Foodborne illness, also commonly referred to as ‘food poisoning’, is estimated to cause illness in one out of six (48 million) people in the United States every year, as well as 128,000 hospitalizations and 3,000 deaths. Infants, young children, older adults, pregnant women, and those with weakened immune systems are at the greatest risk for foodborne illness.

Improvements in tracking foodborne disease by public health and advances in laboratory testing have allowed faster and more accurate detection of foodborne illness outbreaks. Nationally in 2011, there were 16 large, multistate outbreaks related to contaminated food that were investigated by the Centers for Disease Control and Prevention (CDC). Cases from Colorado were reported in seven of those outbreaks. Overall, 31 foodborne illness outbreaks were reported in Colorado in 2011.

Any foodborne illness or outbreak represents faulty links in the food safety system. Contamination of food can occur at any step from the point of production (such as on a farm) to where food is processed, distributed, sold, or prepared in the home or at food establishments. National regulatory agencies (including the Food and Drug Administration, the United States Department of Agriculture Food Safety and Inspection Service, and the Environmental Protection Agency) are charged with reducing the risk of food contamination by establishing and enforcing food safety standards; inspecting domestic and imported food products; and working with the food industry to conduct risk assessments and mitigate violations in safety standards.

However, even in the home, people need to take precaution in proper food handling, storage, and preparation in order to prevent foodborne illness.

**How is it measured?**
The CDC and state and local health departments have surveillance systems in place to track foodborne illness and outbreaks in the United States, which are notifiable conditions in all states. Data on the

**Figure 1. Incidence of common foodborne illness pathogens, El Paso County and Colorado 2008 to 2011**

![Graph showing incidence of common foodborne illness pathogens in El Paso County and Colorado from 2008 to 2011.](image)

*2011 data is preliminary*
incidence of foodborne illness or outbreaks are tracked over time to help measure the overall effectiveness of food safety measures.

According to the Colorado Department of Public Health and Environment, a retail food establishment is defined as “a retail operation that stores, prepares, or packages food for human consumption or serves or otherwise provides food for human consumption to consumers directly or indirectly through a delivery service, whether such food is consumed on or off the premises or whether there is a charge for such food.” Retail food establishments are required to be licensed in Colorado and are inspected regularly to ensure compliance with state regulations. Food inspectors review many factors, but focus on ‘critical’ violations that are directly related to risk of illness (for instance, improper temperature for food storage or cooking). Data from retail food inspections serves as an indicator of risk for foodborne illness.

How are we doing in El Paso County?
In the United States and Colorado, the pathogens which account for the majority of reported cases of foodborne illnesses are norovirus, Salmonella, Campylobacter, and shiga-toxin producing E. coli (also referred to as ‘STEC’). Preliminary data from 2011 shows 123 reported cases of Salmonella, Campylobacter, and E. coli identified in El Paso County and 1,518 in Colorado. Overall disease rates are higher in Colorado as compared to El Paso County (Figure 1) and only Salmonella has shown a sustained decrease in incidence since 2008.

Although individual cases of norovirus are not tracked, norovirus remains an important cause of foodborne illness outbreaks. For 2011, there were 31 reported outbreaks in Colorado related to contaminated food, of which 11 (35 percent) were confirmed or suspected to be due to norovirus. In El Paso County, norovirus accounted for one of three foodborne illness outbreaks reported in 2011.

Retail food establishments are the most common setting for foodborne illness outbreaks, so monitoring violations identified during inspections is important to improve food safety. In December 2011, there were 2,339 licensed retail food establishments in El Paso County. Throughout 2011, these facilities received 4,552 regular inspections to assure compliance with food safety regulations. Overall, there was an average of 1.41 critical violations per regular inspection in 2011. This rate ranges from 0.33 to 2.88 depending on facility type, with 100-200 seat restaurants and grocery stores with delis having the highest rates of critical violations at 2.17 and 2.88 per regular inspection, respectively. Violations are also grouped into broader categories that represent the source of risk (Table 1). Personnel-related violations (including problems with sick food handlers, improper hand washing, bare hand contact with food, and other hygienic practices) were seen in 28 percent of regular inspections in 2011. In one in five inspections, food temperature control issues (not keeping food cold or hot enough) were cited, and problems with toilet or hand washing facilities were noted 19 percent of the time. One in five regular inspections resulted in three or more critical violations.

Table 1. Percent of regular inspections with one or more critical violations, by category, El Paso County 2011

<table>
<thead>
<tr>
<th>Violation category</th>
<th>Percent of inspections with one or more violation in the category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>28%</td>
</tr>
<tr>
<td>Food temperature control</td>
<td>20%</td>
</tr>
<tr>
<td>Handwashing and toilet facilities</td>
<td>19%</td>
</tr>
<tr>
<td>Poisonous or toxic items</td>
<td>19%</td>
</tr>
<tr>
<td>Sanitization</td>
<td>10%</td>
</tr>
<tr>
<td>Food source</td>
<td>10%</td>
</tr>
<tr>
<td>Water, sewage, plumbing systems</td>
<td>6%</td>
</tr>
<tr>
<td>Pest control</td>
<td>3%</td>
</tr>
</tbody>
</table>

El Paso County Health Indicators 2012 Report