Quarterly Update

MINNESOTA DEPARTMENT OF HEALTH
FOOD SAFETY PARTNERSHIP
PARTNERSHIP AND WORKFORCE DEVELOPMENT UNIT

November 2016

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Note From the Editor

Choices

We all make important choices every day. Whether personal, community-based or impacting how we do business, each choice impacts both ourselves and others. How can we make choices which positively impact food safety and help protect the public health?

Read on to learn about:

- Preparing to clean up when (*not if*) Nasty norovirus rears its ugly head in your establishment.
- How regulators and operators can team up to ensure the safety of Pickled eggs.
- About upcoming food safety Training Events.

Sarah and the PWDU team

Training Calendar 2016 - 2017

Date	Org.	Details
Nov. 2	MDH/FPLS/ FSP	Food Safety Partnership *cancelled*
Dec. 7	MDH/FPLS	Regulators' Breakfast 8:30 a.m. to 10:00 a.m. OLF-B107 and video-conference sites statewide
Feb. 1, 2017	MDH/FPLS	Regulators' Breakfast 8:30 a.m. to 10:00 a.m. OLF-B107 and video-conference sites statewide
Feb. 7 and 8, 2017	MDH/FDA	Risk-Based Inspection Methods in Retail (FD218) OLF-B144 and B145 Contact Jim Topie
Apr. 5, 2017	MDH/FPLS	Regulators' Breakfast 8:30 a.m. to 10:00 a.m. OLF-B107 and video-conference sites statewide
Sept. 19 – 21, 2017	NEHA/ MEHA	NEHA Region 4 Conference Minneapolis Contact Kim Carlton
Sept. 19 – 21, 2017	FDA	FDA Central Region Retail Food Protection Seminar Minneapolis Contact Kim Carlton

Training Events

FD218: Risk-Based Inspection Methods in Retail

The Minnesota Department of Health will be hosting FD218: Risk-Based Inspection Methods at Retail. Limited seats are available. Call 218-302-6154 or email Jim Topie with questions.

Dates/Times

Tuesday, February 7 and Wednesday, February 8, 2017, 8:00 a.m. to 4:30 p.m.

Location

Rooms B144 and B145
Orville Freeman Building, 625 Robert Street North, St. Paul, MN 55164

Course Objectives

1. Apply foundational concepts related to risk-based routine inspections to evaluate the relative public health risk of various violations in given inspection scenarios.

2. Demonstrate the use of communication techniques to convey the public health significance of a given risk factor violation and obtain information necessary for determining code compliance and active managerial control in simulated inspection scenarios.

3. Apply time management and risk evaluation strategies to focus the inspection, set priorities, and determine inspection flow in mock inspection scenarios.

4. Apply strategies to determine code compliance and active managerial control of foodborne illness risk factors in simulated inspection scenarios.

5. Analyze inspectional evidence to determine appropriate immediate corrective actions for out-of-control risk factors during simulated inspection scenarios.

6. Develop an appropriate long-term intervention strategy with industry during a mock inspection/role playing exercise.

Target Audience

Federal, state, local, and tribal health inspectors (environmental health specialists) with retail food or foodservice inspection responsibilities or managers of retail food regulatory programs

Course Description

This workshop builds upon concepts learned in FD215 Managing Retail Food Safety and is designed to further enhance the knowledge, skills, and abilities of food safety inspection officers in conducting risk-based inspections.

