

Health Disparities in American Indians: Lack of Indoor Plumbing Increases Health Problems

Introduction

Despite all the public health efforts that have been made with water sanitation and improvement, certain Native American communities, located in the Alaskan region, Northern Plains, and the Southwest, lack indoor plumbing. The rural topography makes acquiring an in-home water source very difficult and often leads to gathering water from either a private or community supply. Without running water or a flushing toilet the likelihood of contamination is much higher, making Native Americans more at risk of contracting a health related illness. Using past literature and articles, this paper will discuss how the lack of indoor piping has caused an increase in health disparities amongst Native Americans and what policy implications can be made to address this particular population.

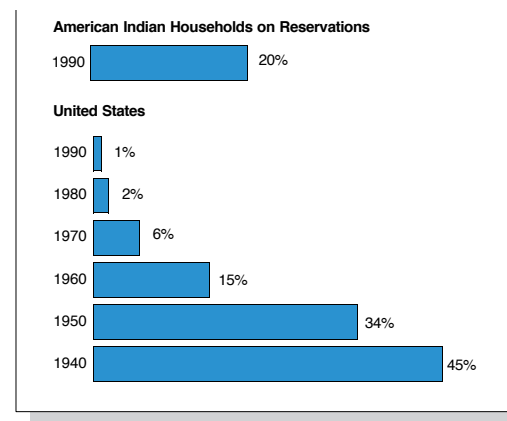
Background

There are currently 5.1 million American Indians and Alaskan Natives in the nation, with 22% of them living on reservation lands. (7) Until the 1950's indoor plumbing was uncommon, however it is still rare in specific native villages. A survey from the Census Bureau in 1995 on plumbing indicated that American Indian households in 1990 were as likely as all US households of the 1950s to lack complete indoor plumbing. (Figure 1) In 2000, one out of every ten Native home lacked indoor plumbing. (10) Today 0.5 percent of homes nationwide lack complete plumbing system, with 0.7 percent also

lacking entire kitchens. In contrast, on American Indian lands, these rates are 5.3 percent and 4.8 percent, respectively. (3) Overall, of the natives living on tribal lands, it is estimated that 40% of them live in substandard housing.

Without running water or indoor plumbing, water is generally collected from a community-based or private water point and transported in gallon-sized containers. Depending on the distance between reservation borders and metropolitan areas, a little less than half of the families rely on public sewers.

Figure 1-American Indian Reservation Households' Sewage Disposal Situation Also Resembles That of the United States in the 1950's (6)



**Percent of households lacking complete plumbing facilities*

Research

The rural landscape that dominates most reservations has made thousands of residents isolated from a central water source. About 1 in 5 reservation households lack complete plumbing facilities in their home. (6)

However, the regions with the poorest housing characteristics, like Alaska, Northern Plains, and the Southwest, are the areas that also show the greatest disparities due to health impairments or infectious diseases.

In a prospective study assessing regions of Alaskan Native Villages for four years, researchers compared the relationship between in-home water sources and the hospitalization rates for respiratory, gastrointestinal, and skin tract infections. Of the six regions that were surveyed, 91% had “high service” homes or a pressurized piped water system, compared to the 61% of “low service” homes. It was concluded that higher rates of respiratory and skin infection were associated with areas that lacked indoor plumbing. (1)

By not having an in-home water source to properly sanitize water, individuals are more at risk of contracting waterborne diseases, in which a person ingests a pathogen from contaminated water, or water wash diseases, in which hygienic practices like hand washing or rinsing food products are reduced. (1) The Meriam Report indicated, “The high levels of infant mortality were noted to be due to...poor sanitation.” (2) Singleton et al performed a retrospective analysis on the trends of Respiratory Tract Infection (RTI) in Native American children in comparison to the US children population. The study used hospital rates for children under 5 admitted for RTIs. The results showed that children of American Indian or Alaskan Native descent had a 1.6-fold increase of being admitted to the hospital than the US children rate. (9) Although the rate of hospitalization was lower (32% decrease) from 2006-2008 compared to 1998-1999 for AI/AN, the numbers were still higher than the

national average.

Yet the increased rates of disease due to lack of plumbing is directly related to two very significant factors, low SES and crowding.

Poverty is both persistent and significant on reservations. (Refer to Figure 2) With nearly one-third below the Federal Poverty Line, poor housing conditions can be a reflection of economic distress. (10) Many tribal lands face monetary obstacles, like complexity of trust ownership, presumed inability of banks to foreclose on Indian lands held in trust, unwillingness of lenders to give loans, and the scarcity of financial institutions on reservations. (4) The limited availability of housing assistance, especially when it comes to economic status, makes it unbelievably difficult for Natives to even attempt at improving the condition they live in.

Despite the vast amount of open land available for homes, crowding remains a prevalent case amongst individual dwellings. Crowding is the ratio of persons to the size of the inhabited area, expressed as persons per room, or inversely square feet per person (11) On reservations, crowding is three times the national average of 1.01 person per room. (Figure 3) In a sample done by the US Census Bureau on crowding in 2000 (8), the highest percentage (25-55%) of occupied housing with more than one person per room by county directly overlapped with US reservations communities. Furthermore, a recent study done by the National American Indian Housing Council (NAIHC) concluded that on average 33% of Native American households are crowded, linking domestic crowding and the substandard housing conditions to an increased incidence of infectious diseases. (4)

In Summary, crowding, low SES, and lack of plumbing coincide with tribal lands that also express the highest rates of infectious diseases.

