Cape Fear Per- and Polyfluoroalkyl Substances (PFAS) Community Survey

NORTH CAROLINA • 2019





Report Summary

What was the purpose of the community survey?

This survey was conducted to better understand the concerns that people living near the Chemours Fayetteville Works Facility have about exposure to chemicals called perand polyfluoroalkyl substances (PFAS). This survey documents how this issue has affected their daily lives. Results will help guide future response efforts and tailor health education activities to the community's needs.

This survey was not a health study or health assessment. A health study would seek to better understand the connection between health problems and exposure to PFAS. A comprehensive study would require collecting extensive health and exposure data, which is beyond the scope of this community survey.



What were the key findings?

Many people have changed their water usage, even if the level of GenX in their drinking water was below the NCDHHS provisional drinking water health goal of 140 parts per trillion (ppt). Many respondents have also decreased or stopped activities around their home or community, such as fishing or gardening.

Community members have concerns about many potential health effects, with the most common concern being about cancer. There are also common misconceptions about GenX and other PFAS and how people may be exposed to them. Additionally, respondents have many questions about these compounds that warrant additional research. Community members would also like better communication and in printed as well as digital formats.



What do these findings mean?

Contamination from GenX and other PFAS has had measurable negative impacts on communities near the Chemours Fayetteville Works Facility. These impacts include concerns about cancer and other potential health effects as well as changes in daily activities. State agencies and other stakeholders responding to environmental contamination in this area need to take more steps to address these impacts by providing better outreach and more timely action.

What are the next steps?

NCDHHS will share findings from this survey with respondents and other community members through public meetings and other means. In addition, NCDHHS will share these findings with local, state, and federal partners, as well as PFAS researchers at research institutions.

NCDHHS will create and implement a community involvement plan to improve outreach and communication. This plan will be shared with other state agencies to ensure future communications from the state are timely, relevant, and in the best format for affected communities. NCDHHS has started including health information in monthly community update newsletters from the NC Department of Environmental Quality (NCDEQ).

Finally, NCDHHS will continue to work with state and national partners to better understand health effects of PFAS and share new information gained with members of the community.

Background

In June 2017, the North Carolina Department of Environmental Quality (NCDEQ) began investigating contamination of the Cape Fear River with perfluoro-2-propoxypropanoic acid, also known as GenX, and other related chemicals known as per- and polyfluoroalkyl substances (PFAS). The source of these chemicals is the Chemours (formerly DuPont) Fayetteville Works Facility, a PFAS manufacturing facility located in Bladen County, NC.

NCDEQ also identified GenX and other PFAS in surface water, air, and private wells close to the facility. As of September 2019, 1,155 properties had private wells that have been tested: 195 properties (17%) have wells with GenX levels exceeding the North Carolina Department of Health and Human Services (NCDHHS) provisional drinking water health goal of 140 parts per trillion (ppt), with a maximum GenX concentration of 4,000 ppt. Chemours has been providing bottled water to residents living in homes with wells that exceed the NCDHHS provisional drinking water health goal. Additionally, 966 properties (84%) have wells with any one PFAS at or over 10 ppt or total PFAS levels at or over 70 ppt.

In February 2019, NCDEQ entered into a Consent Order with Chemours and Cape Fear River Watch. The Consent Order requires Chemours to address all sources of PFAS at the facility to prevent further impacts to air, soil, groundwater, and surface waters. Additionally, the order requires additional private well testing and provision of alternative water (i.e. public water or filtration systems) to households with elevated levels of PFAS. More information about the Consent Order can be found here: <u>bit.ly/2YfBoW9</u>.

Since June 2017, NCDHHS has assisted NCDEQ in the response to GenX and other PFAS. NCDHHS' role in this response has been to provide health information about GenX and other PFAS to affected communities. NCDHHS has developed the provisional drinking water health goal for GenX; attended and provided information at community meetings and in one-on-one conversations; created and distributed fact sheets about the health effects of GenX and other PFAS; analyzed rates of certain types of cancer and birth defects in affected counties: and completed blood and urine sampling for PFAS in 30 residents living near Chemours. Having now worked with the community living near the Chemours Fayetteville Works Facility for over 2 years, NCDHHS seeks to understand the continued challenges and needs of the community.

