

## OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

### CRYPTOSPORIDIOSIS IN BAKER CITY; PROPOSED ADMINISTRATIVE RULE CHANGES

From July 29–31, 2013 five lab-confirmed cases of cryptosporidiosis in Baker City (population 9,828), with onsets during the preceding week, were reported to the Baker County Health Department; the most recently reported case of cryptosporidiosis in Baker County was in 2007. A public health investigation ensued, to determine the source of the outbreak and implement control measures. This *CD Summary* presents preliminary results of the investigation.

#### WHAT IS CRYPTO?

Cryptosporidiosis is a gastrointestinal illness caused by the protozoan *Cryptosporidium*. Infection occurs through fecal-oral transmission of oocysts. Although cryptosporidiosis is often asymptomatic, the most frequent symptoms are diarrhea and abdominal cramps.<sup>1</sup> Infected individuals may continue to shed oocysts for several weeks after symptoms resolve. Oocysts are able to survive typical water chlorination but can be killed by heat, inactivated by ultraviolet light, ozone, or prolonged disinfection, or removed by specific filtration techniques.<sup>2</sup> *Cryptosporidium* can infect animals as well as humans: cattle and other livestock often serve as reservoirs.

Cryptosporidiosis outbreaks have been linked to swimming in or drinking contaminated water and to person-to-person transmission. During a very large outbreak of cryptosporidiosis linked to municipal drinking water in Milwaukee, Wisconsin in 1993, more than 400,000 people were sickened and at least 54 people died.<sup>3</sup> Closer to home, we have had cryptosporidiosis outbreaks in Talent drinking water, and in swimming pools.<sup>4,5</sup>

#### THE OUTBREAK

The initial case investigations revealed no common exposures aside from municipal drinking water; a precautionary boil water advisory was issued July 31. These suspicions were

confirmed when *Cryptosporidium* oocysts were detected in samples of city water.\*

To assess the attack rate and to evaluate the effectiveness of the boiled water advisory, the Public Health Division in collaboration with Baker County Health Department surveyed

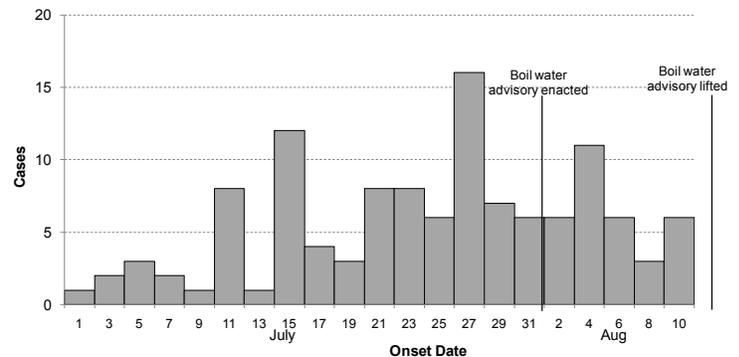
Baker City residents door-to-door during August 18–22. One-hundred ninety-nine household surveys were completed, with information about illness in 493 individuals. One randomly selected individual from each household was asked additional questions about their water consumption habits.

Illness onsets were July 1 – August 17, 2013 (Figure). The overall attack rate was ~25% (123/493). Males and females were equally affected. Attack rates decreased with increasing age: 31% of individuals <18 years old experienced illness compared to 15% individuals ≥65 years of age. Attack rates were higher in groups drinking ≥10 (8oz) glasses of Baker City municipal water daily (35%), compared to those drinking <10 glasses daily (23%).

Results of ongoing water testing by Baker City were negative for *Cryptosporidium* oocysts, and the boil water advisory was lifted August 20. Baker City officials continue to discuss options to reduce the future risk of *Cryptosporidium* in drinking water.

\* Of note: Baker City is one of four municipalities in Oregon – including Bend, Portland, and Reedsport – that have obtained exemptions from the EPA's Interim Enhanced Surface Water Treatment Rule (2012) to improve control of microbial contaminants in drinking water systems. (<http://water.epa.gov/lawsregs/rulesregs/sdwa/ieswtr/>. Accessed 13 Sept 2013)

Figure: Presumptive cases of cryptosporidiosis by date of onset; Baker City, Oregon, July–August, 2013 (n=123).



