

Emerging PFAS in drinking water is a global public health issue

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Background: Per- and polyfluorinated alkyl substances (PFAS) are a group of man-made chemicals that are environmentally persistent and highly soluble in water. This group includes the historically used chemicals PFOA and PFOS as well as newer or "emerging" PFAS designed to be less environmentally persistent. PFAS are pervasive contaminants of drinking water. However, little is known about exposure or human health effects of emerging PFAS.

Significance: Thousands of emerging PFAS are being produced or are byproducts of chemical production. Around the globe, communities are becoming aware of emerging PFAS in their drinking water, with little information about biological persistence or human health effects.

Content: The proposed symposium will focus on the diverse populations who have been exposed to emerging PFAS around the world. In North Carolina, PFAS contamination of the Cape Fear River by a PFAS manufacturing plant resulted in ~250,000 people downstream being exposed to GenX and other emerging PFAS through their drinking water. Non-targeted chemical analysis identified emerging PFAS in both tap water and blood samples from this population; no toxicology or human health data are currently available for these PFAS. Similarly, people in Dordrecht, The Netherlands, were exposed to GenX and other PFAS released by a fluorochemical manufacturer. Release of firefighting foam at the Peterson Air Force Base in Colorado is believed to be the source of PFAS contamination of drinking water for ~75,000 people. Municipal drinking water highly contaminated with PFAS by firefighting foam was distributed to ~20,000 inhabitants in Ronneby, Sweden for decades.