



TESTING *for* PEASE

Pease PFAS Health Studies: What is happening now?

Pease Community Webinar
January 11, 2023 | 7-8pm EST

Andrea Amico, Testing for Pease
Captain Tarah Somers, ATSDR
Dr Laurel Schaider, Silent Spring Institute

Goals & Objectives

Goal:

- Update the Pease community about 2 PFAS community health studies
- Educate the Pease community on resources re: PFAS and your health

Objectives:

- **Testing for Pease**: Brief review of PFAS and past events by Andrea Amico
- ATSDR: **Pease Health Study** by Captain Tarah Somers
- Silent Spring Institute: **PFAS-REACH** by Dr Laurel Schaidler
- Community Resources
- Q&A

OUR SPEAKERS:



ANDREA AMICO
Testing for Pease



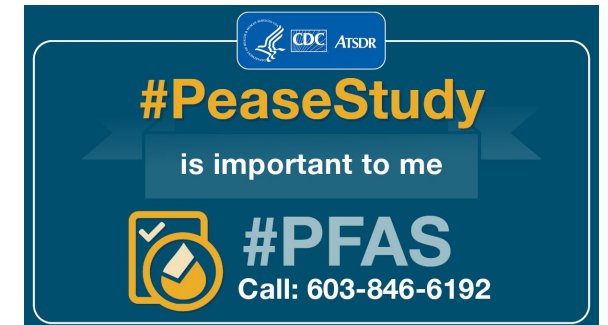
CAPT. TARAH SOMERS
ATSDR Regional
Director, Region 1



DR. LAUREL SCHAIER
PFAS-REACH
Silent Spring Institute



TESTING *for* PEASE



PFAS-REACH
PFAS Research, Education,
and Action for Community Health

Testing for Pease

Testing for Pease is a community action group, whose mission is to be a reliable resource for education and communication while advocating for a long-term health plan on behalf of those impacted by the PFAS water contamination at the former Pease Air Force Base in Portsmouth, NH



From left to right: Alayna Davis, Andrea Amico & Michelle Dalton



TESTING *for* PEASE

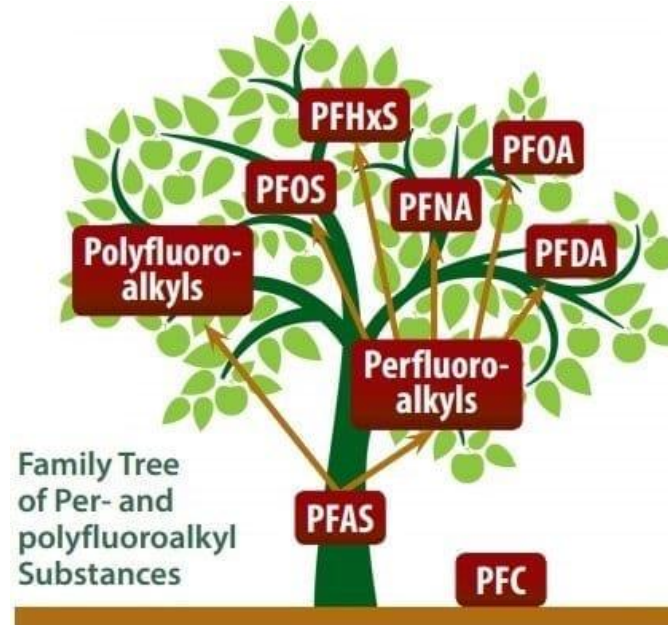
What are PFAS?

PFAS were formerly referred to as perfluorinated chemicals (PFCs).

Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water.

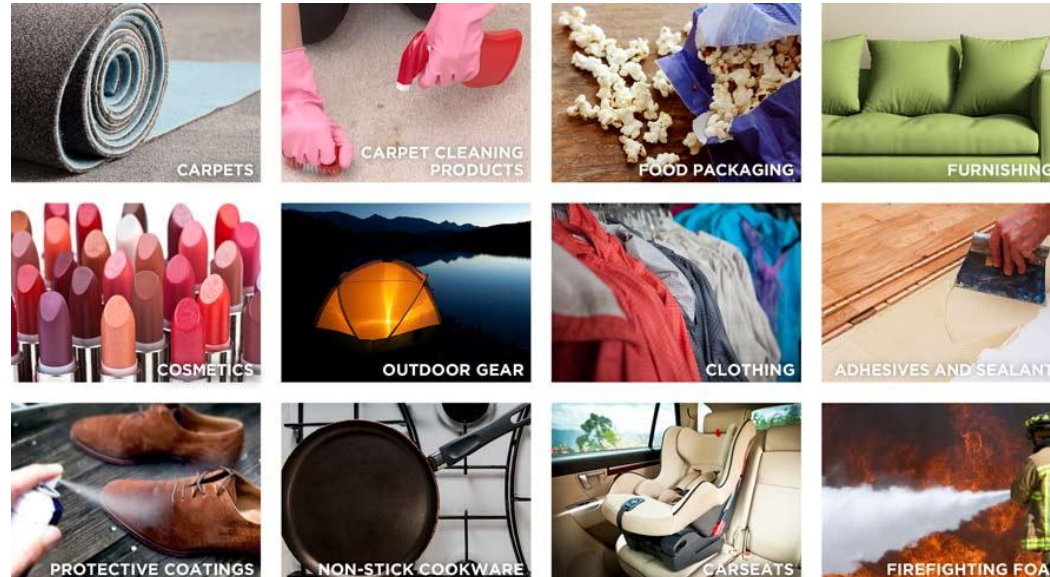
Many uses for PFAS:

- Clothing (ie water repellant),
- Stain resistant furniture & carpets,
- Food packaging (ie microwave popcorn bags, fast food wrappers)
- Non-stick cookware,
- Firefighting foam,
- Personal care products,
- Dental floss,
- Ski wax
- Many industrial applications
- And more...



How was Pease contaminated with PFAS?

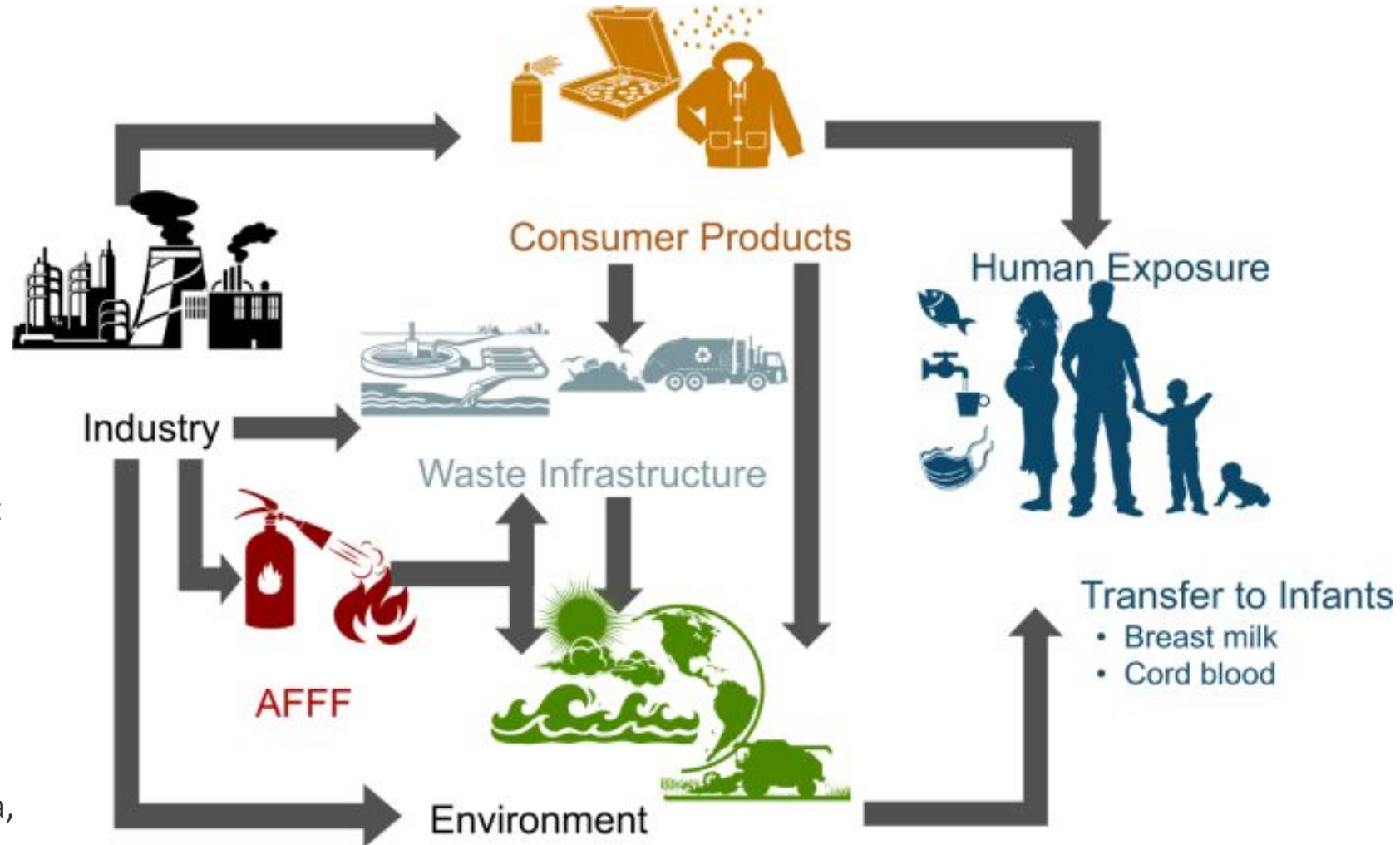
- Aqueous film forming foam (AFFF) is a fire suppressant used in petroleum based fires and made with PFAS.
- The US Air Force used AFFF at Pease for fire training exercises and to extinguish fires when Pease was an active base.
- AFFF was sprayed on the ground and the PFAS in the foam seeped into the groundwater causing widespread contamination.



Why are we concerned?

