Welcome back to our last lecture – Media, Social Media, and Food Safety Education. This lecture will attempt to wrap up some of the ideas that we learned in this class and give you resources if you want to learn more.

**Lecture Objectives**
- Explain that media (print, TV and social) can be a powerful source to disseminate food safety news both accurate and inaccurate.
- Describe sources of food safety information that are trustworthy and how to recognize those that are not.
- List the types of food safety education.

The following are the lecture objections. Explain that media (print, TV and social) can be a powerful source to disseminate food safety news both accurate and inaccurate. We will describe sources of food safety information that are trustworthy and how to recognize those that are not. We will list the types of food safety education to wrap it up.

The media can be a powerful source for disseminating food safety information. The media can report on food recalls, safe food handling information and the prevention of foodborne diseases. Media can also do a little explanation of the science of food safety. For example as shown on the right, many media outlets carried the story when Dole salads were recalled over *Listeria* risks.

Unfortunately, the media can also be the opposite, they can be a source of misinformation. Sometimes they do not check their sources and they print a story without verifying everything. In this story a group of food advocates reported that the FSIS had a shortage of food inspectors. They went to blame this shortage for the Rancho Feeding Corporation recall. We didn’t talk much about this recall but there was a lot of beef that entered the food supply that was unsafe. In the end it was discovered that inspectors had been bribed. FSIS countered that this group had no such information regarding this outbreak and that there never was a shortage of inspectors (there was a corrupt inspector).
When you turn to the media for stories, you should carefully criticize them to determine if the information provided is accurate. For example, in the photo at right, a popular food blogger known as Food Babe claims that Kraft foods is selling GM wheat in the UK. I can find quite a bit of misinformation about food safety on the Food Babe website, pretty much all of what she says is inaccurate. One thing that is obvious about this picture is that this label was slapped on the food post-production. There is no explanation for why that would be as Kraft has a facility in the UK, so there is no reason to import Kraft foods. Most importantly, there is no GM wheat. How could Kraft be using it in their products when no GM wheat has been placed on the market in the UK, the US, or anywhere else? There is a gluten-free wheat in development which we talked about earlier but there is nothing on the market. Kraft doesn’t export mac & cheese to the UK so none of this makes any sense.

If you are going to look for food safety information and especially webpages, there are some really good ones to go to. Many of the government agencies that regulate food have websites with consumer information. We have talked before about FDA, USDA, EPA, and NOAA however a lot of that is very technical and it is hard to find what you want. If you just want food safety information, try foodsafety.gov. Foodsafety.gov is self-described as “your gateway to Federal Food Safety Information” and is an excellent place to look for information. This is a great resource if you are cooking at home or in a restaurant. They also have tools for kids.

I know we all love to use social media. The positive side of this is that some of the leading food safety agencies do use social media. If you want to follow food safety information, you can follow the FDA and CDC pages. Both have Facebook pages and active Twitter feeds. Both agencies also release information via social media on jobs, education, and research opportunities. If you are in the market and want to work for one of these agencies, be sure to like them on Facebook or follow them on Twitter.

I like to follow these pages and especially FoodSafety.gov as they will give you stories that are relevant to the particular time frame. Shown here are stories about keeping your Super Bowl party safe. Super Bowl Sunday is second only to Thanksgiving in food sales. These food safety advocates used Facebook to remind people to consider food safety tips when feeding guests. You can also ask questions on these feeds and often the agencies will answer.
Unfortunately social media also comes with a big negative side and you can get a lot of information that simply isn’t true. Social media can also give voice to people’s opinions on food safety which are often not supported by credible data. I would ask you to be very careful of information originating from Mercola, Natural News, Food Babe, and others. These are pseudoscience websites at their worst. Don’t share this information and don’t take it as credible. If you question information from these sites, go to the FDA site and ask them to clarify. And you can also research on your own. Please be critical of any website that has a store, they are definitely trying to sell you something!

If you think I am just telling you this because I don’t like these sites, I want to show you an example of how they talk in circles. This comes to us from Natural News in which they add a link to an article from Mother Earth news. The Natural News story says that genes from Bacillus thuringiensis are inserted into crops and the killer bacteria are inserted into your foods. However, the Mother Earth News link tries to sell you the same bacterium as organic pest control. The same bacterium is sprayed on organic crops. So which is true? Is it a killer bacteria or is it one of the safest natural pesticides? This just demonstrates that these sites are not peer-reviewed, they can try to sell you on any idea they like. So what is the answer? Bt genes in GM crops are perfectly safe, so is the use of the organism in organic crops. It doesn’t matter, it is safe to use this.

