Health care coverage and unemployment in the Bemidji Area: A profile on American Indians and Alaska Natives

Submitted by
Tara Maudrie

Health Sciences

To Honors College
Oakland University

In partial fulfillment of the
Requirement to graduate from
The Honors College

Mentor: Dr. Mozhgon Rajaee
Public and Environmental Wellness Department
Oakland University

April 5, 2019
Health care coverage and unemployment in the Bemidji Area: A profile on American Indians and Alaska Natives

Abstract

Health insurance greatly increases a person’s ability to care for, and prevent many chronic diseases. The lack of health insurance can cause individuals to delay or avoid medical attention which can lead to uncontrolled health conditions such as type 2 diabetes or hypertension which can cause further deterioration of health. Unemployment can also affect an individual’s ability to obtain health insurance as well as lead to other behaviors, such as poor nutrition, that could have negative health consequences. By examining the ACS data regarding employment and health insurance valuable associations between these two variables can be made at the population level. There are very few AI/AN statistics regarding health insurance and employment in the Great Lakes region. These two factors can greatly affect various aspects of physical, mental, and emotional health. The data used was from the American Community Survey (ACS), a supplement to the census, the data specifically used were from 2011-2015. Overall the ACS data showed what was expected, that AI/AN had higher unemployment rates and higher uninsured rates when compared to white Americans. Wisconsin, the only one of the three states that did not expand Medicaid, surprisingly had higher insurance rates than Minnesota. Further exploration of literature showed that both Wisconsin and Minnesota have additional public health programs to provide insurance for up to 200% of the federal poverty level. Although these programs have decreased uninsured rates, large disparities exist between white Americans and AI/AN. Further work needs to be done to eliminate these disparities, possibly minority specific public health insurance programs could be introduced to decrease
these gaps. The Indian Health Service could possibly expand their insurance program to be more widely accepted at general primary care physicians to encourage more AI/AN to enroll. Another possible solution is creating more urban tribal centers that accept IHS insurance.

**Background**

In recent years there have been significant improvements in American Indian/Alaska Native (AI/AN) health but unemployment and lack of health insurance coverage continue to affect the health of AI/AN people across the United States. Those without health insurance are far less likely to receive routine checkups and screenings for many of the leading causes of death, resulting in more frequent advanced stages of diseases than those who receive early screenings (Ayanian, Weissman, & Schneider, 2000). Adults without insurance are more likely to self-report poor health status, and delay or avoid needed medical attention and preventative screening to reduce late stages of cancer, when compared to insured adults (Ayanian, Weissman, & Schneider, 2000). Those who do not have health insurance are more likely to face increased financial burden due to lack of preventive and routine healthcare (Jia et al., 2014).

In recent years there have been many improvements to the overall health of US Americans, yet racial and ethnic minorities still disproportionately experience a higher prevalence of illness and premature death (Matthews et al., 2017). According to the Kaiser Family Foundation (Artiga, Foutz & Damico, 2018), 30% of AI/AN did not have health insurance in 2013 compared to 12% of US white Americans. According to Artiga, Foutz & Damico (2013), people of color were at much higher risk of being uninsured, with Hispanics and AI/AN being at the highest risk of being uninsured (Artiga et al., 2018). According to the National Institute on Minority Health and Health Disparities (NIMHD), in a 2014-2015 study of
43 AI women, 93% had some form of health insurance but only 30% of the sample had private health insurance compared to 67.5% of the general population (Liddell, Burnette, Roh & Lee, 2018). Of the participants in the study, 37% reportedly have both Medicare or Medicaid and Indian Health Services (IHS) insurance, 16% only had IHS insurance, and 9.3% with private insurance supplemented with IHS insurance (Liddell et al., 2018). According to ACS data summarized by the Kaiser Family Foundation, in 2017 in Michigan 19% of US white Americans were covered by Medicaid, while 26% of AI/AN were covered by Medicaid (Kaiser Family Foundation, 2018). During the same time period in Minnesota 14% of US white Americans reported having Medicaid, while 46% of AI/AN reported Medicaid as a source of insurance (Kaiser Family Foundation, 2018). In Wisconsin 13% of US white Americans reported using Medicaid, while 31% of AI/AN reported using Medicaid (Kaiser Family Foundation, 2018).

