GenX Exposure Study

PFAS results for blood samples collected 2020-2021

October 18, 2022
Webinar: October 18, 2022

- Welcome
- Introduction to PFAS and GenX Exposure Study
- Overview of community-level results
- Structure of individual results letters
- Next steps

If you have questions during the presentation, please use the Q&A function
Today’s Speakers

Carolyn Mattingly, PhD, NC State
  Superfund Center Director
  Moderator

Jane Hoppin, ScD, NC State

Nadine Kotlarz, PhD, NC State
Today’s Presentation

Overview of 2020-2021 PFAS blood findings

Letters are in the mail

   Overview of what to expect

Thank you for participating in the GenX Exposure Study

Please put your questions in the Q&A

We’ll answer questions at the end
In-person meetings

Pittsboro, NC, on Wednesday, Oct 19, 2022 (Tomorrow)
6-8pm
Chatham County Agriculture & Conference Center

Hope Mills, NC, on Wednesday, Nov 2, 2022
6-8pm
Grays Creek Community Center

Fayetteville, NC, on Thursday, Nov 10, 2022
6-8pm
Cedar Creek Baptist Church

Wilmington, NC, on Wednesday, Dec 7, 2022
6-8pm
Cape Fear Community College
Second webinar to answer your questions

Wednesday, Nov 9, 2022
6-8pm

Contact our study office
phone (855-854-2641)
email (genx-exposure-study@ncsu.edu)
“PFAS” stands for per- and polyfluoroalkyl substances

Human-made chemicals with carbon-fluorine bonds

Resistant to heat, water, grease

Used in consumer products, industrial processes, fire-fighting foams

Can last in environment and human body for a long time
Where did PFAS in the Cape Fear River Basin come from?

Textile and furniture manufacturing

Sludge from wastewater treatment plants used as fertilizer

Use of fire-fighting foams at airports

Fayetteville Works facility near Fayetteville, NC
GenX Exposure Study: 2017-2019

Not just about GenX
Multiple PFAS

Answered questions about
What chemicals were in people?
What chemicals were in the environment?
How long do these chemicals stay in people’s bodies.

Public water users in New Hanover County, NC, in 2017-2018
Private well users in Fayetteville area, NC, in 2019
What we learned
New Hanover County, NC, 2017-2018

Public water users

Three PFAS from Fayetteville Works detected in almost all 344 participants in 2017-2018

- Nafion byproduct 2
- PFO4DA
- PFO5DoA

Some PFAS in tap water (GenX) were not detected in blood

Higher blood levels of PFOS, PFOA, PFHxS, and PFNA than the United States national averages
What we learned
Fayetteville area, NC, 2019

Private well users

PFOA, PFOS, PFHxS, PFNA found in almost all 153 participants

Higher blood levels of PFOS, PFOA, PFHxS, and PFNA than the national average

Detected Nafion byproduct 2 in ~60% of participants

Detected PFO5DoA in ~40% of participants
PFAS results of blood samples from 2020-2021
PFAS results of blood samples from 2020-2021

Reporting on all results together or community-level results

Similar formats today as what you’ll see on your letter
What did we do in 2020-2021?

Collected blood from 1,020 people across 3 communities

[Map showing locations of Haw River, Deep River, Cape Fear River, and Fayetteville Works Facility]
What did we do in 2020-2021?

Collected **blood** from **1,020 people** across **3 communities**

- Fayetteville Works Facility
- "Lower Cape Fear Region" New Hanover and Brunswick Counties
- (282 people in 2020)
- (232 people in 2021)
What did we do in 2020-2021?

Collected blood from 1,020 people across 3 communities.

- Fayetteville area (300 people in 2021)
- "Lower Cape Fear Region" New Hanover and Brunswick Counties
  - (282 people in 2020)
  - (232 people in 2021)
What did we do in 2020-2021?

