LAY ABSTRACT

TITLE: Determinants of Per- and Polyfluoroalkyl Substances (PFAS) Exposure among Wisconsin Residents

JOURNAL: Environmental Research. 2024 August 01; 254: 119131

AUTHORS: Rachel Pomazal[1], Kristen Malecki[2], Noel Stanton[3], Brandon Shelton[3], Meshel Lange[3], Roy Irving[4], Jonathan Meiman[4], Christina K Remucal[5], Amy Cochran[1], Amy A Schultz[1]*

*corresponding author

INSTITUTIONS:
1 University of Wisconsin-Madison, Department of Population Health Sciences, Madison, WI, USA

2 Division of Environmental and Occupational Health Sciences, University of Illinois Chicago School of Public Health, Chicago, IL, USA

3 Wisconsin State Lab of Hygiene, Madison, WI, USA

4 Wisconsin Department of Health Services Madison, WI, USA

5 University of Wisconsin-Madison, Department of Civil and Environmental Engineering, Madison, WI, USA

This is attributed to the CEECR grant: U24CA265813

LAY ABSTRACT

A group of chemicals called per- and polyfluoroalkyl substances (PFAS) are used in non-stick cookware, fire extinguisher foam, water-repellant clothing, and stain-resistant fabrics. PFAS can make their way into our water from manufacturing waste. Public health researchers are studying PFAS because it is linked to higher cancer risk, hormone changes, weakened immune systems, and liver damage.

PFAS are called “forever chemicals” because they do not naturally break down easily and will stay in the environment for a long time. PFAS can get into our bodies from food and water that has PFAS.

For this study, researchers wanted to know which people in Wisconsin are more likely to have PFAS in their bodies. Scientists measured PFAS in the blood of 605 adults from Wisconsin. They also asked questions about their diet and lifestyle to understand how people in Wisconsin may be exposed to PFAS.

There are two types of PFAS: long-chain and short-chain. Long-chain PFAS can stay in the body longer than short-chain PFAS. The study found that people were more likely to

have long-chain PFAS in their blood than short-chain PFAS. Older, non-Hispanic White males in this study had more PFAS than younger, non-White females. People that ate locally caught fish were also more likely to have higher levels of PFAS in their blood.

Knowing how much PFAS is in our bodies is important. We need to know who is more likely to have high PFAS levels so public health can keep them healthy. This study tells us that eating caught fish may expose people to PFAS in Wisconsin.