Purpose of the Community Survey

What was the purpose of the survey?

This survey captured community concerns about exposure to PFAS from those living near Chemours. Results will help state and local public health officials and other stakeholders understand how this community has been affected by GenX and other PFAS, guide future response efforts, and tailor health education activities to the community's needs. Specifically, NCDHHS sought answers to the following questions:

- What is the community's current understanding of GenX and other PFAS?
- 2) How have community members changed their daily lives or activities since learning about GenX and other PFAS?
- 3) What are the current exposure and health concerns of the community?
- 4) What are the community's communication needs and preferences?

Who was surveyed?

Surveys were mailed to all residents living within a 10-mile radius of the Chemours Fayetteville Works Facility regardless of their drinking water source or levels of PFAS in their water (Figure 1). Addresses were obtained through purchasing a mailing list from a data and marketing company (SL360, Inc.) including all homes, apartments, and post office boxes within the 10-mile radius; 15,319 households were included in the survey.

NCDHHS worked with the local health departments in Bladen, Cumberland, and Robeson counties to ensure: 1) the questions in the survey were understandable and relevant for their residents, and 2) the survey was administered in the most convenient way for residents.

NCDHHS issued a press release on January 17, 2019 announcing the survey and making the community aware that they would receive information about the survey in the mail. Each household received one envelope containing a cover letter introducing the survey, a paper copy of the survey (Appendix A), an optional contact card, and a pre-paid return envelope. Participants had the option to complete the paper survey and return it by mail or complete the survey online. Respondents were asked to provide one response on behalf of all members of their household.

Each survey was randomly assigned a unique 5-digit number to ensure only one response per household was received. Survey responses were anonymous and contact information provided on the contact card was stored separately from survey responses. NCDHHS staff manually entered paper survey responses into SurveyMonkey. Data entry continued until May 10, 2019.

How were responses analyzed?

Since one survey was provided per household, survey responses reflect information at the household level and not the individual level. Quantitative or multiple choice survey questions were summarized by frequency, median (or middle value), and percent.



FIGURE 1. MAP OF NC COUNTIES WITH THE 10-MILE RADIUS SURVEY AREA PULLED OUT

Qualitative, or write-in, survey questions were summarized by common themes. At least two team members reviewed the themes for each question to ensure consensus about interpretation of written responses. Results were analyzed according to the skip patterns in the survey instructions.

Respondents had the option to skip questions or select "Prefer not to answer." The results presented in this report and appendices do not include these responses and percentages presented for each question are out of those who responded to the question. The number of respondents may differ for quantitative and qualitative portions of a single question since some respondents only answered one part of the question. Comprehensive data for all survey questions can be found in Appendix B.

Who responded?

We received 1,858 survey responses (12% of the surveyed households). Most surveys were completed by mail (92%). The majority of respondents (62%) were residents of Cumberland County, with fewer respondents from Robeson (24%) and Bladen (14%) counties (Figure 2). This likely reflects that more people living within 10 miles of Chemours live in Cumberland County compared to the other two counties.

More households included older adults (43%) than younger children (22%) and most households included members that had attended some college, received a 2-year degree, or completed higher education (78%) (Figure 3). The median, or middle, length of time that respondents reported living in their current home was 15 years and 3 months. The median number of people living in each household was 2.



FIGURE 2. SURVEY RESPONSES BY COUNTY (N=1,837)

NOTE: 21 Respondents did not provide their county.



FIGURE 3. DEMOGRAPHICS OF SURVEY RESPONDENTS



Household educational attainment

Question #32 • N=1,711





What did we learn?

Water Usage

Most households reported having a private well at their home (62%), while some (35%) have public water (Figure 4). Of those with private wells, 26% reported having their well tested for GenX or other PFAS and 39% of those tested had levels of GenX over the NCDHHS provisional drinking water health goal of 140 ppt (Figure 5).

