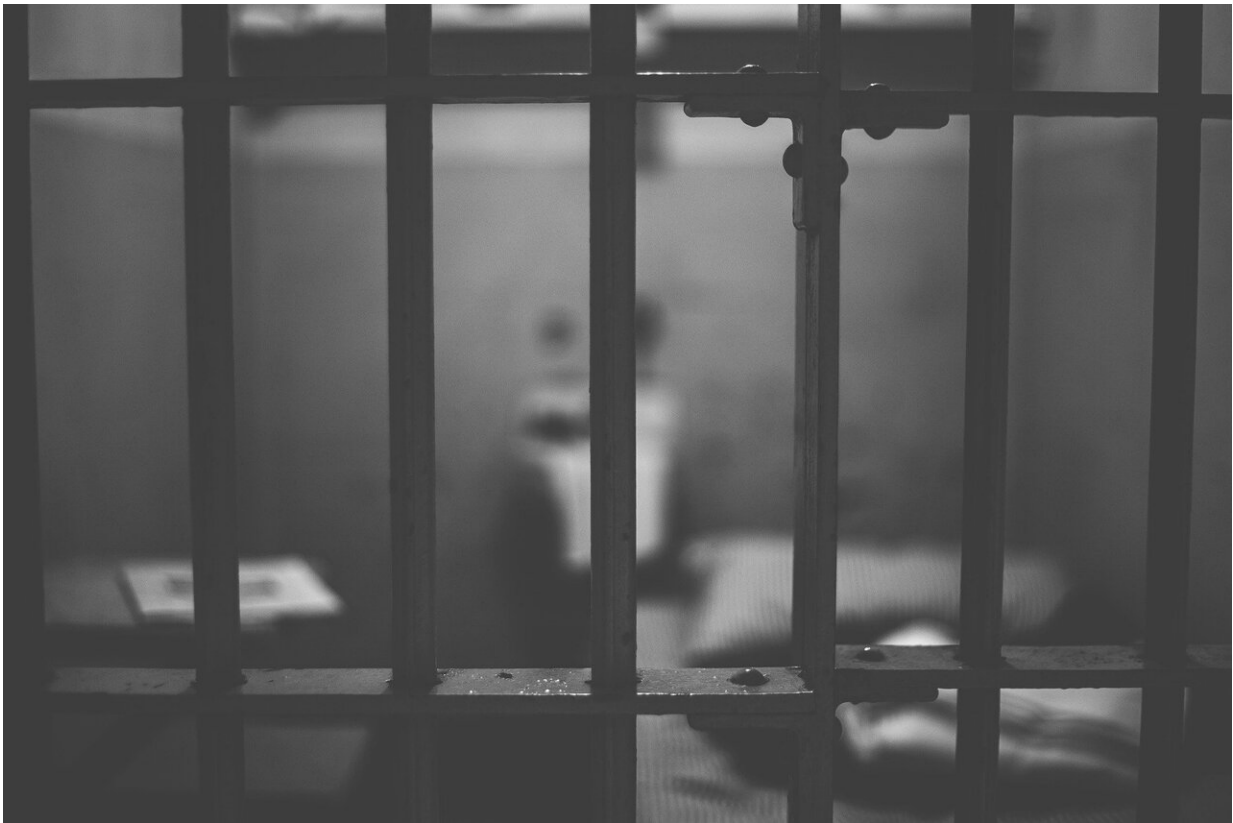


# Southwestern correctional facilities' drinking water puts inmate health at risk

June 22 2020

---



Credit: CC0 Public Domain

The first nationwide analysis of drinking water quality in United States correctional facilities found average arsenic concentrations in drinking water in Southwestern United States correctional facilities were twice as

high as average arsenic concentrations in other Southwest community drinking water systems. More than a quarter of correctional facilities in the Southwest reported average arsenic levels exceeding the U.S. Environmental Protection Agency 10 µg/L maximum contaminant level.

The study by Columbia University Mailman School of Public Health researchers Anne Nigra, Ph.D., and Ana Navas-Acien, MD, Ph.D., professor of environmental health sciences, is published in the journal *Environmental Research*.

Disparities and injustices in [water quality](#) may contribute to the excess burden of disease experienced by incarcerated and formerly incarcerated people. Approximately 2.2 million people, disproportionately Black and low-income men, are incarcerated in the U.S. Incarcerated populations are at elevated risk for several [chronic diseases](#) that are associated with chronic low-to moderate-arsenic exposure, including hypertension and diabetes.

More than 90,000 people rely on drinking water from community [water systems](#) (CWSs, public water systems that serve the same population year-round) that exclusively serve correctional facilities located in the Southwestern U.S., a part of the country where there are high concentrations of naturally occurring [inorganic arsenic](#) in domestic wells and in public water systems.

The researchers analyzed 230,158 arsenic monitoring records from 37,086 community water systems from the EPA's Third Six Year Review of Contaminant Occurrence dataset covering 2006-2011. Average six-year water arsenic concentrations in Southwestern correctional facility CWSs were more than twice that of other Southwestern CWSs and nearly five times the level of other CWSs across the rest of the U.S. (6.41 µg/L vs. 3.11 µg/L vs. 1.39 µg/L). Although the EPA goal maximum contaminant level (MCL) for arsenic

is 0 µg/L, EPA set the current arsenic MCL at 10 µg/L given feasibility and treatment costs.

Tap water is likely the sole water source available to incarcerated populations, who lack access to alternative drinking water (e.g. bottled water, domestic wells) or point-of-use treatment devices in the event of compromised drinking water quality. Incarcerated individuals may also be unaware of the arsenic levels in their drinking water despite EPA rules that mandate CWSs make yearly reports available to customers. "Mass incarceration is a public health crisis. People who are incarcerated have a right to safe drinking water. Correctional facilities with their own water systems need to reduce water arsenic concentrations as much as possible, even below current regulatory standards," says Anne Nigra.

The authors conclude: "Immediate, aggressive enforcement of water standards for [water](#) systems exclusively serving [correctional facilities](#) is critical to protect the health and human rights of all incarcerated persons, including adolescents, pregnant women, and the young children of incarcerated women."

**More information:** Anne E. Nigra et al, Arsenic in US correctional facility drinking water, 2006–2011, *Environmental Research* (2020). [DOI: 10.1016/j.envres.2020.109768](https://doi.org/10.1016/j.envres.2020.109768)

Provided by Columbia University's Mailman School of Public Health

Citation: Southwestern correctional facilities' drinking water puts inmate health at risk (2020, June 22) retrieved 8 May 2024 from <https://phys.org/news/2020-06-southwestern-facilities-inmate-health.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.