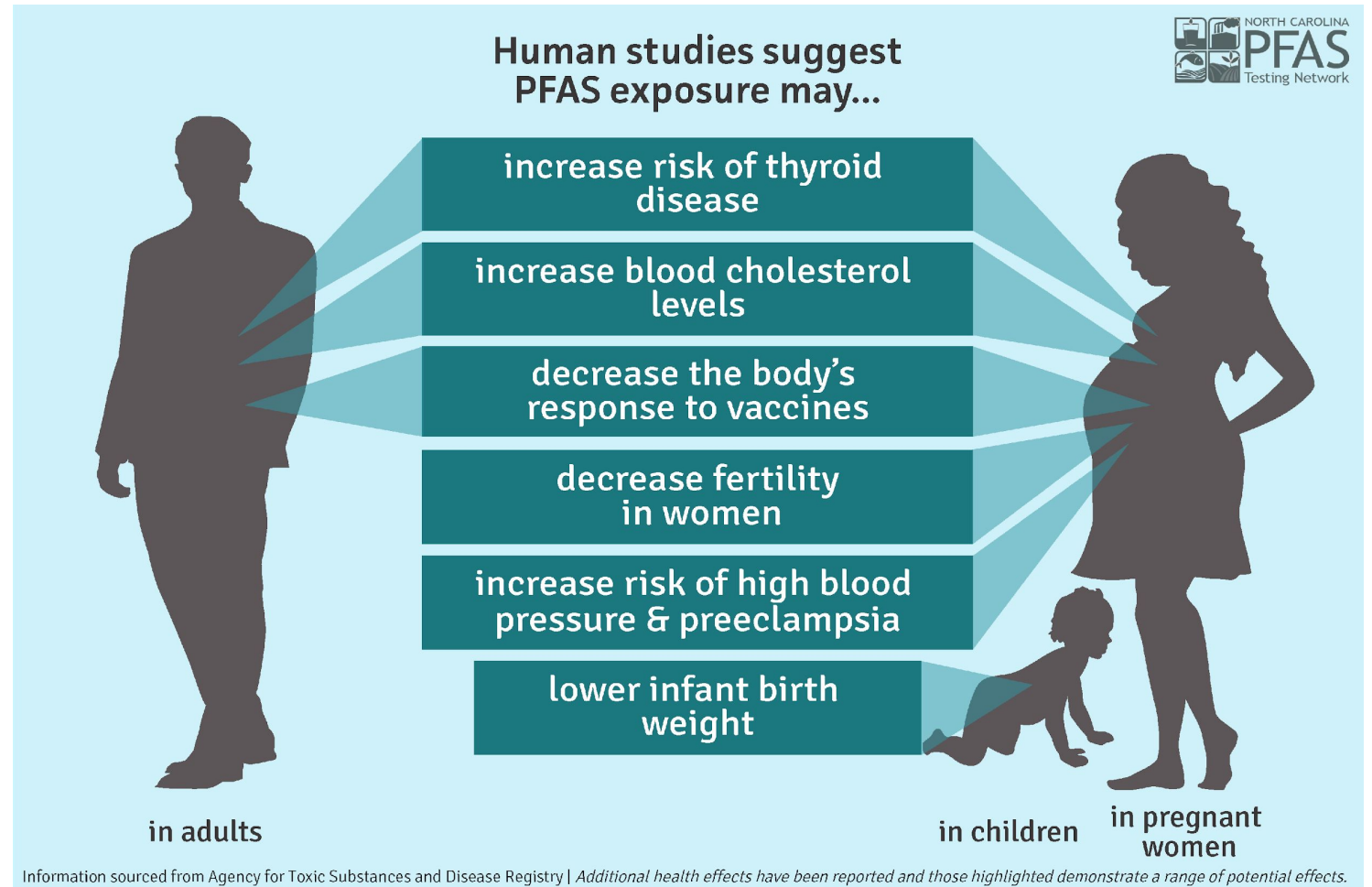
PFAS concerns:

- do not break down in the environment (ie “forever chemicals”,
- build up (bioaccumulate) in humans, fish, and wildlife.
- long half lives in the human body
- can move through soils and contaminate drinking water sources, animals, and food sources,
- migrate out of consumer products into household dust and air,
- large class of chemicals (> 12,000 different PFAS in this class)
- widespread contamination at the local, state, national, & global issue
- 98% of U.S. residents have PFAS in their body, with biomonitoring (blood testing) studies finding PFAS in blood, breast milk, umbilical cord blood, amniotic fluid, placenta, and other tissues.



PFAS Health Effects

- Cancer (ie testicular, kidney, breast)
- Hormone disruption (ie thyroid)
- Liver and kidney effects (ie changes in liver enzymes)
- Harm to the immune system (decreased vaccine response in children)
- High cholesterol
- Reproductive and developmental effects (low birth weight in infants & increased risk of high blood pressure or pre-eclampsia in pregnant women)



Timeline of Pease Events

- **May 2014** – high levels of PFAS detected in the drinking water at the Pease Tradeport
- **January 2015** - Testing for Pease forms and advocates for a PFAS community blood testing program
- **June 2015** – High levels of PFAS detected in the blood of the Pease community
- **2016** – Pease community starts working with federal health agency (ATSDR/CDC) and Silent Spring Institute advocating for PFAS health studies for the Pease community

Water contamination shuts down well at Pease



BUY PHOTO

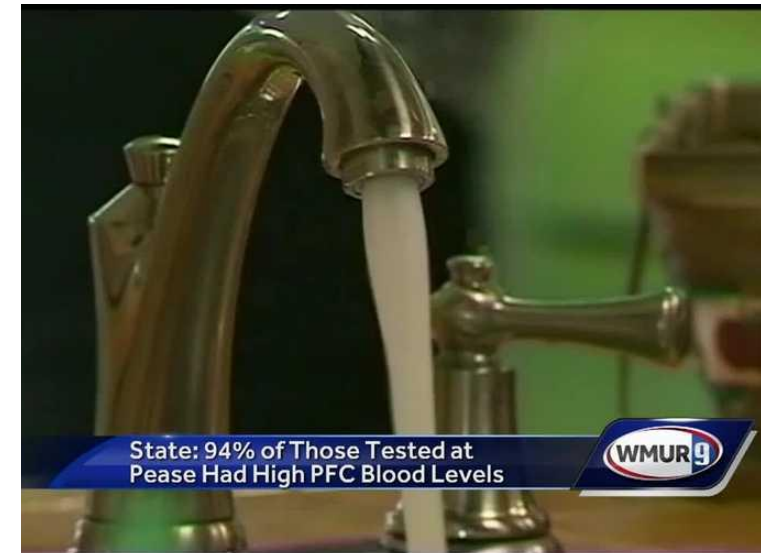
HIDE CAPTION

This water tower is part of the water distribution system at Pease International Tradeport, where city officials have shut down a well that serves Pease, and sometimes parts of the city of Portsmouth, after tests found a contaminant in the water, according to PDA Executive Director David Mullen and the state Department of Health and Human Services. - Ioanna Raptis/iraptis@seacoastonline.com

By Jeff McMenemy

Posted May 22, 2014 at 11:21 AM

Updated May 22, 2014 at 5:29 PM



State: 94% of Those Tested at Pease Had High PFC Blood Levels



Timeline of Pease Events

- **June 2017** - Senator Jeanne Shaheen sponsors an amendment in the National Defense Authorization Act (NDAA), to authorize funding for a national health study on PFAS (Pease is the pilot).
- **October 2018** - Silent Spring Institute announces their awarding of a federal grant to study immune function in children at Pease called PFAS-REACH
- **August 2019** – ATSDR/CDC announces Pease Health Study approved
- **November 2019** – Pease Health Study and PFAS-REACH start actively recruiting Pease community members to participate in their studies

PFAS impact on kids at Pease to be studied



BUY PHOTO

HIDE CAPTION

From left, Andrea Amico, Michelle Dalton and Alayna Davis attend a Pease Community Assistance Panel meeting in May. Silent Spring Institute announced it will investigate how PFAS chemicals impacted children's health at Pease International Tradeport and in Hyannis, Massachusetts. [Joanna Raptis/Seacoastonline, file]

By Jeff McMenemy
jmcmenemy@seacoastonline.com

Follow

Posted Oct 4, 2018 at 2:14 PM
Updated Oct 4, 2018 at 5:36 PM



RIGHT NOW

CDC PREPARING FOR LANDMARK STUDY OF
PEOPLE EXPOSED TO PFAS AT PEASE



Timeline of Pease Events

- **March 2020** - Pease Study paused due to Covid-19 pandemic
- **October 2020** - Pease Study re-opens for eligible candidates
- **December 2021** - Pease Study completes data collection. PFAS-REACH Study remains open and recruiting eligible participants
- **2022** - Pease Study sends out individual results and is currently analyzing the community data and writing reports.
- **2022** - PFAS-REACH Study continues to recruit eligible participants and remains open for enrollment.



Pease Health Study on PFAS in water set to resume

Jeff McMenemy

Published 5:05 p.m. ET Oct. 8, 2020

[View Comments](#)



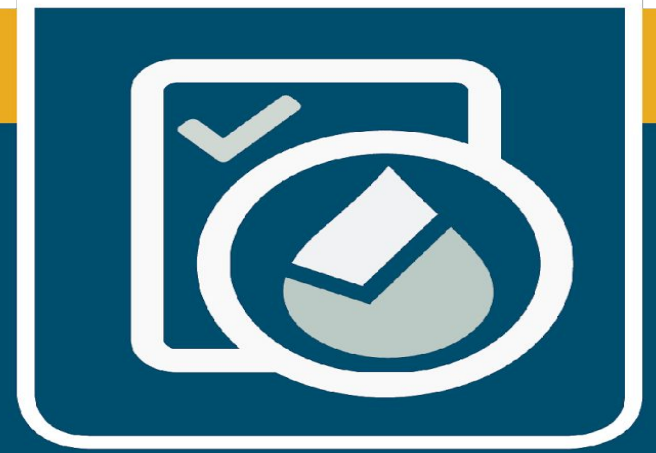
The Air Force in July 2019 activated a groundwater filtration plant at Pease International Tradeport it says will remove PFAS contaminants from water that is drawn by the Haven well. Rich Beauchesne/Seacoastonline, File

PORTSMOUTH — The first in the nation federal health study on adults and children exposed to dangerous PFAS chemicals is slated to restart Thursday, Oct. 15.