The Indian Health Service insurance is often used as a supplement because some patients prefer to use their IHS insurance at IHS clinics for a culturally sensitive experience, as many IHS clinics are associated with tribes or urban tribal centers (Zuckerman, Haley, Roubideaux & Lillie-Blanton, 2003). The IHS Insurance has helped to provide insurance coverage for some uninsured American Indians and Alaska Natives but overall insurance coverage gaps are still large when compared to other racial and ethnic groups (Zuckerman, Haley, Roubideaux, & Lillie-Blanton, 2003). These differences in insurance coverage could be due to many factors including employment status.

According to the First Nations Development Institute, 54% of AI/AN live in rural and small town areas, additionally 68% live on or near their tribal lands and reservations (Dewees, & Marks, 2017). The National Institute of Health (NIH) has recognized that rural populations are actually vulnerable populations because of the high prevalence for risk factors for many diseases
Some of these risk factors include: difficulty maintaining normal body weight, not meeting aerobic physical activity recommendations and a lower prevalence of current nonsmoking status (Matthews et al, 2017). Rural counties with a higher unemployment rate and a larger proportion of the population with a high school education or equivalent are less likely to have a Diabetes Self-Management Education (DSME) Program within their county (Long, Hanlon, & Pellegrin, 2018). DSME can help to reduce the burden of chronic disease by helping to prevent diabetes, better controlling early stages of diabetes, and preventing long term complications of diabetes like cardiovascular disease or amputation (Long, Hanlon & Pellegrin, 2018). A county having a DSME program implies that more health resources are available for residents and ultimately could predict better health outcomes (Long, Hanlon & Pellegrin, 2018). DSME programs were not present in 62% of rural counties, while 39% of urban counties did not have a DSME program (Long, Hanlon & Pellegrin, 2018). The association between unemployment and lack of programs for managing chronic health conditions is especially concerning to Native American communities, who have higher rates of many chronic diseases especially type 2 diabetes.

In 2011, American Indians and Alaska Natives (alone or in combination with other races) comprised only 0.8% of the workforce (US Bureau of Labor Statistics [BLS], 2012), but made up about 1.6% of the total population alone or in combination with other races (U.S. Census Bureau, 2011). Minnesota and Michigan are two of fifteen states in 2014 with a American Indian/Alaska Native population of over 100,000 (U.S. Census Bureau, 2015). In the Midwest in the first half of 2007 American Indians and Alaska Natives experienced an unemployment rate of 9.0%, for white Americans it was 4.8% (Current Population Survey basic monthly microdata, various years, 2013). For American Indians and Alaska Natives in the first half of 2013 it was
16.8%, during the same time frame for white Americans in the Midwest the unemployment rate was 7.0% (Current Population Survey basic monthly microdata, various years). Some of the factors that could contribute to the higher unemployment rates are not easily measured. Some contributing factors could include variations in academic achievements and geographical areas in which certain races are more likely to live in (reservations or rural areas for some Native Americans) (Bustos, 2018). According to the National Congress of American Indian, in the seven states with the highest AI/AN populations, less than 50% of Native students graduate high school (National Congress of American Indians, n.d.). In 2015, 16.7% of the rural population was poor compared to 13% of urban population (US News 2017). While there has been job growth in urban areas, growth has been much slower in rural areas, which could mean that there are less employment opportunities for the AI/AN that live in rural areas (US News 2017).

Methodology

Study Area

The Bemidji Area is home to 34 federally recognized tribes, each with their own health care systems and four Urban Indian Health Programs. The traditional people that live in the Bemidji Area include the Ojibwe, Ho-Chunk, Menominee, Mohican, Oneida, Odawa, Potawatomi, and Sioux peoples, but there are many others who did not live here traditionally that were forced to move because of colonization. The Bemidji Area consists of Michigan, Minnesota, and Wisconsin. In addition to these federally recognized tribes, Michigan has four state recognized tribes. The U.S. Census racial enumeration allows participants to self identify their race, so the study population may also include non-federally recognized tribes.

