



## Per- and Polyfluoroalkyl Substances (PFAS) and Your Health

Per- and Polyfluoroalkyl Substances (PFAS) and Your Health Home

# PFAS Progress Newsletter — September 2022



**Welcome to the September edition of the PFAS Progress newsletter!** Among the information in this newsletter, you will learn about

- What the ATSDR PFAS exposure assessments results are in communities across the U.S.
- How study partners are launching the Multi-site Study in selected communities known to have been exposed to PFAS in drinking water.
- How our new PFAS resources and publications will improve our ability to assess the health effects of PFAS exposure.

Thank you for reading the newsletter! Please share with us ideas for future newsletters or ways we can improve our newsletter.

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## Activities Updates

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### Exposure Assessments (EAs)

Since January 2022, CDC and ATSDR have released seven [PFAS exposure assessment](#) reports for communities located in [Berkeley County, West Virginia](#); [New Castle County, Delaware](#); [Spokane County, Washington](#); [Lubbock County, Texas](#); [Fairbanks, Alaska](#); [El Paso County, Colorado](#); and [Orange County, New York](#). The reports summarize the levels of PFAS in blood and urine found in residents living near current or former military bases known to have had PFAS in their drinking water and compares them to national PFAS levels. PFAS levels are presented by age, drinking water consumption, number of years living in the community, and other exposure criteria. The reports also present results from households' dust and tap water samples, and exposure relationships between blood results and the environmental sampling data.

The exposure assessments found that levels of some PFAS in the blood of participants were higher than the national averages. The elevated levels of PFAS in blood may be linked with past contamination in the drinking water. Some demographic and lifestyle characteristics were associated with higher PFAS blood levels. The types and levels of PFAS found to be elevated in people's blood, as well as the variables associated with these elevations, varied in each exposure assessment community and are presented in each of the reports. All tap water samples collected as part of the exposure assessments were below the U.S. Environmental Protection Agency's 2016 Health Advisory for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS).

The ATSDR PFAS exposure assessment team hosted virtual public meetings and online information sessions to present the findings to the exposure assessment communities and answer people's questions and concerns. CDC and ATSDR appreciate the cooperation and participation of each community.

CDC and ATSDR prepared a final report evaluating the data across all exposure assessment sites. The report released on September 22, 2022 and is available [here](#).

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## Pease Study

CDC and ATSDR are studying health effects from drinking PFAS-contaminated water at the Pease International Tradeport and its supply wells in the Portsmouth, New Hampshire, area.

The Pease Study is the first site of the PFAS [Multi-site Study \(MSS\)](#), which looks at human health effects experienced by residents exposed to PFAS contaminated drinking water in ten communities across eight states in the U.S. The study aims to expand the scientific understanding of PFAS by looking at the association between certain health outcomes and PFAS exposure from drinking water.

Enrollment to participate in the Pease Study concluded in December 2021, and all specimen and data collection has ended. CDC and ATSDR have mailed clinical results to participants. The [Pease Study](#) website will be updated with information as it becomes available and will inform the community when the final report is released. The Pease Study team will hold a community meeting after the final report is released.

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## Multi-site Study

Throughout the fall of 2021 and winter of 2022, seven study partners from institutions across the U.S. launched their outreach and recruitment efforts for the PFAS [Multi-site Study \(MSS\)](#). The goal of the MSS is to learn more about the relationship between PFAS exposure from drinking water and health outcomes among differing populations.

Study partners' outreach and recruitment efforts include working closely with community advisors to develop and tailor study communication materials such as postcards, videos, newsletters, press releases, and podcasts; organizing launch meetings and attending community events to increase awareness of the MSS; increasing presence of the MSS on social media; connecting with local officials, school systems, water providers, and health care providers; inviting participation from community members who previously participated in other PFAS studies, and other activities.

As of August 2022, more than 2200 individuals have completed all MSS study activities.

More information on the study partners activities can be found on their websites:

- [Colorado School of Public Health](#) 
  - [Silent Spring Institute](#) 
  - [Michigan Department of Health and Human Services](#) 
  - [Rutgers School of Public Health](#) 
  - [University at Albany, SUNY, & New York State Department of Health](#) 
  - [RTI & Pennsylvania Department of Health](#) 
  - [University of California – Irvine](#) 
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## Other CDC and ATSDR Activities

### *PFAS Environmental Sampling*

PFAS exposure can result from both drinking water and non-drinking water sources. ATSDR, in collaboration with the U.S. Environmental Protection Agency, is investigating the potential for human exposures to PFAS from environmental sources other than drinking water.

ATSDR is evaluating potential exposures inside the home by collecting samples from indoor air, indoor dust, and wet wipes for PFAS analyses. The sampling will evaluate potential exposure to PFAS via outdoor sources by sampling soil at residences and outdoor air in the community. In addition, a silicone wristband worn by participants will be analyzed for

PFAS exposures participants may encounter during their daily activities. Samples of locally grown produce also will be analyzed to evaluate PFAS concentrations that may contribute to dietary exposure.