Pease International Tradeport, NH



The Pease Study

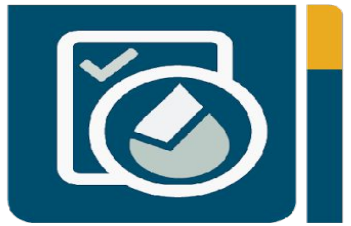
Captain Tarah Somers

January 11, 2023, 7:00 – 8:00 pm

INFORMATION TO PROTECT OUR COMMUNITIES



**National Center
for Environmental Health
Agency for Toxic Substances
and Disease Registry**

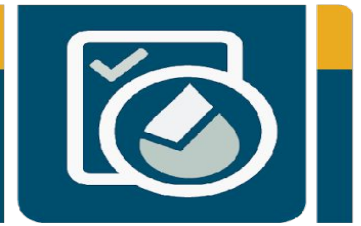


Today's Presentation

- **Background**
- **The Pease Study**
 - Data Collection Description
 - Enrollment Results
- **Next Steps**
- **Questions**



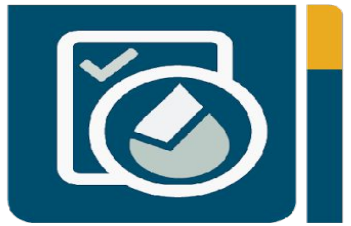
Background



Agency for Toxic Substances and Disease Registry (ATSDR)

- Helps reduce exposure to hazardous chemicals
- Identifies how people in a community might be exposed to chemicals
- Assesses exposure to chemicals and determines if there is a threat to health
- Works with the community, federal/state/local agencies, and non-governmental organizations





What are PFAS?

- Formerly called PFCs, PFAS are a family of thousands of chemicals that contain a chain of carbon atoms bonded to fluorine atoms
- PFAS are resistant to water, oil, and fire, making them useful in a wide range of consumer/industrial products
- PFOA and PFOS have been detected in the drinking water of millions of people across the country



PFAS and Health

- Human exposure to PFAS is a public health concern
- Some studies have shown health effects in humans
- More research is needed, especially in humans



Source:

[https://www.atsdr.cdc.gov/pfas/health-effects.h
tml](https://www.atsdr.cdc.gov/pfas/health-effects.html)



Our Role in Addressing PFAS



- Investigate exposure to PFAS and possible associated health effects



- Address community health concerns



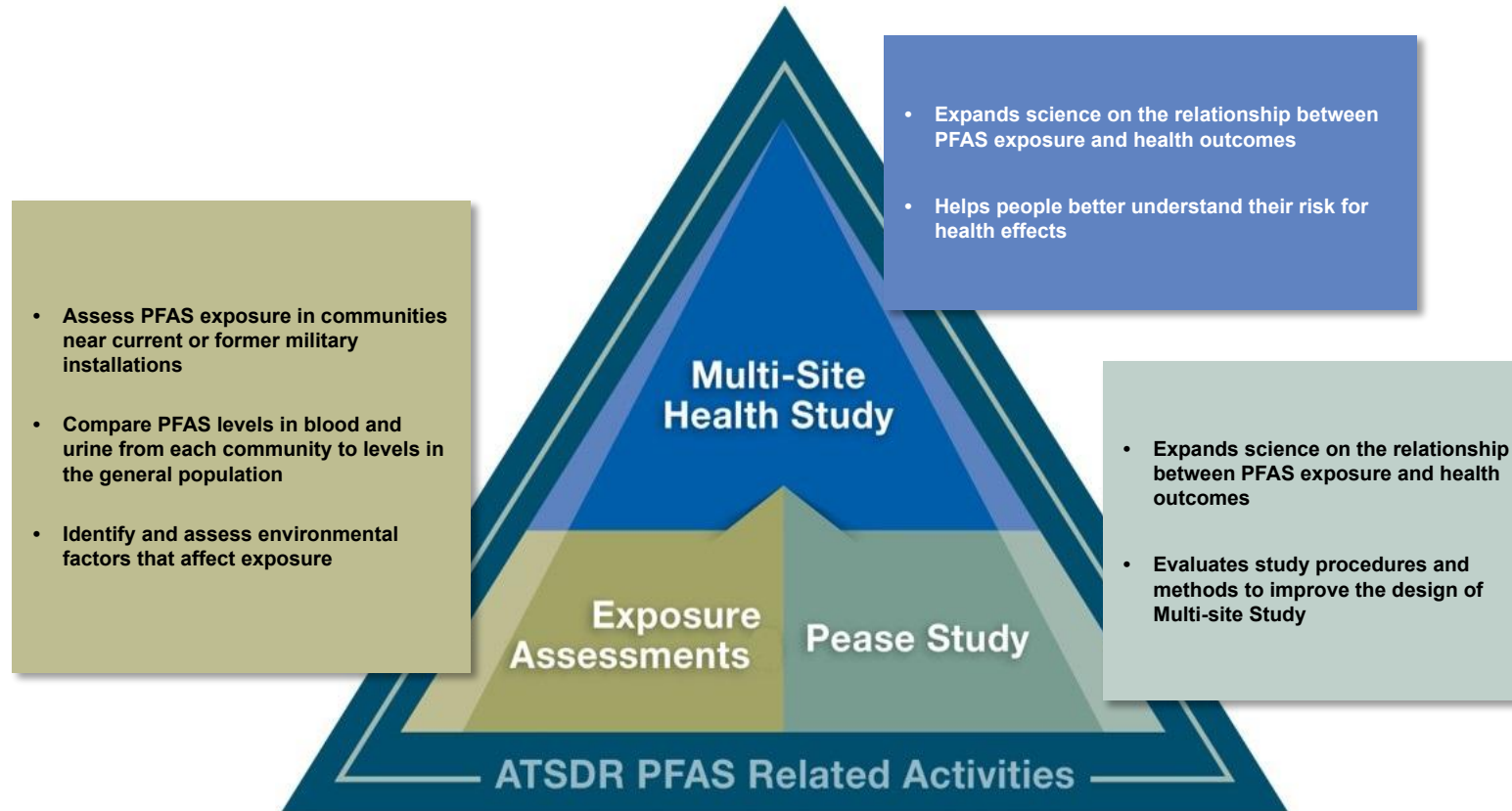
- Support action based on scientific information

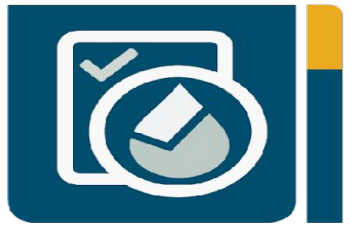


- Provide information to communities and healthcare providers



ATSDR PFAS Exposure Assessments and Health Studies





CDC/ATSDR PFAS Activities

The Pease Study

- Expands science on relationship between PFAS exposure and health outcomes
- Evaluates study procedures and methods to improve the design of Multi-site Study
- Is the first site of the Multi-site Study



CDC/ATSDR PFAS Activities (continued)

Multi-site Study

- Studies relationship between PFAS exposure and health outcomes in 7 MSS sites across the country
- Helps people better understand their risk for health effects



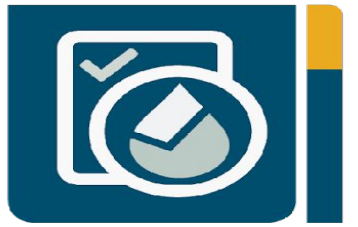
CDC/ATSDR PFAS Activities (continued)

Exposure Assessments

- Assess exposure in communities near current or former military sites
- Compare each community's PFAS blood and urine levels to levels in general population
- Identify and evaluate environmental factors that affect exposure

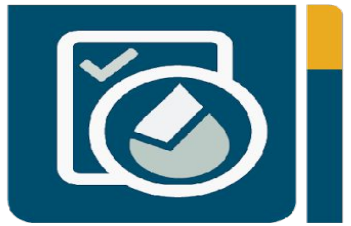


The Pease Study



What is the Pease Study?

- CDC and ATSDR are evaluating the public health impact of drinking water contaminated with PFAS
- CDC and ATSDR want to understand more about how PFAS exposure affects human health
- The Pease Study is the first site of the national Multi-site Study (MSS)
- The MSS will examine human health effects in communities exposed to PFAS contaminated drinking water across the U.S.

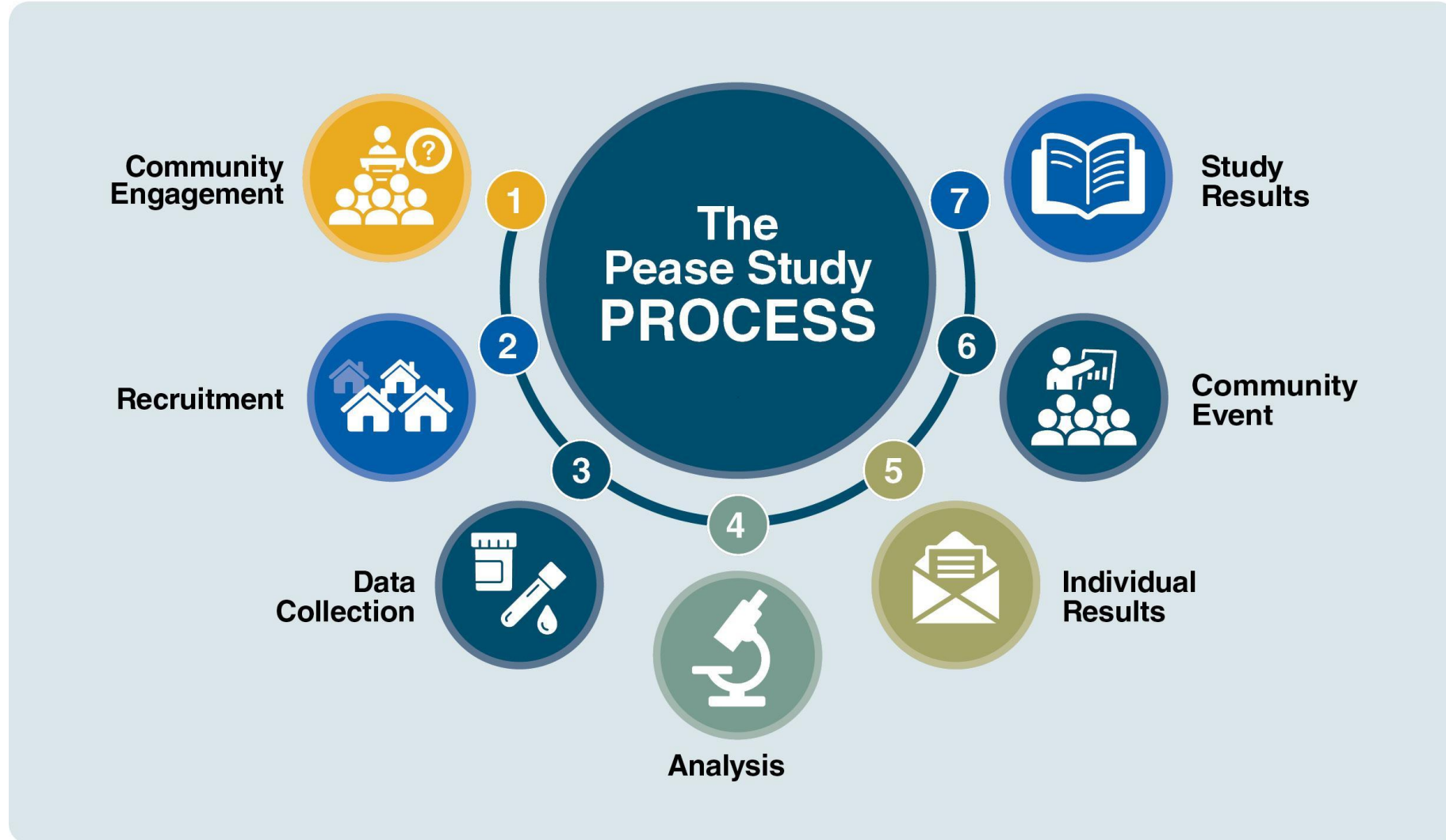


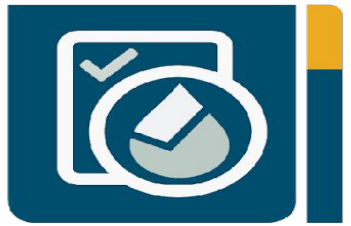
Why is the Pease Study Important?