Fifty-six households that had their well tested indicated they did not know if their well had levels of GenX over 140 ppt. Additionally, 13 households who reported levels over 140 ppt indicated they had not received a letter from NCDEQ advising them not to use their water for certain activities. These results indicate a need for additional outreach to well owners who have had their wells tested, especially those who have levels of GenX over 140 ppt, to ensure that residents know and understand their results.

Among households with GenX levels over 140 ppt who received recommendations from NCDEQ to stop using their water for drinking, cooking, brushing teeth, and making baby formula, 66% stopped their use for all recommended activities. However, 27 respondents indicated they still used their water for at least one activity (drinking, cooking, brushing teeth, or making baby formula); most of these reported continuing to use their well water for brushing their teeth (Figure 5).

The most common reasons for still using their water despite receiving recommendations not to were: not having access to an alternative

If you are not receiving bottled water or have concerns about receiving alternate water you can contact NCDEQ at (877) 623-6748.

water source, not being aware that they were not supposed to be using their water for certain activities (e.g. brushing their teeth), or perceiving a low risk of developing health effects from using their water for these activities. Eight households with GenX levels over 140 ppt said they had no access to an alternative water source, although all of these households should be eligible to receive alternative water from Chemours. These results indicate a need for follow-up to ensure those who should be receiving bottled water are getting it. NCDEQ is working to ensure all eligible households are receiving alternate water.

For those households that stopped using their water due to GenX levels over 140 ppt, many noted challenges to using an alternative water source. Seventy-one (74%) noted using an alternative water source, such as bottled water, was inconvenient, mostly because of the physical demands of moving or lifting large containers of water. These households also responded that storing, disposing, and receiving the bottled water was inconvenient. Several households also noted using bottled water for certain activities, such as cooking or making ice,

34% changed water use WITHOUT BEING TOLD TO CHANGE USAGE

* Respondents were able to select more than one drinking water source for their home.

FIGURE 4. WATER SOURCE

Main Source of Drinking Water at Home • Questions #3 and 10* • N=1,803



<1% Don't Know

2%

Other

FIGURE 5. PRIVATE WELL TESTING



was difficult. Twenty-one households (22%) said that the cost of buying bottled water or other alternative water was challenging, this includes households who indicated the amount of bottled water they are receiving was insufficient, so they had to buy more. This highlights the need to ensure that households eligible to receive alternate water are being provided an adequate amount by Chemours. A sustainable long-term solution also needs to be a priority.

Many respondents (n=543) said they have changed when and how they use their water even though they do not have GenX levels over 140 ppt in their drinking water and they have not been provided recommendations to change usage. Of these households, 72% have private wells, while 22% have public water.

Among those who provided more information about these changes (n=507), 62% said they now use bottled water for certain activities, such as drinking or cooking. Some households (16%) also noted using a filter or filtration system for their water. Of those who provided reasons for why they made changes to their water usage (n=184), 42% said they made changes because of concerns about GenX or other PFAS, with most of these (32%) being households with a private well. However, 14% of households said their changes were not related to GenX or other PFAS and 28% said they have changed their water usage because of how their water looks, smells, or tastes.

"I use about 200 bottles of water per month. I have to choose between safe drinking water and food."

> PRIVATE WELL OWNER WHO HAS STOPPED DRINKING THEIR WATER

Did You Know? Very little PFAS exposure occurs during swimming, bathing, or showering in water contaminated with PFAS because only a very small amount of PFAS of



only a very small amount of PFAS can get into your body through your skin.¹ Using filtered water or an alternative water source for drinking water can reduce exposure if you are concerned about PFAS. NCDEQ



has approved certain filtration systems to remove PFAS from water. More information can be found here: <u>bit.ly/2JM5PPD</u>.

Activities Around the Home or Community

Currently, there is limited information about other sources of exposure to GenX or other PFAS other than through drinking water. Information about the activities people do around their home and community, as well as how these activities may have changed, will help NCDHHS work with researchers to answer the most pressing questions from the community.

