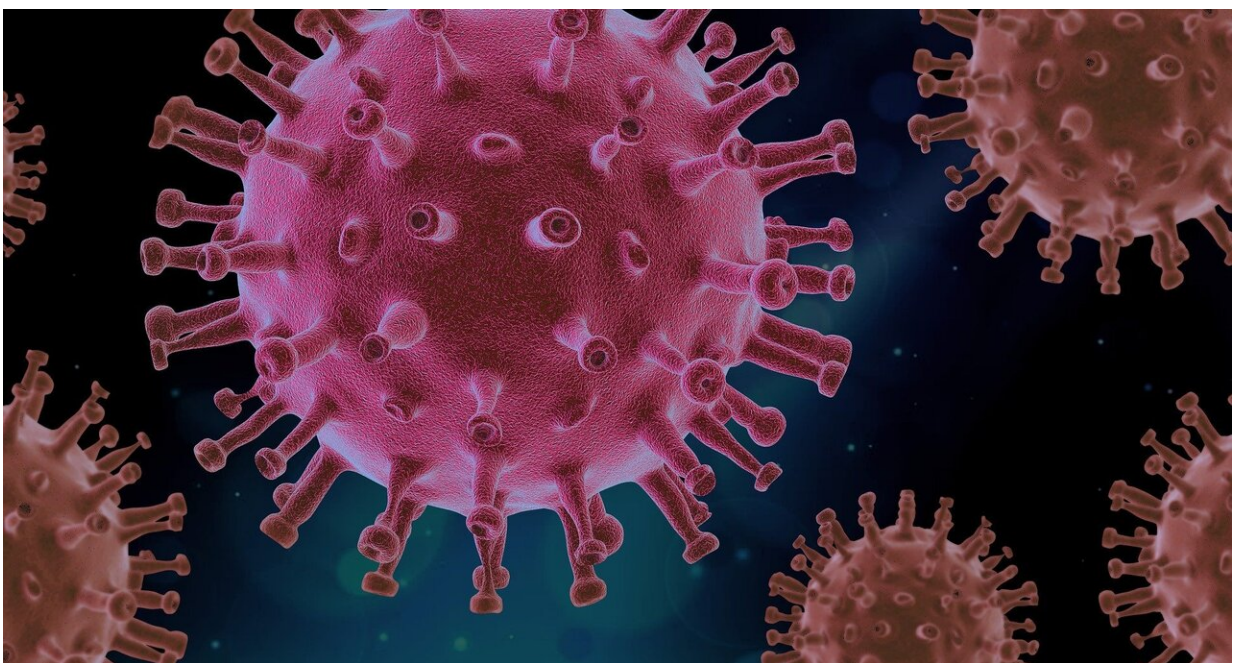


High rates of COVID-19 on American Indian reservations—water and language barriers affect risk

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Early in the pandemic, American Indian Reservations have experienced a disproportionately high incidence of COVID-19 infections: four times higher than in the US population, reports a study in the July/August issue of the *Journal of Public Health Management and Practice*. The special issue of *JPHMP* focuses on COVID-19, with commentaries and

scientific articles describing the pandemic in the United States and globally.

Lack of indoor plumbing is a strong risk factor for COVID-19 in tribal communities, while the incidence appears lower in households that speak English only, according to the new research led by Desi Rodriguez-Lonebear, Ph.D., of UCLA. "These key findings have implications for communication, implementation, and success of recommendations such as [hand washing](#) and state/tribal stay-at-home orders in American Indian Reservation communities," the researchers write.

Insights on Factors Affecting COVID-19 Incidence on American Indian Reservations

Using publicly reported information on COVID-19 cases, along with reservation-level data from a previous national survey, Dr. Rodriguez-Lonebear and colleagues analyzed household and community characteristics associated with rates of COVID-19 in tribal communities. The study focused on 287 American Indian Reservations and tribal homelands (in Oklahoma) with an average population of about 12,500.

As of April 20, 2020, these communities had a total of 861 COVID-19 cases. About 60 percent of cases were in the Navajo Nation. At that time, the incidence of COVID-19 was more than four times higher for people living on a reservation, compared to the United States as a whole: 0.24 versus 0.057 cases per 1,000 people.

On analysis of household and community factors, the number of COVID-19 cases was substantially higher on American Indian Reservations where a higher percentage of homes lacked complete indoor plumbing. The researchers write, "While some reservation communities have elected not to pursue full plumbing facilities for

historical, cultural and environmental reasons, there are certainly solutions, like providing potable water and hand sanitizer, that could improve critical sanitation needs."

The number of COVID-19 cases was lower on reservations with a high percentage of English-only households—highlighting the need for public health campaigns in Indigenous languages. "This is of particular concern given there are 150 different Indigenous languages spoken by more than 350,000 people in the US today," according to the authors.

Along with household plumbing and language, overcrowding has been identified as a potential infection risk factor. However, at least early in the pandemic, overcrowding—defined as more than one person per room—was not related to COVID-19 incidence on American Indian reservations.

Due to its timing, the study could not address how reservation-level conditions affect the risk of death from COVID-19. Any such analysis would have to consider the unique circumstances surrounding healthcare access and infrastructure in tribal communities. "With inadequate public health infrastructure, limited medical resources, and high rates of poverty, communities on Indian reservations are poorly equipped to manage a pandemic like COVID-19," Dr. Rodriguez-Lonebear and coauthors write.

The researchers outline the implications for policy and practice addressing the impact of COVID-19 on American Indian reservations—including the need for access to [potable water](#) and communication of critical health information in Indigenous languages. Dr. Rodriguez-Lonebear and colleagues conclude: "In the long-term, increase direct public health funding to tribes for infrastructure development and secure American Indian household access to environmental health infrastructure such as indoor plumbing, where

desired."

More information: Desi Rodriguez-Lonebear et al, American Indian Reservations and COVID-19, *Journal of Public Health Management and Practice* (2020). [DOI: 10.1097/PHH.0000000000001206](https://doi.org/10.1097/PHH.0000000000001206)

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