- It helps us better understand non-cancer health effects of PFAS exposure
 - Expands science on relationship between PFAS exposure and health outcomes
- It's the first site of the Multi-site Study
 - Pease study procedures and methods are being evaluated to improve the design of the Multi-site Study



The Pease Study: Process





Community Engagement

We shared information with the community through:

- Coordination with the Pease Community Assistance Panel (CAP)
- Outreach to Tradeport businesses, local schools, and health care providers
- Promotion to local media outlets
- Posting on social media
- Hosting information sessions



Community Engagement (continued)

Stay informed:

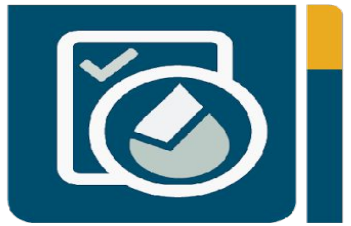
✓ ATSDR Website

www.atsdr.cdc.gov/pfas/Pease-Study.html

✓ Fact Sheets

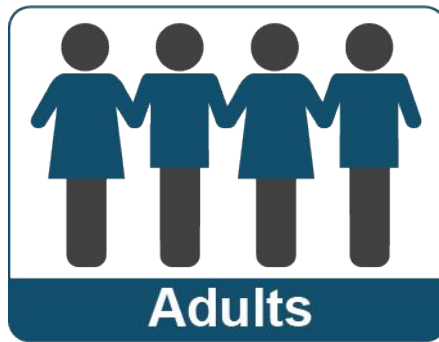
✓ 1-800-CDC-INFO (232-4636)

✓ PeaseStudy@cdc.gov



Eligibility: Adults 18 years or older

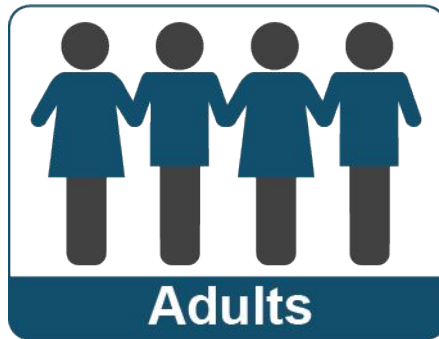
Adult eligibility required meeting the following criteria:



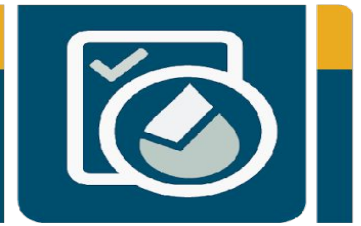
- worked or attended school at Pease International Tradeport at any time from January 2004 to May 2014, or
- lived in Newington at any time from January 2004 to the present and used a private well with documented PFAS contamination



Eligibility: Adults 18 years or older (continued)



- For comparison, the study included a small group of adults who never drank water from Pease International Tradeport and whose occupation or education did not expose them to PFAS



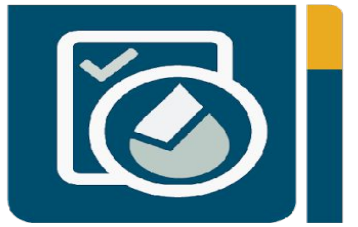
Eligibility: Children aged 4-17 years

Child eligibility required meeting the following criteria:

A child aged 4 through 17 who had parent or guardian permission and

- attended daycare at Pease International Tradeport anytime from January 2004 to May 2014, or
- was born in January 2005 or later to a mother who, prior to or during the pregnancy and/or breastfeeding:
 - worked or attended school at the Pease International Tradeport anytime between 2004 and May 2014, or
 - lived in Newington and used a private well with documented PFAS contamination anytime from 2004 onward

For comparison, a small group of children who never drank water from Pease International Tradeport and who were not born to and/or breastfed by a mother who met the adult eligibility criteria were also eligible to participate.



Eligibility: Who was NOT Eligible

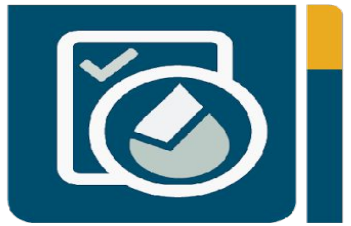
- The following criteria made adults and children ineligible:
 - Adult who worked as a firefighter or had other occupational exposure to PFAS, including aqueous film-forming firefighting foam (AFFF)
 - Child born to and/or breastfed by a mother who worked as a firefighter or had other occupational exposure to PFAS, including AFFF



Appointments



- Appointments were available Monday-Friday and the first Saturday of the month
- The first appointment was at 7am and last appointment was at 12pm

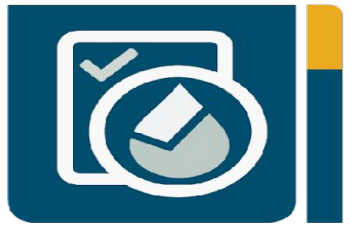


Appointments (continued)

After scheduling an appointment, we sent participants a Fed Ex package containing:

- Information and a consent packet
- A urine collection kit to use the morning of their appointment





Data Collection

Included:



- Blood sample



- Urine sample



- A list of current medications and/or supplements



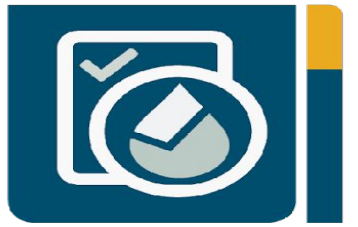
- Basic health information (height, weight, blood pressure)



- Medical history



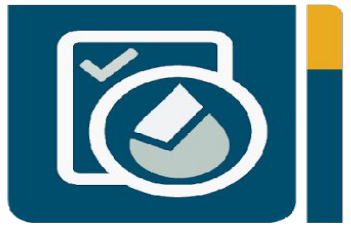
- Behavioral information from child participants



Data Collection (continued)

Participants needed to set aside:

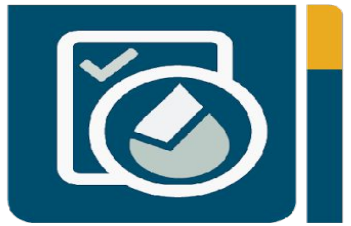
- 8 hours to fast before their appointment
- About 1.5 hours for an office visit
- Extra time for children's additional visit and testing, about 1.5 to 2 hours



Data Collection (continued)

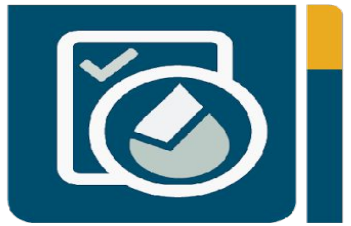
Expectations:

- For ATSDR to protect participants' personal, identifiable information at all times
- Participants received up to \$50 in gift cards for completing the entire study (up to \$75 in gift cards for children)
- No drug or genetic testing



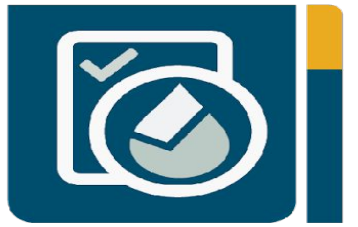
Laboratory Analysis

- CDC/ATSDR laboratory analyzed blood samples for PFAS
- Other laboratories analyzed blood samples for health measures
- Results were shared after all samples were collected and analyzed



Individual Results

- Health measures analyzed in blood sample:
 - Cholesterol
 - Thyroid function
 - Liver function
 - Kidney function
 - Immune function
 - Glucose
- Participants can contact CDC/ATSDR with questions about their PFAS and health results.