Data Sources
Data was extracted from the U.S. Census Bureau’s American Community Survey (ACS) 5-year estimates for 2011-2015 (US Census Bureau, 2017). We examined health insurance coverage and employment status data from the three Bemidji Area states. The specific data included the B23001 (sex by age by employment status for the population 16 years and older) and B27001 (health insurance coverage status by sex by age 2011-2015) summary tables.

The data were restricted by race and ethnicity criteria. The data was gathered by age groupings as well as sex. The AI/AN code 009 (American Indian and Alaskan Native alone or in combination with one or more other races) was used to limit the search criteria to those who self-identify as American Indian or Alaska Native. We chose to use the AI/AN code that included in combination with other races because 50.7% of AI/AN in the Bemidji Area self-identify as two or more races (US Census Bureau, 2017). In order to avoid representing the same population twice, white alone was used to exclude those who may identify as AI/AN and white, who would have already been included in the AI/AN alone or in combination with one or more other races.

The labor force is defined by the US Census Bureau as all citizens in the labor force (both employed and unemployed) plus members of the armed forces (US Census Bureau, 2017). The labor force participation rate is the proportion of the population that is 16 and over that is in the labor force (US Census Bureau, 2017). The civilian labor force is defined as all non-incarcerated citizens that are both employed or unemployed (US Census Bureau, 2017).

Analysis

The data from the ACS were downloaded and imported into Microsoft Office’s Excel. We created new summary variables on the percentages of those insured and uninsured by age, sex, and overall for each racial subpopulation. The percentage of people employed, unemployed, in the labor force, in the Armed Forces, and the unemployment rate were calculated. Age groups
were combined in employment data to match the age ranges in the health insurance data as closely as possible. A summary of the composite of the three Bemidji Area states was also calculated for female, male, and both sexes for each racial subpopulation.

**Results**

The total population of AIAN comprised an estimated 1.55% of the Bemidji Area population in the 2017 ACS Census (table 1). Females made up an estimated 50.6% of white US Americans and 51.5% of AI/AN in the Bemidji Area. The largest population of AI/AN in the Bemidji Area was in Michigan with an estimated 141,899 AI/AN alone or in combination with other races, while Minnesota had the highest percent of AI/AN (1.79%).

<table>
<thead>
<tr>
<th>Total population by state</th>
<th>AI/AN (%)</th>
<th>US white Americans (%)</th>
<th>Total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan</td>
<td>141,899 (1.42)</td>
<td>7,756,972 (77.86)</td>
<td>9,962,311</td>
</tr>
<tr>
<td>Minnesota</td>
<td>100,123 (1.79)</td>
<td>4,549,148 (81.57)</td>
<td>5,576,606</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>89,388 (1.54)</td>
<td>4,914,802 (84.80)</td>
<td>5,795,483</td>
</tr>
<tr>
<td>Bemidji area total</td>
<td>331,400 (1.55)</td>
<td>17,220,922 (80.72)</td>
<td>21,334,400</td>
</tr>
</tbody>
</table>

Overall, AI/AN had consistently lower insurance rates and higher unemployment rates when compared to US white Americans (table 2). Males also had consistently lower insurance rates when compared to their female counterparts. Table 2 also shows that the health insurance disparity between white Americans and AI/AN is highest for both males and females in Minnesota. For employment, the greatest disparities were seen in Michigan for females and
Minnesota for males. AI/AN females still experienced lower insurance rates when compared to US white Americans but AI/AN female insurance rates were higher than male AI/AN insurance rates.

Table 2. Bemidji and state totals for health insurance and unemployment for AI/AN and US white Americans.

