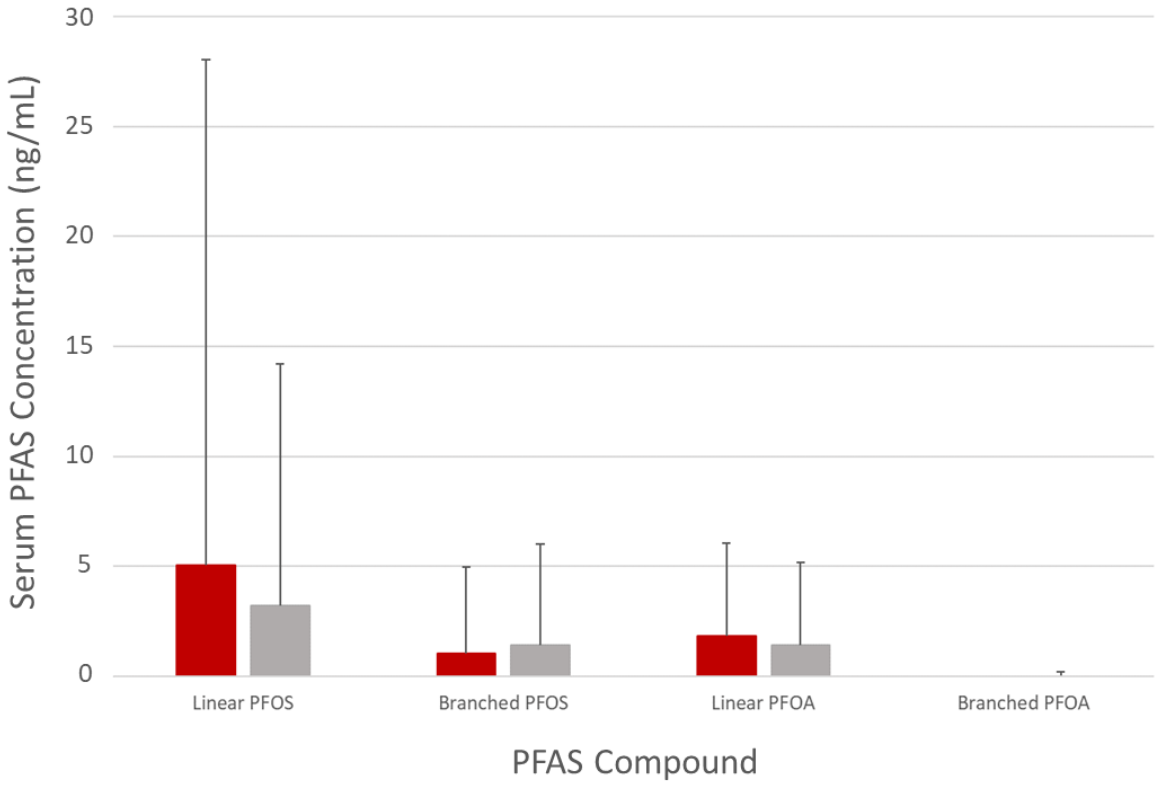
Firefighter Turnout Gear PFAS Study

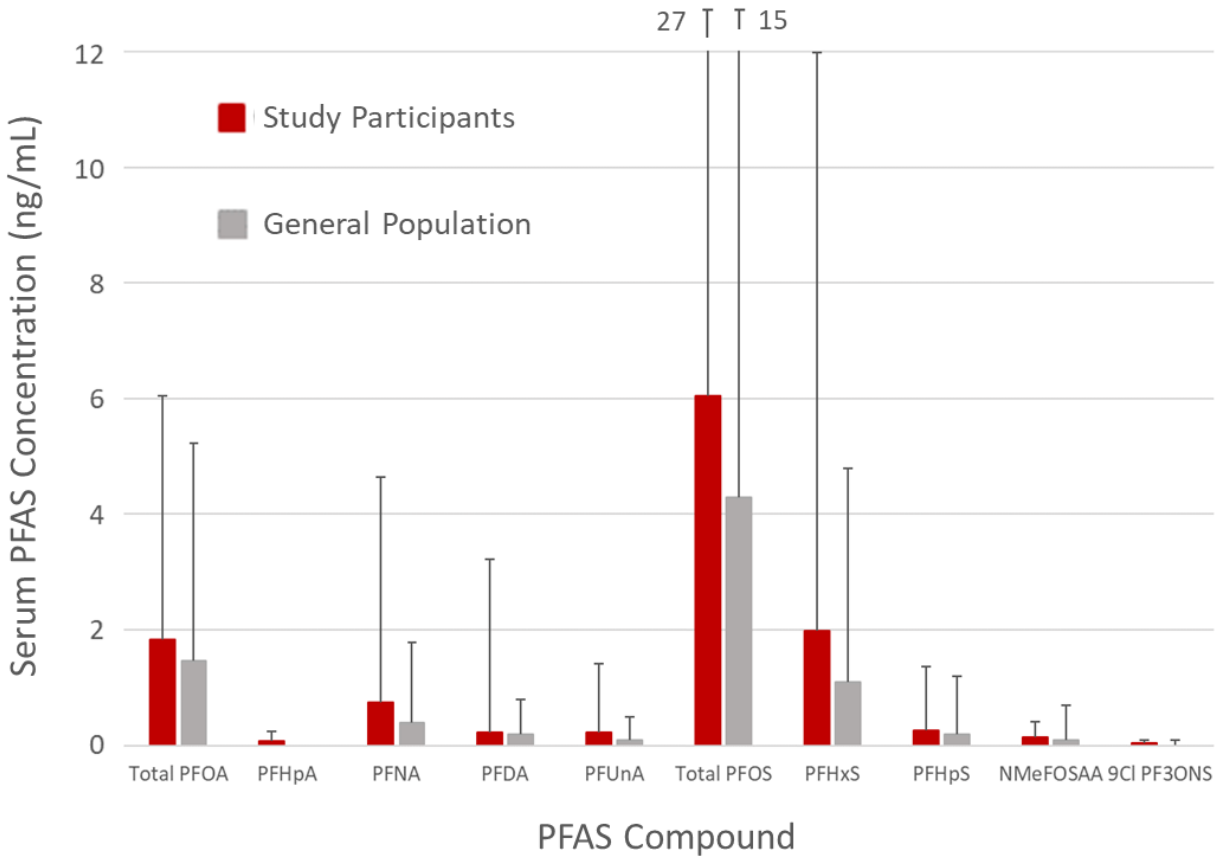
PFAS Blood Test Results

Summary:

- 18 Firefighters enrolled in the study from the Nantucket, Fall River and Hyannis Fire Departments. Blood samples were collected in March of 2022.
- Of the 44 different PFASs tested in the samples 14 were identified above the detection limit. We compared results with the adult male U.S. population using the most recent (2017-2018) data available from the National Health and Nutrition Examination Survey (NHANES).
- The graph below compares median (50th percentile) and maximum blood concentrations of sub-types of PFOA and PFOS from our study population of firefighters to the general population. Median levels of linear-PFOS in blood from study participants were higher than the general population whereas other sub-types were not.



- Median (average) levels of PFNA and PFHxS were twice as high as the general population.



<u>How to read these figures</u>: PFAS blood test results are reported in ng/mL (nanograms of PFAS per mililiter of blood serum), also known as parts per billion (ppb). The top of the bars in these figures indicate the median (average) level in blood and the top of the capped lines indicate the 95th percentile, or near maximum. Some values were higher than the scale shown, so are written next to the capped bar.

<u>Turnout Gear and Forarm Wipes</u>: These samples are currently being analyzed for PFAS. Overall and individual results will be shared once available, likely by the end of the year.

<u>Virtual Meeting</u>: You're invited to meet with virtually the study team at 11 EDT on Friday, September 9th. See page 5 for call details.

What do these results mean for your health?

Higher exposure to certain PFAS chemicals have been clearly linked with a number of health effects including elevated cholesterol, immune disruption, hormone disruption and certain cancers (e.g., testicular, kidney, breast).