Collected blood from 1,020 people across 3 communities.
Enrollment criteria

Enrolled new and former participants
  1020 total
    222 participants who gave blood 2017-2019
Ages 6 and older
Up to 4 people/household
Lived at current address for at least one year
  On municipal water
    New Hanover, Brunswick, Pittsboro
  On private wells
    Fayetteville area
Blood PFAS Results from 2020-2021
Key Findings

1. Found 4 PFAS (PFOS, PFOA, PFHxS, and PFNA) in almost everyone

2. Higher levels than the United States national averages

3. Nafion byproduct 2 and PFO5DoA in most people in New Hanover/Brunswick Counties, and some people in Fayetteville area

4. Did not find GenX in any blood samples
## Test blood samples for 44 PFAS

### 7 PFAS found in most people in US
- PFOS
- PFOA
- PFHxS
- PFNA
- PFDA
- PFUnDA
- MeFOSAA

### Other perfluoroalkyl carboxylic acids
- PFBA
- PFPeA
- PFHxA
- PFHpA
- PFTrDA
- PFDa
- PFTeDA
- PFHxDA
- PFODA

### Other perfluoroalkyl sulfonic acids
- PFBS
- PFPeS
- PFHpS
- PFNS
- PFDS

### Perfluoroether carboxylic acids
- PEPA
- GenX
- PFO3OA
- PFO4DA
- PFO5DoA
- NaDONA

### Perfluoroether sulfonic acids
- Nafion byproduct 1
- Nafion byproduct 2
- F53B Major (9Cl-PF3ONS)

### Perfluoroalkyl sulfonamides
- 6:2 FTS
- FHxSA
- FOSA
- MeFOSA
- F53B Minor (11Cl-PF3OuDS)

### Fluorotelomer carboxylic acid
- 7:3 FTCA

### Fluorotelomer sulfonic acids
- 10:2 FTS
- 8:2 FTS
- 4:2 FTS

### Zwitterions
- N-TAmP-FHxSA
- N-CMAmP-6:2FOSA (6:2 FTAB)
- N-AP-FHxSA

### Fluorotelomer sulfonamides
- NOT
- PMPA
- MEASURED
- PFO2HxA
- NOT
- NVHOS
- NOT
- HYDRO-EVE
- MEASURED
- NOT
Focus today on these PFAS

7 PFAS commonly found in people

<table>
<thead>
<tr>
<th>PFOS</th>
<th>PFOA</th>
<th>PFHxS</th>
<th>PFNA</th>
<th>PFDA</th>
<th>PFUnDA</th>
<th>MeFOSAA</th>
</tr>
</thead>
</table>

Other perfluoroalkyl carboxylic acids

<table>
<thead>
<tr>
<th>PFBA</th>
<th>PFPeA</th>
<th>PFHxA</th>
<th>PFHpA</th>
<th>PFTrDA</th>
<th>PFDoA</th>
<th>PFTeDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFHxDA</td>
<td>PFODA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other perfluoroalkyl sulfonic acids

<table>
<thead>
<tr>
<th>PFBS</th>
<th>PFPeS</th>
<th>PFHpS</th>
<th>PFNS</th>
<th>PFDS</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

Perfluoroether carboxylic acids

- PEPA
- GenX
- PFO3OA
- PFO4DA
- PFO5DoA
- NaDONA

Perfluorooether sulfonic acids

- Nafion byproduct 1
- Nafion byproduct 2
- F53B Major (9Cl-PF3ONS)

Perfluoroalkyl sulfonamides

- 6:2 FTS
- FHxSA
- FOSA
- MeFOSA
- F53B Minor (11Cl-PF3OUDs)

Fluorotelomer carboxylic acid

- 7:3 FTCA

Fluorotelomer sulfonic acids

- 10:2 FTS
- 8:2 FTS
- 4:2 FTS

Zwitterions

- N-TAmP-FHxSA
- N-CMAmP-6:2FOSA (6:2 FTAB)
- N-AP-FHxSA

Fluorotelomer sulfonic acids

<table>
<thead>
<tr>
<th>PMPA</th>
<th>PFO2HxA</th>
<th>NVHOS</th>
<th>HYDRO-EVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEASURED</td>
<td>NOT</td>
<td>MEASURED</td>
<td>NOT</td>
</tr>
<tr>
<td>NOT</td>
<td>MEASURED</td>
<td>NOT</td>
<td>MEASURED</td>
</tr>
</tbody>
</table>
Which PFAS were found most often in blood samples?

