

Q&A: What the EPA limits on 'forever chemicals' in water mean

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No one wants to imagine chemicals in the water they drink. Yet PFAS—the "forever chemicals" used in products from clothing to some non-stick pans—contaminate nearly half of tap water in the U.S.,

according to a 2023 U.S. Geological Survey study. Exposure to them has known negative consequences, including cancer and developmental harm to infants and children.

Now, for the first time, the Environmental Protection Agency has set [limits on the levels of PFAS](#), or "per-and polyfluoroalkyl substances," allowed in drinking [water](#). In addition, the Biden administration announced \$1 billion in funding for testing and treating both public water and privately owned wells.

Omnia spoke with Brianne Callahan, senior research manager at the Water Center at Penn, about the news. Callahan, an attorney by training who came to work at Penn from the environmental nonprofit New Jersey Future, conducts research on water affordability, stormwater, and communication around PFAS, among other subjects.

For those unfamiliar with PFAS, can you explain what they are?

PFAS are manmade chemicals that consist of carbon and [fluorine atoms](#) and are used for their water-repellent and resistance-to-heat properties. They were developed in the 1930s, and they're found in countless everyday items such as non-stick cookware, pesticides, firefighting foam, makeup, carpeting, and clothing.

PFAS are persistent in the environment. They don't go away—that's why they're called "forever chemicals." And they accumulate—in human bodies and wildlife and the environment. That's a problem because they've been tied to a whole host of cancers, issues with pregnancy, decreased immune response, and cholesterol. They're dangerous.

What restrictions do the new regulations put on

PFAS?

The new regulations place limits on the amount of PFAS that can be in the drinking water system. Previously, this was not regulated at all. There are a number of types of PFAS—tens of thousands of types of PFAS, in fact—and this new rule regulates five different PFAS in particular for contamination levels, not just individual contaminants but also mixtures of them. Public water systems have up to three years to complete their monitoring. Then they'll have to announce to the public what they found. If levels exceed these new standards, they have five years from when they discovered the exceedance to become compliant.

How is PFAS-contaminated water made safe to drink?

There are a number of treatment filtration options, one of the main options being granular activated carbon. [This is made from organic materials high in carbon; once activated, the carbon filter retains the PFAS as the water passes through.] There are also certain resins that act as filters. But these are big, expensive construction projects. For the granular activated carbon, for instance, a community might need multiple big tanks lined up together that hold the carbon filters. One town in New Jersey that has a bunch of PFAS in its wells is looking at a price tag of around \$100 million for its filtration. For another New Jersey town, I think it's going to cost approximately \$5 million. These are not small projects.

How might this news affect most people?

PFAS are tricky. What we know about PFAS—about their connection to [human health](#) and environmental impacts, about methods of treatment, disposal, and destruction—is evolving. There's new information

constantly coming out, so clear and factual communications about the new regulations and our current understanding of treatment methods and public health impacts is critical to helping communities make decisions. Meeting these [new regulations](#) will pose significant financial challenges. We need to be thinking about water affordability and support for our communities dealing with PFAS contamination.

There's a lot that goes along with these regulations. That said, the fact that PFAS are finally being regulated is exciting. According to the EPA, the final rule will reduce PFAS exposure for 100 million people in the United States.

Provided by University of Pennsylvania

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