

Communicating the Risks of PFAS: New York State Department of Health

Background and Health Department Activities

The New York State Department of Health (NYSDOH) is a freestanding public health agency and generally has a decentralized relationship with local health departments. NYSDOH is currently dealing with per- and polyfluoroalkyl substance (PFAS) contamination in multiple municipalities. This case study focuses on two sites (the Village of Hoosick Falls and the City of Newburgh) that have tested positive for contamination in public drinking water supplies and private wells. Hoosick Falls officials conducted testing in late 2014 and found elevated perfluorooctanoic acid (PFOA) in the drinking water supply stemming from industrial pollution in the surrounding area.¹ Newburgh's issues began when the city detected perfluorooctanesulfonic acid (PFOS), perfluoroheptanoic acid (PFHpA), and perfluorohexanesulfonic acid (PFHxS) in the drinking water as a part of the 2013 and 2014 testing required by the U.S. Environmental Protection Agency's (EPA) Unregulated Contaminant Monitoring Rule.² Upon retesting, NYSDOH detected three other PFAS chemicals in Newburgh's drinking water in addition to the three previously mentioned chemicals.³ The main source of PFOS in Newburgh was thought to originate from PFOS-containing firefighting foam used during training exercises at the nearby Stewart Air National Guard Base.⁴ In both Hoosick Falls and Newburgh, NYSDOH and its partners worked with the two municipalities to help find alternative, safe water sources and install water filters to reduce the public's exposure to the PFAS chemicals.

While the exposures are no longer active in either community, NYSDOH and its partners continue to address other issues related to the contamination that have persisted. Risk communication remains a challenge, as residents of these towns are eager to know about possible health impacts that may have resulted from their exposures to PFAS. NYSDOH, the New York State Department of Environmental Conservation (NYSDEC), and other state and federal partners worked to educate concerned residents regarding their exposures and related health effects. NYSDOH conducted biomonitoring investigations in both municipalities. Residents of Hoosick Falls had their blood tested for PFOA, while residents in Newburgh had their blood tested for the six PFAS chemicals in EPA's Third Unregulated Contaminant Monitoring Rule: PFOS, PFOA, PFHxS, PFHpA, perfluorononanoic acid (PFNA), and perfluorobutanesulfonic acid (PFBS).⁵ NYSDOH performed the testing in both instances. These tests gave residents the chance to find out about their own individual exposures. NYSDOH received daily inquiries about the biomonitoring programs. Residents were interested in both getting tested and receiving explanations from NYSDOH about what their results meant once they received them. NYSDOH visited the Hoosick Falls community and answered questions at least twice a week for over a year. The department also hosted numerous public meetings in Newburgh. Furthermore, media attention on the PFAS contamination in these communities resulted in additional attention and inquiries to NYSDOH.

In addition to the biomonitoring investigations outlined above, NYSDOH conducted a [cancer incidence investigation](#) in Hoosick Falls from 1995-2014, focusing on cancers that have been associated with PFOA exposure.⁶ NYSDOH published the results of the investigation in a report and made it publicly available on the department's website. Higher rates of cancers associated with PFOA exposure were not found in the study area.⁷

Development of Health Advisories

NYSDOH uses EPA's 2016 Drinking Water Health Advisory values for PFOA and PFOS. NYSDOH is currently in the process of developing statewide maximum contaminant levels, or enforceable standards, for PFOA and PFOS.

During the initial investigations in both Hoosick Falls and Newburgh, NYSDOH referenced EPA's 2009 Provisional Health Advisory values for PFOA and PFOS when discussing PFAS exposures with communities. Once EPA made its 2016 Drinking Water Health Advisories for PFOA and PFOS available, NYSDOH used those values instead, primarily as a risk management tool and a trigger to start reducing exposures to PFOA and PFOS-contaminated drinking water, as opposed to a bright-line threshold. Adverse health effects resulting from PFOA and PFOS exposures are still not well understood, so NYSDOH emphasized the importance of limiting exposure to the chemicals. NYSDOH also created an [infographic](#) that emphasized how the 2016 EPA Drinking Water Health Advisory values have considerations for sensitive subpopulations already built in. This infographic was especially helpful when communicating with the public during the many in-person consultations in which NYSDOH participated.

NYSDOH used a variety of external resources when compiling its risk communication materials. Since PFAS drinking water contamination is a multifaceted issue occurring in states across the country, there were a wide variety of resources from other states and federal agencies that could be used to inform NYSDOH's efforts. New York state is a participating partner in the Agency for Toxic Substances and Disease Registry's (ATSDR) [Cooperative Agreement Program](#), so NYSDOH was aware of and used the program's resources to inform its physician outreach efforts in the affected communities, namely ATSDR's clinical guidance documents and PFAS factsheets. NYSDOH also used documents from EPA to help craft its guidance and risk communication materials, including EPA's PFOA and PFOS health effects support documents. NYSDOH communicated with other state agencies who have dealt with PFAS contamination issues, namely the New Jersey Drinking Water Quality Institute Health Effects Subcommittee, the New Hampshire Department of Environmental Services, the Vermont Department of Health, and the Minnesota Department of Health. NYSDOH gathered valuable information about biomonitoring and crafting risk communication materials for the public from these agencies. Furthermore, NYSDOH worked with the Mount Sinai School of Medicine's Pediatric Environmental Health Specialty Unit to help develop risk communication materials. Finally, NYSDOH assisted CDC/ATSDR in developing their PFAS Exposure Assessment Technical Tools, a toolkit meant to assist states in conducting biomonitoring investigations.