Individual risk varies depending on genetic, dietary, and other environmental factors. Therefore, at the same exposure level one person may develop a disease whereas another may not.

Blood concentrations above 20 ng/mL for the sum of PFASs are considered elevated and between 2-20 ng/mL moderately elevated (NASEM 2022). Current recommendataions for people with elevated PFAS blood levels are to identify and reduce sources of exposure and to consider medical screening in consultation with your doctor.

What are limitations of the PFAS blood results?

These results tell you how much PFAS was present in your blood on the day you provided a sample.

Many of the PFAS we measured stay in your body for several years, so the levels that we measured also reflect your exposure in the past.

Where can I find more information about PFAS?

Compare your individual results to the general population and find useful fact sheets including medical screening guidance for people with elevated exposures and their clinicians: www.pfas-exchange.org.

Learn more about PFAS in the fire service at www.pfasfreeppe.com

Reference: NASEM (National Academies of Sciences, Engineering, and Medicine). 2022. Guidance on PFAS Exposure, Testing, and Clinical Follow-Up. Washington, DC: The National Academies Press. https://doi.org/10.17226/26156.

Summary of Recommendations from the NASEM Report:

≥20 (ng/mL) PFAS*

Encourage PFAS exposure reduction if a source of exposure is identified, especially for pregnant persons.

In addition to the usual standard of care, clinicians should:

- Prioritize screening for dyslipidemia with a lipid panel (for patients over age 2) following American Academy of Pediatrics (AAP) recommendations for high-risk children and American Heart Association (AHA) guidance for high-risk adults.
- At all well visits:
  - Conduct thyroid function testing (for patients over age 18) with serum thyroid stimulating hormone (TSH),
  - Assess for signs and symptoms of kidney cancer (for patients over age 45), including with urinalysis, and
  - For patients over age 15, assess for signs and symptoms of testicular cancer and ulcerative colitis.

