



Press Release

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Study Shows Rural Alaska Natives without In-Home Running Water Suffer More Disease

Increased Health Risk Associated with Lack of In-home Running Water

Rural Alaska Natives living without in-home access to running water have disproportionately higher rates of respiratory and skin infections, according to a study conducted by the Centers for Disease Control and Prevention. The study is the first to show an association in the United States between lack of in-home running water and prevalence of these diseases. Experts speculate that the association may be due to lack of access to clean water for hand washing and hygiene. Infants, young children, and the elderly were the most affected groups.

The study, which was published online today in the *American Journal of Public Health*, examined the correlation between in-home water service and hospitalizations for infectious diarrhea, respiratory syncytial virus (RSV), pneumonia or influenza, skin or soft tissue infections and methicillin-resistant staphylococcus aureus (MRSA) among indigenous Alaskans, also called Alaska Natives.

Infants in villages with the lowest numbers of home with water service had a five times higher rate of hospitalizations for lower respiratory tract infections and RSV, and an 11 times higher rate of hospitalization for pneumonia, compared to the overall U.S. population. In one region of Alaska with the lowest level of in-home service, more than a quarter of all infants are hospitalized each year for influenza or for pneumonia. Infant pneumonia can subsequently lead to lifelong respiratory problems.

“Access to clean water for hand washing and hygiene is extremely important to preventing disease,” said study author Thomas Hennessy, M.D., director of CDC’s Arctic Investigation

Programs. “Without better access to in-home water for hand washing and hygiene, Alaska Natives will continue to face higher rates of largely preventable infections.”

Study authors also found people age 65 and older in the lower water service areas were twice as likely to be hospitalized for pneumonia or for influenza. Skin infections were significantly higher for all age groups in areas with lower water service rates (less than 80 percent of homes), and MRSA rates were three times higher for residents in these regions.

Surprisingly, the study found that lack of in-home water service was not linked to an increase in infectious diarrhea. The authors noted that even villages with low rates of in-home water service nearly always had a centralized supply of safe drinking water. A study conducted in 2000 by the Alaska Department of Environmental Conservation found that residents of rural villages often have to travel long distances to access safe drinking water and carry it home in five-gallon jugs, making it difficult to obtain adequate amounts of water needed for basic hygiene practices, such as hand washing and bathing.

In 2000, 99.4 percent of American homes had complete sanitation service, which includes a flush toilet, shower or bath and kitchen sink, according to U.S. Census Bureau reports. Alaska ranked last among U.S. states, with 93.7 percent of homes having complete sanitation, and the proportion of homes without such services was much higher in rural Alaskan villages. A concerted effort by federal, state and tribal health organizations has increased the number of rural Alaskan homes with sanitation services from 10 percent in 1950 to about 84 percent in 2006.

The full text of the report can be found at the American Journal of Public Health’s Web site, <http://www.ajph.org/>. The article was the product of two-year collaboration between the CDC’s Arctic Investigations Program (CDC-AIP), the Alaska Native Tribal Health Consortium (ANTHC), and the Indian Health Service. Dr. Tom Hennessy of the CDC-AIP and ANTHC’s Troy Ritter originated the study.

The mission of CDC’s Arctic Investigation Program is the prevention of infectious diseases in peoples of the Arctic and Subarctic with special emphasis on diseases of high incidence and concern among Alaska Natives and American Indians. More information about this program can be found at <http://www.cdc.gov/ncidod/aip/index.html>.