Policy and Health (In)Equities among Native Elders

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Abstract

Sociological theory and literature in the study of disparities in health and access to care in old age has, with few exceptions, not considered important political contexts for the aging AI/AN community. Political histories have unique implications for this population, and particularly those in old age. Native Peoples are affected by federal old age and health policies as well as AI/AN specific policies, which creates a unique intersection of inequality for this group. This project engages with three distinct areas of sociological scholarship in this area and works to highlight the strengths and gaps of existing frameworks to work towards more inclusive scholarship for Native Peoples in sociological scholarship. The first article uses a quantitative analysis using secondary data from the National Health Interview survey to explore how helpful sociological frameworks are in explaining health disparities in old age for the AI/AN population. The second article, using the same dataset, engages with Andersen's behavioral model of care utilization and its developments and couples it with important scholarship emerging about policy, AI/AN healthcare organization, and funding. The third article offers a qualitative analysis of reports and policy recommendations from Native organizations focused on increasing well-being for Native elders to further understand how healthcare, old age, and AI/AN specific polices work to create intersections of inequality for this group. This analysis further informs future directions for sociological theory and application to promote a more inclusive field in the sociology of aging and inequality.

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General Audience Abstract

How policy impacts aging American Indian and Alaskan Native (AI/AN) has been largely overlooked in the field of sociology. Through three distinct studies, this dissertation project seeks to connect policy to disparities in health outcomes, issues in access to care, and the provisioning of health resources for this group. Native Peoples, through treaty agreements, have a right to healthcare, which has been poorly fulfilled by the US government. Because of this, Native Tribes and organizations have increasingly relied on other healthcare policies and social welfare programs to meet the needs of AI/AN elders. Policies like Medicare, Medicaid, and the Older Americans Act are all important policies in generating health resources for Native elders, but they also overlap in ways that can also create barriers to health equity. This project, in three articles, explores 1.) how policy-based resources affect health outcomes in old age across racial groups, 2.) how equitable healthcare access for the aging AI/AN population, and 3.) how organizations understand and navigate policy landscapes in order to promote health and well-being for Native elders. These three studies work together to inform theories of aging and health disparities in order to work towards scholarship that is more inclusive of Native Peoples.

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Introduction

      The purpose of this dissertation is to explore the complex health disparities

between aging American Indian and Alaska Native (AI/AN) populations and other racial

groups. It will contextualize these disparities in the unique histories of Native Peoples in

the U.S. and the policies designed to serve them, in relation to both race/ethnicity and

old age. Scholars have documented grave racial disparities in old age, in relation to

access to resources, access to care, and health outcomes (Quadagno, Keene, and

Street 2005, Gee, Waslemann, and Brondolo 2012, Richardson and Brown 2016), and

have linked these to social policy (e.g. Quadagno, Keene, and Street 2005, Poole 2006

Hudson 2015). However, American Indian and Alaska Native elders are largely left out

of that research, often due to a lack of data for this population or are subject to

limitations of small and non-representative sample sizes in datasets if they are included

(Angel, Mudrazia, and Benson 2015). As a result, we lack research on health inequality

in old age among American Indians and Alaska Natives informed by sociological

theories of health and aging – and likewise, sociological theories of health and aging

remain largely uninformed by colonialism and experiences of Native Peoples.

      To remedy this gap, I propose a three-part study that draws this group into the

sociological discussion of race, aging, and health disparities by combining both large,

national-level quantitative data and organization-based qualitative data. The added

perspective of qualitative analysis focusing on three different Native organizations with

missions centering elder health and well-being will inform my analysis of larger patterns

of inequality by gaining perspective into how Native organizations and groups define

health and well-being and work to address disparities in resources for Native elders.

Article 1: Including AI/AN Elders in Sociological Theory and Analyses of Racial Health Disparities in Old Age
Introduction

While much work has been done in the area of racial health disparities for those in old age, Native populations have largely been left out of both theoretical and empirical work in this field (e.g. Collins, Estes, and Bradsher 2001, Angel, Mudrazia, and Benson 2015). Sociological scholarship in this area is often grounded in theoretical frameworks such as Fundamental Cause Theory (e.g. Link and Phelan 1995, Phelan and Link 2015) and Cumulative (dis)Advantage Theory (e.g. Dannefer 2003, George and Ferraro 2015). While both Fundamental Cause and Cumulative (dis)Advantage theories have been useful in understanding how inequality produces unequal health outcomes and do so across the life course, scholars have found variation in how these theories apply to racial disparities beyond Black/white differences (e.g. Ferraro, Kemp, and Williams 2017, Angel 2018, Angel, Mudrazia, and Benson 2015). Health disparities for Native populations are intricately tied to unique colonial histories rooted in trauma and disparities in access to healthcare (Braun and LaCounte 2015, Jones 2006). Although scholarship shows that older Native people experience poorer health outcomes compared to other racial groups (e.g. Braun and LaCounte 2015, Ng et al 2014), sociological scholarship detailing what factors are important in determining health outcomes and what factors are protective has been less explored. This chapter explores how sociological theory and empirical application helps informs AI/AN health disparities in old age, and how we might expand or adapt these frameworks to be more inclusive and relevant for this group.

