

Per- and Polyfluoroalkyl Substances (PFAS) and Your Health

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New Castle County (DE) near New Castle Air National Guard Base

INFORMATION TO PROTECT OUR COMMUNITIES

In 2019, the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) started exposure assessments (EAs) in communities near current or former military bases known to have had perand polyfluoroalkyl substances (PFAS) in their drinking water. Individuals who participated in the EAs provided blood and urine samples to CDC/ATSDR for analysis. We sent letters to participants that included their individual lab results. An example letter of the test results is [available here](#). [PDF - 396 KB].

New Castle County (DE) near New Castle Air National Guard Base PFAS Exposure Assessment Participation

A total of **214** people participated in the exposure assessment: **203** adults and **11** children

Those people represented **134** households

We are also reviewing additional information, like age and location, to better understand the community's exposure. Once our full analysis is complete, CDC/ATSDR will host an in-person community meeting to share our findings and recommendations.

The New Castle County, DE site focused on an area near the New Castle Air National Guard Base (ANG). By randomly selecting participants we were able to estimate exposure for other community members in this area, even those who were not tested. A map of the sampling area can be found at:

www.atsdr.cdc.gov/pfas/communities/New-Castle-County-DE.html

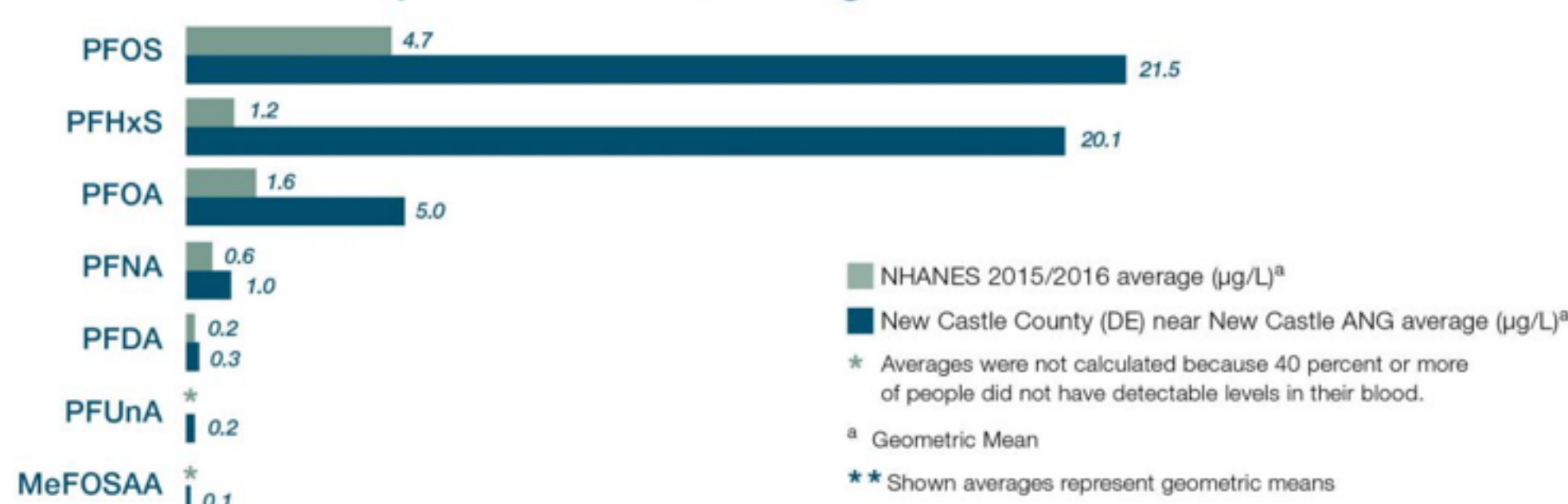
PFAS Levels in Blood

The lab tested participants' blood for 7 different PFAS. PFAS levels are measured in micrograms per liter (µg/L).

CDC/ATSDR compared the levels of PFAS in participant's blood across the community to the levels found in the U.S. population. Three PFAS (PFHxS, PFOA, and PFOS) were detected above national averages. The levels of PFNA, PFDA, MeFOSAA and PFUnA were similar to national averages.

Since 1999, the National Health and Nutrition Examination Survey (NHANES) has measured PFAS levels in blood in the U.S. population. Most people in the United States have been exposed to PFAS and have PFAS in their blood.