Healthcare providers should consider cryptosporidiosis in patients presenting with diarrhea lasting ≥3 days. *Cryptosporidium* testing should be specifically requested because routine O&P exam may not include testing for *Cryptosporidium*. Commercially available immunoassay kits are also available. Depending on the lab, stool may be tested using direct fluorescence assay (DFA), enzyme immunoassay (EIA), or a rapid immunostat assay. Because of the low positive predictive value, ImmunoCard™ STAT! tests are not considered adequate to confirm cryptosporidiosis.

#### FOR MORE INFORMATION:

- OHA Cryptosporidiosis web page: <http://public.health.oregon.gov/DiseasesConditions/DiseasesAZ/Pages/disease.aspx?did=75>

#### REFERENCES

1. Chen XM, Keithly JS, Paya CV, LaRusso NF. Cryptosporidiosis. *N Engl J Med*. 2002;346:1723–31.
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## Rule Changes Proposed

We invite your input into the following proposed changes to Oregon Administrative Rules (OAR) to take effect January 1, 2014.

### PLACENTAS

House Bill 2612 removed placentas from being classified as “pathological waste” under Oregon Revised Statute 459.386. We propose to permit release of a placenta to the woman giving birth or to her designee, provided that the facility has a written policy to ensure safety, the woman tested negative for hepatitis B and HIV, and the woman signs a release.

### NONRESPIRATORY NTM

Outbreaks of difficult-to-treat skin and soft-tissue infections by nontuberculous mycobacteria (NTM) have occurred following medical procedures, tattooing and pedicures.<sup>1,2</sup> Laboratories isolate a lot of NTM from respiratory specimens, but we expect <100 nonrespiratory NTM infections to be reported annually in Oregon. Identifying a pedicure- or tattoo-associated cluster could spare some people a long course of antibiotics.

### VIBRIO + GRIMONTIA SPP.

*Vibrio* spp. continue to cause illness in raw oyster aficionados, and reporting leads to identification and closure of contaminated oyster beds. *Vibrio* infections had been reportable in Oregon, but at some point they were inadvertently left off the list (oops), so we propose to add them back. *Vibrio hollisae* was recently reclassified into the newly created genus *Grimontia*, which we propose to add as well.<sup>3</sup>

### COMMUNICATION OF MDRO STATUS

Multidrug-resistant organisms (MDROs) are increasing threats to public health.<sup>4,5</sup> When identified among patients, isolation precautions can help to limit their spread. In a recent survey, 42% of Oregon

infection control programs reported that they aren’t reliably notified when receiving patients with MDROs in transfer. We propose to require such notification by transferring facilities whenever the patient requires isolation for a MDRO.

### HEALTHCARE ACQUIRED INFECTIONS

In 2009, reporting of selected healthcare acquired infections became reportable to the Oregon Office of Health Policy and Research; means and measures for reporting were specified in OAR 409-023-0000 through -0035. (Reporting is done via CDC’s National Healthcare Safety Network [NHSN]; we get the data from them for reportable conditions.) House Bill 2094 moved this function to the Oregon Health Authority, so we will transfer these rules *en bloc* to the Oregon Public Health Division’s OAR 333-018. We would add to the list two conditions already required to be reported to NHSN by the Center for Medicaid and Medicare Services: catheter-associated urinary tract infections (CAUTIs) and methicillin-resistant *Staphylococcus aureus* (MRSA).

### MUMPS & TYPHOID RESTRICTIONS

Mumps was made reportable in 2006, but we neglected to add it to the list of restrictable conditions. Infection with *Salmonella* serotype Typhi has special, separate requirements for removal of restrictions — especially for chronic carriers. Since 1988 Oregon has averaged 4 cases of typhoid fever per year (virtually all after foreign travel), and chronic carriage is rarely confirmed. We propose to simplify these rules and to relocate them with the other restrictable diseases.

### HEARTLAND

OAR 333-018-0015(4)(c) already requires reporting of “any infection that is typically arthropod vector-borne” and gives several examples. We propose adding the newly described Heartland virus infection.<sup>6</sup>

### COMMENTS WELCOME

See proposed changes at <http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/ReportingCommunicableDisease/Pages/rules.aspx>. Email comments to [brittany.a.sande@state.or.us](mailto:brittany.a.sande@state.or.us); or attend the public rules hearing Friday, November 22, at 1 P.M. in Room 1A of the Portland State Office Building, 800 NE Oregon St., Portland. The hearings on the Healthcare Acquired Infections (HAI) rules will be held Thursday, November 21 at 1 P.M. in room 1B.

### REFERENCES

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