

## **American Indian Water Insecurity in the Era of COVID-19**

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### **Abstract**

In 2020, many of the COVID-19 outbreaks in the U.S. have been in majority-Black and Indigenous communities, where residents are continually water insecure and have been striving for access to affordable, safe water for years, if not decades. Frequent hand washing is recommended as one of the primary ways to prevent the spread of COVID-19. However, regular hand washing necessitates access to adequate, safe, and affordable water. Water insecurity is a significant problem for Indigenous people in the U.S., with nearly 9% of American Indian households lacking safe and sufficient water resources compared to less than 1% of the general U.S. population. Without access to safe water, COVID-19 disproportionality affects Indigenous people in the U.S. who live in water insecure settings. To protect the health of tribal communities, urgent action is needed to push forward policy reform and successive action that was needed prior to the pandemic, but is necessary now more than ever.

The COVID-19 pandemic, like any major disaster, affects marginalized communities at alarming rates as these communities are typically some of the most under-resourced and at-risk due to pre-existing environmental injustices and ongoing health inequities. Correspondingly, these communities are primarily composed of Black, Indigenous, and other people of color (BIPOC) who experience high poverty rates and the subsequent health and social inequities that accompany poverty. Health disparities between American Indians and other racial/ethnic populations in the United States (U.S.) are well documented (Jones, 2006). The U.S. currently has more reported cases and deaths from COVID-19 than any other country worldwide (World Health Organization, 2020). In particular, American Indians (AIs) are disproportionately affected by COVID-19 due to pre-existing conditions related to social and environmental determinants of health and their long-standing political marginalization in the United States. Due to such considerable health and social inequities, Indigenous people experience a higher burden of non-communicable and infectious diseases in general (Groom et al., 2009; Power et al., 2020).

Considering pandemics, Indigenous people have historically experienced higher infection rates and greater severity of symptoms and loss of life than the general population (CDC, 2009; Doxey et al., 2019; Power et al., 2020). Over the last century, and before 2020, there have been four influenza-related pandemics in the U.S.: 1918-1919, 1957-1958, 1968, and 2009 (CDC, 2018). During these pandemics, American Indians and Alaska Natives (AI/ANs) experienced significantly greater rates of influenza-related mortality in the U.S. than any other ethnic or racial group (CDC, 2009; Dahal et al., 2018; Doxey et al., 2019; Mamelund et al., 2013). Following the 1918-1919 influenza pandemic, influenza-related mortality rates among AI/ANs were four times greater than the rates experienced by people in general U.S. urban populations (CDC, 2009; Groom et al., 2009). More recently, AI/ANs death rates from H1N1 were four times higher than people from all other ethnicities combined in the U.S. (CDC, 2009, p. 1; Power et al., 2020). From a global perspective, Indigenous people in Australia, Canada, New Zealand, and elsewhere have shared a similar outcome, with substantially higher rates of infectious diseases and subsequent deaths than the general population during pandemics (Boggild et al., 2011; Groom et al., 2009; Kelm, 1999; Mousseau, 2013; Power et al., 2020; Ruche et al., 2009; Summers et al., 2018).

Early into the COVID-19 pandemic, rural and Southwestern states such as Arizona and Oklahoma, which have large AI populations, had some of the lowest COVID testing rates in the country (Chhabra et al., 2020; Monnat, 2020; Souch & Cossman, 2020). Although AI/AN people account for about 0.7% of the U.S. population, a recent report shows that 1.3% of COVID-19 cases reported to the CDC were among AI/ANs (Stokes, 2020). This reflects trends based on Tribal affiliation and geographic location, where Indigenous people continue to be overrepresented in positive COVID-19 cases. For instance, AI/ANs have accounted for about 32 percent of COVID-19 cases in New Mexico, even though they are just 9 percent of the state's population (*NMDOH COVID-19 Public Dashboard*, 2020). Kaholokula and colleagues (2020) reported that U.S. states with a substantial population of Native Hawaiian and Pacific Islander (NHPI) residents, including Hawai'i, California, Oregon, Utah, and Washington, were reporting higher rates of COVID-19 among NHPI people than in other racial and ethnic groups. Of the 23 states reporting adequate race/ethnicity data to the CDC, the occurrence of COVID-19 among AI/ANs is 3.5 times that among non-Hispanic whites (Hatcher, 2020). However, there is a significant percentage of inadequate or missing data when tracking COVID-19 cases among AI/ANs, and current numbers may not be accurate. Nonetheless, the need continues for COVID-19 surveillance at all

