature, confusion/dizziness, slurred speech.
2. **Heat exhaustion** is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Symptoms include heavy sweating, extreme weakness or fatigue, dizziness, confusion, nausea, clammy, moist skin, pale or flushed complexion, muscle cramps, slightly elevated body temperature, fast and shallow breathing.
3. **Heat syncope** is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization. Symptoms include light-headedness, dizziness, and fainting.
4. **Heat cramps** usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles cause painful cramps. Heat cramps may also be a symptom of heat exhaustion. Symptoms include muscle pain or spasms usually in the abdomen, arms, or legs.
5. **Heat rash** is a skin irritation caused by excessive sweating during hot, humid weather. Symptoms include heat rash that looks like a red cluster of pimples or small blisters.

Workers should take the following steps to prevent heat stress:

- Wear light-colored, loose-fitting, breathable clothing such as cotton. Avoid non-breathing synthetic clothing.
- Gradually build up to heavy work.
- Schedule heavy work during the coolest parts of day.
- Take more breaks in extreme heat and humidity, and take breaks in the shade or a cool area when possible.
- Drink water frequently. Drink enough water that you never become thirsty.
- Avoid drinks with caffeine, alcohol, and large amounts of sugar.
- Be aware that protective clothing or personal protective equipment may increase the risk of heat stress.
- Monitor your physical condition and that of your coworkers.

For additional information visit: www.cdc.gov/niosh/topics/heatstress/

Fireworks safety
In 2008, 7,000 fireworks-related injuries were treated in U.S. hospital emergency rooms. Typically, 60 percent of injuries from fireworks in the U.S. occur in the month surrounding the July 4th holiday.

- Two of five victims of fireworks injuries in 2008 were under age 15. The highest rates of injuries were for teens ages 15 to 19 and children ages 5 to 9.
- Between June 18 and July 18, 2005, firecrackers (26 percent), sparklers (17 percent), and rockets (17 percent) accounted for most of the injuries seen in emergency departments. Sparklers were associated with over half of the estimated injuries among children under 5 years during the same time period.

As we enter the 4th of July weekend and summer festivities, here are some educational materials that can be used to promote fireworks safety:
www.cdc.gov/HomeandRecreationalSafety/Fireworks/fireworks-factsheet.html
www.cdc.gov/HomeandRecreationalSafety/Fireworks/
www.cpsc.gov/cpscpub/pubs/012.html

Addition to last week's Campylobacter article
A third possible reason for the increase in numbers of Campylobacter reports could be due to the higher sensitivity of the rapid, non-culture test versus culture.

Erratum: In last week's Epi Update the second category of the *Sun safety resources* article should have read "Recommendations for children greater than 6 months and adults" rather than "Recommendations for children less than 6 months and adults."

Meeting announcements and training opportunities
None

We wish everyone a very happy 4th of July! Stay healthy and mosquito bite free!

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