- PFOS 99.6% of people
- PFOA 99% of people
- PFHxS 99% of people
- PFNA 96% of people

Total 1020 people
Stripcharts show spread of results
Spread of PFOS

PFOS

Blood concentration (ng/mL)

Non detect  25  50  75  100  125

1 blood sample result
Spread of PFOS

PFOS

Blood concentration (ng/mL)

Non detect

1 blood sample result
Spread of PFOS

Blood concentration (ng/mL)

Non detect 25 50 75 100 125

PFOS

Most results

1 blood sample result
Spread of PFOS

Blood concentration (ng/mL)

- Non detect
- 25
- 50
- 75
- 100
- 125

1 blood sample result

Most results

Highest result
Spread of PFOS, PFOA, PFHxS, PFNA

<table>
<thead>
<tr>
<th>Substance</th>
<th>Non detect</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
<th>125</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFOS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFOA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFHxS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFNA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Blood concentration (ng/mL)
Closer look at PFOS levels

1 blood sample result

Blood concentration (ng/mL)
Closer look at PFOS levels

1 blood sample result

Non-detect (ND)
Closer look at PFOS levels

1 blood sample result

Non-detect (ND)  10  20  30  40

Blood concentration (ng/mL)
Compare 2021 community medians

1 blood sample result

Blood concentration (ng/mL)

Lower Cape Fear Region median
Fayetteville median
Pittsboro median

ND
Can we compare your communities with United States population?

Yes

Centers for Disease Control and Prevention’s National Health and Nutrition Examination Survey (NHANES)

Survey of people in the United States every 2 years

Measure blood for several chemicals, including PFAS

Results for PFOS, PFOA, PFHxS, PFNA, PFDA, PFUnDA, MeFOSAA are publicly available

Results from 2017-2018 are latest available data
Compare with U.S. population

1 blood sample result

Blood concentration (ng/mL)
What about PFOA, PFHxS, and PFNA?
PFOS, PFOA, PFHxS, and PFNA in communities and U.S.

Pittsboro, 2021
(n=206)
Public water users

Blood concentration (ng/mL)

- 95th percentile
- 75th percentile
- Median
- 25th percentile
- 5th percentile

PFOS
PFOS, PFOA, PFHxS, and PFNA in communities and U.S.

- Pittsboro, 2021 (n=206) Public water users
- Fayetteville, 2021 (n = 300) Private well owners
- Lower Cape Fear Region, 2021 (n = 232) Public water users
Comparison of communities and US for PFOS, PFOA, PFHxS, PFNA

- Pittsboro, 2021 (n=206) Public water users
- Fayetteville, 2021 (n=300) Private well owners
- Lower Cape Fear Region, 2021 (n=232) Public water users
- US population, 2017-2018 (n=1,862)

Blood concentration (ng/mL) vs PFOS
Comparison of communities and US for PFOS, PFOA, PFHxS, PFNA

- Pittsboro, 2021 (n=206) Public water users
- Fayetteville, 2021 (n=300) Private well owners
- Lower Cape Fear Region, 2021 (n=232) Public water users
- US population, 2017-2018 (n=1,862)
Blood PFAS Results from 2020-2021
Key Findings

1. Found 4 PFAS (PFOS, PFOA, PFHxS, and PFNA) in almost everyone

2. Higher levels than the United States national averages

3. Nafion byproduct 2 and PFO5DoA in most people in New Hanover/Brunswick Counties, and some people in Fayetteville area

4. Did not find GenX in any blood samples
Blood PFAS Results from 2020-2021

Key Findings

1. Found 4 PFAS (PFOS, PFOA, PFHxS, and PFNA) in almost everyone

2. Higher levels than the United States national averages

3. Nafion byproduct 2 and PFO5DoA in most people in New Hanover/Brunswick Counties, and some people in Fayetteville area

4. Did not find GenX in any blood samples
Spread of Nafion byproduct 2 levels by community in 2021

- **Lower Cape Fear Region**: 70% detection, Community median
- **Fayetteville**: 30% detection
- **Pittsboro**: 2% detection