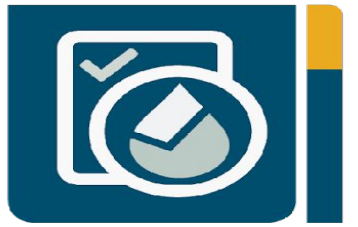
Understanding Results

What we CAN learn:

- The relationship between PFAS exposure and health outcomes
- A better understanding of the risk for health effects
- What health effects may be associated with PFAS exposure

What we CANNOT learn:

- Whether or not the PFAS levels in someone's blood will make them sick now or later in life



Enrollment Results

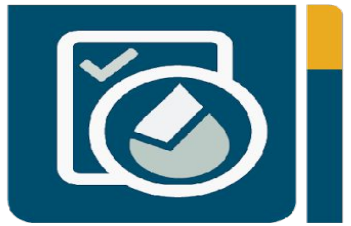
- Recruitment lasted from Oct 2019 to Dec 2021
 - Study office closed from March to Nov 2020
- A total of 1,377 community members were screened and 1,158 were eligible to participate
- 776 adults and 180 children completed the questionnaire and blood draw
 - Additional 36 adults completed just questionnaire
 - 128 out of 180 children also completed neuro-behavioral assessment

**Table 1.** Adult and Child Participants that have Completed the Questionnaire and Provided a Blood Sample

	Adult		Child	
	<i>n</i> =776		<i>N</i> =180	
	<i>n</i>	%	<i>n</i>	%
Age (years), mean, SD	52.66, 12.03	--	10.09, 3.05	--
Sex				
Female	410	52.8	79	43.9
Male	366	47.2	101	56.1
Missing	0	0.0	0	0.0
Race				
American Indian or Alaska Native	2	0.3	0	0.0
Asian	5	0.6	0	0.0
Black or African American	5	0.6	0	0.0
Native Hawaiian or Other pacific Islander	0	0.0	0	0.0
White	748	96.4	172	95.6
Multiracial	8	1.0	8	4.4
Missing	8	1.0	0	0.0
Household Income				
< \$25,000	17	2.2	0	0.0
\$25,000 to \$69,999	126	16.2	11	6.1
\$70,000 to \$149,999	338	43.6	61	33.9
More than 150,000	251	32.3	95	52.8
Missing	44	5.7	13	7.2

**Table 2. Home Tap Water Source**

	Adult		Child	
	<i>n=776</i>		<i>N=180</i>	
	n	%	n	%
Home Tap Water Source				
Pease International Tradeport public water system	1	0.1	0	0.0
Other Portsmouth public water system	140	18.0	51	28.3
Newington	1	0.1	0	0.0
Private well not in Pease International Tradeport area	272	35.1	56	31.1
Other	362	46.6	73	40.6



Data Activities Completed

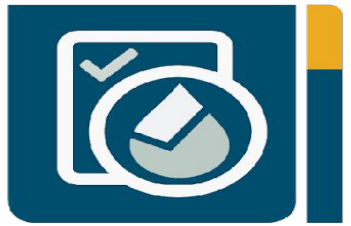
We have:

- Completed analyses of clinical tests/effect biomarkers and PFAS
- Completed verification of reported health outcomes
- Mailed all results to participants
- Integrated all data into Pease Study dataset
- Performed data management activities to create dataset for statistical analysis



Pease Study

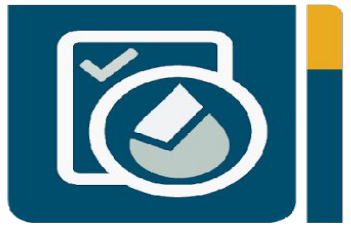
Next Steps



Communicating Results

We plan to:

- Publish combined results and share the final report findings on our webpage and at a community information session
- Host a question and answer session for all community members after the final report is published
- Provide experts to answer questions



For More Information

Local Contact: Tarah Somers, RN, MSN/MPH

Phone: 617-918-1493

Email: tv4@cdc.gov

VISIT: www.atsdr.cdc.gov/pfas/Pease-Study.html

EMAIL: PeaseStudy@cdc.gov

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

The findings and conclusions in this presentation have not been formally disseminated by the Centers for Disease Control and Prevention/the Agency for Toxic Substances and Disease Registry and should not be construed to represent any agency determination or policy.



Questions

Questions





**Thank
You**



PFAS-REACH

PFAS Research, Education,
and Action for Community Health

PFAS-REACH Children's Health Study

Laurel Schaider, PhD

Senior Scientist, Silent Spring Institute

Testing for Pease PFAS Health Study update

January 11, 2023

Key things to know about PFAS-REACH

- ✓ We are currently recruiting children ages 4-8 whose mothers worked at Pease before 2014
- ✓ Children who participated in the ATSDR Pease Study can also participate in PFAS-REACH
- ✓ You can learn about your child's exposure to PFAS and help support new science to understand these chemicals



PFAS-REACH

PFAS Research, Education,
and Action for Community Health

PFAS-REACH: Research, Education, and Action for Community Health

Study partners

- Silent Spring Institute (lead)
- Northeastern University
- Michigan State University
- Testing for Pease
- Mass. Breast Cancer Coalition
- Slingshot

Study components



- Study of PFAS effects on children's immune systems



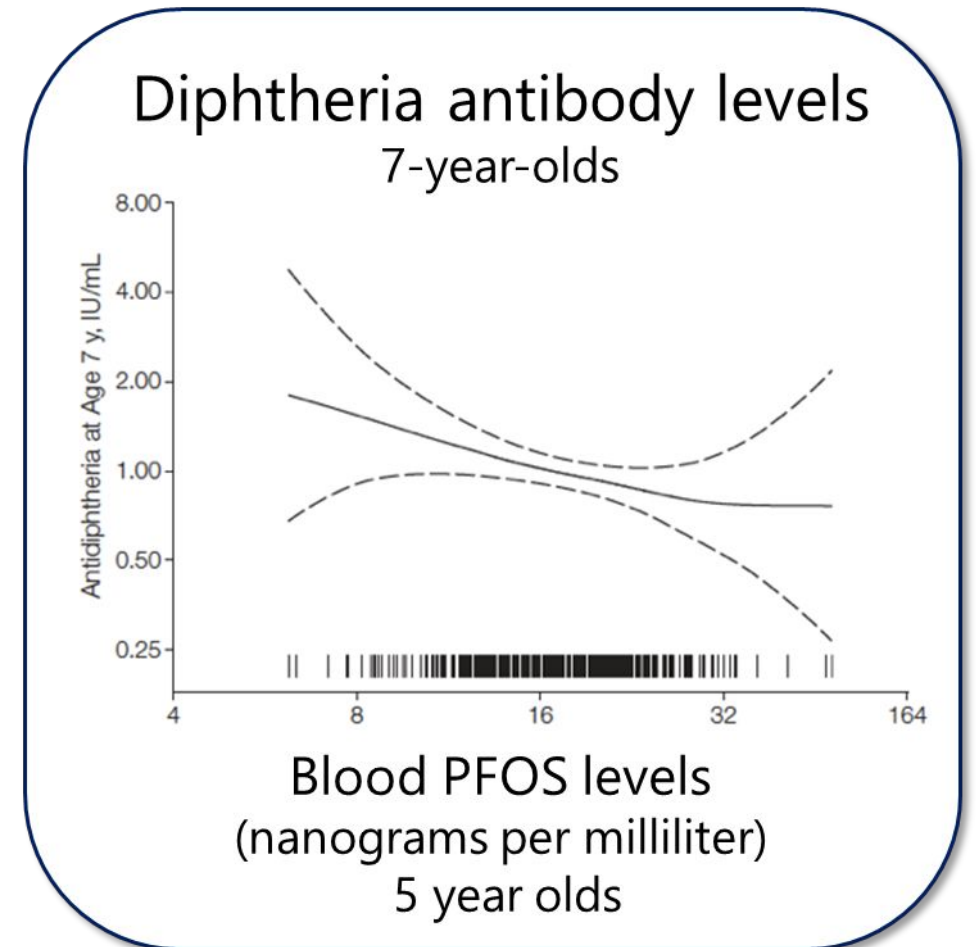
- PFAS Exchange:
Online resource center



- Analysis of experiences of affected communities

Why are we focusing on immune effects?

- ✓ Certain PFAS have been found to impair antibody production after routine vaccinations
- ✓ Our study is responsive to community concerns about immune system effects



Grandjean *et al.* 2012. *JAMA*



PFAS-REACH

PFAS Research, Education,
and Action for Community Health

Who's eligible?

- Young children (ages 4-8) whose mothers worked at Pease before 2014
- Blood samples to be collected within 3 years of final DTaP booster shot (given at ages 4 or 5)

Why 2014?

- In 2014, the Haven well at Pease was turned off after the discovery of high levels of PFAS



PFAS-REACH

PFAS Research, Education,
and Action for Community Health

What's involved?

- 1 Screening questions to determine eligibility
- 2 Informed consent
- 3 One-time blood draw
- 4 Questionnaires about children and parents/guardians
- 5 Biweekly text message surveys on infectious disease

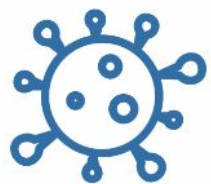


PFAS-REACH

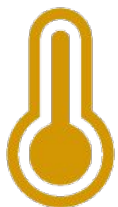
PFAS Research, Education,
and Action for Community Health

What are we studying?

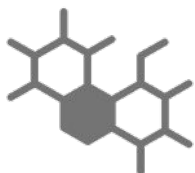
Do higher levels of PFAS exposures lead to...



Lower antibody levels in response to routine vaccinations (DTaP, MMR, and possibly COVID-19)?



More frequent fevers or other symptoms of infectious disease?



Changes in metabolomic markers of inflammation?



PFAS-REACH

PFAS Research, Education,
and Action for Community Health

What will you receive?



Online report with your child's PFAS and antibody results and tips for reducing PFAS exposure



Up to \$125 in gift cards



Satisfaction of supporting a community-based health study on chemicals of widespread concern

To learn more or sign up



Online:

bit.ly/pfas-reach



Call or text:

617-221-6428



Email:

pfas-reach@silentspring.org



PFAS-REACH

PFAS Research, Education,
and Action for Community Health



Children's Health Study

How do PFAS chemicals in drinking water affect the immune system?



PFAS-REACH
PFAS Research, Education,
and Action for Community Health

**DIRECT
LINK TO
WEBSITE**



Thank you for participating in the studies

Benefits to participating:

- Obtain your current PFAS blood level (and compare it to your prior PFAS blood test results if applicable)
- Contribute to evolving science on PFAS health effects in humans
- The studies will help inform other exposed communities of possible health effects related to PFAS (who don't have the opportunity to have blood testing & health study opportunities)
- Receive gift card compensation for your time
- Not a significant time commitment
- Can help inform future policy to prevent this type of exposure to others in the future

Next Steps:

- Awaiting Pease Study community results
- PFAS REACH Study still actively recruiting - help to spread the word
- Testing for Pease continues to advocate for a longitudinal study for the Pease community

Families Urged To Join Groundbreaking PFAS Health Studies At Pease Tradeport

New Hampshire Public Radio | By **Annie Ropeik**
Published March 19, 2021 at 6:00 AM EDT



▶ LISTEN • 5:20



Dan Tuohy / NHPR /

ATSDR Resources

Main ATSDR PFAS page

<https://www.atsdr.cdc.gov/pfas/index.html>

PFAS Blood Level Estimation Tool

<https://www.atsdr.cdc.gov/pfas/bloodlevelestimator/index.html>

ATSDR Community Stress Resource Center

<https://www.atsdr.cdc.gov/stress/index.html>


ESPAÑOL

ATSDR Agency for Toxic Substances and Disease Registry

Per- and Polyfluoroalkyl Substances (PFAS) and Your Health

PFAS and Your Health

[Español \(Spanish\)](#) | [Print](#)




What are the health effects of PFAS?
Human exposure to per- and polyfluoroalkyl substances (PFAS) is a public health concern
[Learn more](#)

Per- and polyfluoroalkyl substances (PFAS) are man-made chemicals that have been widely used in industry and consumer products since the 1940s and remain in the environment for a long time. Human exposure to per- and polyfluoroalkyl substances (PFAS) is a public health concern that the Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health (NCEH) and the Agency for Toxic Substances and Disease Registry (ATSDR) are helping our local, territorial, tribal, state, and federal partners address.