Rollout and Dissemination of Advisory and Relevant Resources

NYSDOH's messaging was a challenge for these two affected communities. Because NYSDOH is often the last stop for health-related questions in the state, the department needed to make sure it was prepared to answer residents' questions about the toxicity and possible health effects from exposure to PFAS-contaminated drinking water. In both Hoosick Falls and Newburgh, NYSDOH used community meetings as the starting point for these risk communication efforts. Communications materials were posted on the NYSDOH [website](#), and each community had its own unique webpage. Additionally, NYSDOH circulated multiple press releases to keep the media and public apprised of the state's activities. Many residents in these communities focused their attention on their individual biomonitoring results. It was challenging for NYSDOH to communicate to the public about the limitations of biomonitoring and how those limitations precluded making conclusions about future health effects. To facilitate these

communication efforts, NYSDOH held one-on-one sessions with residents who had questions about their individual biomonitoring results and health effects from exposure. Additionally, NYSDOH set up a hotline for concerned residents to call for answers to their questions. NYSDOH also communicated with the state legislature on the progress of the remediation efforts in these communities and answered specific questions from individual legislators.

Key Messages for the Public

- Human PFAS toxicity is an active area of research and new information is being released on an ongoing basis.
- While studies, including the [C8 studies in West Virginia](#), have shown associations between PFAS exposure and health outcomes, these associations were not extremely strong. Associations do not mean there is a causal relationship between PFAS exposure and health effects.
- The exposures to PFAS in the Hoosick Falls and Newburgh communities were quickly stopped and alternate water sources or filters were used to ensure safe drinking water.
- PFOA and PFOS are being phased out of commerce, which should continue to lower blood concentrations in the U.S. population. ⁸

Gaps and Challenges

Communicating with the public about potentially toxic exposures and their health is always challenging for many reasons. An individual’s health is a sensitive subject and needs to be approached with care. NYSDOH found that one-on-one sessions with residents were often more successful in addressing their concerns and questions. However, it is not possible to definitively link a PFAS blood test result as the cause of a negative health outcome. Adding to this challenge, the media often leaves out the nuances of scientific data from studies of human PFAS exposure and incorrectly equates associations with causality. More research is needed to better understand the potential health effects resulting from PFAS exposure. Federal agencies, such as CDC and EPA, need to continue keeping states informed of new resources and information related to PFAS toxicity. It is important for state and federal public health agencies to have a mutual understanding of the latest data on PFAS.

New York State PFAS Quick Facts	
Advisory Values Utilized ⁹	PFOA – 70 parts per trillion (ppt); PFOS – 70 ppt; PFOA and PFOS combined – 70 ppt
Collaborators	U.S. EPA, ATSDR, CDC, Mount Sinai School of Medicine’s Pediatric Environmental Health Specialty Unit, NYSDEC, the New Jersey Drinking Water Quality Institute Health Effects Subcommittee, the New Hampshire Department of Environmental Services, the Vermont Department of Health, and the Minnesota Department of Health
Languages for Materials	English, select resources in Haitian Creole and Spanish
GIS Mapping	Yes (internal only)
Website	https://www.health.ny.gov/environmental/investigations/drinkingwaterresponse/

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¹ New York State Department of Health. "Cancer Incidence Investigation 1995-2014. Village of Hoosick Falls Rensselaer, New York. May 2017." Available at https://www.health.ny.gov/environmental/investigations/hoosick/docs/cancer_report.pdf. Accessed 5-1-2018.

² New York State Department of Health. "Frequently Asked Questions: Newburgh Area PFOS Contamination." Available at <https://www.health.ny.gov/environmental/investigations/newburgh/faq.htm>. Accessed 5-1-2018.

³ Ibid.

⁴ Ibid.

⁵ U.S. Environmental Protection Agency. "Third Unregulated Contaminant Monitoring Rule." Available at <https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule>. Accessed 5-1-2018.

⁶ New York State Department of Health. "Cancer Incidence Investigation 1995-2014. Village of Hoosick Falls Rensselaer, New York. May 2017." Available at https://www.health.ny.gov/environmental/investigations/hoosick/docs/cancer_report.pdf. Accessed 5-1-2018.

⁷ Ibid.

⁸ Agency for Toxic Substances and Disease Registry. "Per- and Polyfluoroalkyl Substances (PFAS) and Your Health." Available at <https://www.atsdr.cdc.gov/pfas/pfas-blood-testing.html>. Accessed 6-4-2018.

⁹ U.S. Environmental Protection Agency. "Fact Sheet PFOA and PFOS Drinking Water Health Advisories." Available at https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf. Accessed 5-1-2018.