Blood concentration (ng/mL)
Median blood levels Nafion byproduct 2 by community, year

Nafion byproduct 2 median (ng/mL)

- 2017-2018: 2.25
- 2020: 0.75
- 2021: 0.75

Lower Cape Fear Region
Median blood levels Nafion byproduct 2 by community, year

Nafion byproduct 2 median (ng/mL)

- 2017-2018: Lower Cape Fear Region
- 2020: Fayetteville area
- 2021: Lower Cape Fear Region
Median blood levels Nafion byproduct 2 by community, year

Nafion byproduct 2 median (ng/mL)

- 2017-2018: Lower Cape Fear Region
- 2020: Fayetteville area
- 2021: Pittsboro
Spread of PFO5DoA by community in 2021

- **Lower Cape Fear Region**: 70% detection
- **Fayetteville**: 10% detection
- **Pittsboro**: 2% detection

Blood concentration (ng/mL)
PFO5DoA levels decreasing in Lower Cape Fear Region over time

<table>
<thead>
<tr>
<th>Year</th>
<th>PFO5DoA (ng/mL)</th>
<th>Number of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>4.6</td>
<td>282 (people)</td>
</tr>
<tr>
<td>2021</td>
<td>2.3</td>
<td>232 (people)</td>
</tr>
</tbody>
</table>
Which PFAS were not found in blood?

GenX
F53B Minor (11Cl-PF3OUDS)
FBSA
7:3 FTCA
N-AP-FHxSA
N-CMAmP-6:2FOSA (6:2 FTAB)
NaDONA
Nafion byproduct 1
PFODA
Blood PFAS Results from 2020-2021

Key Findings

1. Found 4 PFAS (PFOS, PFOA, PFHxS, and PFNA) in almost everyone

2. Higher levels than the United States national averages

3. Nafion byproduct 2 and PFO5DoA in most people in New Hanover/Brunswick Counties, and some people in Fayetteville area

4. Did not find GenX in any blood samples
What do these results mean?

1. Found 4 PFAS (PFOS, PFOA, PFHxS, and PFNA) in almost everyone

2. Higher levels than the United States national averages

   Widespread PFAS exposure throughout Cape Fear River Basin

   Higher exposure than average person in United States

   Pittsboro had highest blood levels of PFOS, PFOA, PFHxS, PFNA
What do these results mean?

1. Found 4 PFAS (PFOS, PFOA, PFHxS, and PFNA) in almost everyone

2. Higher levels than the United States national averages

3. Nafion byproduct 2 and PFO5DoA in most people in New Hanover/Brunswick Counties, and some people in Fayetteville area

   Residents nearby or downstream of Fayetteville Works exposed to PFAS from the facility

   Blood levels of these PFAS are decreasing over time
Blood PFAS Results from 2020-2021
Key Findings

