**How food safe are you?**

Your facilitator will conduct a quick survey of the class to ask questions regarding food safety.

**Background**

Foodborne illness is any illness resulting from the consumption of contaminated food, pathogenic bacteria, viruses or parasites that contaminate food. Norovirus, *Escherichia* *coli*, *Campylobacter* spp. and *Salmonella* spp. are the most common known causes of foodborne gastroenteritis, although ~80% of illnesses are of unknown pathogens. While the majority of foodborne pathogens cause gastroenteritis, there are some that can result in irritable bowel syndrome, kidney failure, meningitis, hepatitis and death.

Around 4.1 million cases of foodborne gastroenteritis occur in Australia every year, costing an estimated $1.2 billion per year. However, only a fraction of cases of foodborne illness are reported to health departments and investigated, and for many diseases it is not mandatory for doctors and laboratories to report cases to health departments for investigation. For example, in Australia, for every case of salmonellosis (infection due to Salmonella bacteria) notified to a health department there are an estimated 7 infections that occur in the community.

**Table 1.** Classification of common pathogens causing foodborne illness

|  |  |  |  |
| --- | --- | --- | --- |
| Virus | Bacteria | Protozoa | Chemicals |
| Novovirus  Hepatitis A | *Listeria monocytogenes*  *Escherichia coli*  *Salmonella*  *Clostridium botulinum*  *Campylobacter* spp. | *Cryptosporidium* spp.  *Giardia lamblia* | Scombrotoxin |

Other interesting facts regarding foodborne illness in Australia:

* From 2001-2011, the number of Australians struck down by food poisoning has increased ~80% and the number of outbreaks linked to restaurants has more than doubled
* The rate of salmonella poisoning jumped 60% in the same decade. While this is largely attributed to a shift in preference towards chicken (raw or undercooked chicken is a major cause) outbreaks of *Salmonella* have been linked to rockmelon, papaya, and cucumbers.
* Raw or minimally cooked eggs are the single largest cause of food-borne illness in Australia. But fresh produce has been increasingly implicated as health-conscious consumers favour salads, raw vegetables and minimally processed foods.

Source: [www.ozfoodnet.gov.au](http://www.ozfoodnet.gov.au)

**Your task**

You will work in pairs/small groups to investigate actual cases of foodborne illness to better understand pathogens in food, how contamination occurs, how it can be prevented and the effects of ingesting the foodborne pathogens on human health. Your group will be given a high-profile case of food poisoning/foodborne illness that occurred in Australia and asked to present your findings back to the class by the end of the tutorial. The case of Clostridium botulinum in honey will be given as an example of what will be required in your mini presentation.

**The case**

Your case is:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The following points may be used to guide your presentation

* Give a brief overview of your case
* What was the food contaminant implication? (can give common and chemical name)
* What foods was it in / what foods is it often found in?
* How did / can the contaminant end up in food?
* What is the typical incubation period of your contaminant?
* What are common symptoms of ingesting the food contaminant?
* What happened to the individual/s who ingested the food contaminant in your case?
* What happened to the food company who were implicated in your case?
* How could the situation have been prevented?
* What is an interesting fact about the food contaminant you found in your searches?

**Suggested information sources**

Queensland Health

* <http://www.health.qld.gov.au/foodsafety/>

Food Safety Information Council

* <http://www.foodsafety.asn.au/>

FSANZ

* <http://www.foodstandards.gov.au/consumer/safety/Pages/default.aspx?page=1>
* <http://www.foodstandards.gov.au/consumer/safety/faqsafety/Pages/default.aspx>
* <http://www.foodstandards.gov.au/consumer/safety/faqsafety/pages/foodsafetyfactsheets/foodsafetystandardsf64.aspx>

World Health Organisation

* <http://www.who.int/foodsafety/en/>
* <http://www.who.int/foodsafety/publications/newsletter/en/>

Food-borne illness cases in Australia:

* E.coli & raw/unpasteurised milk (Mountain View Organic Bath Milk)
  + <http://www.theage.com.au/victoria/toddler-dies-four-children-seriously-ill-after-drinking-raw-cows-milk-20141210-124lx8.html>
  + <http://gmopundit.blogspot.com.au/2014/12/an-avoidable-child-death-from.html>
* Salmonella & eggs (Grocer and Grind)
  + <http://www.goldcoastbulletin.com.au/news/broadbeach-eatery-grocer-and-grind-under-investigation-after-gold-coast-salmonella-outbreak/story-fnj94j0t-1227260263138>
* Hepatitis A & frozen berries (Nanna’s Mixed Berries)
  + <http://www.heraldsun.com.au/news/victoria/consumers-warned-to-throw-out-nannas-frozen-berry-1kg-packets-amid-hepatitis-a-scare/news-story/8d36679acaeb5345dbb3aa18f4c73f56>
* E. coli & salami (Garibaldi mettwurst)
  + <http://www.abc.net.au/news/2011-11-22/garibaldi-e-coli-contamination-legal-case/3686838>
  + <http://www.ontherecord-unisa.com.au/?p=7223>
  + <https://www.agrifood.info/review/1995/Kriven.html>
* Listeria & soft cheese (Jindi cheese)
  + <http://www.news.com.au/lifestyle/health/listeria-are-you-at-risk/story-fneuzlbd-1226575278063>