Topics include:

- Key terms, applicable laws/policies, and necessary equipment
- Food microbiology
- Three common food preparation processes and their associated hazards and control measures
- Communication techniques related to risk-based inspections including establishing rapport, active listening, asking strategic questions, and oral versus print culture communication styles
- Strategies used to focus the inspection, set priorities, and determine inspection flow
- Differences between assessing code compliance and active managerial control (AMC) of foodborne illness risk factors during inspections and the reasons why assessing AMC is essential to public health
- Techniques for determining code compliance and AMC of foodborne illness risk factors
- Determining the most appropriate immediate corrective actions for out-of-control foodborne illness risk factors
- Determining the most appropriate long-term intervention strategies for out-of-control risk factors

Course Pre-Requisites

- Successful completion of the FD112 Food Code (face-to-face or on-line) course or equivalent mastery
- All Level 1 courses in Standard 2 of the Voluntary National Retail Food Regulatory Program Standards (microbiology, communication skills, public health principles, etc.)
- Read Annex 4 and 5 of the 2013 FDA Food Code
- Completion of the Communication Skills for Regulators web-based course from International Food Protection Training Institute (https://ifpti.absorbtraining.com)

FSP Video-conferences

The Food Safety Partnership (FSP) is a consortium of environmental health professionals, industry partners, and other stakeholders, founded in 2001. FSP members work together to protect public health in the area of food safety.

The last FSP event was held on September 21, 2016. The general topic was Microbiology of Cooling and our keynote speaker was Alison Larsson, PhD, CFS, president and lab director at MarketFresh Food Testing Laboratory in Minneapolis. MarketFresh conducts pathogen and indicator testing for food safety and quality; shelf life/challenge studies; allergen testing; and moisture, water activity and pH testing.

Alison's presentation covered:

- Intrinsic and extrinsic parameters of foods that affect microbial growth
- The hurdle concept
- Temperature preferences of microbes
- Characteristics of spores and sporeformers

In addition, she summarized characteristics of two pathogens commonly associated with improperly cooled foods: *Clostridium perfringens* and *Bacillus cereus*.

In conclusion, Alison provided these tips to help cool foods safely:

- Cool quickly after cooking and either refrigerate or use it as soon as it has cooled.
- Do not cool hot food in the refrigerator.
- Use shallow stainless steel pans – leave uncovered.
- Divide foods into smaller amounts.
- Use the right cooling method (blast chiller, ice, etc.)
- Separate/protect cooling food.
- Store properly once cooled.

Other presentations included an Epidemiology Review from Josh Rounds, MDH and a demonstration of USDA's Pathogen Modeling Program (PMP) (http://pmp.errc.ars.usda.gov/PMPOnline.aspx) by Jim Topie, MDH.

Regulatory staff may review slides from this FSP event in FoodSHIELD (https://www.foodshield.org/).

There are no FSP events scheduled at this time.

Food Safety Partnership – Plus

Food Safety Partnership – Plus (FSP+) events are opportunities for the regulatory community, industry and consumers to meet and learn about current issues impacting various environmental health issues.

There are no FSP+ events scheduled at this time.

Regulators' Breakfast

The purpose of the Regulators' Breakfast is to establish a forum that will contribute to statewide uniformity and consistency among regulatory staff and management (local agency and MDH) in the interpretation and application of statutes, rules and procedures. This event is for regulatory agencies. Email Sarah Leach or call 651-201-4509 for more information.

The next Regulators' Breakfast will be held Wednesday, December 7, 8:30 a.m. to 10:00 a.m.

Healthy Swimming Update

What do you do when you find poop in the water?

Fecal incidents are a concern and an inconvenience to both aquatic staff and patrons. Fortunately, most germs causing recreational water illnesses are killed by chlorine within a few minutes. However, some germs (like *Cryptosporidium*) can live in properly treated water for days.

Updated guidelines for diarrheal fecal incident response

This summer CDC updated its recommendations for hyperchlorinating to achieve 99.9% inactivation of *Cryptosporidium* and responding to diarrheal fecal incidents in public aquatic venues. The updated guidelines reflect the latest published data on inactivating Crypto in water with chlorine stabilizer (e.g., cyanuric acid, dichlor, and trichlor). Aquatic staff can use the updated guidelines for Fecal Incident and Outbreak Response when responding to a fecal incident or hyperchlorinating to kill *Cryptosporidium*.

