

# EPI CONNECTIONS

June/July 2009

A Monthly Newsletter of the Communicable Disease Division

## Pandemic Flu Features to Consider for the Novel H1N1 (Swine) 2009-2010 Flu Season

Although the swine flu epidemic that was first recognized in Mexico in April is fading from media attention, the virus continues to spread throughout Colorado, the U.S., and the globe. As of May 15, 2009, the Centers for Disease Control and Prevention (CDC) reported there had been 4,714 cases in 47 states. Colorado has reported 53 cases from 11 counties, 91% of whom are less than 40 years of age. Two cases have been identified in Boulder County: a 22-year-old student at the University of Colorado (CU), and a 2-year-old toddler; both cases recovered uneventfully.

On May 7, the *New England Journal of Medicine (NEJM)* published seven papers online concerning novel swine-origin influenza A H1N1 virus (also termed S-OIV). These may be viewed at <http://H1N1.nejm.org>. Several points about features of past influenza pandemics to consider for the 2009-2010 influenza season include:

1. A shift in the virus subtype strain (e.g., the emergence of the S-OIV strain). The NEJM article by the Novel Swine-Origin Influenza A (H1N1) Virus Investigation Team at CDC found that the strain is positive on laboratory tests for influenza A, but negative for both human H1 and H3 subtypes. Phylogenetic analyses indicate that S-OIV is a combination of triple reassortment swine influenza viruses circulating in pigs in North America. Genes most closely related to influenza A viruses are circulating in swine populations in Eurasia.
2. A shift in the highest death rates from the elderly to younger populations (not yet observed with S-OIV). This feature was the most



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## BCPH Practices Addressing Health Issues During and After Disaster

How a community cares for the most vulnerable members of its population is a measure of its success. In a disaster, the most vulnerable among us are even more threatened. Offering safe shelter to those with special needs is a key element, not only in caring for a community in a moment of need, but also in helping it recover more quickly and more fully.

Boulder County Public Health (BCPH) has been charged with coordinating shelter care for those in our community who are living independently with some level of support that does not require them to be in a long-term care facility, but whose needs overtax the capabilities of a general population shelter.

In Boulder County's April 16 full-scale flood exercise, BCPH headed up the efforts of 45 staff and volunteers from the Medical Reserve Corps of Boulder County (MRCBC), the Mental Health Center serving Boulder and Broomfield Counties, Boulder County Department of Aging Services, the Salvation Army, and the City of Boulder's Parks and Recreation staff. The exercise goal was to test our plan to meet the needs of a steady flow of individuals who may need assistance at a special needs shelter during an emergency, such as a flood. The exercise scenario aimed to address the aftermath of a major flood on Boulder and South Boulder creeks. Responders tested our procedures for triaging admissions, patient tracking, client services, transitional care, mental health services, first aid, food service, and discharge. The exercise helped to identify needed revisions to the plan and areas for additional training.

Simultaneously, 40 BCPH staff members were

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striking characteristic of the pandemics of 1918, 1957, and 1968. Each of the three 20th century pandemics occurred in waves and caused increased mortality for 2 – 5 years.

3. Successive pandemic waves occurred (not yet observed with S-OIV). It is not widely recognized that the 1957 pandemic strain (A/H2) occurred in three waves with excess mortality in 1959 and 1962. During the 1968 pandemic strain, the greatest mortality was in the second influenza season of 1969 – 1970.
4. Higher transmissibility than that of seasonal influenza (not yet observed with S-OIV). The virus is clearly spreading rapidly, but it is too soon to conclude that the transmissibility is higher than seasonal influenza. With typical seasonal influenza, the reproductive number (the number of new cases attributable to a single case) averages 1.3, but it ranged from 2 – 5 in the 1918-1919 pandemic. Whether non-medical interventions, such as social distancing, can reduce the incidence of disease if the reproductive number is high must still be demonstrated.
5. Local characteristics influence outcomes in different geographic regions. Multiple, complex factors contribute to the impact of influenza among local populations and global regions.