<table>
<thead>
<tr>
<th></th>
<th>Health Insurance</th>
<th>Unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AI/AN</td>
<td>US white American</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michigan</td>
<td>89.7</td>
<td>92.4</td>
</tr>
<tr>
<td>Minnesota</td>
<td>84.9</td>
<td>95.1</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>86.3</td>
<td>94.4</td>
</tr>
<tr>
<td>Bemidji</td>
<td>86.7</td>
<td>93.6</td>
</tr>
</tbody>
</table>

| Male   |        |                   |                         |        |                   |                         |
| Michigan | 85.6  | 90.1              | 4.5                     | 10.3   | 5.0                | 5.3                      |
| Minnesota | 81.1  | 93.1              | 12.0                    | 15.6   | 3.5                | 11.8                     |
| Wisconsin | 81.5  | 92.0              | 10.5                    | 7.9    | 3.4                | 4.5                      |
| Bemidji | 82.5   | 91.4              | 8.9                     | 11.3   | 4.0                | 7.3                      |

As shown in figure 1, AI/AN have significantly lower insurance rates for all age groups when compared to US white Americans. The largest differences in health insurance coverage in the Bemidji Area were between US white Americans and AI/AN is in the 18-24 (15.6%), 25-34
(12.9%) and 45-54 (12.3%) age groups. In general, after ages 18-24 there was a steady increase in insurance rates. Wisconsin deviates from this pattern; insurance coverage decreases after 44 years for Wisconsin AI/AN. After the age of 65, insurance rates were virtually the same for both genders and both races. Michigan has a disparity. Out of the three Bemidji Area states for male insurance, Michigan had the highest AI/AN insurance rates and the lowest rates for US white Americans insurance.

AI/AN experienced lower employment rates than US white Americans. For US white Americans, unemployment rates were similar for both males and females. US white American unemployment rates were lower than AI/AN for all states and both sexes. Minnesota simultaneously had the lowest unemployment rates for AI/AN females and the highest unemployment rate for AI/AN males.

![Figure 1](image)

**Figure 1.** Female (A), male (B) AI/AN and white U.S. Americans uninsured prevalence by state.

The largest percentage difference between US white Americans and AI/AN was males 18-24 years (table 3). Between the three states, Wisconsin had the largest difference between US white Americans and AI/AN 18-24 years at 20.69%.
Table 3. State and Bemidji health insurance rates for AI/AN and US white American male ages 18-24.

<table>
<thead>
<tr>
<th></th>
<th>US White American</th>
<th>AI/AN</th>
<th>White to AI/AN disparity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan</td>
<td>83.7</td>
<td>72.1</td>
<td>11.6</td>
</tr>
<tr>
<td>Minnesota</td>
<td>88.1</td>
<td>70.8</td>
<td>17.3</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>85.8</td>
<td>65.1</td>
<td>20.7</td>
</tr>
<tr>
<td>Bemidji</td>
<td>85.4</td>
<td>69.8</td>
<td>15.6</td>
</tr>
</tbody>
</table>

Figure 2. Unemployment rates for females (A) and males (B) by state and race in the Bemidji area.

Overall for both races and both sexes unemployment was highest in young adults (25-34). For the most part as age increased the unemployment rates decreased. Although unemployment rates remained fairly steady for US white Americans, there were deviations from this pattern in AI/AN. Most notable there was a large spike in unemployment in Michigan AI/AN males ages 45-54.

Discussion
Our research showed that American Indians and Alaska Natives in the Bemidji area had consistently higher unemployment and uninsured rates when compared to their white American counterparts. Health insurance and unemployment can greatly influence a person’s health status and many aspects of their life. Although there have been many improvements to the overall health of U.S. Americans and even the health of minorities, minorities still bear the majority of the burden of disease (Matthews et al., 2017). This burden of disease could be reduced through improved healthcare coverage and thus better access to preventative care (Strong, Mathers, Leeder, & Beaglehole, 2005).

In recent years, there have been changes to our healthcare system that have increased the number of people eligible for Medicaid. The Patient Protection and Affordable Care Act (PPACA or ACA) was aimed at increasing insurance coverage to the uninsured, without changing the previous insurance type (Mark, 2014). The PPACA also required expanded coverage from all plans and issuers for dependent children up to the age of 26 years old (US Department of Labor, n.d.). The PPACA allowed for Medicaid expansion which has great potential to combat the high uninsured rates seen in young adults. Even after full implementation, 30 million people will still be uninsured but the PPACA did make significant steps towards universal health care coverage (Mark, 2014). The impact of these changes are still unclear as to how this will affect the insurance rates of minorities, like AI/AN populations.