Over the last decade, interest in PFAS has grown. ATSDR and our state health partners are investigating exposure to and possible health effects associated with PFAS in more than 30 communities across the United States.

ATSDR Site Map



ATSDR Agency for Toxic Substances and Disease Registry

Community Stress Resource Center

Home

Home

What's the Science? +

Taking Action +


Resources

Glossary

The experience of long-term environmental contamination, such as perfluoroalkyl and polyfluoroalkyl substances (PFAS) in drinking water, can contribute to psychological and social stress in affected communities. While it is normal for some community members to feel stress in these situations, chronic stress can affect their health.

This Resource Center provides guidance and tools for reducing stress and building resilience in communities during public health responses to environmental contamination. Use it to better understand and address each community's unique practical, informational, social, and emotional needs.


What's the Science?



Learn about the sources of stress and resilience in communities affected by chronic environmental contamination and how that stress can affect community members' health.

[Learn More >>](#)


Taking Action



Use the 3 Keys Framework – **Recognize, Prepare, and Partner** – to develop strategies for reducing stress and building resilience in communities faced with environmental contamination.

[Learn More >>](#)

Resources



Find practice-oriented resources to help public health professionals learn about and address community stress related to environmental contamination.

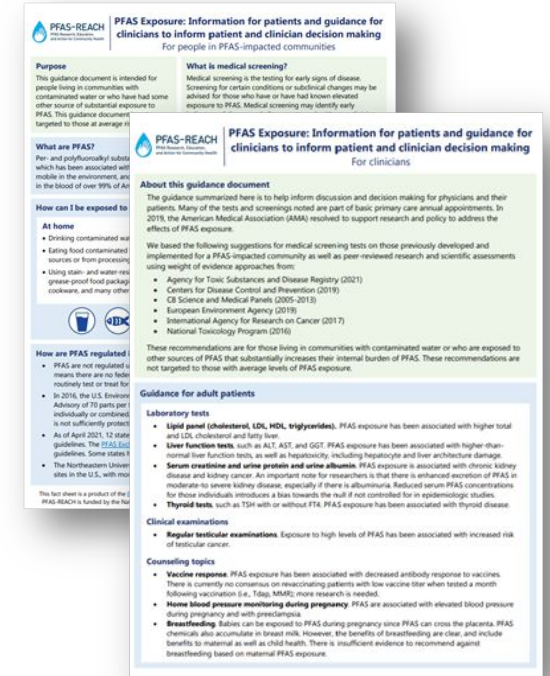
[Learn More >>](#)

PFAS Exchange - Online resources

Fact sheets on PFAS health effects, medical screening guidance, and reducing exposures

Data interpretation tool for understanding results of blood and water testing

Connecting Communities map with information on contamination sites and community groups



PFAS-REACH
PFAS Research, Education,
and Action for Community Health



www.pfas-exchange.org



PFAS Exchange – Blood testing resources

General guidance fact sheet

- What blood tests can and can't indicate
- How to get testing
- Information about types of tests
- Legal considerations
- Questions to ask labs
- Interpreting results

 **PFAS-REACH**
PFAS Research, Education, and Action for Community Health

PFAS blood testing: What you need to know
For people in PFAS-impacted communities and occupations

Purpose
This document is intended as a guide for individuals who are seeking PFAS blood testing. Residents of communities with local sources of contamination and people who may have been exposed to high levels of PFAS at their workplace may seek a PFAS blood test to learn more about their exposure. This document provides information about what you can and can't learn from a PFAS blood test, how to find a lab to conduct the testing, questions to ask a lab about their services, and tools to help you with interpretation and action.

What can I learn from a PFAS blood test?
A PFAS blood test measures the levels of certain PFAS chemicals in a person's blood at the time of the test. The results provide an indication of how much PFAS has entered your body over time. You can compare your results to levels found in other groups of people to determine whether your levels are elevated. Results can also provide a baseline so you can monitor changes over time, and they can support actions by agencies to reduce community exposures.

Results can be shared with your doctor for consideration as a risk factor for associated health outcomes and can inform conversations about reducing PFAS exposure and monitoring your health.

What won't a PFAS blood test tell me?
A PFAS blood test can't tell you where the PFAS in your body came from or how long you've been exposed. PFAS can come from many different sources including drinking water, food, and consumer products. Nearly everyone has some measurable amount of PFAS in their blood.

A blood test also doesn't directly indicate whether any health conditions you are experiencing were caused by PFAS exposure or definitively predict whether you are likely to develop certain health problems in the future.

How do I get a PFAS blood test?
Your doctor may be able to order a PFAS blood test. Providers should use ICD-10 diagnosis code Z13.88, and if ordering a test through Quest, they should use Test Code 39307 and CPT code 82542. Let your provider know you prefer a lab that measures both linear and branched isomers and a comprehensive panel that includes many compounds (see explanation on next page).

If your doctor cannot order the test, ask if they can help with a blood draw. Either way, you can contact a lab directly to request the test.

How do I find a lab?
Several labs in North America currently offer PFAS blood testing to individuals: **AXYS Analytical**, **EmpowerDX**, and **Eurofins**. AXYS and Eurofins measure PFAS in blood serum, and EmpowerDX offers a home finger-prick test. **NMS Labs** does not offer tests to individuals, but does provide blood testing to other entities, including Quest.

For information about price, specific chemicals tested, and lab requirements, see our online guide (bit.ly/pfas-blood-test).

A note about litigation
If you are considering legal action, consult a lawyer before testing your blood. Discovery of PFAS in blood may start the clock on a statute of limitations that could prevent you from litigating in the future. Note that certain documentation may be required in legal settings, so you may need a blood draw (rather than a finger-prick) by a phlebotomist who can serve as a documented witness.

Blood draw vs. finger-prick tool

- Most labs require a **blood draw** by a phlebotomist so they can test a large amount of your blood. This has been preferred for many years, is well studied, and may have legal benefits.
- EmpowerDX (part of Eurofins) offers a **finger-prick tool** that allows you to collect a sample at home and will test your whole blood. Note that if PFAS levels in your blood are low, this test may be less likely to detect the PFAS.

Limitations you may encounter

- Health insurance may not cover costs.
- The maximum number of PFAS that can be tested is around 40. This is a small number compared to the thousands of PFAS that exist.

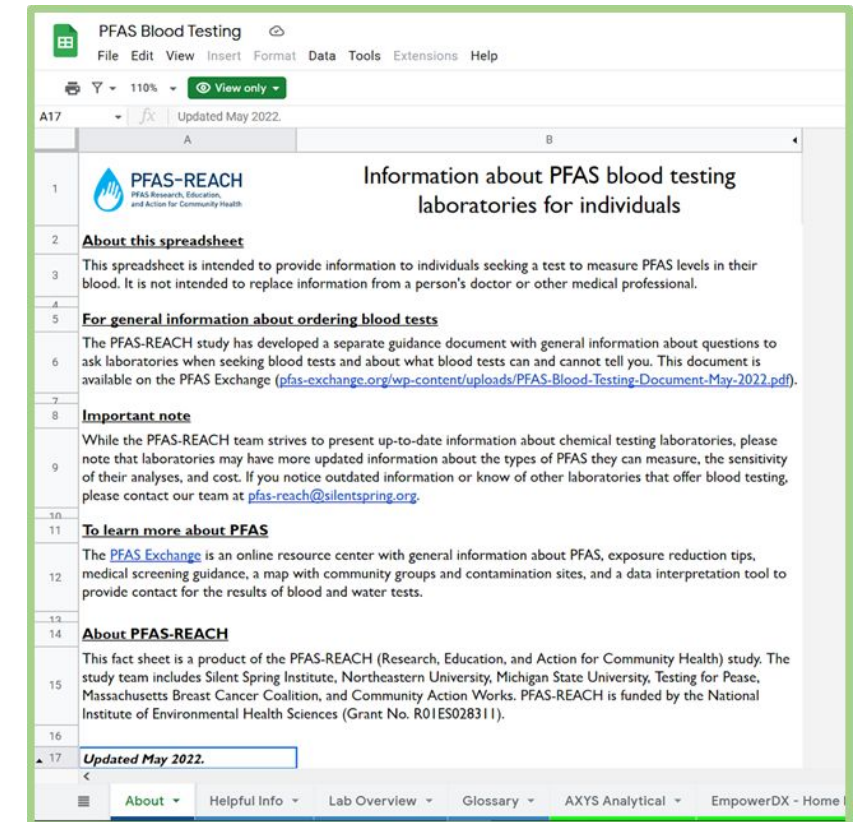
This fact sheet is a product of the PFAS-REACH (Research, Education, and Action for Community Health) study. PFAS-REACH is funded by the National Institute of Environmental Health Sciences (Grant No. R01ES028311). May 2022



PFAS Exchange – Blood testing resources

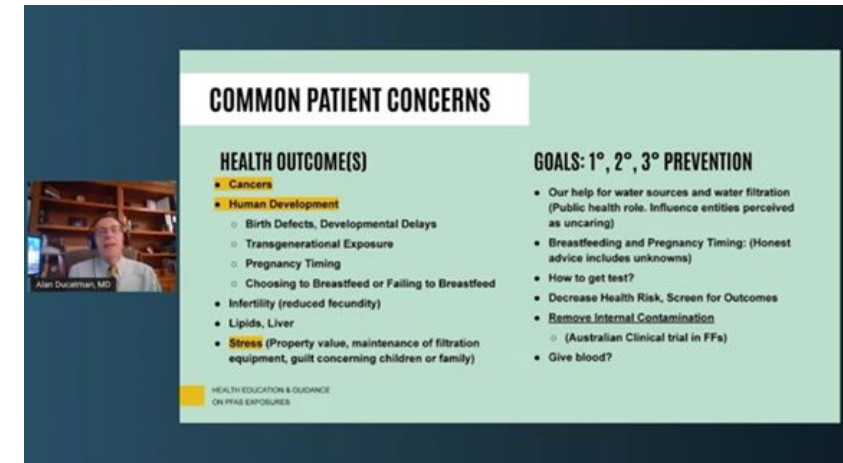
Information about test labs

- Updated list on PFAS blood testing labs
- Reporting limits and PFAS target analytes
- Glossary
- **Available in Google Doc format**