More than one-quarter of households (29%) said they currently have a vegetable or produce garden at their home. Most of these households eat vegetables or produce from their home garden at least once per week (66%) with many eating from their garden more frequently than that. The most commonly grown produce includes tomatoes, peppers, cucumbers, and squash. Other vegetables such as beans (including green beans and butter beans), potatoes, corn, peas, watermelon, and okra were still common but not as frequent (Figure 6). A large proportion of respondents also said they work or play in the soil (e.g., gardening, digging, farming, yardwork, etc.) at least once per week (53%).

Many households (38%) reported making changes to activities they do regularly around their home or community. Of the respondents FIGURE 6. THE MOST COMMON TYPES OF PRODUCE GROWN IN RESPONDENTS' GARDENS. WORD SIZE INDICATES FREQUENCY.



who reported changing regular activities, many indicated they have decreased or stopped fishing (44%) or gardening (44%) all together after learning of GenX and other PFAS. These results indicate a need to better understand whether GenX or other PFAS are found in local produce or fish, and if so at what levels. Households also reported stopping or decreasing the amount of time they spend doing other outdoor activities. This includes decreasing the following: swimming or playing in local bodies of water, such as ponds, creeks, or rivers (42%); working or playing in soil in their yard (33%); swimming in private or community pools (30%); and other outdoor recreational activities, such as hiking or playing sports (17%) (Figure 7).

FIGURE 7. BEHAVIORAL CHANGE AFTER LEARNING ABOUT GENX OR OTHER PFAS







"Stopped watering garden. Don't get in pond or river. Don't dig in soil unless absolutely necessary. No longer go bare-footed. No longer hike in woods or play games in yard."

As shown in Figure 7, 42% of households made changes to other activities besides those listed in the survey after learning of GenX and other PFAS. This includes changing how they use their water and decreasing consumption of locallysourced food, such as eggs or fish. Of those who provided reasons for these changes, the most common was concern about exposure to contamination or potential health effects from exposure (75%). Some respondents specifically mentioned fear or stress as the reason for their changes (22%).

Many of these changes in activity are related to other ways people are concerned they may be exposed to GenX and other PFAS. Over half of the survey respondents (n=947) expressed concern about other routes of exposure besides drinking water. Most of these households were concerned about exposure through the air or rain (32%). Respondents also expressed concern about being exposed during personal hygiene activities (27%) such as bathing, showering, or washing hands; while swimming in pools or local bodies of water (10%); while cleaning around the home (9%), such as washing dishes or doing laundry; or through the food they eat (8%). — PRIVATE WELL OWNER WITH GENX OVER 140 PPT

"Life must go on. We know little about this chemical's effects and we cannot live our lives held hostage to that. DO we like it, NO, but what choice do we have?"

> PRIVATE WELL OWNER WITH A GARDEN AND CHILDREN IN THE HOME

Some respondents also expressed concern about their animals being exposed to GenX and other PFAS (10%).

These results highlight the need for additional research and information on where GenX and other PFAS may be found in the community or other ways people may be exposed. Additionally, the results emphasize the major impact that GenX and other PFAS have had on this community and people's daily lives. These impacts should be considered in environmental decision-making and future responses. Additionally, efforts should be made to restore the community's trust in their environment and ability to enjoy regular activities around their home and community.

"I am a taxpaying citizen and me and my family shouldn't have to change our way because of Chemours." — PRIVATE WELL OWNER WITH A GARDEN WHO HAS DECREASED ACTIVITIES, SUCH AS GARDENING AND FISHING

Did You Know? Being outdoors and participating in outdoor activities has been associated with improved mental health in people and improved learning in children.^{2,3} Additionally, increased access to the outdoors can promote physical activity and decrease obesity.⁴

Health Concerns

This survey was not a health study, but it did collect information about health concerns in the community. Understanding the connection between health effects and exposure to PFAS or other contaminants in the community requires research studies that collect extensive health and exposure information from many people, often over long periods of time, which was beyond the scope of this survey.