1. Found 4 PFAS (PFOS, PFOA, PFHxS, and PFNA) in almost everyone

2. Higher levels than the United States national averages

3. Nafion byproduct 2 and PFO5DoA in most people in New Hanover/Brunswick Counties, and some people in Fayetteville area

4. Did not find GenX in any blood samples
   
   GenX doesn’t last a long time in blood

   We will have to estimate people’s blood GenX levels to study possible health effects
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 2020-Nov 2021</td>
<td>1,020 blood samples collected</td>
</tr>
<tr>
<td>Nov 2021</td>
<td>Lab developed method/comparison study</td>
</tr>
<tr>
<td>Dec 2021</td>
<td>Delivered blood samples to the lab</td>
</tr>
<tr>
<td>Jan 2022</td>
<td>Reviewed first batch of data with lab</td>
</tr>
<tr>
<td>Feb 2022</td>
<td>Lab proceeded to run rest of 1,020 samples</td>
</tr>
<tr>
<td>Aug 2022</td>
<td>Discuss ~70% of results with lab and team</td>
</tr>
<tr>
<td>Sept 2022</td>
<td>Sample reruns to confirm results</td>
</tr>
<tr>
<td></td>
<td>Drafted letters</td>
</tr>
<tr>
<td>Sept 19</td>
<td>Submitted letters to Institutional Review Board (IRB)</td>
</tr>
<tr>
<td>Sept 28</td>
<td>Received last batch of data</td>
</tr>
<tr>
<td>Oct 4</td>
<td>Received IRB approval</td>
</tr>
<tr>
<td>Oct 6</td>
<td>Provided ~1000 letters to FedEx</td>
</tr>
</tbody>
</table>
How could PFAS impact your health?
Guidance on PFAS Exposure, Testing, and Clinical Follow-Up
July 2022

https://www.nationalacademies.org/our-work/guidance-on-pfas-testing-and-health-outcomes
Focused on Seven PFAS measured in NHANES

1. PFOS
2. PFOA
3. PFHxS
4. PFNA
5. PFDA
6. PFUnDA
7. MeFOSAA

Does not discuss all PFAS (e.g., Nafion byproduct 2, GenX not included)
## Health Effects of PFAS: Conclusions

<table>
<thead>
<tr>
<th>Sufficient evidence of an association</th>
<th>Limited suggestive evidence of an association</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Decreased antibody response (in adults and children)</td>
<td>• Increased risk of breast cancer (in adults)</td>
</tr>
<tr>
<td>• Dyslipidemia (in adults and children)</td>
<td>• Increased risk of testicular cancer (in adults)</td>
</tr>
<tr>
<td>• Decreased infant and fetal growth</td>
<td>• Liver enzyme alterations (in adults and children)</td>
</tr>
<tr>
<td>• Increased risk of kidney cancer (in adults)</td>
<td>• Increased risk of pregnancy-induced hypertension (gestational hypertension and preeclampsia)</td>
</tr>
<tr>
<td></td>
<td>• Thyroid disease and dysfunction (in adults)</td>
</tr>
<tr>
<td></td>
<td>• Increased risk of ulcerative colitis (in adults)</td>
</tr>
</tbody>
</table>
Summed serum PFAS levels for adverse health effects

Sum = PFOS + PFOA + PFHxS + PFNA + PFDA + PFUnDA + MeFOSAA

≥ 20 ng/mL summed PFAS
Higher risk of adverse effects
Reduce exposure
Also test for thyroid function, kidney and testicular cancer, ulcerative colitis

2 - <20 ng/mL summed PFAS
Potential for adverse effects in sensitive populations
Reduce PFAS exposure
Screen for dyslipidemia, hypertensive disorders of pregnancy, and breast cancer

< 2 ng/mL summed PFAS
Adverse health effects not expected.
Recommend usual standard of care.
Sum 7 PFAS in 2021

Sum 7 PFAS in blood (ng/mL)

Pittsboro
Fayetteville area
Lower Cape Fear Basin
US Median
US 95th percentile
ND
Summed serum PFAS levels for adverse health effects

≥ 20 ng/mL summed PFAS
Higher risk of adverse effects
Reduce exposure
Also test for thyroid function, kidney and testicular cancer, ulcerative colitis

2 - <20 ng/mL summed PFAS
Potential for adverse effects in sensitive populations
Reduce PFAS exposure
Screen for dyslipidemia, hypertensive disorders of pregnancy, and breast cancer

< 2 ng/mL summed PFAS
Adverse health effects not expected.
Recommend usual standard of care.

