

Food Borne Illnesses
In the United States
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Living in a country where food defines who we are, also defines what consequences we may come to, due to the love for our food. In the United States it is estimated that 1 in 6 Americans get sick from food borne illnesses, 128,000 are hospitalized, and 3,000 die (CDC, 2012-2014). This is a serious matter that is often overlooked. People love to eat, and a lot of it, for this reason restaurants and food distributors may run into trouble when their products were not handled properly and ends up infecting many people. This does not only affect their business but also puts some people's lives on the line. It is very important to know how food borne illnesses are obtained and how to prevent such events from harming so many people annually. It is also very important to know how harmful these forms of bacteria can affect an organism. Food safety is very important especially in such an expanding and diverse place like the United States, and for this reason it is important to note specific examples of food borne illnesses to prevent future ones from occurring. Through education and cautious handling of food, food borne illnesses will not only decrease, but people will be able to enjoy the food that they love even more without the fear of getting sick.

When a food borne illness breaks out an investigation follows the case to see the source of contamination. In early 2010 there was an outbreak of approximately 20 people infected by Salmonella Typhimurium due to having consumed aioli; which is mayonnaise seasoned with garlic. This was used in the burgers a burger bar served which were all homemade (NSW,2010). The aioli itself did not harm the victims; the fact that they used raw eggs infected with this bacterium was what caused them to get ill. Salmonella symptoms include diarrhea, fever, and abdominal cramps from 12 to 72 hours after infection. It typically last from 4 to 7 days if left

untreated. (CDC, 2012-2014). Although it may not be as serious for some people it can be severe for others to the point where they have to be hospitalized. This infection can spread from the intestines to the bloodstream, which may cause death if not treated with antibiotics. The ones to suffer from greater complications are older adults, children, and people with sensitive immune systems (CDC, 2012-2014).

The investigation began by inspecting the burger bar and finding any evidence of Salmonella present. They found that the raw eggs they used to make the aioli were not further processed or cooked, which was a violation and were ordered to stop serving it. They found that Salmonella was also present in a plastic chopping board they took a sample of and, the business was ordered to not serve food until a clearance certificate were issued (NSW, 2010). After two weeks the business was able to run as usual after having run more tests and providing the staff with appropriate food safety skills and knowledge, for sanitizing and cleaning. Salmonella is usually present on the egg shell and can easily come into the egg if not handled correctly, this occurred both because it was warmer outside and they did not refrigerate the eggs. The eggs obtained were from a local farmer who may not wash the eggs as they would have from an egg supplier and found in re used cartons, which increases cross contamination. One other mishap the bar had was that what they were using to sanitize their surfaces and supplies was not strong enough to kill off bacteria and there was no documentation of when they were cleaned or sanitized (NSW, 2010). There were many errors that the business faulted in and for those reasons, people were unfortunately affected. No matter how small a business may be, they should take precautions to avoid these types of situations form occurring when they could have been prevented. Taking the easy way out will not have any benefits when it comes to handling and serving food.

Eating out may seem fun, but being infected is not. Another example of an incident of food borne illness broke out in Bonicki's Restaurant and Sports Bistro during the first week of April this year. In this case, the bacterium was *Clostridium Perfringens* which is often found in the ground and in intestines of both animals and humans. This bacterium grows when food is not served or stored properly (News Desk, 2014). This incident in Michigan resulted in at least 6 affected customers. Although the number may be low *Clostridium Perfringens* is defined as the most common cause of food borne illness in the United States and causes nearly a million cases each year (News Desk, 2014). This bacterium also known as *C. Perfringens* is often found in raw meat and poultry and multiplies rapidly. The young and old are the most susceptible to this infection and can have symptoms ranging for up to 2 weeks, which can lead to dehydration. The only way to determine if someone is infected by *C. Perfringens* is by doing laboratory tests to look at the person's feces, to determine how much bacteria is found. In this case antibiotics are not recommended and oral rehydration is preferred. In more serious cases there may need to be intravenous fluids and electrolyte replacement applied to help treat the ill patient (CDC, 2012-2014). Refrigeration can help prevent the growth of *C. Perfringens* and food that has been left out for too long should be disposed of, even if it still looks good. Restaurants especially should be more careful on how they handle their food because people are not only paying for it, but they also expect good quality food.