Literature Review

Theories of Health Disparities in Old Age

Scholars studying health disparities across the life course and into old age have developed the Fundamental Cause Theory (FCT) to illuminate how social and political factors are meaningful for health outcomes across diverse groups. Link and Phelan (1995) originally theorized SES as a fundamental cause of health and illness, and later (2015) theorized racism (and its relationship with SES) as a fundamental cause, outlining mechanisms of inequality including discrimination, residential segregation, and lower access to healthcare, as well as lower quality of healthcare. Ferraro et al (2017) summarize these mechanisms, but notes that although these are some of the main social factors in sociological scholarship discussed in racial health disparities in old age (along with immigration and nativity), these factors predict health in varying ways for different racial groups. For example, immigration status is most salient in scholarship on health disparities among the Hispanic population (see Angel 2018, Brown 2018). This perspective on health disparities in old age leads some scholars to suggest that targeted 'upstream' policy solutions aimed at the root cause of health disparities are more effective rather than those that merely treat the end result (e.g. Herd et al 2011). Though some work supports theories of a stable level of inequality that persists over the life course and into old age (the persistent inequality thesis, e.g. Kelley-Moore and Ferarro 2004), other work in critical gerontology understands inequality as building across the life course, creating heightened disparities in old age.

Cumulative (dis)advantage theory (CAD) understands inequalities among different groups as increasing in later life, as these disparities build up over time. Based in the life-course perspective, CAD's nascent form emerged in the 1960s with Merton's "Matthew Effect," which argued that those who began life in disadvantaged circumstances would become more disadvantaged as they progressed through the life course (Merton 1960, George and Ferraro 2015). CAD was first drawn into critical gerontological work by Dannefer in the 1980s, who argues that early theorizing of this phenomenon considered processes at the cohort, structural, and institutional levels, offering a framework to understand personal and population aging (Dannefer 2003:327). Dannefer further argues that the CAD framework provides tools for exploring trajectories of income and health inequality, though he notes that this work is still developing (333). While this theory has helped us to understand how racial inequality impacts health in later life, it has also been critiqued for leaving old age as a unique political context out of its application. That is, we should also appreciate that inequality exists between younger adulthood and those in old age, while other inequalities grow over lifetimes of unequal access to resources and life chances (Quesnel-Valle et al 2015).

Angel, Mudrazia, and Benson (2015) note that while many scholars use Cumulative (dis)Advantage as the most popular framework used in work for considering racial differences in health disparities, they often leave out some racial groups, in that much of this work focuses on disparities between white and Black health outcomes. The consideration of other groups, such as the Hispanic population, is increasingly important. The demographic changes and unique health disparities for this group (Angel

2018) make their examination critical, but the inclusion has theoretical implications as well. For instance, among the Hispanic population, different hypotheses emerge to explain patterns of health in old age that seem to contradict theories like cumulative (dis)advantage, such as 'the Hispanic paradox,' which refers to the finding of greater longevity among the Hispanic population than among non-Hispanic whites. Although scholars often attribute this outcome to selective migration, Brown (2018) and Angel (2018) both argue that these protective benefits dissipate over time, due to acculturation, and are concomitant with negative health behaviors associated with American lifestyles for non-white immigrants.

Broadly, scholars have proposed that factors that best predict health in old age include SES and early life experiences, sometimes measured through parental SES or education (Ferarro 2002, Grundy and Sloggett 2002, Nazroo 2017). Gender also predicts health, with scholars finding that sex differences in health persist after controlling for SES and other factors (Rogers et al 2010). Case and Paxton (2005) summarize the gender paradox for health: "women use more health services and report worse self-rated health than men, but women are less likely to die than same-aged men throughout life, indicating that they may, in fact, be healthier" (190). Richardson and Brown (2016) also found that increased risk for hypertension among non-white women was multiplicative, due to the intersection of race and gender, and was also largely unexplained by the predictors in their modeling, including SES and behavioral variables. Further, these effects did not change with age, suggesting some support for the persistent inequality approach.