Many community members have expressed concerns about their health due to exposure to GenX and other PFAS during community meetings, one-on-one conversations, and other interactions. From this survey, 44% of respondents reported having household health concerns related to GenX or other PFAS (Figure 8). Private well owners were more likely to have health concerns related to GenX or other PFAS (56%), compared to households with public water (27%) or using bottled water (35%). Among households with gardens, 61% had health concerns related to GenX and other PFAS, compared to 37% among households without gardens.

FIGURE 8. HOUSEHOLD AND COMMUNITY HEALTH CONCERNS

Household Health Concerns

Question #20 • N=1,409





The most common health concern reported was cancer (24%). Many respondents expressed concern but were not sure of specific health effects or wanted more information about potential health effects of GenX or other PFAS (35%). This may be due to an overall lack of information about the effects of GenX and other "If NCDHHS and NCDEQ do not know the effects of GenX and other PFAS on the people in this community why would I not be concerned."

> - PRIVATE WELL OWNER WHO PREVIOUSLY HAD A HOME GARDEN

"Concern for others period. We are a community."

- PRIVATE WELL OWNER

emerging PFAS on human health. Additionally, some households noted concerns about their future and the long-term impacts from exposure to GenX or other PFAS (11%) or concerns about their animals' health (7%). Other common health concerns were skin issues (7%), respiratory problems (6%), gastrointestinal issues (6%), musculoskeletal issues (4%), cardiovascular effects (4%), and immune effects (4%).

A similar proportion of households (39%) reported having concerns about health problems in the broader community as well (Figure 8). Again, the most common community health concern reported was cancer (34%). Others reported concerns about the quality of both drinking water and surface waters, such as lakes, creeks, or the Cape Fear River (15%). Although less frequently reported, some community members also described concerns about air quality, flooding or standing water, and trash in the community. Again, some respondents noted concerns about the health of animals in the community (7%).

The information provided by respondents highlights the need for more research about the health effects of GenX and other PFAS. It also shows the need for additional outreach to share what we do know about these

"Answer our questions about health effects! We are TIRED of 'we do not yet know.'" — HOUSEHOLD WITH HEALTH CONCERNS THAT HAS DECREASED MULTIPLE OUTDOOR ACTIVITIES compounds. NCDHHS will continue to work with those performing health studies across the country to learn about the health effects of PFAS and update the community with new health and toxicity information when it is available. This includes the ongoing Agency for Toxic Substances and Disease Registry (ATSDR) **Exposure Assessments and Multi-Site** Health Studies (www.atsdr.cdc.gov/pfas/ index.html) and North Carolina State University's GenX Exposure Study (https://genxstudy.ncsu.edu/). Additionally, NCDHHS will partner with others to pursue opportunities, when available, for additional funding or resources to help answer some of the questions the community may have about exposure or health.

Did You Know? Although more

research is needed, some studies of people have shown that certain PFAS may:



- affect growth, learning, and behavior of infants and older children
- lower a woman's chance of getting pregnant
- interfere with the body's natural hormones
- increase cholesterol levels
- affect the immune system and
- increase the risk of cancer⁵



If you have concerns about health effects related to PFAS or other chemicals contact NCDHHS at (919) 707-5900.

Communications

NCDHHS has been working since 2017 to provide information to the community about GenX and other PFAS and potential health effects. This has included establishing the NCDHHS provisional drinking water health goal of 140 ppt for GenX; providing presentations and participating in panel discussions at community meetings; creating and distributing GenX and PFAS fact sheets at meetings, in mailings, and online; and having one-on-one conversations either in-person or over the phone. Roughly half of the community members who have received these resources or participated in these activities found them helpful. Distributing fact sheets, providing presentations, and establishing a provisional health goal were reported as being the most helpful. Panel discussions and oneon-one conversations did not appear to be as helpful as the other activities, although fewer households appeared to receive these resources compared to the others (Figure 9).