Resources

Fecal Incident and Outbreak Response (http://www.cdc.gov/healthywater/swimming/aquatics-professionals/fecalresponse.html)

Effect of Cyanuric Acid on the Inactivation of Cryptosporidium parvum under Hyperchlorination Conditions (http://pubs.acs.org/doi/abs/10.1021/acs.est.5b00962)

Emergency Preparedness

Nasty norovirus!

According to the U.S. Centers for Disease Control and Prevention (CDC), in 2002, an outbreak of norovirus at a concert hall occurred after a concert attendee vomited. The concert hall staff cleaned up the vomit, but they did not use a disinfectant. The day after the event, 257 people who attended events at the concert hall became ill. Additionally, 27 people became ill after attending events over the following three days. The highest attack rate (75%) was reported by people seated in the same section where the sick person was seated. Lower attack rates were reported for people sitting nearby.

Are you prepared for vomit and diarrhea cleanup?

Norovirus is found in the vomit and diarrhea of infected people. When a vomiting or diarrheal accidents occur, it can be highly infectious due to the airborne droplets carrying norovirus particles to surrounding surfaces. Norovirus is very persistent and can survive on surfaces for days.

The risk of exposure to food equipment, staff, and consumers can be reduced if a proper cleanup takes place. Take immediate precautions when an establishment experiences a vomit or diarrheal accident. Having a clean-up procedure in place and employees properly trained to respond will help minimize the spread of contamination.

Recommended steps for vomiting and diarrheal accidents include:

- Segregate the area.
- Wear disposable gloves during cleaning.

To help prevent the spread of disease, it is recommended that a disposable mask and/or cover gown (or apron) be worn when cleaning liquid matter.

- Wipe up the matter with towels and dispose into a plastic garbage bag.
- Mix a chlorine bleach solution that is stronger than the chlorine solution used for general cleaning [the CDC recommends 1000 to 5000 parts per million or 5 to 25 tablespoons of household bleach (5.25%) per gallon of water]. *Note: quaternary ammonia is not an effective sanitizer for norovirus.*

- Apply the bleach solution and allow it to remain wet in the affected area for at least 10 minutes. Allow to air dry. Dispose of any remaining sanitizer solution once the accident has been cleaned up.
- Discard gloves, mask, and cover gown (or apron) in a plastic bag.
- Take measures to dispose of and/or clean and disinfect the tools and equipment used to clean up vomit and fecal matter.
- Properly wash hands.
- Discard any food that may have been exposed.
- Minimize the risk of disease transmission through the prompt removal of ill employees, customers and others from areas of food preparation, service, and storage.

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Have a plan

It is not a matter of *if* an incident will happen; it is a matter of *when*. A plan enables a rapid, effective response and is definitely the best protection.