Resources for clinicians

- **Continuing medical education course**
Clinicians can receive CME credit, or you can just watch the video
- **Medical screening guidance documents**
- **List of resources for clinicians**
- **Listserv for clinicians on PFAS and improving patient care (Michigan State)**



PFAS-REACH
PFAS Research, Education,
and Action for Community Health



[www.pfas-exchange.org/
resources/resources-for-clinicians](http://www.pfas-exchange.org/resources/resources-for-clinicians)

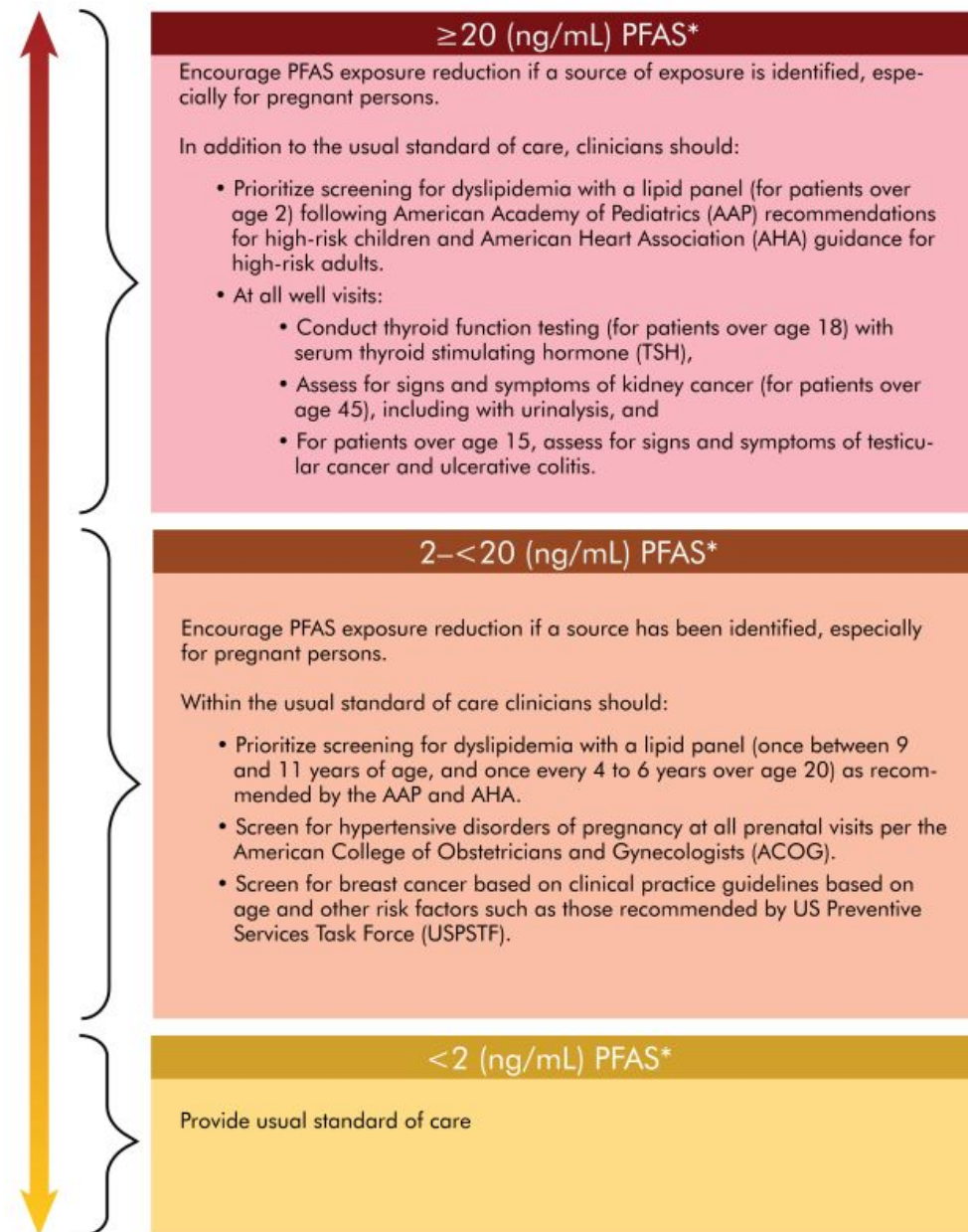
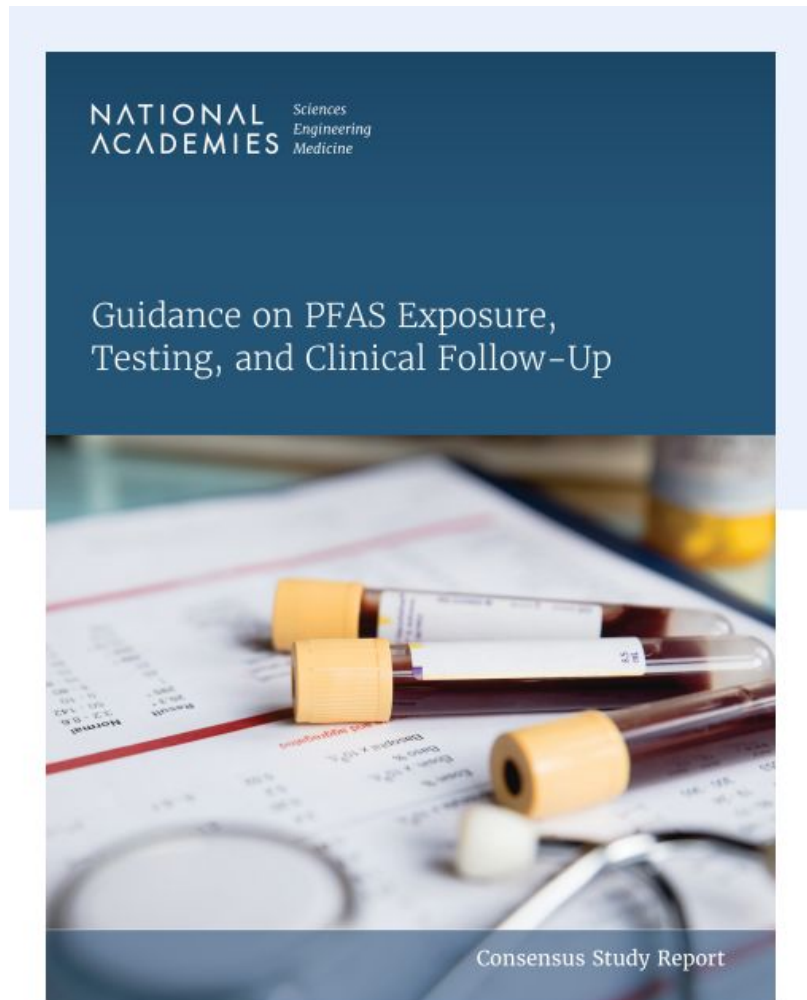


Resources

National Academy of Sciences (NASEM) released a report in July 2022: *Guidance on PFAS Exposure, Testing, and Clinical Follow-Up*

PFAS blood testing recommended for highly exposed community members

Established PFAS blood level screenings and medical monitoring guidelines



* Simple additive sum of MeFOSAA, PFHxS, PFOA (linear and branched isomers), PFDA, PFUnDA, PFOS (linear and branched isomers), and PFNA in serum or plasma

Resources

National Academy of Sciences (NASEM) released a report in July 2022

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Established PFAS blood level screenings and medical monitoring guidelines

NATIONAL ACADEMIES

Sciences
Engineering
Medicine

Consensus Study Report
Highlights

NATIONAL ACADEMIES

Sciences
Engineering
Medicine

Guidance on PFAS Exposure,
Testing, and Clinical Follow-Up

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a class of chemicals that includes over 12,000 different compounds, some of which are linked to health effects including certain cancers, thyroid dysfunction, small reductions in birth weight, and high cholesterol. PFAS are used in thousands of products, such as water and stain proof fabrics, non-stick cookware, and fire-fighting foams, because they have desirable chemical properties that repel oil and water, reduce friction, and resist temperature changes. PFAS compounds are often referred to as "forever chemicals" because they are resistant to degradation and when they do break down, the chemical products will include another PFAS.

TABLE 1	
CATEGORY OF ASSOCIATION	HEALTH OUTCOMES WITH INCREASED RISK ASSOCIATE WITH PFAS EXPOSURE
<div><div><div></div><div></div></div><div>Sufficient evidence of an association Based on strong evidence, there is high confidence that there is an association between exposure to PFAS and the health outcome. It is unlikely that the association is due to chance or bias.</div></div>	<ul style="list-style-type: none">• Decreased antibody response (in adults and children)• Dyslipidemia (in adults and children)• Decreased infant and fetal growth• Increased risk of kidney cancer (in adults)
<div><div><div></div><div></div></div><div>Limited suggestive evidence of an association Based on limited evidence, there is moderate confidence that there is an association between exposure to PFAS and the health outcome. It is possible that the association is due to chance or bias.</div></div>	<ul style="list-style-type: none">• Increased risk of breast cancer (in adults)• Liver enzyme alterations (in adults and children)• Increased risk of pregnancy-induced hypertension (gestational hypertension and preeclampsia)• Increased risk of testicular cancer (in adults)• Thyroid disease and dysfunction (in adults)• Increased risk of ulcerative colitis (in adults)
<div><div><div></div><div></div></div><div>Inadequate or Insufficient Evidence to Determine an Association Based on inconsistent evidence, a lack of evidence, or evidence of insufficient quality, there is moderate confidence that there is an association between exposure to PFAS and the health outcome. No conclusion can be made about a potential association.</div></div>	<ul style="list-style-type: none">• Immune effects other than reduced antibody response, and ulcerative colitis; Cardiovascular outcomes other than dyslipidemia;• Developmental outcomes other than small reductions in birthweight• Cancers other than kidney, breast, and testicular; Reproductive effects other than hypertensive disorders of pregnancy; Endocrine disorders other than thyroid hormone levels; Hepatic effects other than liver enzyme levels; Respiratory effects; Hematological effects• Musculoskeletal effects, such as effects on bone mineral density; Renal effects, such as renal disease; Neurological effects
<div><div><div></div><div></div></div><div>Limited Suggestive Evidence of No Association Based on at least limited evidence, there is at least moderate confidence that there is NO association between PFAS and the health outcome.</div></div>	<ul style="list-style-type: none">• No outcomes were identified.