29% of participants in 2020-21 in this group

68.5% of participants in 2020-21 in this group

1.5% of participants in this group in 2020-21
How is the GenX Study looking at health effects?
The GenX Exposure Study is Transitioning into a Health Study

**STEP 1**
UNDERSTAND EXPOSURE
The GenX Exposure Study found new chemicals and high PFAS levels

**STEP 2**
MEASURE HEALTH OUTCOMES
Clinical measures and questionnaires to identify changes in health

**STEP 3**
ENROLL ENOUGH PEOPLE TO BE ABLE TO ANSWER STATISTICAL QUESTIONS
Grew from ~500 people for GenX Exposure Study to over 1,000 people

**STEP 4**
FOLLOW PEOPLE FORWARD OVER TIME
Plan to follow people for up to 20 years; Want to identify changes in health
Participants in the GenX Exposure Study are part of a long-term health study to understand the health effects of PFAS.

We want to understand how PFAS exposure influences a wide range of health outcomes. PFAS blood measurement is one part of the process.

Statistical analysis focuses on the whole group, not just individuals.

Thank you for being a part of the GenX Exposure Study.
How do we share information?

Individual results
  Participants get their individual results
  Clinical measures
  PFAS results
  Some measurements take longer because PFAS measurement is challenging

Community meetings

Newsletters

Website
  All presentations are included on our website

Through our community partners to try and share information in a timely fashion

Scientific presentations and publications
What will your letter look like?

Pages 1-4  Summary of what we did and what we found

Pages 5-11  Individualized results pages
            Your sum of 7 PFAS
            NASEM recommendations
            Stripcharts for several PFAS in your community
            Table of PFAS results
Clinical Guidance for PFAS Exposed People

In July 2022, the National Academies of Science, Engineering, and Medicine (NASEM) published recommendations for medical monitoring based on the total (sum) concentration of 7 specific PFAS in blood.

The table below shows the levels of 7 PFAS we measured in your sample from [year], and the sum of these 7 PFAS in the blood. On the right, current NASEM recommendations based on the sum PFAS are shaded with a bold box around them.

<table>
<thead>
<tr>
<th>PFAS</th>
<th>Your blood result (ng/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFOS</td>
<td>2.0</td>
</tr>
<tr>
<td>PFOA</td>
<td>2.0</td>
</tr>
<tr>
<td>PFHxS</td>
<td>3.0</td>
</tr>
<tr>
<td>PFNA</td>
<td>0.3</td>
</tr>
<tr>
<td>PFDA</td>
<td>0.1</td>
</tr>
<tr>
<td>MeFOSAA</td>
<td>0.1</td>
</tr>
<tr>
<td>PFUnDA</td>
<td>0.0</td>
</tr>
<tr>
<td>Your sum</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**2022 Guidance on PFAS from the National Academies of Sciences, Engineering, and Medicine**

**Sum PFAS More Than 20 ng/mL**
- Associated with higher risk of adverse effects. You should...
- Reduce PFAS exposure (see other side of page)
- Speak with your medical provider and ask them to check cholesterol levels, hypertensive disorders of pregnancy, breast cancer, thyroid function, kidney and testicular cancer, and ulcerative colitis, as per NASEM guidance.

**Sum PFAS Between 2 and 20 ng/mL**
- Associated with potential for adverse effects in sensitive populations. You should...
- Reduce PFAS exposure (see other side of page)
- Speak with your medical provider and ask them to check cholesterol levels, hypertensive disorders of pregnancy, breast cancer, thyroid function, kidney and testicular cancer, and ulcerative colitis, as per NASEM guidance.

**Sum PFAS Less Than 2 ng/mL**
- Health effects not expected at this time. You should...
- Maintain usual medical care.

What can you do with this information? You can discuss these PFAS blood results and the NASEM recommendations with your clinician to decide whether you would benefit from specific medical tests.

If your clinician has questions about PFAS, they can refer to the NASEM report (bit.ly/PFAS-guidance) or to a memo from the North Carolina Department of Health and Human Services (https://bit.ly/DHHSMemo). If you would like us to email you a copy of the NASEM report, please contact our study office. These recommendations do not mean that insurance will pay for any additional PFAS or clinical testing at this time.

If you are uninsured or underinsured and are seeking primary care services, please contact one of the following resources.