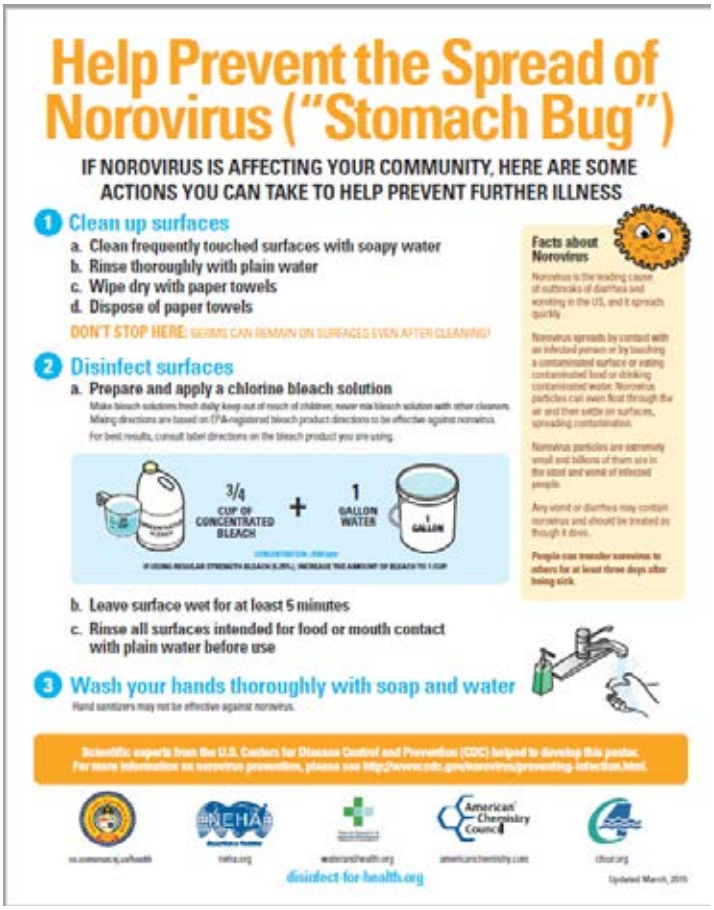
Resources

For more information about preventing norovirus infection and clean-up procedures check out the CDC resources on [Preventing Norovirus Infection](http://www.cdc.gov/norovirus/preventing-infection.html) (http://www.cdc.gov/norovirus/preventing-infection.html).

[Clean-up and Disinfection for Norovirus posters](http://www.disinfect-for-health.org/resources) (http://www.disinfect-for-health.org/resources) are available in English and Spanish.

References

Centers for Disease Control and Prevention (2012) Preventing Norovirus Infection. Retrieved from http://www.cdc.gov/norovirus/preventing-infection.html.



Bug of the Quarter

Zika virus

Zika virus disease is caused by a mosquito-transmitted virus first discovered in the Zika Forest region of Uganda in 1947. Since then, outbreaks have been reported in tropical regions in Africa, Southeast Asia, and the Pacific Islands.

More recently in 2015, outbreaks occurred in South America, Central America, Mexico, and the Caribbean. While the symptoms of Zika virus disease are typically mild, concern has recently been raised of a possible link between Zika virus infection and serious health conditions, particularly in babies of mothers who were infected with Zika virus.

