

# Chattanooga-Hamilton County Health Department Epidemiology Newsletter

January 2007

## Special points of interest:

- Hamilton County foodborne illness data
- Diagnosing and reporting foodborne illness
- 2006 Epidemiology Report

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## Foodborne Disease: Underreported and Overly Common

The CDC estimates that 76 million cases of foodborne disease occur each year. Of the 76 million, an estimated 325,000 people are hospitalized and 5,000 die. As is evident by these numbers, foodborne disease is not something to be taken lightly.

More than 250 foodborne diseases have been identified and as scientists further investigate the causes of diseases,

they are identifying additional foodborne illnesses. The most common foodborne diseases include *Campylobacter*, *Salmonella*, *E. coli* O157:H7, and calicivirus, or Norwalk viruses. Additionally, some common diseases such as *Giardia lamblia*, *Cryptosporidiosis*, and strep throat are occasionally transmitted through food. Toxins and chemicals can also contaminate food and cause foodborne disease.

The CDC advises that an ill

person seek medical care for a diarrheal illness if symptoms include high fever, bloody stools, prolonged vomiting, dehydration, and diarrheal illness lasting for more than three days. Treatment of diarrheal illnesses is disease specific, meaning that antibiotics or even over the counter anti-diarrheals may not be prescribed or recommended. In fact, taking such medications may



**E. coli O157:H7**

further complicate and worsen the illness.

An outbreak of foodborne illness occurs when a group of people consume the same contaminated food and two or more of them develop the same illness. Many foodborne outbreaks are local in nature, but more widespread outbreaks do occur. A recent example of such an outbreak is the *E. coli* O157:H7 found in spinach harvested in California. Many foodborne illnesses go

undiagnosed, which leads to under-reporting of illness. In order to learn more information about illnesses that might be diagnosed, but not reported, CDC developed FoodNet. FoodNet provides information about specific foodborne illness in the U.S. The article below describes the purpose and importance of FoodNet.

The existence of foodborne outbreaks is an indication that improvement in our food safety system is needed. Public health professionals, at the federal, state, and local levels work to investigate outbreaks as they occur and determine ways they can be prevented. Partnerships with local health care providers are critical to protecting the health of our community.

Source: October 25, 2005. CDC. Coordinating Center for Infectious Diseases/Division of Bacterial and Mycotic Diseases. Foodborne Illness. [www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections.htm)

## FoodNet Surveillance: What is it?

The Foodborne Disease Active Surveillance Network, or FoodNet, is a collaborative, active surveillance project between CDC, several states, and in turn, their corresponding counties. The network monitors foodborne diseases and related epidemiologic studies to help public health professionals better understand foodborne diseases and their

epidemiology. Tennessee participates in the surveillance as do a number of other states.

FoodNet provides a network for responding to foodborne diseases. Information gained through the network will help in the development of strategies and interventions to prevent disease.

As an active surveillance system, new cases of disease are regularly reported to CDC, allowing monitoring of foodborne disease over time. FoodNet helps manage the dynamic challenges created by foodborne diseases.

Source: March 21, 2006. CDC. National Center for Infectious Disease. FoodNet Surveillance—What is FoodNet? [www.cdc.gov/foodnet/surveillance/pages/whatisfoodnet.htm](http://www.cdc.gov/foodnet/surveillance/pages/whatisfoodnet.htm)

### Diagnosing and Reporting Foodborne Illness

Foodborne illness results from the consumption of contaminated food or beverages and presents most frequently as gastrointestinal tract symptoms. Illnesses can be caused by microorganisms, marine organisms, fungi as well as chemical contaminants. Bacterial and viral pathogens represent the most frequently identified causative agents.

Establishing a diagnosis of foodborne illness can be difficult because of the non-specific nature of presenting symptoms, the variety of possible pathogens, and the complexity of the epidemiology of foodborne diseases. If

a foodborne illness is suspected, clinical specimen testing can be valuable in the identification of an etiologic agent. Early identification of a case of foodborne illness can prevent further exposures. Additionally, prompt reporting may result in outbreak identification and in early identification of control measures. A **foodborne disease outbreak** is defined as two or more persons experiencing a similar illness resulting from the ingestion of a common food.

Reporting of certain bacterial and viral pathogens to the local health department is required by state law. Those

which are often associated with foodborne illness include Salmonella, Shigella, E.coli O157:H7, Shiga-like toxin positive stool, Campylobacter, Giardia, Hepatitis A, Cryptosporidium, Cyclospora, Listeriosis, Yersiniosis and Vibrio infections. The epidemiology staff investigates cases of these illnesses to identify a possible source of infection. In order that multiple complaints of a common source are investigated quickly, individuals should be encouraged to report in a timely manner suspected foodborne illness to the health department.