The PPACA of 2010 expanded Medicaid eligibility to people who earn up to 138% of the federal poverty level, in states that chose to adopt the expansion (Miller & Wherry, 2017). Medicaid, without the expansion, covers adults up to 100% of the federal poverty line (Kaiser Family Foundation, 2019), which in 2019 is $12,490 for a single person household (U.S. Department of Health and Human Services, n.d.). Minnesota and Michigan implemented
Medicaid expansion in January and April of 2014, respectively (Kaiser Family Foundation, 2019). As of February 2019, Wisconsin had not expanded Medicaid (Kaiser Family Foundation, 2019). In September 2015, health insurance rates had increased in Medicaid expansion states when compared to non-expansion states and rates of Medicaid coverage increased (Miller & Wherry, 2017). Contrary to how Medicaid expansion (or lack thereof) was expected to affect health insurance rates, the ACS data did not show that Wisconsin had higher uninsured rates than the other two Bemidji area states which did have medicaid expansion.

For those states who do not have expanded Medicaid or for people who do not meet the income requirements for Medicaid, there may be other options especially for those with children, who are pregnant or have a disability (Healthcare.gov, n.d.). In 2009, Wisconsin introduced a new public health insurance program called BadgerCare Plus Core Plan. This plan was designed for individuals who have incomes of up to 200% of the federal poverty level ($24,980) without dependent children (DeLeire, Dague, Leininger, Voskuil & Friedsam, 2013). The BadgerCare Plus Core Plan may have been the reason that Wisconsin chose not to expand Medicaid and could also explain why Wisconsin’s health insurance rates are higher than expected when compared to national trends. Programs like Wisconsin’s BadgerCare Plus Core Plan can help to reduce unnecessary hospitalizations through managing chronic diseases, like hypertension, properly through routine care (DeLeire et al., 2013). Similar to Wisconsin’s BadgerCare, Minnesota has a program called MinnesotaCare which covers individuals with income up to 200% of the federal poverty line (Norris, 2018a). MinneostaCare has existed since 1992 but became a much more robust program in 2014 (Norris, 2018a). In April of 2017, it was estimated that 222,900 additional people were enrolled in Medicaid due to the state PPACA expansion in Minnesota (Norris, 2018a). Since the Michigan Medicaid expansion in 2014, an additional
420,220 people were covered by Medicaid (Norris, 2018b). From 2013-2017, there was a 53% reduction in the uninsured rate in Michigan and a 46% reduction in Minnesota (Norris, 2018a; Norris, 2018b). Through the Medicaid expansion, more people have become eligible for healthcare in recent years. However, there were still disparities in regards to health insurance between white Americans and AI/AN in our assessment of ACS data and Medicaid and other expansions may not explain the disparities by state or race.

The overall highest health insurance rate for both sexes of AI/AN was Michigan, followed by Wisconsin and then Minnesota. For white Americans, the highest overall health insurance rate was in Minnesota, followed by Wisconsin and then Michigan. In states with high rates of health insurance for US white Americans, there was lower health insurance rates for AI/AN and vice versa.

Health insurance and unemployment can be intertwined in many ways. For example if someone has a serious health condition but does not have insurance and therefore does not address the health problem initially, their condition could worsen and reduce their ability to function productively in the workplace. Interestingly enough, we saw a direct contradiction to this theory, Michigan had the highest health insurance rates and the highest unemployment for AI/AN in the Bemidji area. Originally we thought that high uninsured rates would predict higher unemployment rates but that was not found to be true in the Bemidji area. Even so being unemployed could still effect various parts of a person’s wellbeing that could lead to poor health status.