Transmission

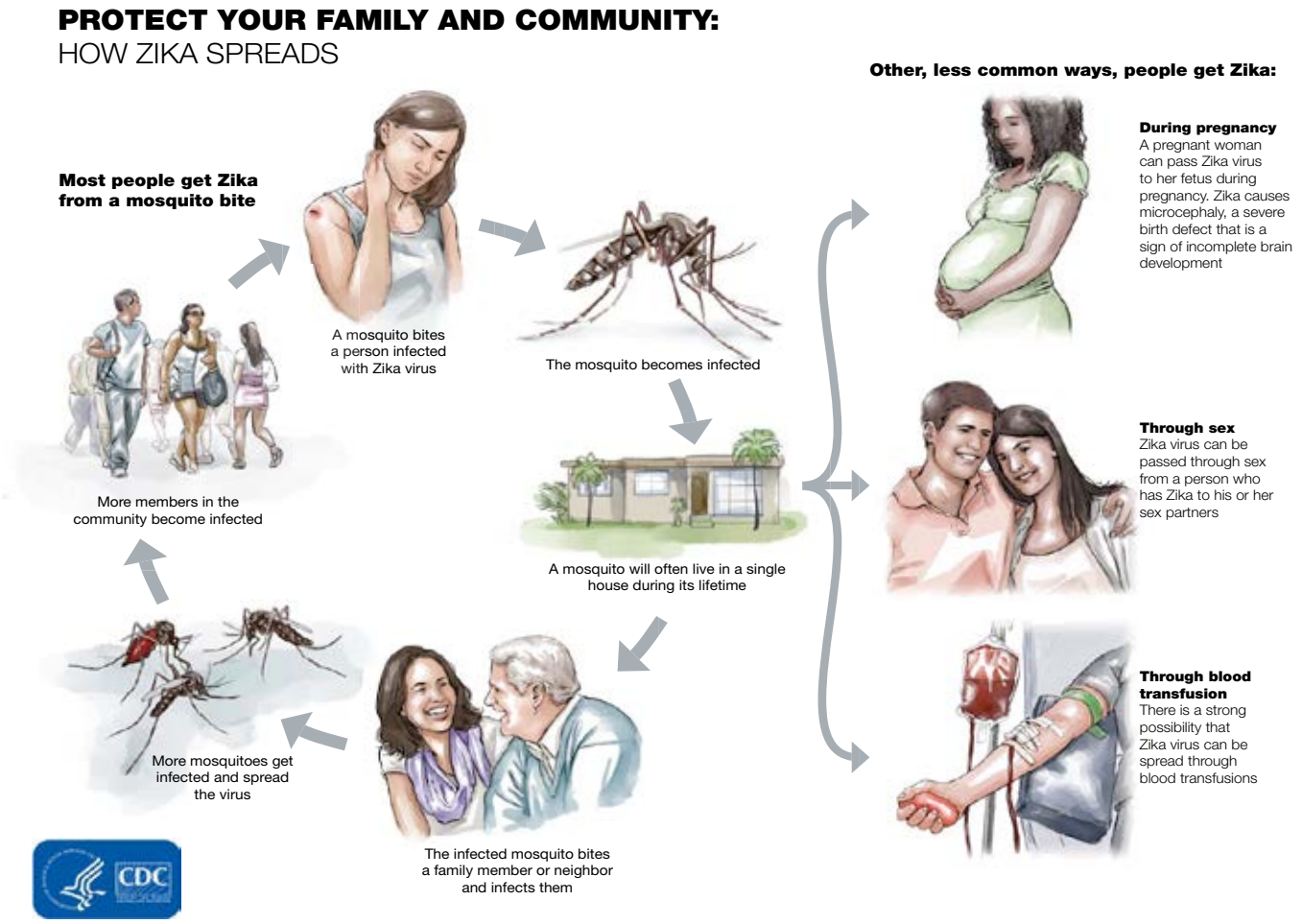
Zika virus is transmitted to people primarily through the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*). These are the same mosquitoes that spread dengue and chikungunya viruses.

These mosquitoes typically lay eggs in and near standing water in things like buckets, bowls, animal dishes, flower pots and vases. They prefer to bite people, and live indoors and outdoors near people. Mosquitoes that spread chikungunya, dengue, and Zika are aggressive daytime biters, but they can also bite at night.

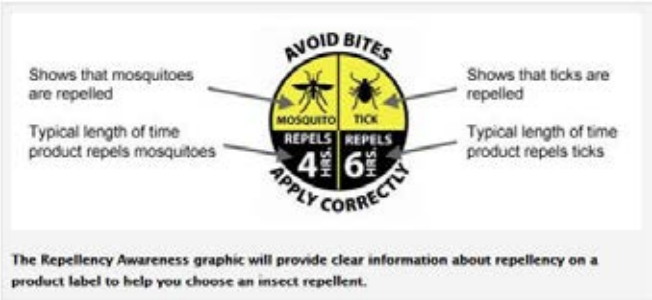
Mosquitoes become infected when they feed on a person already infected with the virus. Infected mosquitoes can then spread the virus to other people through bites.

Here are some ways the Zika virus can be transmitted:

- From mother to child
- Through sex
- Through blood transfusion
- Through laboratory exposure



Local Zika virus transmission is not a concern to Minnesota residents since the mosquito species that transmit the virus are not established in this state. However, individuals who travel to affected areas may become sick and should either consider delaying travel (particularly for pregnant women) or follow steps to prevent mosquito bites.



Symptoms

Many people infected with Zika virus won't have symptoms or will only have mild symptoms. Symptoms of Zika may include:

- Fever
- Rash
- Joint pain
- Conjunctivitis (red eyes)
- Muscle pain
- Headache

Zika is usually mild with symptoms lasting for several days to a week. People usually don't get sick enough to go to the hospital, and they very rarely die of Zika. For this reason, many people might not realize they have been infected.

