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MDH scientists share results of additional analysis of east metro health data

Review of available data did not find unusual rates of adverse birth outcomes or certain cancers, but reinforces the need to address the impacts of socio-economic factors

Scientists with the Minnesota Department of Health (MDH) today shared findings from new analyses looking at specific health effects in Washington and Dakota County communities affected by 3M's disposal of perfluorochemicals (PFCs), and the subsequent contamination of local groundwater and drinking water. The latest analytical work reaffirms the value of the protective steps Minnesota has taken to limit health impacts from PFCs.

3M's contamination caused serious environmental damage and affected the ground water used by some east metro communities as a source of drinking water. PFCs pose a risk to human health. In some studies, higher levels of PFCs in a person's body were associated with higher cholesterol, changes to liver function, reduced immune response, thyroid disease, and kidney and testicular cancer. Exposure to PFCs may have begun as early as the 1950s in Minnesota. The state started limiting potential exposure in 2002 by setting health-based values for PFCs to protect the public. Since the problem came into focus in the early 2000s, MDH has partnered with local private well owners and public water system operators to minimize the risk of health impacts. MDH has also worked with other state agencies and local officials to inform residents and reduce potentially harmful exposures.

East metro residents contacted MDH to express concern over recent media reports about the State of Minnesota's lawsuit against 3M and related questions about certain rates of cancers and adverse birth outcomes in the area. Clear determinations are difficult to make, as the available data cannot establish cause and effect and cannot identify small increases in various adverse outcomes over and above the normal variation across the population.

"Due to the concerns we heard from the community, we felt an obligation to reexamine the available data," said Minnesota Health Commissioner Jan Malcolm. "We used well-established public health best practices to identify and investigate the concerns. What we found supports the state's existing safeguards. Our data do not show unusual changes in rates of these specific conditions over the time period we analyzed. However, this should not be misinterpreted as a message that we can ignore the risks presented by PFCs in drinking water. We're going to continue monitoring this closely, and as new information comes in we will factor it into our protective guidance and share it with affected communities."

MDH scientists examined vital records data for low birth weight and prematurity in babies born to mothers in PFC-affected east metro communities in three time periods: 2001-2005, 2006-2010 and 2011-2015. They compared data from those areas to data from unaffected communities in the rest of Washington County and the metro region. While they found a lot of

variation in those outcomes – with some higher rates and some lower rates of negative health outcomes – the variation was within the range that would be expected.

“The data analyzed represent three windows of time,” said Jessie Shmool, an MDH epidemiologist who worked on the analysis. “The variations across geographic areas and differences over time do not suggest unusually high rates of premature births or low birth weight in these communities within these time periods. When you are dealing with a relatively small population or sample size, you would expect some variations within a range, and that is what the data show.”

However, the MDH analysis did find health differences across the county population that are consistent with health disparities and trends seen across Minnesota. For example, researchers found premature births and low birth weights were more common among mothers of color and American Indian mothers than white mothers, and premature births among mothers of color and American Indian mothers increased in some east metro areas from 2001 through 2015.

“We know social and economic factors can impact health, and these data provide further indication of that,” Commissioner Malcolm said. “We have a number of programs in the department working to address health disparities and improve birth outcomes. For instance, our maternal and child health programs include activities to reduce infant mortality, promote healthy birth outcomes and support positive parenting.”

After reviewing an expanded set of cancer data for the region, MDH researchers found no unusual differences in rates of selected cancers between the affected communities and comparison areas in the last 30 years. Those findings are consistent with similar reports on cancer rates in Washington County issued in 2007 and 2015.

While MDH’s findings are instructive, the department only examined data for two potential health outcomes for which data were available: birth outcomes and cancer. MDH has not collected public health data on other types of potential health effects of PFCs reported in the scientific literature, such as liver and kidney effects, thyroid disease and immune system changes. While MDH’s water guidance values protect against all of these effects, data on their occurrence in people are not available.

The findings of MDH’s data review are consistent with the department’s May 2017 update to guidance values for PFCs in impacted east metro communities. These results provide additional assurance that lowering the level of PFCs in drinking water reduces long-term health risks and protects the most vulnerable in the community.

The full reports can be found on the MDH website at:

<http://www.health.state.mn.us/divs/healthimprovement/data/reports/birtheastmetro.html>

<http://www.health.state.mn.us/divs/healthimprovement/data/reports/cancereastmetro.html>

Residents of east metro communities with specific questions or concerns about the health effects of any potential exposure to consumption of PFCs in their drinking water should contact the MDH Biomonitoring program by phone at 1-800-205-4987 or 651-201-5900, or by email at health.tracking@state.mn.us.

For more information, contact:

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