FIGURE 9. HELPFULNESS OF NCDHHS ACTIVITIES

Questions #22

	VERY UNHELPFUL	SOMEWHAT UNI	HELPFUL	SOMEWHAT HELPFUL	VERY HELPFUL
Presentations provided to large groups at community meetings (N=579)	26%	18%		42%	14%
Panel discussions at community meetings (N=530)	30%	21%	0	36%	13%
Distributing GenX and PFAS fact sheets at meetings, in mailings, or online (N=657)	26%	16%		35%	23%
Establishing a provisional drinking water health goal (N=608)	34%	159	%	25%	25%
One-on-one conversations either in-person or over the phone (N=467)	42%		14%	26%	18%

An overwhelming majority of respondents said that NCDHHS has not helped them better understand how to avoid exposure to GenX and other PFAS or the health effects of these compounds (Figure 10). Although there is still a lot of uncertainty about how people are exposed to PFAS, health effects, and what actions are effective to reduce exposure, these results highlight the need for better educational materials and adjusting how information about these compounds is delivered. Improved and updated fact sheets along with additional presentations at community meetings may be most helpful for this community. Additionally, there is a need for further research on these compounds to address the questions and concerns the community still has.

Most respondents said they prefer to receive information by mail, both for upcoming events (71%) and new information about GenX and other PFAS summarized in fact sheets (78%) (Figure 11). Television was also noted as a preferred way to hear about upcoming events. Other forms of communication such

FIGURE 10. HAS NCDHHS HELPED YOU UNDERSTAND:

Ways to avoid exposure to GenX and other PFASQuestion #23 • N=1,742Some,
butDon't

Yes	No	not all	Know
4%	76%	9%	10%

Potential health effects of GenX and other PFAS

Questio	n #24 • N=1,710	Don't	
Yes	No	Know	
11%	75%	15%	

as newspaper, e-mail, and radio were less frequently preferred for getting information about upcoming events. Respondents noted preferring news reports for hearing new information about PFAS. Of note, one-on-one conversations and panel discussions were less desired for hearing new information about PFAS than other formats. Respondents also found these two things to be the least helpful out of the activities we have done so far.

FIGURE 11. PREFERRED METHODS OF COMMUNICATION



New information about GenX and other PFAS* • Questions #28* • N=1,688

*Respondents were able to select more than one communication method.

Fact sheets mailed to your home	(78%)	News Reports	(37%)
Presentation at a community meeting	(24%)	NCDEQ Website	(19%)
Information presented on posters and fact sheets at a community meeting	(14%)	One–on–one conversation at a community meeting	(13%)
Panel discussion	(9%)	Other	(7%)

"Please help our community. I appreciate the steps the state is taking but it is simply not enough. Have the common decency to at least test our water free of charge. Clean water should be our right not a privilege."

When asked open-ended questions about what information or resources people would like from NCDHHS, a substantial number of households (40%) indicated a need for better communication and direct outreach, as well as more information about what GenX is, how people are exposed, what the potential health effects are, and how it can be removed from water. Additionally, 24% of respondents indicated that they wanted their drinking water tested or wanted information on how to test their water.

"You are our ONLY protection! Please do more to stop Chemours from poisoning us and our homes."

> PRIVATE WELL OWNER WHO HAS CHANGED WATER USAGE AND SPENDS LESS TIME OUTDOORS

When providing feedback on NCDHHS' response thus far, some respondents indicated they thought the state had done a poor job in responding to the community, including lack of timely response, poor outreach or communication, and mistrust. Other feedback included a desire for regulations to be enforced and Chemours to be held accountable, more testing, provision of safe drinking water, and a need for more health information, including blood testing or health studies.

Some respondents (16%) indicated that they had neither received any information or communication from NCDHHS nor knew about GenX or PFAS being a problem in

PRIVATE WELL OWNER WHO HAS STOPPED USING THEIR WATER FOR DRINKING AND COOKING

their community. This was a recurring theme throughout survey responses. This is of note since all of the respondents live within 10 miles of Chemours and current private well testing has shown GenX or other PFAS in wells over 8 miles from the facility. This highlights the need for better communication with and outreach to the community.