Many factors can affect employment status but employment can in turn affect many parts of emotional, social and even physical health. Many employees choose to take insurance through their employers, which one can clearly not do if they are unemployed. Higher rates of
unemployment in certain populations could lead to poor mental and physical health outcomes for those people. Unemployed men have been shown to have reduced mental wellbeing and have greater incidence rates of parasuicide, depression and anxiety (Wilson & Walker, 1993). These particular issues are already extremely common in Native populations and it is possible there could be a causal relationship between increased unemployment rates and reduced mental health status. Meanwhile women are less affected psychologically by unemployment but their families are still at increased risk of physical illness and psychological distress (Wilson & Walker, 1993). Smoking and alcohol consumption are often increased following unemployment which can lead to severe psychological issues as well as physical health problems (Wilson & Walker, 1993). Another study shows that the mortality risk was 63% higher in unemployed individuals when compared to employed individuals, men also had a higher mortality risk than women (Roelfs, Shor, Davidson & Schwartz, 2011). This mortality risk was shown to be most significant during early and middle stages of one’s career and mortality risk was greatly decreased as an individual neared retirement age (Roelfs, Shor, Davidson & Schwartz, 2011). Figure 2 highlights the higher unemployment rates for AI/AN, which could in part explain the higher uninsured rates and possibly even the reduced health status seen in many AI/AN populations.

**Limitations**

This study was limited by the dataset type and the inability to draw causal conclusions. The dataset used, the American Community Survey, was a supplement to the Census and therefore only includes a sample of the general population. For these reasons, certain populations such as AI/AN may be under or over-represented in the ACS Census. We used AI/AN alone or combination with other races while we used white alone for racial grouping, which means that the populations are not entirely mutually exclusive. The benefit in using this method is that over
half of AI/AN in the Bemidji area identify as two or more races, so by using this code we are able to capture a more comprehensive picture of AI/AN populations in the Bemidji area. Another limitation is that because this data was not available at the individual level, it is impossible to determine if the same individuals that were unemployed also were uninsured. The Medicaid expansion occurred in 2014 and because the data used was for the years 2011-2015, the full effects of expansion (in Minnesota and Michigan) may not be shown in the five-year estimate that ended in 2015. Most importantly, a causal relationship cannot be determined between unemployment and health insurance rates. The strengths of this study include that the dataset used is an extremely robust dataset and one of the largest datasets available for public use. Another strength is that these two variables have not been looked at in AI/AN populations in the Bemidji area.

Conclusions

In conclusion, more work needs to be done to improve the health insurance rates and unemployment rates of American Indians and Alaska Natives. The high unemployment and uninsured rates in AI/AN populations in the Great Lakes are predictive of higher risk of overall poorer health status and decreased mental health outcomes (Paul & Moser, 2009). Even states with state-specific health insurance expansion programs there still were significant disparities between white Americans and AI/AN. Further work could be done to improve the health insurance rates possibly through minority specific health insurance enrollment efforts. The disparities between white Americans and AI/AN in regards to employment also need to be addressed although a solution to this problem is exceedingly complex. A long-term solution to these problems could be the creation of more urban tribal centers. Urban tribal centers can help to provide community members with information and resources to obtain health insurance as
well as resources and skills necessary to find employment. In addition, Urban tribal centers can also help to provide preventative care and ultimately reduce the burden of disease for American Indians and Alaska Natives in the Bemidji Area.

Acknowledgements

I am grateful for the support from my mentors, university and the honors college. I am especially grateful to my many mentors who have helped me and inspired me through every stage of this thesis project; I owe this all to you!

I am especially grateful for Dr. Mozhgon Rajaee for being my thesis mentor and for being there through the many ups, downs, twists and turns of this project. I appreciate all of her help, support and guidance throughout this project and her mentorship both in my research career and my future public health career. I truly couldn’t have done this without her, it has been a privilege to work with her and to get to know her.

I also am grateful for Dr. Graeme Harper and the Oakland University Honors College and their support, as well as the support of other Honors College students.

This project was funded in part by the Great Lakes Inter-Tribal Council Native American Research Center for Health Internship.
References


Kaiser Family Foundation (2018). Medicaid coverage rates for the non-elderly by race/ethnicity. Retrieved from https://www.kff.org/medicaid/state-indicator/rate-by-raceethnicity-3/?currentTimeframe=0&selectedDistributions=white--american-indianalaska-native&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D


