

# Frequently Asked Questions



## ***What is PFAS-REACH?***

PFAS-REACH (Research, Education, and Action for Community Health) is a five-year project funded by a grant from the National Institute of Environmental Health Sciences (NIEHS), which is part of the National Institutes of Health. It is being funded through the NIEHS Research to Action program, which brings together scientists and community partners to collaborate on research studies that address community concerns. One of the major goals of PFAS-REACH is to evaluate immune system effects in children (ages 4 to 6) in communities with prior PFAS water contamination.

## ***What are PFAS?***

PFAS (also known as per- and polyfluoroalkyl substances) are used by manufacturers to make products non-stick, waterproof, and stain-resistant. These chemicals can be found in a wide range of consumer products including food packaging, non-stick cookware, waterproof clothing, and stain-resistant carpets. They are also used in certain firefighting foams. They are sometimes called “forever chemicals” because they are extremely persistent and don’t break down.

## ***How do PFAS get into the environment?***

High levels of PFAS have been found in areas near manufacturing plants where PFAS chemicals have been produced and near industrial sites where these chemicals have been added during the manufacturing of other products. High levels have also been found in groundwater and surface waters close to military bases and airports where certain firefighting foams have been used for fighting and training for fuel fires. PFAS can also get released into the environment from wastewater treatment plants, landfills, and the land application of treated sewage sludge.

## ***Who is conducting the study?***

PFAS-REACH is being led by Silent Spring Institute in collaboration with Northeastern University (NU IRB# 19-05-03) and Michigan State University. The main community partner organizations are Testing for Pease, Massachusetts Breast Cancer Coalition, and Toxics Action Center. Over the course of study, we’ll also be working with other academic partners, advocacy groups in New Hampshire and on Cape Cod, and affected communities across the US.

## ***What are the main goals of PFAS-REACH?***

Our study has 3 main goals:

- 1) To evaluate potential effects of PFAS exposures on the immune systems of young children in two communities that have had PFAS water contamination.
- 2) To develop an innovative online resource center, called the PFAS Exchange, with data interpretation tools, tap water testing, and educational materials for affected communities and other audiences.
- 3) To conduct a social science analysis affected communities to assess individual, family, and community-level experiences of residents in areas impacted by PFAS-contaminated drinking water.

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### ***Where is the children's immunotoxicity study taking place?***

We are focusing on two communities where public drinking water wells have been contaminated with PFAS from the use of firefighting foams for training activities. One community is at the Pease International Tradeport, formerly Pease Air Force Base, in Portsmouth, NH. The other is in Hyannis, on Cape Cod, Mass. While the public water supplies in both areas are now being filtered to remove PFAS, many people were exposed to the water when PFAS levels were high, and there are concerns about long-term health effects. In addition, certain PFAS chemicals can remain in the body for years.

### ***Who is eligible to take part in the children's immunotoxicity study?***

We are recruiting children, ages 4 to 6, who have not yet had their final DTaP booster shot and who may have been exposed to PFAS-contaminated drinking water, either directly or indirectly from their mothers. PFAS can be passed along during pregnancy and through breast milk. We aim to recruit a total of 120 children, 60 from each community.

At Pease, children will be eligible if their mothers worked at Pease for at least one year before June 2014. In Hyannis, children will be eligible if they lived or attended daycare in Hyannis for at least one year before May 2016 or their mothers lived or worked in Hyannis for one year before May 2016.

In the future, we plan to offer PFAS blood testing to other children in these two communities who do not meet our eligibility criteria.

### ***What will participants do?***

If eligible, we will ask parents to bring their child to a local clinic for a blood draw about one month after they receive their final DTaP booster. At the same time, we will ask parents to collect a sample of their child's urine. Blood samples will be tested for PFAS chemicals and for diphtheria and tetanus antibody levels. Antibody levels indicate how well a child's immune system responds to immunization. Since antibody levels change over time, we are collecting our measurements one month after the DTaP vaccination in order to get the best measure of the boost in antibody levels from the vaccine. We will also ask parents to fill out a questionnaire about where their family members have lived and worked and about their water consumption, and to respond to periodic text messages about their child's recent illnesses, if any.

### ***Why are you studying immune system effects in young children?***

PFAS exposures can be harmful to the immune system, and children may be especially sensitive. Studies of children in the Faroe Islands have found that children with higher PFAS levels in their blood, from their diet, may have less of a positive immune system response to DTaP vaccinations. This is concerning because this means that vaccines may be less effective in children with high exposures, and it may also indicate other harm to their immune systems. PFAS-REACH will be the first study to look for these same types of effects in children exposed to PFAS through drinking water contaminated by firefighting foam.

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***What other health effects have been linked to PFAS exposures?***

Most of the information that we have about PFAS health effects comes from studies of two specific PFAS chemicals: PFOS and PFOA. These include studies of laboratory animals and exposed human populations. These studies show links between PFAS exposure and cancer, thyroid disease, liver toxicity, and elevated cholesterol. For most other PFAS, including many of the PFAS in firefighting foams, we have little toxicity information.

***What will I receive if my child participates in PFAS-REACH?***

Parents will receive a personalized report showing the levels of PFAS chemicals and antibodies that we measure in their child’s blood sample. Participants will receive up to \$100 in gift cards: \$50 for completing your child’s blood and urine test and \$50 for completing the full questionnaire.

***How is your study different from other health studies in my community?***

At Pease, our study will complement a health study on PFAS led by the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR). The ATSDR Pease study will examine a range of possible health effects from PFAS exposures in children (ages 4-17) and adults. To learn more about this study, visit: <https://www.atsdr.cdc.gov/pfas/Pease-Study.html>.

In Hyannis, Silent Spring Institute is leading a study on the health effects of PFAS, funded by CDC and ATSDR. This study will include children (ages 4-17) and adults, and is part of a larger study based in communities across the country that will examine a range of possible health effects. Recruitment for this study will begin in 2020. To learn more about this study, visit: <https://silentspring.org/news/silent-spring-institute-awarded-1-million-study-health-impacts-pfas-drinking-water>.

***How can I learn more about the PFAS-REACH study?***

You can read more about our study at [www.PFAS-Exchange.org/childrenstudy](http://www.PFAS-Exchange.org/childrenstudy). You can contact the study team by sending an email to [PFAS-REACH@silentspring.org](mailto:PFAS-REACH@silentspring.org) or call/text us at 617-600-8348.

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