Often times a spread of a food borne illness has no borders and affects many people from different locations at the same time. In the case of an *Escherichia coli* outbreak in 2013, it affected 35 people from 19 different states. The FDA, USDA FSIS, and the CDC stepped in to do an investigation of the outbreak which ended up being linked to Farm Rich Frozen products from Rich Products Corporation (FDA, 2013). With further investigation they found that it was

linked to two of their products left by the consumers who got sick. The products have sources of cheese including mini quesadillas and mini pizza slices. These products were produced in Georgia, but the FDA did not find any violations in the facility, so no regulatory action was taken. Although most of these products as well as others have a long shelf life, they should be handled with clean hands, utensils and surfaces to prevent contamination. (FDA, 2013). E. coli is also found in the intestines and is usually harmless because they are an important part of having a healthy intestinal tract. It can also cause illness though such as diarrhea. This can be transmitted by water or food that is contaminated or by having contact with animals and people infected by the bacteria. (CDC, 2012-2014). There are different forms of E. coli and for this particular case Shiga toxin- producing E. coli (STEC) affected these people. To determine if the bacterium is present, a stool sample is also needed for laboratory testing. Again the young and the old are more likely to get E. coli and can even develop hemolytic uremic syndrome (HUS) which is a type of kidney failure (CDC, 2012-2014). Food borne illnesses are not only found in restaurants but with the groceries we consume as well.

Having looked at three major cases affecting Americans with food borne illnesses it is important to know that it does occur and it happens frequently. Every year there seems to be some kind of outbreak that affects many people whether they are eating meats or fruits, or any source of food that can be contaminated by bacteria. *Figure 1* shows a pie chart that demonstrates the sources of outbreaks of food borne illnesses. It is clear that restaurants are the main culprits but contamination in the home does not fall too far behind. It is important to take this into consideration because although eating out with family or friends may seem like a treat, possibility of contamination is high. This should not be the case but for the most part since places that serve many people are often busy, they may not take the extra time to be cautious of how

they are handling, preparing, and storing their food; which should be no excuse. Many businesses have been shut how because of incidents like this or because they do not meet the standards of a healthy environment. For these reasons *Figure 2* demonstrates how to properly handle food. Just as bathrooms have signs on how to wash your hands, employees at food related facilities should also consider this because; it will not only make the food taste better but be healthier to consume.

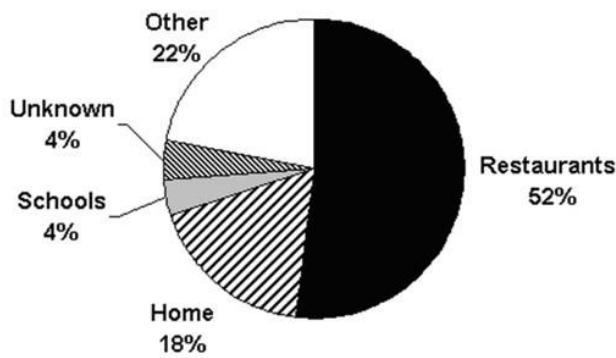


Figure 1: Sources of food borne illnesses in the US



Figure 2: Ways to keep food bacteria free

It is very simple to get a food borne illness, but it is also simple to prevent them. Salmonella Typhimurium, Clostridium Perfringens, and Escherichia coli to name a few, are bacteria that are some of the main culprits of food borne illness that could under serious consequences make that last meal be the last meal you ever consume. By knowing how they grow and how to prevent them can be a step forward in decreasing food borne illnesses. Restaurants and everyone need to be more careful on how they prepare their foods and in what conditions they are being prepared. In the case of the Salmonella outbreak, if the burger bar would have used an alternative to raw eggs the incident would not have occurred. In the case of the C. Perfringens outbreak the restaurant did not refrigerate their products properly or at the right temperatures, which can easily be done. With the last case of E. coli, food was processed

and packaged, but there is no detail on where the contamination occurred. There is no out of this world rocket science involved with food safety, so taking that extra minute to prepare food properly can not only save you a trip to the hospital but make you enjoy the food that you love.

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