

North Kent County Exposure Assessment Participant Demographics and Serum PFAS Summary

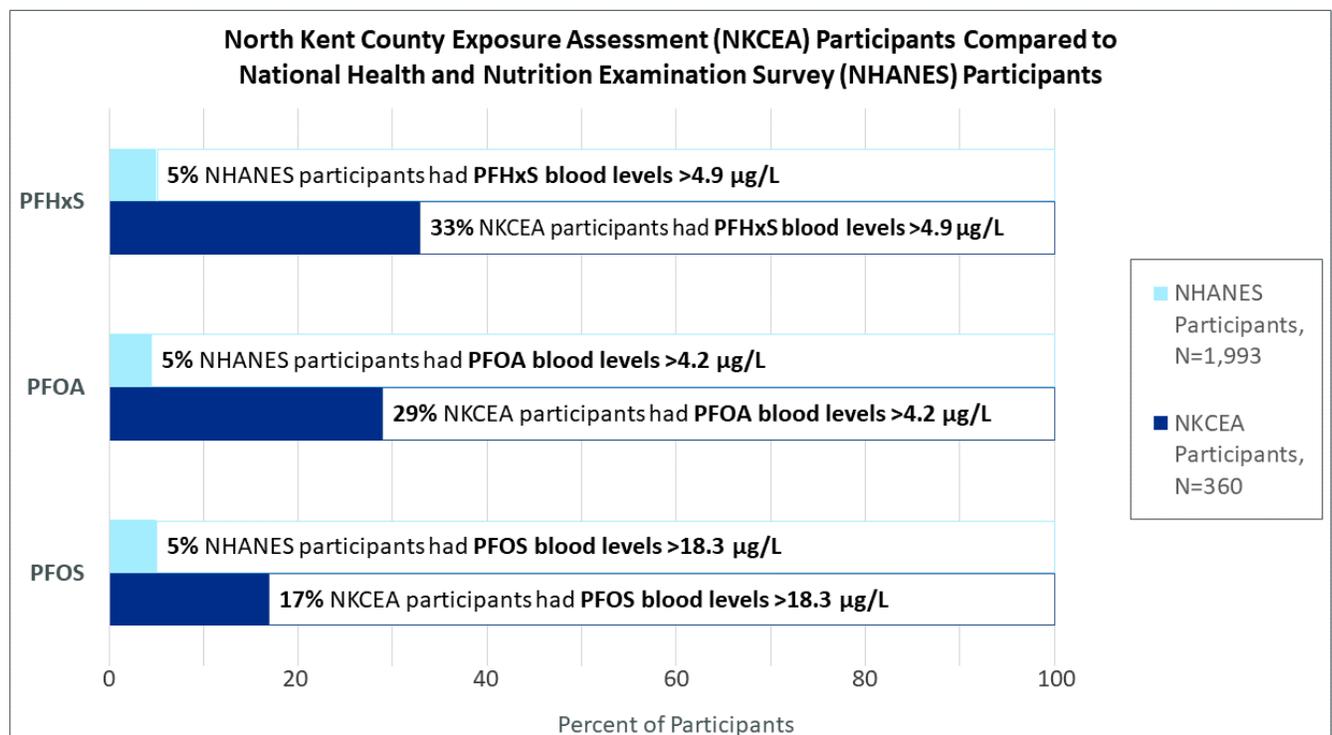
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This summary describes the levels of per- and polyfluoroalkyl substances (PFAS) found in the blood of people who participated in the North Kent County Exposure Assessment (NKCEA). The NKCEA clinics were held from November 2018 to June 2019. One goal of the assessment was to see if people with a wide range of PFAS in drinking water wells would have high PFAS levels in their blood.

How do PFAS blood levels of NKCEA participants compare to those of the general U.S. population?

Michigan Department of Health and Human Services (MDHHS) compared the PFAS blood levels of NKCEA study participants with the PFAS blood levels of people whose data is included in the National Health and Nutrition Examination Survey (NHANES). NHANES is a program of the Centers for Disease Control and Prevention (CDC). It provides estimated levels of some environmental chemicals in the general U.S. population.

- For some PFAS, including Total PFOA, Total PFOS, and Total PFHxS, the blood levels of some NKCEA participants were higher than the NHANES 95th percentile.
- For most of the PFAS measured, the blood levels of NKCEA study participants were in the same range as the lowest 95 out of 100 NHANES participants (known as the 95th percentile).



How do PFAS blood levels of NKCEA participants compare to those of other groups?

The table below provides the average and maximum PFOS, PFOA, and PFHxS blood levels measured in NKCEA study participants. Their average PFAS blood levels were lower than the averages measured in workers and in other communities with PFAS-contaminated drinking water. The maximum blood levels for PFOS and PFHxS measured in NKCEA study participants were higher than those of other communities exposed to PFAS through drinking water, but lower than workers in PFAS industries. More detail on the comparison groups can be found in the report.

PFAS Blood Levels in Different Groups of People (µg/L)

	PFOS Average*	PFOS Maximum	PFOA Average*	PFOA Maximum	PFHxS Average*	PFHxS Maximum
Workers in PFAS industries ¹	692	10,600	1,231	92,030	65	1,880
Communities with contaminated drinking water ²	18	759	23	17,557	6	116
NKCEA Study Participants ³	6	3,173	2	433	2	884
NHANES Participants ⁴	5	110	2	20	1	23

[1] Studies of workers in PFAS industries measured PFAS among 1) workers in fluorochemical production and 2) firefighters.

[2] Studies of other populations with PFAS in their drinking water include: Ohio River Valley (C8); Minnesota East Metro; New Hampshire PEAS; Bennington and North Bennington, Vermont; Hoosick Falls, New York; Ronneby, Sweden; and northern Alabama (Anniston).

[3] "NKCEA Study Participants" represents the 360 participants who were at least 12 years old and had a wide range of PFAS in drinking water wells.

[4] The geometric mean of 2015-2016 NHANES participants.

*Please see the full report for a description of how the averages are calculated.

Why did this study take place?

In 2016, PFAS were found in some residential drinking water wells in certain areas of northern Kent County. Many of these wells had PFAS levels above the U.S. Environmental Protection Agency's (EPA) Lifetime Health Advisory of 70 parts per trillion (ppt). As part of MDHHS public health investigations, this study was done to learn if and how much PFAS could be found in the blood of people drinking water from these wells.

The wide range of serum PFAS found in this study supports continued PFAS investigations. MDHHS is hosting two new studies: the Michigan PFAS Exposure and Health Study (MiPEHS) and the Agency on Toxic Substances and Disease Registry's Multi-Site Study (MSS). The goal of these studies is to learn how drinking water that contains PFAS may affect your health.

Will there be another report from this study?

Yes. Future reports will describe PFAS concentrations in private drinking water wells, address the relationship between private drinking water well PFAS concentrations and participant serum PFAS concentrations, and summarize serum PFAS concentrations by self-reported factors that could affect PFAS exposure or elimination. These will address all objectives of the study.

How can I get more information?

The full first report expands on the results presented in this summary. It can be found at [Michigan.gov/envirohealth](https://www.michigan.gov/envirohealth). To request a paper copy of the report or for more information, call the MDHHS Division of Environmental Health at 844-464-7327. For more information on PFAS and the State of Michigan's response, visit [Michigan.gov/PFASResponse](https://www.michigan.gov/PFASResponse).