Figure 2- Poverty on Native American Lands (4)

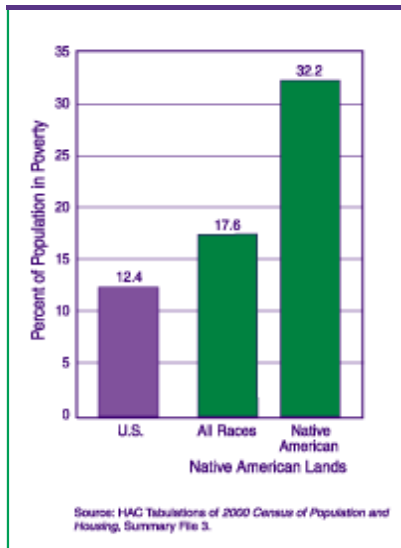
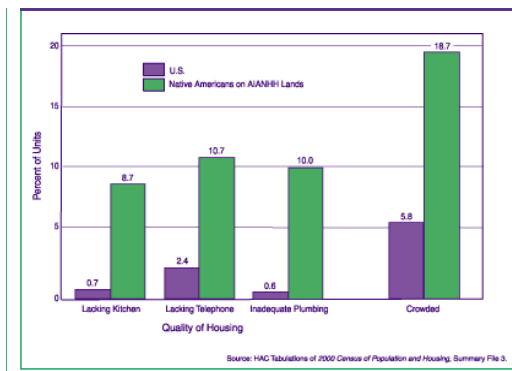


Figure 3-Housing Quality and Crowding on Native American Lands (4)



Policy Implications

In 1954, Public Law 83-568 deemed the Indian Health Service (IHS) responsible for objectively finding ways to provide portable water and safe wastewater disposal services to Alaskan Natives. The IHS, in collaboration with many other public health agencies,

increased the proportion of modern sanitation in Alaskan homes from 10% in 1950 to 84% in 2006. (1)

On October 1, 1997 the government made attempts to improving reservation-housing conditions by signing Native American Housing Assistance and Self-Determination Act into law. (10) The idea was to provide federal aid by creating block grants that would be randomly distributed tribal housing entities. In extension of this, the Department of Housing and Urban Development (HUD) loan guarantee program allowed the federal government to warrant private sector loans to Native American homebuyers (10) Tribes have also developed their own programs to deal with funding problems buy using gaming procedures.

While past policies have proved successful, the benefits were limited to specific communities. There needs to be a policy that will address the housing problem on a widespread scale and take into account the multiple aspects that contribute the lack of indoor plumbing.

The largest barriers preventing improvement in Native American housing are lack of infrastructure, remoteness, site approval challenges, legal status, and lack of information. (10) Besides the fact that many homes in Indian Country do not have plumbing, many also lack paved roads, electricity, and landfills. Without these basic elements, the implementation of improved housing is impossible. In addition, the legal process of land ownership is very different in tribal areas. Since reservations are entrusted to the US government of Native Americans, any housing dealings (like eviction or foreclosure) must all be done within the tribal court system, if one is even available. This makes many lenders

and banks hesitant in loaning money to the already poor native community.

Furthermore, there have been no policy attempts at reducing the frequency of crowding in Native homes. The issues of sanitation and finances will remain if crowding continues to play role in reservation housing.

In order to see any form of change with Native American housing, the government needs to address the challenges of infrastructure. Ideally every house would receive an indoor plumbing system, but that is not feasible given the remoteness. Instead some form of a sanitary water source needs to be provided within a reasonable distance of each home. Next comes the matter economics. A federally sanctioned financial aid program could potentially reduce the number of loan denials and increase the amount of home ownership. Hopefully, the increase in monetary support will encourage more people to purchase their own homes and crowding will drop.

Clearly it would be a difficult task to implement given the financial and constructional burden, but if each region was approached little by little, there could be a significant impact.

Links to Other Sources of Interest

Native American Aid: Living Conditions
http://www.nrcprograms.org/site/PageServer?pagename=naa_livingconditions

Seattle Times: Tribal Housing
http://seattletimes.com/news/local/tribal_housing/partone/undermined.html

American Indian Relief Council: Living Conditions
http://www.nrcprograms.org/site/PageServer?pagename=airc_livingconditions

References

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(2) Snipp, Matthew. "This Size and Distribution of the American Indian Population." *Population Research and Policy Review* 16.1/2 (1997): 61-93

(3) "Housing in Native American Lands." *Housing Assistance Council*. January 2012. AIAN IHS. Information sheet. www.ruralhome.org

(4) "Native American Lands." *Building Rural Homes, AIANHH* Pages: 95-101. 2000. www.ruralhome.org

(5) Miller, Raven and Seneca, Valerie. "Infrastructure Woes of Indian Housing." *Rural Voices* 9:1 (2004): 8-10

(6) Statistical Brief. "Housing of American Indians on the Reservation—Plumbing." Bureau of the Census. April 1995

(7) "American Indians and Alaskan Natives." The US Census Bureau. 2012. http://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb12-ff22.html

(8) "Crowded Housing: 2000." US Census Bureau. Image

(9) Singleton, Rosalyn. "Trends in Lower Respiratory Tract Infection Hospitalizations among American Indian/Alaskan Native Children and the General US Child Population." *The*

Journal of Pediatrics 16:2 (2012): 296-302

(10) "Taking Stock: Rural People, Poverty and Housing at the Turn of the 21st Century." *Housing on Native American Lands*, HAC. September 2006. www.ruralhome.org

(11) "Too Few Rooms: Residential Crowding in Native American Communities and Alaskan Native Villages." *National American Indian Housing Council*. 2001