For Lower Cape Fear River Basin Region, NC, contact Cape Fear Health New (Phone: 910-399-2751; Website: http://www.capefearhealthnet.org/getting-care/). Note that Novant outpatient clinics have assistance places for low-income and uninsured people.

For Fayetteville area, NC, contact Stedman-Wade Health Services, Inc., 7118 Main St., Wade, NC, 28395 (Phone: 919-483-6094).

For Pittsboro, NC, contact Siler City Community Health Center, 224 S. Tenth Ave., Siler City, NC, 27344 (Phone: 919-863-1744 OR Moncure Community Health Center, 7228 Moncure-Pittsboro Road, Moncure, NC, 27559 (Phone: 919-542-4991).

What about other PFAS, besides these 7? The 2022 NASEM recommendations are based on the sum of 7 PFAS in blood. These 7 PFAS have been monitored by the Centers for Disease Control and Prevention in Americans for the past 20 years. Health screening recommendations for people exposed to PFAS may change as scientists learn more about the health effects of PFAS.

How can you reduce your PFAS exposure? The PFAS in your blood tells you about the PFAS that you are currently exposed to and what you were exposed to in the past. Many people in the Cape Fear River Basin have been exposed to PFAS through contaminated drinking water. Recently, municipal water suppliers have worked to remove PFAS from drinking water. The Sweeney Water Treatment plant in New Hanover County, the Brunswick County’s Northwest Water Treatment Plant, and the Town of Pittsboro have installed treatment technologies to remove PFAS from drinking water sources.

If you use well water, you may want to have your water tested for PFAS and, if PFAS are detected, install filtration at your sink to reduce PFAS exposure. Private well owners in the Fayetteville area may be eligible for water testing and remediation (https://bit.ly/DEQGenX).

To learn what more you can do to reduce PFAS exposure, please visit this website (https://bit.ly/ATSDRPFAS). You can also contact our community partners: Cape Fear River Watch for Lower Cape Fear River Basin (https://capefearriverwatch.org/; phone: 910-762-5606), Sustainable Sandhills for Fayetteville area (https://sustainablesandhills.org; phone: 910-484-9098), and Haw River Assembly for Pittsboro (https://hawriver.org; phone: 919-542-5790).

What if you have more questions about the GenX Exposure Study? Please contact our study office by phone (655-854-2641) or email (genx-exposuresstudy@ncsu.edu) and visit our study website (genxstudy.ncsu.edu).

We thank you for your participation in the GenX Exposure Study.

Sincerely,

[Signature]
Jane Hoppin, ScD
GenX Exposure Study, Principal Investigator
In-person meetings

Pittsboro, NC, on Wednesday, Oct 19, 2022 (Tomorrow)
6-8pm
Chatham County Agriculture & Conference Center

Hope Mills, NC, on Wednesday, Nov 2, 2022
6-8pm
Grays Creek Community Center

Fayetteville, NC, on Thursday Nov 10, 2022
6-8pm
Cedar Creek Baptist Church

Wilmington, NC, on Wednesday, Dec 7, 2022
6-8pm
Cape Fear Community College
Second webinar to answer your questions

Wednesday, Nov 9, 2022
6-8pm

Contact our study office
phone (855-854-2641)
email (genx-exposure-study@ncsu.edu)
Acknowledgements

NC State University
Jane Hoppin, PI
Nadine Kotlarz
Detlef Knappe
Katy May
Rob Smart
Zachary Hopkins
Claire Critchley
Dylan Wallis
Michael Cuffney
Rebecca Weed
Jeffrey Enders

East Carolina University
David Collier
Jamie DeWitt
Suzanne Lea

US EPA
James McCord
Mark Strynar

Community partners
New Hanover County Health Department
Chatham County Health Department
Cumberland County Health Department
Cape Fear River Watch
Sustainable Sandhills
Haw River Assembly
New Hanover County NAACP
UNCW Latino Alliance

Funding: NIEHS R21 R21ES029353, P42ES031009
CHHE P30ES025128
Matching Funds from NC Policy Collaboratory

https://genxstudy.ncsu.edu/
Thank you

Questions? Please put them in the Q&A