Given that communications about GenX and other PFAS to date have primarily been through e-mail and posting materials online, there is a need to do more outreach through other methods, such as mail and television/ news reports, to ensure the entire community is receiving new information about PFAS and hearing about upcoming events. Based on feedback from respondents, NCDHHS will work to ensure that our communications are timely, relevant, and available in multiple formats. We could also begin working with community leaders, such as heads of places of worship or community groups, to get information out. This will not only help reach more people but will also improve trust in the information.

"I understand NC Department of Health and Human Services has done a lot to get the word out about GenX/PFAS on a large scale but I think it's important that they also do it on an individual basis."

> HOUSEHOLD ON PUBLIC WATER JUST LEARNING OF GENX AND OTHER PFAS

Learn More: Additional Information about GenX and other PFAS, including NCDHHS' public health activities, can be found on our website at: <u>bit.ly/dhhspfas</u>.

If you would like to know more about the Chemours Consent Order and NCDEQ's work related to the GenX investigation visit: <u>bit.ly/2Z7JHVA</u>. If you have questions about the investigation, including well testing or filtration systems, contact NCDEQ at (877) 623-6748.

Printed copies of the information included on both of these webpages (e.g. reports, fact sheets, etc.) can be found at the information repository located at the Annie Hubbard McEachern Public Library, 223 W Broad St, St. Pauls, NC 28384.



- 1. NCDHHS created a physical repository or collection. This was done to assure that final reports and fact sheets are accessible to community members with limited internet access. This repository is located at the Annie Hubbard McEachern Public Library, 223 W Broad St, St. Pauls, NC 28384. We will work with other state agencies to include their reports and materials in this repository as well.
- 2. NCDHHS updated our PFAS factsheet, based on survey feedback, to address common misconceptions and to make it easier to read and understand. This factsheet also includes information on what we do know about the health effects of PFAS and ways to reduce exposure. This factsheet is available for viewing online (bit.ly/dhhspfas) and at the physical repository. Additionally, if resources are available, this fact sheet may be mailed to respondents who provided their contact information.
- 3. NCDHHS started including health information in NCDEQ's community update newsletters, which are sent by e-mail and mail to provide updates on agency actions and upcoming events. If you have not received any community update newsletters and would like to be on the mailing list, please email Laura Leonard in NCDEQ at laura.leonard@ncdenr.gov or call (877) 623-6748.
- 4. NCDHHS will create and implement a community involvement plan to improve outreach and communication. This plan will be based on community demographics and communication preferences and will engage community partners and leaders who are essential in outreach efforts. This will also include broadening our outreach efforts given that the affected area continues to expand. This plan will be shared with other state agencies to ensure all communications from the state are timely, relevant, and in preferred formats.
- 5. NCDHHS will hold a public meeting to talk about the findings from this survey and next steps. We will use feedback from this survey to make sure that this meeting is advertised more broadly to reach a greater number of community members.
- 6. NCDHHS will mail a postcard to respondents who provided their contact information on the optional contact card provided with the survey. This postcard will include information about how to access the results of this survey and other information related to GenX and other PFAS in person and online.
- 7. NCDHHS will use the results from this survey to improve our response to PFAS concerns in this community and across the state. We will share these findings with local, state, and federal partners, as well as PFAS researchers at federal and academic research institutions. We expect these findings will be used to guide research questions that address the needs of the community, show the need for additional resources to answer these questions, and inform future responses.
- 8. NCDHHS will continue to work with local researchers to communicate their findings to the community. This includes additional health information from ongoing health studies or toxicity studies and research on other exposure routes, such as produce or air. Understanding the connection between health effects and exposure to PFAS or other contaminants in the community requires research studies that collect extensive health and exposure information from many people, often over long periods of time.
- 9. NCDHHS will continue to seek and leverage additional resources to address the continued needs and questions of the community. This may include applying for additional funding through state or federal resources, working with local researchers to develop research questions and providing support for research proposals, or connecting partners who may have additional resources with the community.



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Thank you to the community for taking the time to provide their thoughts, feelings, and concerns. We look forward to continuing to work toward a safer, healthier environment for this community.





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