Study: Flint's poisoned water caused drop in number of healthy pregnancies and births

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A report released Wednesday describes the effects of lead poisoning on Flint women as "horrifyingly large." Researchers found fetal death rates increased by 58 percent and fertility rates decreased by 12 percent after the April 2014 change in the city's water source.

The study, "The Effect of an Increase in Lead in the Water System on Fertility and Birth Outcomes: The Case of Flint, Michigan," is the product of research by health economists David Slusky at Kansas University and co-author Daniel Grossman of West Virginia University, and appears in Kansas University's *Working Papers Series in Theoretical and Applied Science*.

Based in part on a review of medical records and birth and death certificates from Flint and the rest of Michigan from 2008 to 2015, the study estimates that, as a result of poisoned water, there has been a significant decline in healthy, full-term pregnancies, culminating in healthy, live-birth deliveries. It concludes that, among the babies conceived from November 2013 through March 2015, "between 198 and 276 more children would have been born had Flint not enacted the switch in water."

The Flint water crisis began when the state-appointed emergency manager severed the city, already the poorest of its size in America, from the Detroit water system, its water source for the previous 50 years, and began drawing water from the polluted Flint River under a privatization scheme called the Karegnondi Water Authority (KWA).

In gross violation of federal law, the switch was made without implementing corrosion control measures, and was falsely promoted as a cost-saving measure. In reality it was carried out to hand money over to large financial interests behind the KWA. The lack of corrosion control—the city's outmoded and inadequate water treatment plant was incapable of providing the proper treatment—caused lead to leach from pipes into the water supply.

Residents who protested the fetid, foul-smelling water were ignored and denounced by both Democratic and Republican officials, who conspired to keep secret the high lead levels. In October 2014, the General Motors engine plant stopped using Flint River water because it was corroding engine parts. Yet no warning was given to the public by GM or the United Auto Workers (UAW) about the dangerous state of the water.

By July 2015, an EPA memo about lead in the city water supply was leaked, and by September 2015 researcher Marc Edwards from Virginia Tech and pediatrician Dr Mona-Hana Attisha confirmed high lead levels and demonstrated that the State of Michigan had falsified lead data. Evidence showed the proportion of Flint children with high lead levels in their blood had roughly doubled since the water switch. After 18 months of lead-laced water coursing through the veins of Flint residents, the switch back to the Detroit water supply was made in October 2015.

Lead causes grave damage to the human body, especially during the process of tissue and organ development. This is why lead is especially dangerous to children and pregnant women.

Pregnant women who are exposed to lead are more likely to experience miscarriage or stillbirth, a fact that was known as far back as the late 19th century, when lead-based abortion pills were in use. Additionally, lead exposure has been linked to reduced fetal growth, low birth weight, and preterm delivery, all significant risk factors for infant mortality. High lead content in the blood affects nearly all organs including the brain, kidney and liver. It is associated with cardiovascular problems, high blood pressure, and developmental

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impairment affecting sexual maturity and the nervous system.

Throughout pregnancy, lead that has accumulated in a woman's bones passes to the developing fetus, rapidly damaging the fetus's developing neurological system and even reprogramming genes, which can lead to an increased risk of disease later in life. Lead exposure during the critical phase of immune system development can severely damage a child's immune system and cause dysfunction that may not be apparent until a period of immune system stress, such as during an infection. Because infants must consume a larger amount of food per unit of body weight than adults, they can quickly ingest a dangerous amount of lead through lead-laced baby formula or by consuming breast milk from a mother with high blood-lead levels.

The *World Socialist Web Site* spoke with Nakiya Wakes, a Flint resident who suffered a miscarriage in 2015, losing twins. The recent study has corroborated Nakiya's belief that the lead in the water caused her miscarriages.

"Snyder did not declare a state of emergency until January 2016," she said. "They knew about this in 2014. I could have gotten my embryos tested for the water. If they would have told us about the switch, I could have stopped myself from drinking the water. I faulted myself and my twins' father for the miscarriage. But they didn't tell us about the tainted water.

"I'm not over it, but I'm pregnant now and I believe that me having a healthy baby now will prove that the tainted water is what caused my miscarriage. I am not drinking the water. I still have my test from the 2016 water testing. They have not removed any of my pipes. So my house is still now at 1100 ppb. I haven't drunk the water since my twins. For more than three years we are still using bottled water. We use it to cook, bathe and drink. I think I will be on bottled water for the rest of my stay in Flint. I will not drink this water again, ever. Even when they change these pipes which won't be until 2020, I will not feel safe. They lied to us too long and I do not trust the government, not Governor Snyder, no one."

"I cannot believe that people can get away with this. It's all about the dollar, it's all about the money. We are on the biggest fresh water lake but we still cannot get fresh, clean water coming through our pipes. They call this Pure Michigan, but we have been pure poisoned. Everybody involved, I think, should be incarcerated. Everybody should be held accountable for their action. I have lost two babies. The doctors can't tell us if these young girls drinking [the water] have had their reproduction system messed up. Will they ever be able to have babies?"

The full devastation of lead on the Flint population is not yet known. The impact on infants born in this period may exhibit what is denoted as "latent health". Poor health in adulthood, decreased educational attainment, increased behavioral problems, including aggressive behavior are but a few of the symptoms. The damaging effects of the change in the water supply are not limited to pregnant women and neonatals.

Flint now ranks as the poorest city in the US. When it was given the moniker "The Vehicle City" it had the highest median income in the country. It is the site of the historic sit-down strikes of 1936-37 which successfully challenged General Motors. New US Census data shows Flint with the nation's highest poverty rate among cities with at least 65,000 residents. Some 45 percent of Flint residents live in poverty, up from 42 percent in 2015. Flint also ranks first in childhood poverty. An estimated 58 percent of Flint residents under age 18 live below the poverty line compared to a national average of 18 percent.

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