government levels to monitor trends and communities that may be at increased risk for infection and poor outcomes. Likewise, community mitigation strategies are still needed, especially for AI/AN populations, to slow the spread of COVID-19 (Hatcher, 2020; Stokes, 2020).

### **COVID-19 and Water Insecurity**

In 2020, many of the COVID-19 outbreaks in the U.S. have been in majority-Black and Indigenous communities, where residents are continually water insecure and have been striving for access to affordable, safe water for years, if not decades. Though many factors influence a community's susceptibility to pandemics, water insecurity is a particularly salient issue, as frequent hand washing is recommended as one of the primary behaviors to prevent the spread of COVID-19. However, regular hand washing necessitates access to adequate, safe, and affordable water above and beyond the daily water that is required for cooking, hydration, and general sanitation needs (Armitage & Nellums, 2020). Public health appeals to 'wash your hands' pose further stress on already water insecure communities who contend with polluted or unaffordable water, non-existent or dilapidated wastewater systems, and inadequate water infrastructure in general (Hyde, 2020). In communities with inadequate or untrusted residential water supplies, many people depend on bottled water obtained from outside their homes to meet their daily water needs. Reliance on bottled water comes at a financial cost and burden of time and travel to procure daily household water needs (Hyde, 2020).

Before the COVID-19 pandemic, water insecurity was already a considerable problem for many AI/AN people. Nearly 9% of AI households in the U.S. lack safe and sufficient water supplies and waste disposal services compared to less than 1% of the general U.S. population (Indian Health Service, 2015). Frequently, water insecure communities are located in rural areas with limited resources. Though most AI/ANs reside in urban spaces, 39% of AI/ANs live in rural areas or on reservations. Of these, 40% of AI/ANs inhabit what are considered remote and isolated areas referred to as Rural Minority Counties (RMCs) (Groom et al., 2009). 20.7% of American Indian/Alaska Native households in RMCs are water insecure and do not have indoor plumbing, and have inadequate access to potable water and reliable wastewater disposal (Groom, 2009). Before COVID-19, water insecurity, in combination with other factors, disproportionality perpetuated the spread of infectious diseases in general to people residing in water insecure locations (Groom, 2009). In 2020, Tribal communities are not only contending with prior water insecurities and its obstacles but a heightened risk of contracting COVID-19.

### **Warm Springs Reservation**

Poignant examples from the COVID-19 pandemic frontlines are visible on the Warm Springs Reservation and in the Navajo Nation. The Warm Springs Reservation in Oregon has had ongoing water insecurity for decades (Kohn, 2020). COVID-19 has exasperated water insecurity on the reservation as the tribe's aging water infrastructure continues to impact access to safe water for daily drinking and hygiene needs, such as handwashing, which is critical for stopping the spread of COVID-19. During the pandemic, the community experienced another boil water notice on the reservation, where more than 70 people in a community of approximately 5,000 people have tested positive for COVID-19 (Kohn, 2020). The additional stress and labor involved in boiling water for safety add to an already precarious situation for Tribal members.

### **Navajo Nation**

The Navajo Nation continues to be one of the hardest-hit communities in the U.S.; in a total population of approximately 300,00 tribal members with 173,00 living on the reservation, the Navajo Nation had a total of 7,414 positive COVID-19 cases and 362 confirmed deaths as of June 27th, 2020, (Dikos Ntsaaígíí-19 (COVID-19), n.d.).