Households who participated in two of the PFAS exposure assessments — New Castle County, Delaware, and Hampden County, Massachusetts — were invited to participate in the environmental sampling. The PFAS environmental sampling was completed in New Castle County in May 2022 and in Hampden County in June 2022. Samples of indoor air, filtered and bulk dust, wet wipe samples, soil, and silicone wristbands (for personal exposure) were collected at 10 homes in Delaware and 18 homes in Massachusetts. Outdoor air samples were taken at a central location at both sites and locally-grown produce samples were also collected. In addition, filtered dust samples were collected at 21 homes in Delaware and 30 homes in Massachusetts. Household and personal exposure questionnaires were completed at each household. Samples are being analyzed by the laboratory. Results will be reported to participants in 2023.

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## Public Health Corner

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### *PFAS and Breastfeeding*

Research studies have shown that PFAS can be found in human breast milk, and for infants, breast milk can be a source of PFAS exposure. Although PFAS have been detected in breast milk, the association between this route of exposure and health effects in infants or children has not been well studied. There are many advantages to breastfeeding, including lower rates of infection for the infant and lower risks of some chronic diseases for the mother. In addition, an infant can be exposed to other chemicals besides PFAS through breast milk, making it difficult to associate any potential health effect to one chemical or class of chemicals.

CDC and the American Academy of Pediatrics (AAP) recommend that nursing mothers continue to breastfeed their babies despite the potential presence of environmental contaminants such as PFAS. It is important for everyone, including nursing mothers and those of reproductive age, to reduce the risk of PFAS exposure when possible, by eliminating potential sources of exposure, such as certain foods, food packaging, contaminated drinking water and stain resistant and water-repellent materials. Consultation with a specialist in occupational and environmental medicine or others with expertise and experience treating patients exposed to PFAS may help guide primary healthcare providers with development of a periodic monitoring plan, as appropriate. To learn more, visit <https://www.atsdr.cdc.gov/pfas/health-effects/overview.html>.

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## New Resources

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### *PFAS Breastfeeding Scientific Publication “Current Breast Milk PFAS Levels in the United States and Canada: After All This Time, Why Don’t We Know More?”*

Published in *Environmental Health Perspectives* in February 2022, this [paper](#) is an exploratory analysis of PFAS concentrations in breast milk of women from the U.S. and Canada. Despite 20 years of biomonitoring studies of PFAS in both serum and urine, there is a limited understanding of PFAS concentrations in breast milk of women from the U.S. and Canada. The paper’s objectives included documenting published PFAS breast milk concentrations in the United States and Canada; estimating breast milk PFAS levels from maternal serum concentrations in national surveys and communities impacted by PFAS; and comparing measured/estimated milk PFAS concentrations to screening values.

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## Frequently Asked Question

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### *Should I have my blood drawn (phlebotomy) to lower my PFAS levels?*

There is no medically approved treatment to lower or remove PFAS from the blood or organ systems in the body. The best ways to lower blood levels of PFAS are to identify sources of PFAS and reduce or eliminate exposure.




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## Community Corner

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### *ATSDR's Community Engagement Playbook*

The Agency for Toxic Substances and Disease Registry (ATSDR) is committed to working with and involving communities and tribes to protect human health before, during, and after site-based environmental public health activities. We are pleased to announce the release of the ATSDR [Community Engagement Playbook](#)  (the CE Playbook) along with a new [Community Engagement Planning Tool](#) , and a [Guide to Active Listening](#)  tip sheet.

Each community has different practical, informational, and social-cultural needs and assets. The CE Playbook outlines a framework to effectively engage communities of all types and provides a single-source location for community engagement activities, tools, and templates that can be tailored across community contexts.

The CE Playbook was created as a guide for ATSDR staff, funded partners, public health professionals, and state, territorial, local, and tribal partners. It is based on ATSDR's experience working in communities, the [Principles of Community Engagement](#), evidenced-based literature, and practice-based information on the topic of community engagement.

The CE Playbook and other resources are available on the new [CE Playbook website](#).

### *National Academies of Science, Engineering, and Medicine Report*

The National Academies of Science, Engineering, and Medicine (NASEM) was contracted by CDC and ATSDR and the National Institute of Environmental Health Sciences (NIEHS) to review current human health effect evidence of per- and polyfluoroalkyl substances (PFAS) listed in the [National Report on Human Exposure to Environmental Chemicals](#) and provide recommendations regarding potential changes to CDC and ATSDR's [Overview of the Science and Guidance for Clinicians on PFAS](#).

NASEM shared its findings through a [report](#)  released online and presented in a public webinar on July 28, 2022.

As the science of PFAS continues to evolve, this report will help us better understand the human health effects of PFAS and support communities with concerns about PFAS exposure. ATSDR is currently reviewing the report's public health recommendations. Please check this [page](#) for updates.



ATSDR'S  
COMMUNITY ENGAGEMENT  
PLAYBOOK  
2021

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## Contact Us

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### Email

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**Email Form**  
(English and Spanish)

[www.cdc.gov/DCS/ContactUs/Form](http://www.cdc.gov/DCS/ContactUs/Form)

### Website

[www.atsdr.cdc.gov/pfas](http://www.atsdr.cdc.gov/pfas)

### Phone

1-800-CDC-INFO (232-4636)

TTY 888-232-6348  
Monday–Friday  
8:00 a.m.–8:00 p.m. ET

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