

EPI CONNECTIONS

September 2010

A Monthly Newsletter of the Communicable Disease Division

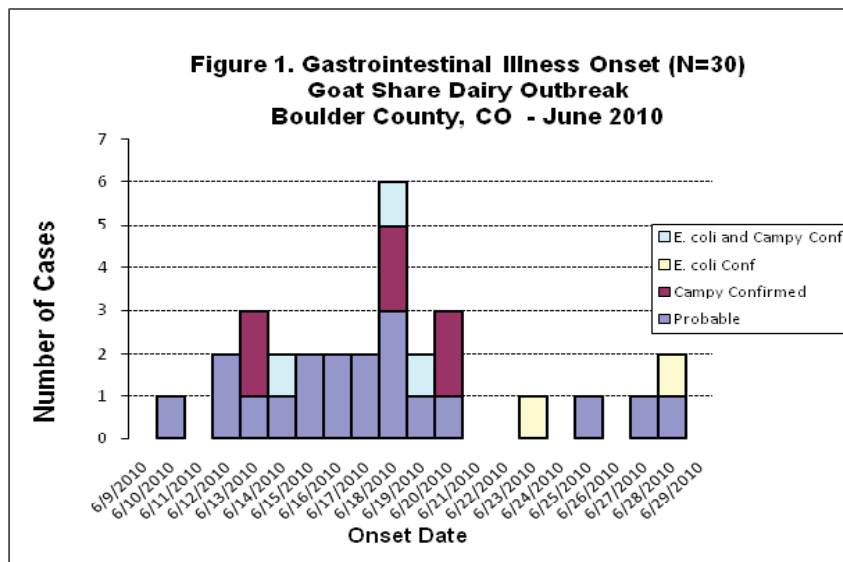
Public Health Investigates Raw Milk Outbreak

During late June and early July, Boulder County Public Health (BCPH) worked with the Colorado Department of Public Health & Environment (CDPHE) to investigate an outbreak of *Campylobacter* and *E. coli* O157 infections among persons who consumed unpasteurized goat milk from a goat share dairy in Longmont.

BCPH attempted to contact 44 households (comprised of shareholders, volunteers, and others who received milk from the dairy) to estimate the magnitude of the outbreak and identify risk factors for infection. Thirty-five households (80%) completed the telephone interview.

The sale of raw cow, goat, or sheep milk is illegal in Colorado, although shareholder operations are allowed to distribute raw milk only to those individuals who paid to be shareholders of that particular animal. Because unregistered non-shareholders also received raw milk, it is possible that BCPH was unable to identify all persons who consumed the contaminated milk.

As illustrated in Figure 1, onset dates ranged from June 10, 2010, to June 28, 2010, with a peak on June 18, 2010.



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Mandatory Flu Vaccinations for Health Care Workers Increase Rates

Seasonal flu vaccination rates for health care workers average 44 percent, but infection control officials are considering implementing mandatory vaccinations to raise coverage rates.

Virginia Mason Medical Center in Seattle, Washington, was the first U.S. hospital to adopt a mandatory flu vaccination policy for its health care workers. The vaccination mandate, implemented during the 2005-2006 flu season, affected 5,000 employees. Prior to the policy, approximately 54 percent of the hospital's health care workers were immunized. The first year of implementation resulted in an immunization rate of 97.6 percent. The rate reached 98.9 percent during the 2009-2010 flu season.

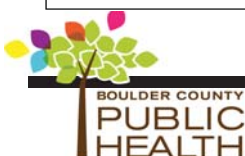
To achieve this level of immunization, the hospital used a variety of delivery systems, including flu vaccine carts and drive-through vaccination stations, along with a variety of vaccine choices (intranasal and thimerosal-free versions). The cost of vaccine was

estimated at \$70,000, or enough to vaccinate 6,000 workers.

Staff with egg allergies were offered skin tests and vaccinated in the hospital's allergy laboratory. Health care workers were permitted to seek exemptions for medical or religious reasons; however, exempted staff were required to wear surgical masks during the entire flu season to prevent transmission of the flu to patients.

The Centers for Disease Control and Prevention (CDC) is revising its flu vaccine pitch to health care workers to stress using immunization as a way to "leave work at work" and protect employees and their families.

Contributed by Sophia Yager, RN





Epi-Eye

A Look Outside Our Community and Around the World

Launching a National Surveillance System After an Earthquake—Haiti, 2010

Haiti felt the devastating effects of a magnitude 7.0 earthquake on January 12, 2010. Reports estimate that approximately 230,000 people died, and 300,000 persons were injured as a result.

During the time directly after the earthquake hit, Haiti had no means to provide accurate and timely surveillance on health conditions that may be impacting residents. Haiti's Ministry of Public Health and Population (MSPP), along with other international agencies, launched the National Sentinel Site Surveillance (NSSS) system two weeks after the quake hit.