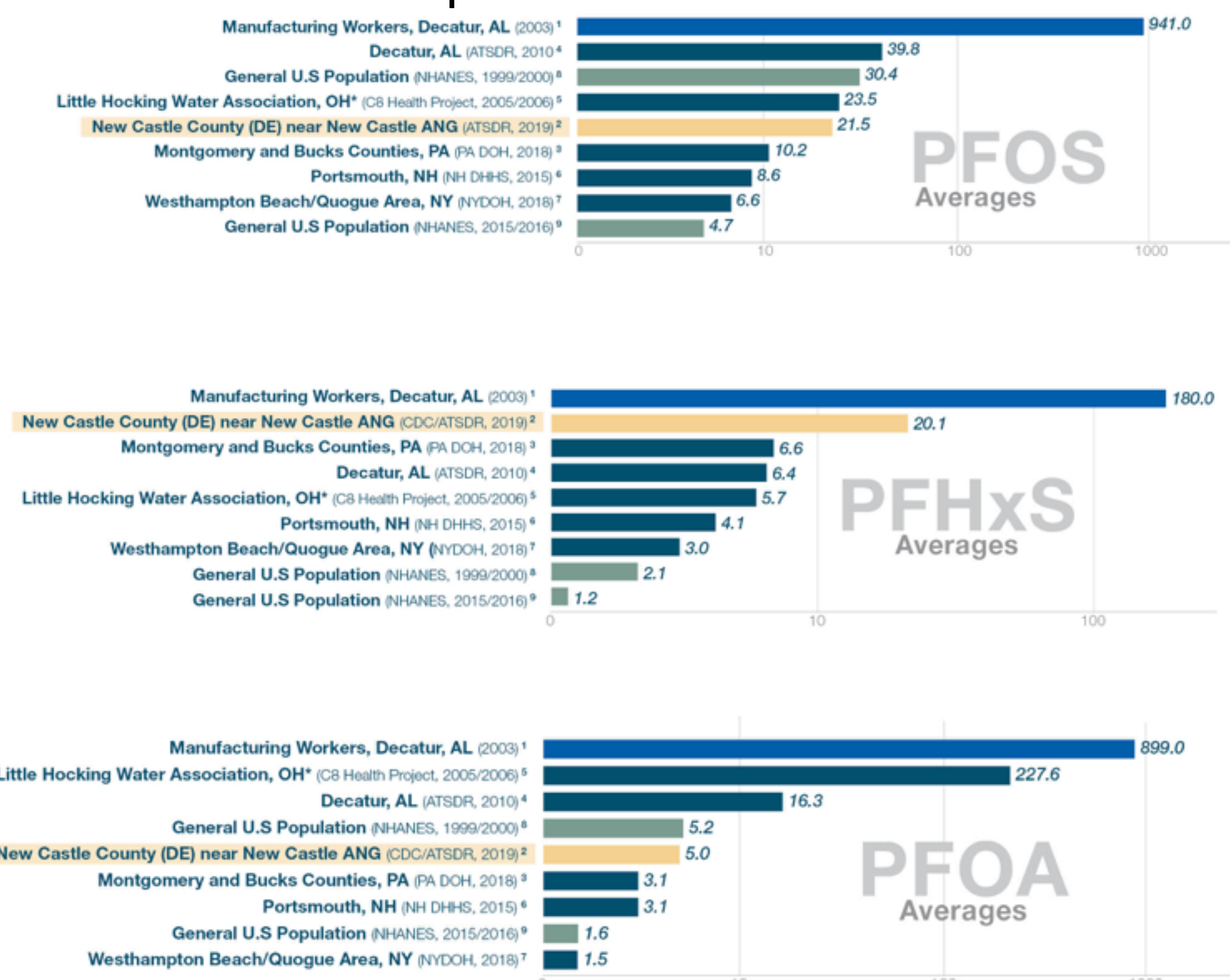
PFAS Levels in Blood Compared to National Averages**



The numbers below show the **percentage** of participants with PFAS levels above the national average.



PFAS Levels in Blood Compared to Other Studies**



References:
 1. <https://www.tandfonline.com/doi/pdf/10.1080/15428110300894859?needAccess=true>
 2. CDC/ATSDR 2019
 3. <https://www.health.pa.gov/topics/Documents/Environmental%20Health/PEATTS%20Final%20Project%20Final%20Report%20April%202020.pdf>
 4. https://www.atsdr.cdc.gov/HAC/pha/DecaturPerfluorochemical_Summary%20Sampling.pdf
 5. <https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.0800379>
 6. <https://www.dhhs.nh.gov/dphs/documents/pease-pfc-blood-testing.pdf>
 7. https://www.health.ny.gov/environmental/investigations/drinkingwater/response/docs/westhampton_quogue_group_level_blood_testing
 8. https://www.cdc.gov/exposurereport/pdf/FourthReport_UpdatedTables_Volume1_Jan2019-508.pdf
 9. https://www.cdc.gov/exposurereport/pdf/FourthReport_UpdatedTables_Volume1_Jan2019-508.pdf

* The study reported medians instead of averages. ** Shown averages represent geometric means.

PFAS Levels in Urine:

All participants provided a urine sample, some of the samples were analyzed. Only one PFAS (PFBA) was detected at low concentrations in 59% of the samples collected. This level falls just above the non-detect level.

PFAS Levels in Tap Water:

CDC/ATSDR collected and tested tap water samples from some participating households. PFAS levels for all 13 tap water samples were below all federal and applicable state guidelines for PFAS in drinking water.

Local authorities in New Castle have taken action to reduce levels of PFAS in drinking water. Based on the information ATSDR has reviewed, the public drinking water supplies in and near New Castle currently meet all federal guidelines for PFAS. ATSDR does not recommend community members use alternative sources of water.

PFAS Levels in Dust:

CDC/ATSDR collected and analyzed indoor dust samples from 13 participating households. CDC/ATSDR is evaluating the dust sample results and will have more information in the final report.

About the Results:

CDC/ATSDR is evaluating data collected from the PFAS EA to better understand exposure in the community. The PFAS EA measures PFAS levels in people's bodies but is not able to identify health effects associated with these levels of exposure. We are working to better understand health effects from PFAS exposure through the Multi-site Health Study. www.atsdr.cdc.gov/pfas/Multi-Site-Health-Study.html.

We are also reaching out to doctors, nurses, and other health care providers in your area to provide PFAS information. PFAS clinician guidance and continuing medical education can be found at atsdr.cdc.gov/PFAS.

For More Information:

Visit www.atsdr.cdc.gov/pfas or contact Senior Toxicologist/Regional Liaison Karl Markiewicz, PhD 215-814-3149 | kvm4@cdc.gov

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