And sometimes there is sort of middle ground in social media. I would give this one a good and a bad rating. Some sites can have agendas, for example, this site (Food Safety News) is run by the MarlerClark law firm. Obviously, they want to drum up business. However, it is a pretty good site to see up to the minute recall information. Although the firm has an interest in prosecuting cases, they do not attack the food agencies and they post legitimate food safety information (mostly). Once in a while they post something questionable.
How to Find Good Food Safety Information

- Beware of garbage journals!
- Academic publishing is a big business and one worth a lot of money.
- Several journals have been initiated which are basically “pay-to-publish” which means the science is usually not reliable.
- At right is a great website which lists journals that are considered junk:
  - http://scholarlyoa.com/publishers
- Beware of websites that are trying to sell you something. If you see a “store” or “products”, you probably don’t want to use this source for your research.

So you might be asking yourself, how do I find good food safety information. I gave you a few websites that are very reputable, use FoodSafety.gov, use FDA.gov, those are great sources. However, we are a research university here and we do like to look at peer-reviewed research. Beware of garbage journals! Academic publishing is a big business and it is worth a lot of money. Because of this, several journals have been initiated which are basically “pay-to-publish” which means much of the science is not reliable. In other words, I could put together a paper with no scientific merit at all, send it in for peer-review, and if I pay them enough money, they will publish it. It doesn’t matter that it is garbage. If someone tries to sell you on a food safety idea that is suspect, look at this list on right. The website on right lists journals that are “junk”. Beware of data published in these journals. A good tip for the future, do NOT publish your own data in these journals, and if one asks you to do a peer-review, refuse, you are wasting your time. Regardless of your review, they will publish the paper. And again, beware of websites that try to sell you something. If you see a “store” or “products”, you probably do not want to use this source for your research.

Final Thoughts on Social Media

- In a completely UNSCIENTIFIC study, I asked the question “What is the single most important threat to the food supply?” on social media. Here are the answers:
  - Antibiotic overuse
  - Mother nature/global warming
  - Globalization of the food supply
  - Contaminated water
  - Misuse of the word “organic”
  - Internet conspiracies
  - Monoculture
  - And three “wise guys” said:
    - Twinkies
    - My appetite
    - Stupidity

Not one single person answered “microbes” even though bacteria and viruses continue to be the biggest threats to the food supply.

Food Safety Education

- Food safety education occurs at many different levels, including:
  - Home cook
  - Food service workers
  - Certified food managers
  - Food Safety/Science degree programs

So let’s really switch gears here and talk about food safety education. Food safety education occurs at many different levels, including: it includes the home cook, food service workers, certified food managers and Food Safety/Science degree programs.
One of the things we worry a lot about is educating the home cook. How do we reach the person who is not sitting in the classroom? Home cooking used to be passed down through the generations and sometimes this is still the case. Think about your own case, do you cook? Did you learn to cook because you had to, or was it a family tradition and your mother and grandmother passed down their recipes? Food safety may be compromised by using older methods of preparation. School have largely dropped cooking from their classes and today fewer and fewer people cook at home. In the photos at right, both foods are in the temperature danger zone. These are very common things that you may have learned to do from your mother or grandmother.

What can we do to educate the home cook? There are a number of things that can be done including simply putting safe handling instructions on foods. People have to actually read them however. Hopefully since you are at the end of the course, you are reading these. We also put a lot of safe handling instructions in cookbooks and in recipes. See if you can find these in cookbooks. We try to get food safety education out in the media, including in stories and in commercials. We also use webpages as so many people like to use the internet for their education. Simple things like the Fight Bac! Picture on the right are usefully. They used to give away 100s of these as magnets to go on your refrigerator and remind you of the rules of food safety.

There are a lot of websites out there for educating the home cook but these two are specifically aimed at food safety. On the left is Home Food Safety and on the right is the Partnership for Food Safety Education. Another of different agencies are involved and this has some great resources.