Testing

See your doctor or other healthcare provider if you have the symptoms described above and have visited an area with Zika. This is especially important if you are pregnant. Be sure to tell your doctor or other healthcare provider where you traveled.

Your doctor or other healthcare provider may order blood tests to look for Zika or other similar viruses like dengue or chikungunya.

Once a person has been infected, he or she is likely to be protected from future infections.

Case counts

Zika virus outbreaks are occurring in multiple countries and in three U.S. territories. The U.S. Centers for Disease Control and Prevention (CDC) has issued travel notices for these areas.

Some countries have reported Zika cases in the past and may report occasional new cases. CDC has issued special travel considerations for travelers to countries in Southeast Asia where Zika virus is endemic.

Table 1 includes Zika virus disease case counts in U.S. states and territories as of October 19, 2016. In U.S. states, 32 cases were sexually transmitted and 14 cases of Guillain-Barré syndrome have been reported. In U.S. territories, 40 cases of Guillain-Barré syndrome have been reported. Sexually transmitted cases are not reported for U.S. territories because with local transmission of Zika virus it is not possible to determine whether infection occurred due to mosquito-borne or sexual transmission.

Table 1: Case counts of Zika virus disease in U.S. states and territories (October 19, 2016)

Location	Locally acquired mosquito-borne cases reported	Travel-associated cases reported	Laboratory acquired cases reported	Total
U.S. states	137	3,878	1	4,016
U.S. territories	27,314	88	NA	24,402

Resources

Zika Virus: What you should know (http://www.mmcd.org/wp-content/uploads/2016/03/Zika-Web-tri-fold-for-web.pdf)

Case Counts in the US (https://www.cdc.gov/zika/geo/united-states.html)

Zika Virus (www.health.state.mn.us/divs/idepc/diseases/zika/index.html)

U.S. Environmental Health Protection Agency (EPA) Repellency Awareness Graphic (https://www.epa.gov/insect-repellents/repellency-awareness-graphic)

Tip of the Quarter

Pickled eggs

Pickled eggs can often be found on smorgasbords around Minnesota during the holiday season (usually next to the pickled herring) or are typically located on the liquor bottle shelf at your nearest tavern.

Pickling is a centuries-old method employed to impart flavor and preserve the product so that it can be eaten weeks or months later. Regardless of production method, inspectors and food establishment operators need to remember that a validated and verified process for preserving the eggs will protect consumers from hazards such as *Listeria monocytogenes* or *Clostridium botulinum*. Without adequate controls, the risk of foodborne illness outbreaks from eating pickled eggs increases.

A food establishment making pickled eggs may or may not need a HACCP plan and variance. This article will help operators and regulators understand the requirements for safely making pickled eggs at retail.

Do I need a HACCP plan?

As with any difficult to answer question, the typical response is: *it depends, and it's complicated*.

Minnesota food code states that hard-boiled eggs are not potentially hazardous food if they are air cooled and the shell is intact. Once the shell is broken and peeled, or if the eggs are cooled in a water bath or ice, they become potentially hazardous food and need to be refrigerated for storage. Hard-boiled eggs that are potentially hazardous are subject to the seven day date marking provision required by 4626.0400 as well as the cold holding requirements in 4626.0395.

In the case of pickled eggs, vinegar is being used as a flavoring and acidification additive. If the operator intends to keep the eggs beyond seven days from preparation, or wishes to store them at a temperature above 41°F, then a HACCP plan and variance are required. Minnesota food code requires that the final product must have a pH of 4.6 or less to be considered not potentially hazardous, regardless of whether the product is packaged or intended for service on-site.

A fictional example

John Johansen, owner of Sanitary Harry's Dive Bar, pickles eggs using his "secret" family recipe. The family recipe calls for the eggs to be boiled, peeled, and then immediately placed into jars with a solution of vinegar, salt, sugar, spices, and beet juice on day one. The eggs then marinate in the refrigerator for at least ten days to get the pink color from the beet juice to penetrate to the yolk. After day ten, the eggs are nice and pink all the way through and can be served at the customer's request. John sometimes even gets requests by customers to purchase a whole jar of eggs for them to take home because they are so tasty.