Resources

NH State law requires insurance companies to pay for PFAS blood testing.

Learn more here:

<https://www.nh.gov/insurance/consumers/documents/health-documents/20220110-pfas-faq.pdf>

To find more information on how to access PFAS blood testing, check out the the PFAS Exchange document: <https://pfas-exchange.org/wp-content/uploads/PFAS-Blood-Testing-Documents-May-2022.pdf>



PFAS blood testing: What you need to know

For people in PFAS-impacted communities and occupations

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New Hampshire Insurance Department
2022 Per- and Polyfluoroalkyl Substances (PFAS)
Frequently Asked Questions

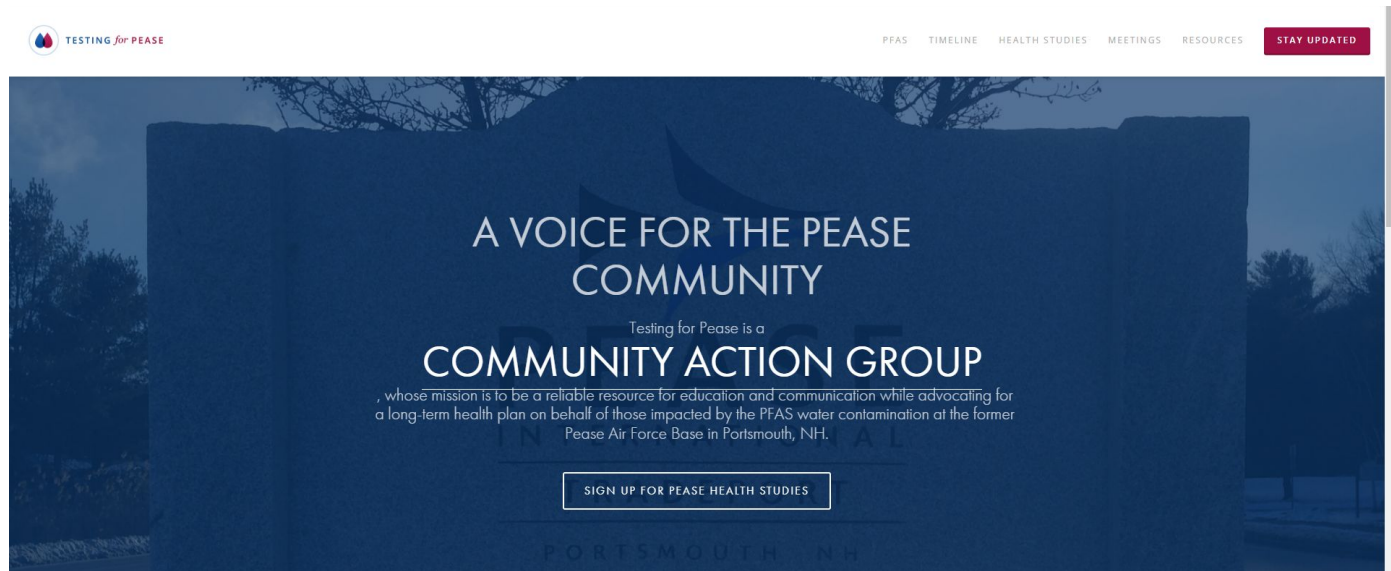
Resources

Testing for Pease is a resource for the community!

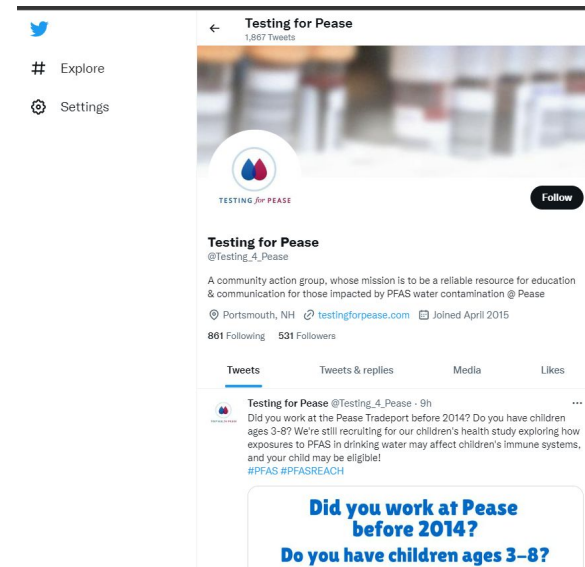
Check out our website and social media.

Sign up for our newsletter:
<https://www.testingforpease.com/stay-updated>

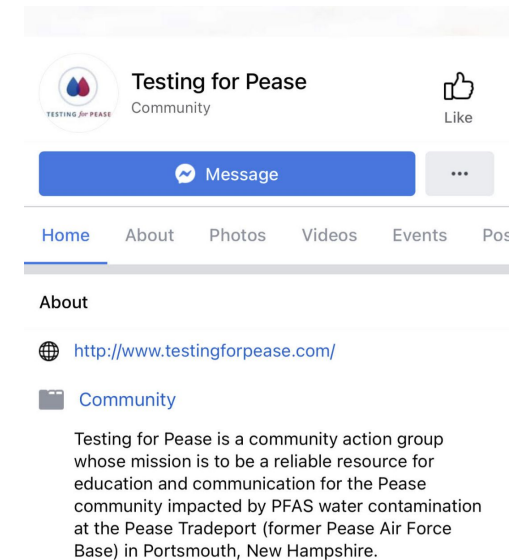
Contact us at
info@testingforpease.com



website: [testingforpease.com](https://www.testingforpease.com)



https://twitter.com/testing_4_pease



<https://www.facebook.com/Testingforpease/>

Resources

There are panels and boards that meet a few times a year to discuss Pease PFAS contamination that are open to the public

- Pease Community Assistance Panel (CAP) with ATSDR
- Pease Restoration Advisory Board (RAB) with US Air Force

ATSDR

Agency for Toxic Substances and Disease Registry

Per- and Polyfluoroalkyl Substances (PFAS) and Your Health

PFAS and Your Health

PFAS and Your Health

What are the health effects of PFAS?

What is ATSDR doing?

Resources

Pease Community Assistance Panel

[Print](#)

The Agency for Toxic Substances and Disease Registry (ATSDR), a federal public health agency, is evaluating the public health impact of drinking water contaminated with per- and polyfluoroalkyl substances (PFAS) at the Pease International Tradeport site and nearby wells. ATSDR has created a Community Assistance Panel (CAP) for Pease as a way for the community to participate directly in ATSDR's health activities. CAP members are voluntary, unpaid individuals from the Pease community. CAP members will work with ATSDR to gather and review community health concerns, provide information on how people might have been exposed to hazardous substances, and inform ATSDR how to involve the community.

The next CAP Meeting will be announced shortly.

Please check back periodically for more information.

CAP Members

While additional CAP members may still be added to the Panel, at this time the list of members includes

1. Andrea Amico	7. Toni McLellan
2. Karen Anderson	8. Bill McQuillen
3. Michelle Dalton	9. Joe Ryan
4. Alayna Davis	10. Jared Sheehan
5. Rich DiPentima	11. Mark Sullivan
6. Sen. Martha Fuller Clark	12. Shelley Vetter

<https://www.atsdr.cdc.gov/pfas/activities/pease/cap.html>

AIR FORCE CIVIL ENGINEER CENTER

PEASE RAB DOCUMENTS

RAB Documents

RAB Operating Procedures | RAB Membership Application | RAB Contact List

RAB Meeting Date	Notices	Agenda	Presentation	Minutes	Other
Jan. 24, 2023	Meeting Flyer				
Oct. 4, 2022 (RAB Site Tour)		Agenda			Poster
May 17, 2022	Meeting Flyer	Agenda	Presentation	Minutes	
Feb. 28, 2022	Meeting Flyer	Agenda	Presentation	Minutes	Virtual Tour Video Video Presentation
Sep. 14, 2021	Meeting Flyer	Agenda	Presentation	Minutes	

AFCEC hosts former Pease AFB RAB tour

Innovation, partnership bring Pease water treatment plant online

EPA recognizes AFCEC-led cleanup success

Air Force expands treatment capabilities to address PFOS/PFOA

Air Force continues attack on PFOS/PFOA issues at Pease

<https://www.afcec.af.mil/Home/BRAC/Pease.aspx>

Resources Summary

Testing for Pease:

www.testingforpease.com
https://twitter.com/testing_4_pease
<https://www.facebook.com/Testingforpease/>
<https://www.testingforpease.com/stay-updated>

NH Law requiring insurance to pay for PFAS blood testing:

<https://www.nh.gov/insurance/consumers/documents/health-documents/20220110-pfas-faq.pdf>

National Academy of Sciences work on PFAS re: PFAS screening levels in blood and medical monitoring guidelines:

<https://www.nationalacademies.org/our-work/guidance-on-pfas-testing-and-health-outcomes>
<https://nap.nationalacademies.org/resource/26156/PFAS%20Guidance%20Highlights.pdf>
<https://www.nationalacademies.org/our-work/guidance-on-pfas-testing-and-health-outcomes#sectionPublications>

PFAS-REACH Study w/Silent Spring Institute:

<https://silentspring.org/project/pfas-reach>

PFAS-Exchange Resources:

<https://pfas-exchange.org/resources/>

Webinar on Medical Monitoring for Physicians:

Nonstick Nuisance: Medical Monitoring for PFAS.

<https://www.youtube.com/watch?v=j--XNvXubU8>

Pease Study with ATSDR/CDC:

<https://www.atsdr.cdc.gov/pfas/activities/pease.html>

Main ATSDR PFAS page

<https://www.atsdr.cdc.gov/pfas/index.html>

ATSDR PFAS Blood Level Estimation Tool

<https://www.atsdr.cdc.gov/pfas/bloodlevelestimator/index.html>

ATSDR Community Stress Resource Center

<https://www.atsdr.cdc.gov/stress/index.html>

ATSDR Pease Community Assistance Panel (CAP):

<https://www.atsdr.cdc.gov/pfas/activities/pease/cap.html>

US Air Force Pease Restoration Advisory Board (RAB):

<https://www.afcec.af.mil/Home/BRAC/Pease.aspx>

Questions...