Community Report for the
Lake County Mercury Screening Project

Women of childbearing age recently participated in a project with Lake County Health and Human Services Women, Infants, and Children program (LCHHS WIC) and the Minnesota Department of Health (MDH). The Lake County Mercury Screening Project (MSP) focused on reducing mercury exposure in women of childbearing age.

Why did we do this project?
We did MSP to reduce mercury exposure in women who are or may become pregnant and, therefore, in future babies by raising awareness about fish consumption.

- A 2011 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 in Northeast Minnesota. Women living along the North Shore of Lake Superior have reported frequently eating fish with higher levels of mercury.

MSP is an extension of the Fish are Important for Superior Health (FISH) Project currently underway in Cook County. Information gathered from MSP and FISH will be combined to evaluate how predictive screening questions are for blood mercury levels.

In the future, screening questions could aid doctors and nurses in quickly screening patients for high mercury exposure. Screening would guide patient education for choosing fish low in mercury to lower exposures.

Mercury Screening Project Goals

1. Measure mercury in blood to see if women have exposure above a level of concern

2. Educate women on health benefits of eating fish and eating fish low in mercury

3. Determine if screening questions predict blood mercury level
What did a MSP participant have to do?

Between September and December 2014, 121 women age 16 to 49 who participate in LCHHS WIC or work as LCHHS employees took part in MSP. They each provided a blood sample to be analyzed for mercury and answered three screening questions about fish they recently ate.

Participants were given information about the health benefits of eating fish and how to choose fish to eat that are low in mercury. Most women completed the project in 20-30 minutes.

Each participant received her personal mercury blood result, information on wisely choosing fish to eat, and a $20 gift card for taking part.

How much fish did participants report eating?

Responses to three screening questions described how much fish participants ate in the last 2-3 months.

Screening Question #1
How many times a week did you eat any kind of fish?

All 121 participants reported eating fish in the last 2-3 months. Overall, younger women tended to eat fewer fish meals than older women.

- Benefits from eating fish are maximized at 1-2 meals per week. 38% of women said they ate 1 or more fish meals per week.

Screening Question #2
How many times a month did you eat any of these fish – Walleye, Northern Pike, Bass, or Lake Trout from Lake Superior?

About 12% of women reported eating 2 or more meals per month of walleye, northern pike, bass, or lake trout from Lake Superior.

- This is more frequent than the fish safe-eating guidelines recommend. In general, these fish should be eaten up to one meal per month.
Screening Question #3
Did you eat shark or swordfish?

No one reported eating shark or swordfish in the last 2-3 months.

- Both shark and swordfish are high in mercury and should be avoided by women of childbearing age.

What mercury levels were found in participants’ blood?
The mercury level in blood considered safe for women who are or may become pregnant is 5.8 μg/L or below. This level is protective for a growing fetus. The mercury results for most participants were below this level (shown as a green line in the graph below).

In general, women who ate more fish meals had higher levels of mercury. Participants with a mercury level above 5.8 μg/L were given specific advice to lower mercury exposure by choosing to eat lower mercury fish and fewer meals of higher mercury fish.

Less than 1% of MSP participants were above 5.8 μg/L compared to about 2% in the U.S.
Source: 2011-2012 National Health and Nutrition Examination Survey (NHANES)

It’s important to note that fish consumption varies by season and so can mercury levels, depending on the types of fish eaten. MSP blood samples were collected between September and December.

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.
All fish contain at least a small amount of mercury. Some fish have more than others. Bigger/older fish have more mercury than smaller/younger fish of the same species. When you eat fish, the mercury in the fish gets into your body. Your body is able to get rid of mercury over time.

Following the MN Safe-Eating Guidelines will give you the benefits of eating fish while keeping your exposure to contaminants low. Find them here: [www.health.state.mn.us/fish](http://www.health.state.mn.us/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.

In research studies, moms who ate more fish during pregnancy had a lower risk of premature birth, fewer pregnancy complications, and children with better development and higher IQ.

Should women eat fish?
Choosing fish wisely to maximize benefits and minimize risks is often challenging. MSP increased awareness about the health benefits and risks of eating fish to women of childbearing age.

MDH recommends eating fish as part of a healthy and nutritious diet. Experts agree eating fish 1-2 times per week will maximize benefits. Benefits outweigh risks if the fish women eat are low in mercury and other contaminants.

Many women who took part in MSP said they ate fish less than 1 time per week. Both the number of fish meals eaten per week and the mercury levels measured in blood indicate that women in MSP could eat more fish.

By choosing fish wisely, women could gain more of the benefits of eating fish for their health and their future children while still keeping their exposure to mercury low and at a safe level.

Questions?
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Report is also available at [www.co.lake.mn.us](http://www.co.lake.mn.us)