



## PREVENTION OPPORTUNITIES UNDER THE BIG SKY

### FOODBORNE DISEASE: REPORTING POTENTIAL CASES ALLOWS TIMELY CONTROL

Foodborne disease is caused by consuming contaminated foods or beverages. Because many pathogens can contaminate food, many different foodborne infections have been described. Foodborne disease can also result from eating food contaminated by a wide variety of toxins and chemicals. This issue of *Montana Public Health* describes foodborne disease related to viruses and bacteria, and the essential role clinicians play in recognition and control of this disease.

While the food supply in the United States is one of the safest in the world, each year about 76 million illnesses occur, more than 300,000 persons are hospitalized, and 5,000 die from foodborne disease. Tracking single cases of potentially foodborne illness and investigating outbreaks are critical public health functions. Montana's public health agencies work closely with health care providers to conduct surveillance, ensure the availability of appropriate testing services, and implement control measures to prevent foodborne illness.

**Foodborne illness in Montana** During 2009, several foodborne disease outbreaks were identified in Montana, including an *E. coli* O157:H7 outbreak involving 8 cases. In addition, several cases of salmonellosis linked with local and national outbreaks were identified.<sup>1</sup> Outbreaks caused by Norovirus were confirmed in long-term-care facilities and suspected in community settings; hundreds of cases of illnesses in a dozen recognized outbreaks were reported. However, most foodborne illnesses probably go undiagnosed and unreported because a) the ill person does not visit a health care provider, b) either a stool specimen is not submitted for diagnostic testing, or c) diagnostic testing fails to yield a positive result.

**Role of the clinician** Foodborne illness caused by viruses or bacteria typically present with diarrhea, abdominal cramps, nausea and vomiting, and often with fever. Prompt recognition and reporting of a potentially foodborne illness might help prevent additional spread of disease through either person-to-person contact or consumption of contaminated food items. Counseling those already ill regarding work restrictions or other necessary precautions, especially food handlers or health care workers, will also help limit the spread of illness.<sup>2</sup>

**Reporting and investigation of foodborne disease** Reporting of selected illnesses to public health departments is essential for monitoring and controlling communicable disease. In Montana, reporting cases of illness caused by *Salmonella*, *E. coli* O157:H7, and several other enteric pathogens is required. In addition, any outbreak of gastroenteritis is also reportable to the local health department. After receiving a report, local

health agencies will investigate, seek commonalities in exposure, and institute appropriate control measures to prevent additional illnesses.

State-level assistance is often requested for investigation of outbreaks, particularly when additional cases or exposures are thought to be occurring in more than one area of the state or elsewhere in the country. Advanced laboratory testing might also be conducted, allowing comparison of selected isolates to those identified elsewhere in the state and the nation. The distinctive patterns generated from *Pulse Field Gel Electrophoresis* (PFGE) linked several of Montana's 2009 patient isolates to national outbreaks. This was made possible by our participation in a network called **PulseNet**, which catalogs isolates of pathogens such as *Salmonella*, *E. coli*, and others and thereby allows identification of clusters in diverse geographic areas.

**Advice to decrease risk** A popular way to celebrate during the holidays is to invite friends, family or co-workers to a potluck or buffet. However, any setting where foods may be left out for long periods leaves the door open for uninvited guests — bacteria that cause foodborne illness.

Passing the advice on the next page to patients can help minimize the chances of illnesses and outbreaks.<sup>3</sup> You can also find a useful handout to distribute to patients by going to the following website:

<http://familydoctor.org/online/famdocen/home/healthy/firstaid/basics/923.html>

**Safe food handling:** Advise hand washing before and after handling food; and keeping kitchen, dishes and utensils clean. Serving food on clean plates — not those previously holding raw meat and poultry — can also prevent contaminating prepared foods.

**The Two-Hour Rule:** Foods should not sit at room temperature for more than two hours. Advise keeping track of how long foods have been sitting on the table and discarding anything there two hours or more.

**Cook thoroughly:** If foods are cooked ahead of time for an event, advise cooking foods thoroughly to safe minimum internal temperatures.

- Steaks, roasts, and chops: beef, veal and lamb should be cooked to 145 °F, pork to 160 °F.
- Ground meats: beef, veal and lamb should be cooked to 160 °F.

- Poultry: should reach a safe minimum internal temperature of 165 °F.
- Use a thermometer to check the internal temperature of turkeys and stuffing. Turkey meat and stuffing is safe to eat as soon as 165 °F is reached.

**Use shallow containers:** Advise dividing cooked foods into shallow containers to store in the refrigerator or freezer until serving. This facilitates rapid, even cooling. Reheat hot foods to 165 °F. Arrange and serve food on several small platters rather than on one large platter. Keep the rest of the food hot in the oven (set at 200–250 °F) or cold in the refrigerator until serving time. This way, foods will be held at a safe temperature for a longer period of time.

**Recommendations for clinicians:**

- Report potentially foodborne illness promptly.
- Order laboratory tests, when appropriate, to confirm the cause of illness.
- Advise those ill to take steps to prevent spreading infection and illness by exercising proper hygiene and food-handling practices; and not engaging in sensitive occupations while ill.
- Counsel patients about safe food handling, preparation and storage.

**For more information, contact:** the DPHHS Food and Consumer Safety Program, 406-444-2837, or go to <http://www.fcss.mt.gov>.

**References:**

1. [http://www.dphhs.mt.gov/PHSD/epidemiology/documents/AnnualReport2008FINAL\\_03\\_31\\_2010.pdf](http://www.dphhs.mt.gov/PHSD/epidemiology/documents/AnnualReport2008FINAL_03_31_2010.pdf)
2. <http://www.cdc.gov/foodsafety/>
3. <http://www.foodsafety.gov/keep/events/holidays/index.html>

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