2–<20 (ng/mL) PFAS*

Encourage PFAS exposure reduction if a source has been identified, especially for pregnant persons.

Within the usual standard of care clinicians should:

- Prioritize screening for dyslipidemia with a lipid panel (once between 9 and 11 years of age, and once every 4 to 6 years over age 20) as recommended by the AAP and AHA.
- Screen for hypertensive disorders of pregnancy at all prenatal visits per the American College of Obstetricians and Gynecologists (ACOG).
- Screen for breast cancer based on clinical practice guidelines based on age and other risk factors such as those recommended by U.S. Preventive Services Task Force (USPSTF).

<2 (ng/mL) PFAS*

Provide usual standard of care

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

Virtual Meeting Call Information

When: Friday September 9, 2022 at 11 am

Join Zoom Meeting: https://msu.zoom.us/j/91494708879
Meeting ID: 914 9470 8879
Passcode: gear
One tap mobile: +13017158592,,91494708879# US

There are several ways to join the meeting:

1. Using a link on a device:
   a. Click or type in this link: https://msu.zoom.us/j/91494708879
   b. Enter the passcode when prompted: gear

2. Using the Zoom app on a device:
   a. Install the Zoom app on your device
   b. Open the app
   c. Enter the meeting ID: 914 9470 8879
   d. Enter the passcode when prompted: gear

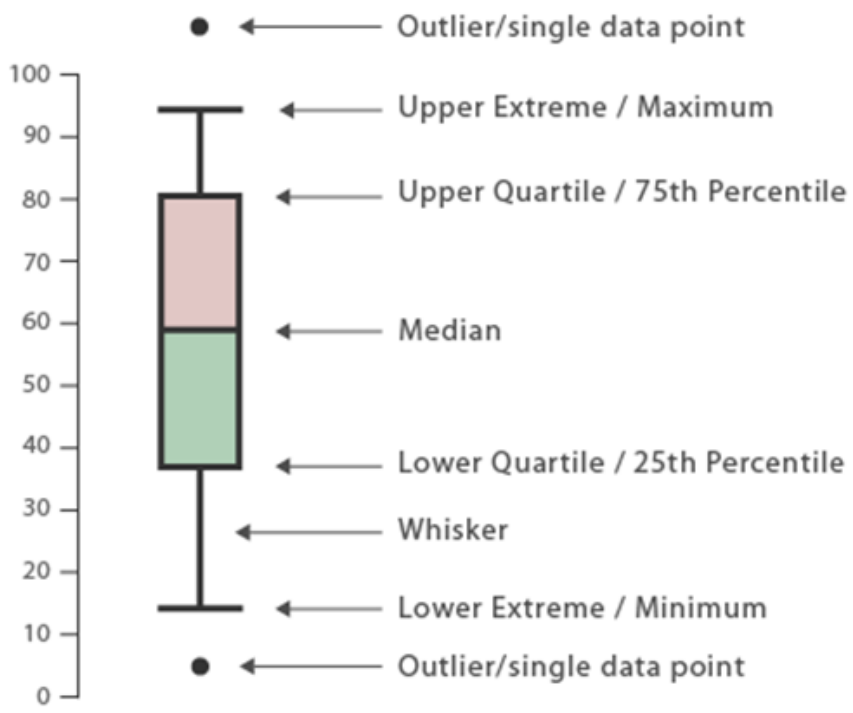
3. Using your browser on the Zoom website:
   a. Navigate to the Zoom website: https://zoom.us
   b. Click 'Join' in the top right portion of the website
   c. Enter the meeting ID: 914 9470 8879
   d. Enter the passcode when prompted: gear

4. Dial-in via telephone (voice only)
   a. Dial (301) 715-8592
   b. Enter the meeting ID when prompted, followed by the # key: 914 9470 8879#
   c. Enter the passcode when prompted, followed by the # key: gear#
   d. Alternatively, if you have the call information from us on your smart phone you can click the one tap mobile number: +13017158592,,91494708879#

More instructions can be found online: https://techboomers.com/t/join-zoom-meeting

If you encounter any difficulties please reach out to our study team by phone, text, or email: 269-281-4005 and pfasunitedd@gmail.com.

How to read a box plot for your individual results (the other attachment):



The middle line shows the 50th percentile (concentrations for up to half of homes) and the top of the bar shows the 75th percentile (concentrations for up to ¾ of homes).

The T-shaped bars show where most of the rest of the values fell

The dots show individual results.

If no middle (median) line is shown that means the PFAS compound was detected in less than half of all samples.

If no upper quartile bar is shown that means the PFAS compound was only detected in less than 25% of samples. Concentrations for those samples are represented by a T-shaped bar and/or dots.