In this scenario, John needs three things:

- An approved HACCP plan to acidify the eggs to a pH of 4.6 or less
- A variance from 4626.0400 to keep the pickled eggs longer than seven days
- A pH meter to verify the acidity

John could change the recipe if he couldn't or didn't want to meet these requirements. He could:

- Marinate the eggs for a few days to impart flavor and color
- Keep all of the eggs from the batch at 41°F or less
- Date mark the container
- Serve or discard the eggs within seven days from when they were prepared

Why are HACCP and variance needed?

The HACCP plan is required because of the specialized food processing (acidification). The variance is needed so that the product can be kept beyond seven days or at a temperature above 41°F.

To summarize, if the operator wants to flavor hard-boiled eggs by adding vinegar, but will only keep them for seven days or less and they are refrigerated at 41°F or less, no variance or HACCP plan are needed.

Working together for food safety

Inspectors should work with their operators to ensure they understand if and when a HACCP plan and variance will be required. Communicating with the operator about ways they can adjust their recipe to mitigate the need for a variance and HACCP plan is a best practice for all inspectors and will help to keep consumers safe.

In the News

FISH Project News

Women of childbearing age recently participated in a project with Sawtooth Mountain Clinic, Grand Portage Health Service, and the Minnesota Department of Health (MDH). The *Fish are Important for Superior Health (FISH)* Project focused on helping women and their families enjoy the health benefits of eating fish while lowering their exposure to mercury. The FISH Project took place in Cook County, Minnesota, along the North Shore of Lake Superior.

Why did this project take place?

The main reason for doing the FISH Project was to reduce mercury exposure in women who are or may become pregnant and, therefore, reduce exposure in future babies.

- A recent study (Mercury in Newborns in the Lake Superior Basin) showed that 10% of Minnesota babies tested from the North Shore area had mercury in their blood above the level considered safe.
- Fish and fishing are an important part of history and culture for communities along the North Shore of Lake Superior. Women living in this area have reported frequently eating fish that have higher levels of mercury.

Why is mercury a concern?

Most people's exposure to mercury comes from eating fish. Mercury in Minnesota waters and fish is a result of worldwide emissions from coal combustion, mining, other human activities, and natural sources.

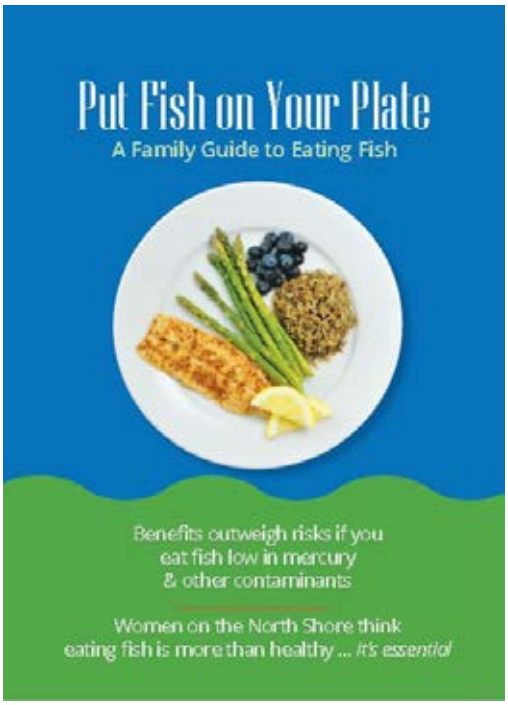
Mercury exposure can affect a person at any age. However, the developing fetus and young children are most at risk from mercury in fish. Too much mercury can affect a child's ability to learn and process information.

Mercury is in all fish but the amount depends on the species and size (age). Some species have higher levels of mercury than others because of what they eat and how long they live. These species should be eaten less often.