Between 30% to 40% of the Navajo households do not have running water (*Dikos Ntsaaígíí-19 (COVID-19)*, n.d.). Approximately one-third of Navajo households haul water to their home every day, and they pay 67 times more for water they haul versus piped water (*Navajo Water Project*, 2020). Dikos Ntsaaígíí-19 (n.d.) states, "In the absence of a reliable water supply, families frequently share the same pans to wash their hands or drive long distances to "border towns" to fill water barrels. Both situations introduce a variety of risks for residents and challenges for Navajo leaders in combating coronavirus on the Nation." Many Navajo households do not have or lack access to wastewater systems and depend on water from unregulated wells, springs, or livestock troughs that may be unsafe due to decades of groundwater contamination from uranium mining on the reservation (Chapman, 2020; Lehtinen, 1998). Environmental justices such as these are founded in the tremulous history of Tribal water rights and violations in the United States. The well-documented health impacts of water insecurity on the Navajo Nation include higher rates of diabetes and other health conditions that increase tribal members' vulnerability to infectious diseases such as COVID-19 (Chapman, 2020).

### Discussion Future

For Indigenous people, water is life (Mitchell, 2019a). Water was never meant to be bought or sold nor regulated in the ways of western society. Perhaps even more salient is Indigenous peoples' relationship with water, in which many refer to water as a *relative* whom we are deeply connected to through our customs, ceremonies, namesakes, and beliefs, to name a few (Anderson, Clow, & Haworth-Brockman, 2013). Beyond our biological and physiological need for water, water is central to our identity, spirituality, and culture as Indigenous people. However, the world we live in does not often reflect these values, so much so that water had to be declared a human is a right as an attempt to secure equitable water access for Indigenous people. Nevertheless, today in the U.S., a high-income country, water insecurity still exists for the nation's most vulnerable and marginalized citizens.

Through the plight of Tribes like the Navajo Nation, the country and the world got an inside look into Tribal communities and the daily struggles that still exist. As COVID-19 was first detected on Tribal lands, many communities relied solely on grassroots efforts to obtain the necessary supplies and resources to try and stop the spread of the disease and care for those who had tested positive, as government aid has been slow in reaching rural and Tribal communities most affected by the pandemic. Other local efforts to control the disease's spread include Tribally mandated curfews and closures of Tribal offices and business, including casinos on Tribal lands. From June to mid-August, the Navajo Nation mandated a "safer at home" ordinance, and residents were required to stay at home, excluding essential activities (Curtis, 2020). Local news outlets and social media have mainly documented these efforts.

The COVID-19 pandemic continues to expose the unforgiving reality of structural and environmental inequalities that Indigenous people contend within the United States. To protect the health of Tribal communities, urgent action is needed to institute change and policy reform to address environmental injustice in Indian country. Research on COVID-19 is in its early stages and developing by the minute, and we must make sure AI/ANs are included in the conversation. During this pivotal moment in history, we must monopolize on the momentum created by the COVID-19 pandemic to push forward environmental justice and water equity efforts. We must consider the social, environmental, and health impacts of water insecurity as it is a considerable threat to the public health of Indigenous people and their livelihoods. While the full impact of COVID-19 on water insecure communities will require further study, effective public health

responses to the pandemic will depend on the accuracy and inclusion of AI/ANs in all state and federal efforts to overcome the pandemic, as well as prepare for future pandemics and other emergencies.

### Conclusion

Water insecurity is not a new issue for Indigenous people, and although it is not the only factor linked to increased COVID-19 rates, water insecurity is a major concern in combating the spread of the virus in tribal communities. COVID-19 has helped expose AI/AN health and environmental inequities in the U.S. on a national, if not global scale. The pandemic has highlighted the urgency for water infrastructure and policy reform to ensure access to equitable, safe water for those who need it most now and in the future. Access to safe, sustainable water resources and infrastructures are essential for equitable health and well-being, and “health equity is a prerequisite for social and environmental justice” (Mitchell, 2019b). As COVID-19 has dramatically changed daily life in the U.S., it should make us reconsider our national policies and practices that treat water as a commodity to be bought and sold, but rather honor water as a human right that must be available to all because “Water is Life.”

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