Educating the home cook includes children and a number of resources are available not only to encourage kids to cook, but to teach them food safety. For example, at homefoodsafty.org you can actually print these certificates and they give rules for kids. They have easily understood information and can be signed and kept by the child.
We know that powerful visuals are one of the best ways to educate people. Educating the home cook often involves this little visual right here. It looks very simple but look at all the rules that are covered. Clean, separate, cook, chill. So we covered personal hygiene, we covered cross contamination, and we covered temperature control really quickly. This figure was designed to simply remind the food preparer, it doesn’t matter where they are at, of the most important lessons of food safety. Following these four steps one can avoid all three leading causes of illness.

- Clean
- Separate
- Cook
- Chill

That is the home cook, how do we educate the food service worker? Each state may have different requirements for food service workers. For the purpose of our lecture, we will use the state of Florida’s requirements. Food service worker training is mandated by Florida statute. You don’t need to memorize this statute, I just want you to know this exists. Please highlight the word MANDATED, several students have told me they work in food service and were never trained. Then you were operating outside of the law.

The state of Florida has mandated that food safety training contains the following six areas: you must ensuring proper personal hygiene, you must preventing cross contamination, you must learn about controlling time and temperature when handling food, you must learn about proper cleaning and sanitizing, you must understand the causes and effects of major foodborne illnesses as taught in the training, and you must ensuring proper vermin control as well.

States such as Florida generally purchase an online employee food handler training program. That way any business that is registered with the Department of Business and Professional Regulation can log into this system and read all about the food safety rules. The state of Florida has recently purchased SafeStaff®. Previously the state has used the ServSafe® program. You may be familiar with one or both programs. Every food handler must receive training every three years. This is very important, if you have worked in foods for many years you must be retrained every 3 years. I know that many people have not been retrained.
Certified Food Manager

Licensed food service establishments are required to have a certified food manager. This includes managers responsible for food storage, preparation, display, and service. Shown at right is the State of Minnesota's sample food manager certificate.

At least one food manager must be present anytime four or more employees are engaged in preparation, storage, or service of foods. This is the case in Florida (note added: other states may have more strict rules). There is no degree requirement to become a certified food manager.

To become a certified food manager one must pass an examination on food safety and sanitation knowledge. The standards for the examination are determined by the Conference for Food Protection and are endorsed by the USDA. I included the website here in case you were interested in certification. Having taken this course, you will know most of the information that is on this test. There are a few random engineering controls we have not talked about, but most of the information we have already covered.

If you would like to work in Florida, there are really just four places in which you can take the test. They only recognize these four providers. Please keep that in mind if you want to be certified here.

If you are interested, this is what I would highly recommend to you. I would go with this provider right here. The reason I say this is because the registration will provide you with a book to study for the examination. This book contains the information you already know from this class and it will add those engineering controls I mentioned. And the back of the book contains a voucher to take the exam. The exam is offered at Pearson Vue qualified testing centers, including the one here at USF. This allows you to take the exam whenever you want.
Let’s move one step further, what if you want to do a Food Safety or Food Science degree? I combine these here because most programs will offer both of these areas. Advanced degrees in food safety and food science are gaining in popularity. [Note added: instructor mentioned here that our college is working on a Masters of Public Health with a concentration in Food Safety, that degree is now available and looks at the topic from the side of disease prevention]. Food safety degrees often concentrate on prevention of foodborne illness while food science degrees may focus on developing new crops, preservatives, techniques for preparation, etc. There is significant crossover in the two fields, especially where food quality is concerned.

If you want to get a degree, Food safety degrees are available from a number of universities and include undergraduate, masters, and doctoral degrees and food safety certificates. Food safety is often rated as the number one concern of consumers and food safety practitioners are in demand.

If you want to do the food science degree it often contains more chemistry. Beware of that now as it often to be sure you have the pre-reqs. You get to solve a lot of unique and interesting topics with foods. For example, in order to lower the calories from sugar, these experts may work with sugar substitutes.

The lecture summary is as follows. The media can be a powerful method to disseminate information related to food safety, especially proper food preparation, recall notices, etc. Conversely, a general mistrust of the food supply and misinformation regarding food safety are easily spread by the media, and especially social media. Food safety education takes many forms and includes everyone from the home cook and children, to food safety professionals and researchers.