Source: <http://www.cdc.gov/mmwr/PDF/ss/ss5510.pdf>

**“A foodborne disease outbreak is defined as two or more persons experiencing a similar illness resulting from the ingestion of a common food.”**

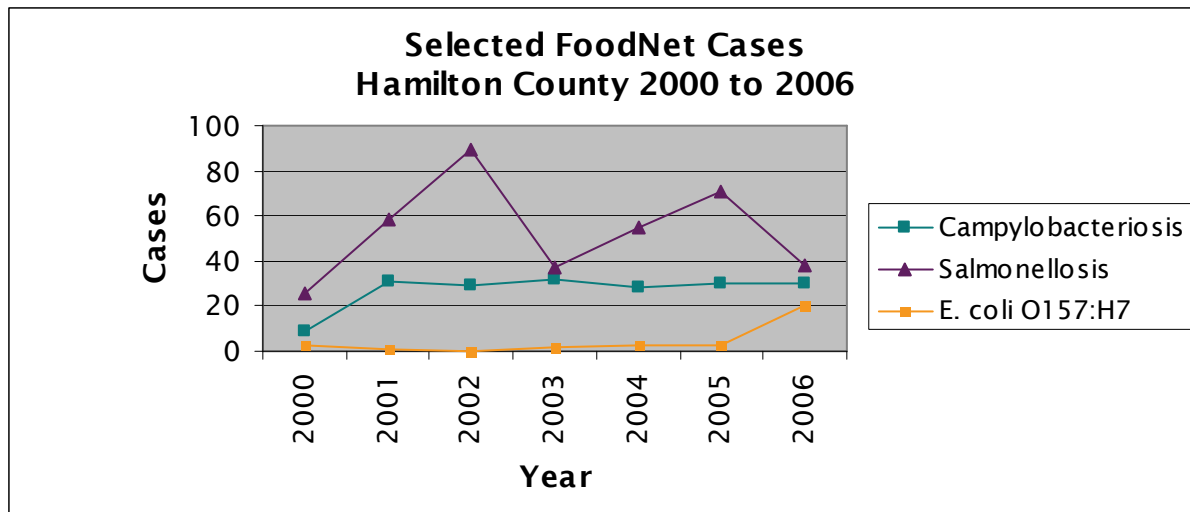
For more information, please refer to: <http://www.cdc.gov/mmwr/PDF/rr/rr5304.pdf>

### 2006 Hamilton County FoodNet Cases

FoodNet Cases	Cases
Campylobacteriosis	30
Cryptosporidiosis	3
Salmonellosis	38
STEC (Shiga toxin-producing Escherichia coli)	19
Shigellosis	8
Vibrio vulnificus infection	1
Yersiniosis	3
Restaurant Complaints Investigated	113
2006 Foodborne Outbreaks	11



Salmonella

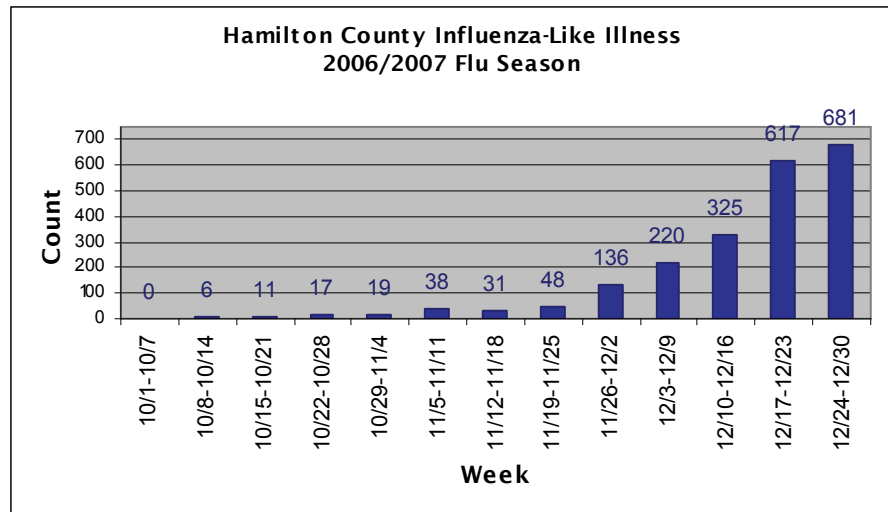


ILI is defined by the CDC as:

Fever greater than or equal to 100 degrees and cough or sore throat (in the absence of a known cause).