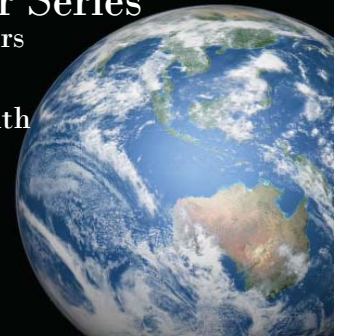
These and other features of pandemics must be considered in response plans. Shifts in age-specific mortality may influence vaccination priorities. Evidence of multiple waves in the pandemics of the past 100 years means we must continue surveillance on a global scale to determine features that may influence prevention and treatment.

*Contributed by Richard Hoffman, M.D.*

**Big Shot Seminar Series**  
for immunization providers

Third Tuesday every month  
February - June 2009  
12 noon - 2 p.m.

For more information, visit  
[www.BoulderCountyShots.org](http://www.BoulderCountyShots.org).



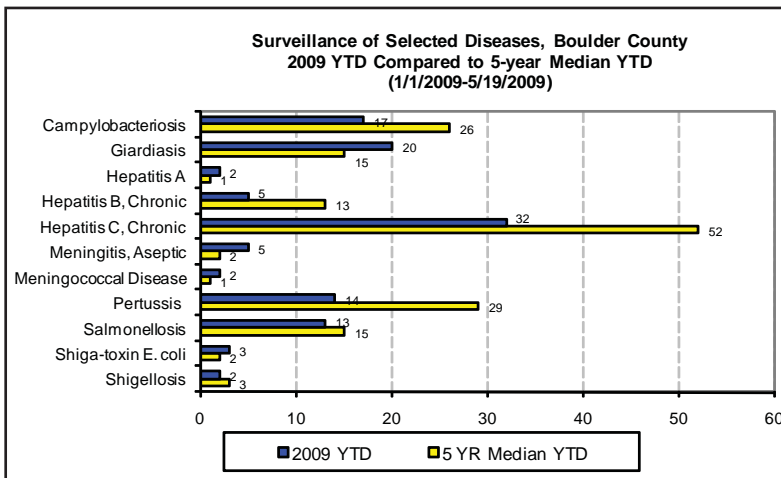
*Special Needs Shelter, continued from page 1*

working at the department operations center to prioritize the public health response to a range of issues the community would face post-flood, from safe food and drinking water, to dirty flood water and future mold problems. Boulder County is one of two local governments in Colorado to have developed a special needs population shelter plan in the event of a natural disaster or emergency. BCPH and the county's Office of Emergency Management will continue to refine these plans by opening shelters at the Longmont Recreation Center and the Erie Community Center during future exercises.

If you would like to be a part of our response in efforts like these, MRCBC is seeking additional members who are practicing or retired physicians, nurses, EMTs, paramedics, and others interested in assisting during emergencies. For more information, contact L. Cheryl Runyon, MRCBC unit coordinator, at [lrunyon@bouldercounty.org](mailto:lrunyon@bouldercounty.org) or 303.413.7561.

*Contributed by Cheryl Runyon*

**Second Hepatitis A Case Confirmed — Campylobacter Cases Double**



In April, a second case of hepatitis A was reported in Boulder County – double what is normally seen in an entire year. The case was most likely exposed out of the country. No contacts to the case or accompanying travelers have reported illness. Providers are encouraged to consider less common illnesses in patients with an international travel history.

Also in April, campylobacter cases have more than doubled, jumping from 7 cases to a total of 15 so far this year. Giardia activity continues to increase, likely due to seasonal occurrence and an increase in outdoor activities associated with warmer weather.

Providers are encouraged to perform laboratory testing on gastrointestinal illness to confirm diagnosis and prescribe appropriate treatment, when needed.