The goals of launching the NSSS system were to monitor disease, detect outbreaks, and define the affected population so relief efforts could be better targeted.

A total of 42,361 persons had a reportable condition during the period of January 25 to April 24, 2010. The 3 most frequently reported conditions were acute respiratory infection (16.3%), suspected malaria (10.3%), and fever of unknown cause (10%). According to the *Morbidity and Mortality Weekly Report* (MMWR), there were no epidemics or disease clusters identified.

NSSS is ongoing and undergoing plans to become a long-term surveillance system for the country of Haiti. Ways to improve the system have also been identified. It was suggested that despite the many challenges, the NSSS was a valuable tool post-disaster for responding to public health concerns in Haiti.

Contributed by Gina Bare, RN, BSN

Information Source: Information taken from Morbidity and Mortality Weekly Report (MMWR) August 6, 2010 / 59(30); 993-938

Raw Milk Outbreak, continued from page 1

The case definition for a confirmed case was laboratory-confirmed *E. coli* O157:H7 or *campylobacter* infection with illness onset since June 1, 2010, and residence in a household or contact with a household that received products from the dairy. A probable case was defined as onset of a compatible gastrointestinal illness (diarrhea or bloody diarrhea) since June 1, 2010, and residence in a household or contact with a household that received products from the dairy.

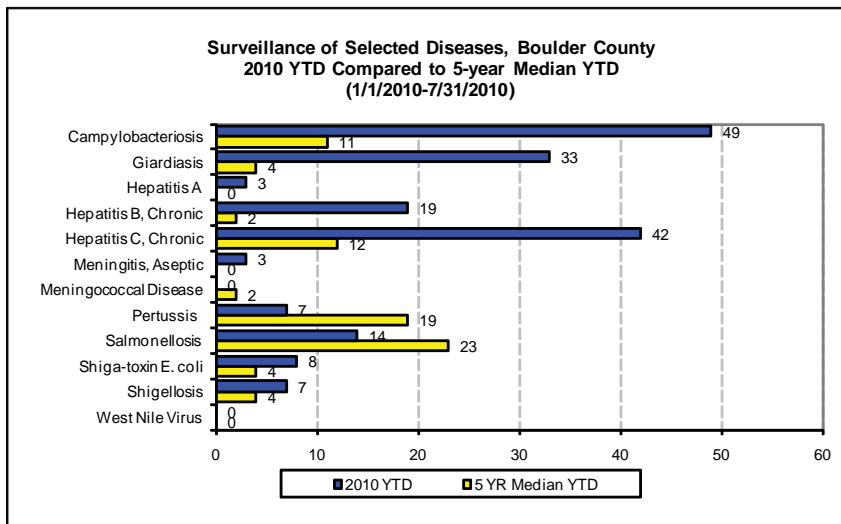
Primary cases were confirmed or probable cases that reported consuming products from the dairy, and secondary cases were probable or confirmed cases that did not report consuming any products.

Thirty cases (26 primary and 4 secondary) and 47 asymptomatic persons were identified. Among the cases, 11 were laboratory-confirmed with the following pathogens: *campylobacter* (6), both *campylobacter* and *E. coli* O157 (3), and *E. coli* O157 (2). Two cases developed hemolytic uremic syndrome (HUS) and were hospitalized. All 5 *E. coli* cases had identical pulsed field gel electrophoresis (PFGE) patterns.

All of the 26 primary cases reported consuming milk from the dairy, as well as 32 of the 45 asymptomatic persons, thus yielding an attack rate of 45%. The p-value for the association between drinking the milk and illness was 0.001. The 4 secondary cases and 2 asymptomatic persons who were unsure of their milk consumption were excluded from this analysis.

One milk sample obtained from the house of an ill person tested positive for *campylobacter* and was found to have the same PFGE pattern which was identified from cases. In addition, two goat fecal samples obtained during an environmental health visit from BCPH and CPDHE on July 1, 2010, tested positive for *E. coli* O157 with PFGE patterns that are identical to case patient isolates. These results support the epidemiologic evidence that unpasteurized goat milk from this dairy was the source of the outbreak.

Contributed by Nisha Alden, MPH, and Lucy Alderton, MPH



BCPH Investigating Trend of Increased Campylobacter, Giardiasis, and Hepatitis C Cases

Boulder County continues to exceed the five-year trend for cases of campylobacter, Giardiasis, and hepatitis C. The increase in campylobacter cases may be related to the new enzyme immunoassay (EIA) test that is either detecting more positive cases, or possibly false-positives. CDPHE is investigating this trend with the CDC. EIA tests tend to be easier, faster, and not culture-based, which makes them appealing to most laboratories.

There are also significant increases in the number of giardia cases in Boulder County over the last eight months. CD-PHE is investigating a similar trend around the state.

Contributed by Murielle Romine, MPH