Tennessee ILI Counts		
Week	Weekly Count	Cumulative Cases
10/1-10/7	223	223
10/8-10/14	337	560
10/15-10/21	104	664
10/22-10/28	110	774
10/29-11/4	134	908
11/5-11/11	81	989
11/12-11/18	165	1154
11/19-11/25	584	1738
11/26-12/2	613	2351
12/3-12/9	590	2941
12/10-12/16	1355	4296
12/17-12/23	1653	5949
12/24-12/30	1958	7907

## Important Reminder: Hamilton County Flu Season is in Full Swing



Flu vaccine is still available at the Hamilton County Health Department. Vaccination is the single BEST way to prevent the flu. Flu vaccine should be given as long as flu persists in the community.

## 2006 Epidemiology Report

Condition	Confirmed Cases
Bacterial meningitis ( <i>H. influenzae</i> , <i>Strep pneumoniae</i> )	2
Brucellosis	2
Creutzfeld Jakob Disease	1
Ehrlichiosis	5
Giardiasis	12
Group A Streptococcus, invasive	8
Group B Streptococcus, invasive	30
Guillain-Barre syndrome	6
Haemophilus influenzae, invasive	8
Hemolytic uremic syndrome	3
Hepatitis A, acute	4
Hepatitis B*, acute	11
Hepatitis C*, acute	2
Legionellosis	4
Lyme disease	3
MRSA ( <i>S.aureus</i> , methicillin resistant) invasive	102
<i>Neisseria meningitidis</i> , invasive	4
Pertussis	8
Q fever	3
Rocky Mountain spotted fever	16
<i>Strep pneumoniae</i> , drug resistant, invasive	22
<i>Strep pneumoniae</i> , invasive	38
Typhoid fever	1
VRE (Vancomycin-Resistant Enterococcus-Invasive)	20
Animal Bite/Exposure Follow-up	29
Hepatitis B Perinatal Program	21



Remember: Hand Washing is the single most important thing you can do to prevent the spread of illness.



Wash all fruits and vegetables thoroughly.

\* The majority of cases received and investigated are non-acute and not reportable, and therefore are not represented here.

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**“Always wash your hands with soap and water for 20 seconds before and after handling food.”**

## Prevent Foodborne Illness

Because you can't see, smell, or taste harmful bacteria that cause foodborne illness, it's extremely important to be diligent in preventing illness by following a few easy steps. To help prevent foodborne illness, share these tips with family, friends, colleagues, and patients.

When grocery shopping, pick-up perishable and frozen items after choosing non-perishables. Always choose meat or poultry with intact packaging and do not buy food that is expired.

Always refrigerate perishable food within 2 hours, and check that the temperature of your refrigerator is at 40°F or below and your freezer is at 0°F or below. Fresh poultry, fish and ground meat should be cooked or frozen within 2 days and other meats, within 3 to 5 days. Most high-acid canned food (tomatoes, citrus fruit, etc.) can be kept on the shelf for 12 to 18 months and most low-acid canned food (meat, vegetables, etc.) will keep 2 to 5 years. Discard all cans that are rusted, leaking, dented, or bulging.



ALWAYS wash your hands with soap for 20 seconds before and after handling food. DO NOT CROSS CONTAMINATE. Keep raw meat, poultry, fish and their juices away from other food. After contact with raw meats, wash cutting boards, counter tops, and utensils with hot soapy water. Sanitize counter tops, cutting boards, and utensils with a bleach solution that is 1 tablespoon liquid chlorine bleach to 1 gallon of water.

Cook meats thoroughly. Beef, veal, and lamb steaks, roasts, and chops may be cooked to 145°F.

All cuts of pork may be cooked to 160°F as well as ground beef, veal, and lamb. All poultry should be cooked to a minimum internal temperature of 165°F.

When serving food, it's important to keep in mind that holding temperatures must be appropriate for the food being served. Hot food should be held at 140°F or warmer and cold food should be held at 40°F or colder. Food can be kept hot by

using chafing dishes, slow cookers, and warming trays. Food can be kept cold by putting bowls of ice under the food, or using small serving trays and replacing them often. At room temperature, food should not be left out for more than 2 hours. After this time, all food should be discarded. When you are serving food outside and the temperature is above 90°F, food should not be left out more than an hour.

Handling leftovers properly is another important practice. Place food into shallow containers and immediately put the containers in the refrigerator or freezer. Cooked leftovers should be thrown out after 4 days.

Finally, be aware of how to properly refreeze foods. Meat and poultry that has been defrosted in the refrigerator may be refrozen before or after cooking, while meats thawed by other methods should be cooked before refreezing.

Make these steps a habit and you can help prevent foodborne illness.

Source: USDA. Basics for Handling Food Safely. [www.fsis.usda.gov](http://www.fsis.usda.gov)

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