Mercury is not removed through cooking and cleaning - it gets into the flesh of the fish. However, you can reduce the amount of other contaminants like PCBs by removing fat when you clean and cook fish.

Are there benefits from eating fish?

Even though fish contain mercury and possibly other contaminants, there are good reasons to eat fish. Fish is low in bad fats and a good source of protein, iodine, and vitamin D. Fish is also one of the only foods naturally high in DHA and EPA omega-3 fatty acids, which are needed by the body, especially for eye and brain development.



Who participated in FISH? What did the project find out?

Between May 2014 and June 2015, 499 women ages 16 to 50 who live in or near Cook County took part in FISH.

The results for the FISH Project can be found online at the Sawtooth Mountain Clinic website. Click on the FISH Project news link.

A final technical report will be completed and available on the website in 2017.

More information about this topic and Fish Consumption Guidance is available from the Minnesota Department of Health.

Resources

Sawtooth Mountain Clinic (http://www.sawtoothmountainclinic.org/)

FISH Community Results (http://sawtoothmountainclinic.org/images/files/FISH_community_results_booklet_20151019.pdf)

FISH Project Results Summary for Detailed Questions about Fish Consumption (http://sawtoothmountainclinic.org/images/files/Detailed_Questionnaire_Results_final.pdf)

FISH Project Summary Results for Screening Questions about Fish Consumption (http://sawtoothmountainclinic.org/images/files/Screening_Questions_Results_final.pdf)

Fish Consumption Guidance (www.health.state.mn.us/divs/eh/fish/)

Mercury in Newborns in the Lake Superior Basin (www.health.state.mn.us/divs/eh/hazardous/topics/studies/newbornhglsp.html)

Health inspector scam

Occasionally we hear of situations in which establishments receive phone calls or visits from individuals attempting to gain access to credit card information or cash by posing as "health inspectors." Recently two establishments in Hennepin County have reported being targeted. Establishments were told a fee of $10 needed to be paid online immediately with a credit card to avoid a $500 fee.

Play it safe

Never give credit card information to someone you do not trust. Contact your inspector if you have any questions.

Resources

Contact information for all MDH and local delegated regulatory agencies is available at the MDH Licensing website (www.health.state.mn.us/divs/eh/food/license/index.html).

Rule Revision

Minnesota is currently in the process of revising the Minnesota food code, Minnesota Rules, chapter 4626. Look for more rulemaking updates in future issues.

Food code draft language

The newest Revisor's draft version of the proposed Minnesota food code (Minnesota Rules, Chapter 4626) is posted on the Draft Proposed Rule Language website.

MDH and MDA have sent an email notification to approximately 11,000 addresses announcing the new draft is available online. If you have not received food code revision notifications in the past, and would like to be added to the list, please call 651-201-5792 or email Linda Prail (linda.prail@state.mn.us). There is also a link on the Rule Revision home page to sign up.

The most recent draft will look different from previous

published drafts. Linda has written and posted a set of reading instructions to help people read the rule draft and understand what is there and what is not there.

Biggest content changes between the last draft and the new posted draft are in chapters 5 (water, plumbing, waste) and 8 (compliance, enforcement). There are few changes to chapters 3 (food) and 4 (equipment, utensils, linens).

MDH and MDA need your help!

Remember there are no rule revisions without glitches. Please read the draft and let us know if you find punctuation errors or other issues. We hope to fix as many as we can before adoption. We need your help!

Public hearing dates

We are driving forcefully toward the goal of a public hearing in mid-January. As with any rulemaking process, there are multiple approvals at each stage. We will move forward with the public hearing as soon as we receive the required approvals. Please check your email for further updates.

Resources

Draft Proposed Rule Language (www.health.state.mn.us/divs/eh/food/code/2009revision/draftprule/index.html)

Minnesota Food Code Rule Revision (www.health.state.mn.us/divs/eh/food/code/2009revision/index.html)

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(www.health.state.mn.us/divs/eh/fpls/)

To obtain this information in a different format, call: 651-201-4500.