In one of the few examinations looking across multiple racial and nativity groups, Brown (2018) examined the premature aging/weathering[1] hypothesis, finding support for the Cumulative (dis)Advantage framework. This hypothesis states that stress accumulates over the life course, leading to premature onset of chronic health conditions associated with age as a result of higher allostatic loads (Ferraro, Kemp, and Williams 2017:3). Brown's (2018) study revealed that all other groups experienced morbidity earlier than that of US-Born whites. This finding was stronger for US-born Black and Hispanic groups, but was still present for foreign-born Blacks and Hispanics, making visible the variation for within-group differences based on political and cultural differences: "Altogether, results reveal that the heterogeneous life course patterning of health inequalities at the intersection of race/ethnicity, nativity, and age are not fully captured by any one of the life course hypotheses on intra-cohort inequality dynamics, although cumulative disadvantage processes are dominant" (1531). Theorizing how such complex patterns in health disparities may operate for the aging AI/AN population will require that we carefully consider other groups (such as whites, non-white Hispanics, and Blacks) to gain a more complete and inclusive understanding of how inequality creates different issues for health equity among various groups.

As with the expansion of FCT to include political contexts that inform how health disparities are shaped by racial histories (Phelan and Link 2015), scholars have also given attention to how policy works to ameliorate health disparities in unequal ways.

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[1] The Weathering Hypothesis was originally theorized by Geronimus (1992) as explaining the accumulation of stress over the life course, leading to poor birth outcomes for Black women, and later expanded (Geronimus et al 2006, Geronimus 2013) to include other adverse health outcomes and premature onset of chronic health conditions associated with age, attributed to higher allostatic loads (Ferraro et al 2017:3).

Ferraro et al (2017) summarize many arguments for the consideration of heterogeneity in patterns of health inequality across the life course, including examples that show patterns of cumulative disadvantage that level off in old age rather than persist, and do so as a result of the ameliorating effects of increased access to such resources as Social Security and Medicare. From this, they argue that a life-course perspective, consideration of race-based experiences of inequality, and environmental contexts ought to be examined if we are to understand how health inequalities accumulate differently for various racial groups. These processes, they argue, are not likely to follow similar patterns across racial groups. For example, the weathering hypothesis, which has found much support for explaining Black-white health disparities, has received only inconsistent support when applied to Mexican Americans. Likewise, in their study of racial health disparities, Brown, O'Rand, and Adkins (2012) found support for all three hypotheses-- persistent inequality, cumulative disadvantage, as well as age-as-a-leveler-- in their comparisons of health trajectories of Black, white, and Mexican American elders, and that some of these findings may be explained by Medicare and Social Security. Overall, different social factors emerge as more or less predictive of health in later life between different racial groups. While many disparities in health across racial groups are attributed to socioeconomic status, this does not fully explain racial health disparities (Phelan and Link 2015, Williams 2002).

Health insurance coverage benefits racial groups differentially. Although it is not found to be fully mediated by SES for some groups (Blacks, whites), it remained a significant (albeit small) predictor of overall self-rated health for Spanish-speaking

Hispanics (Sudano and Baker 2006). Given that healthcare expenses are "a gnawing source of economic insecurity for families" (Quadagno 2010:126), and given that scholars argue that one way to alleviate racial health disparities in old age is to decrease the amount of cost-sharing Medicare beneficiaries pay (Eichner and Vladec 2005), we might expect to see greater health equity for AI/ANs with Indian Health Service (IHS) access, and especially for those in old age with access to both IHS and Medicare.

Further, research finds racial disparities in access to and provision of healthcare even among Medicare beneficiaries. Despite nearly universal health coverage for older adults, non-white beneficiaries continue to see poorer health outcomes related to poorer quality of care (Herd et al. 2010: 13. See also Schneider, Zaslavsky, and Epstein 2012). Out-of-pocket costs are important; Medicare beneficiaries spend an estimated 20 percent of their income on medical expenses, and those with the fewest resources tend to have the highest out-of-pocket costs (Herd et al 2010). As a result, Medicare policy places greater financial strain on those demographic groups who are more likely to enter old age in poorer health and with fewer financial resources (Cubanski and Boccuti 2015). Thus, in spite of increased coverage, barriers still exist among members of some groups. For instance, Blacks are less satisfied with Medicare prescription coverage than other groups (Taira et al 2017), and Hispanics are less likely to be able to afford Medigap coverage, and often rely on dual-eligibility for Medicaid in addition to Medicare (Angel 2015).

Recent developments to the Fundamental Cause theoretical framework may be most helpful in understanding health disparities in old age for AI/AN populations. For example, Subica and Link (2022) engage and extend this framework by establishing cultural trauma as a fundamental cause of health disparities. They discuss cultural modes of being, social institutions (including political and health systems), and access to cultural lands as resources important for populations with traumatic histories that shape flexible resources and health outcomes. Subica and Link (2022) frame these flexible resources as important health resources that expand Phelan and Link's (2015) list of things such as money, prestige, power, knowledge, and social connections to include cultural resources: cultural modes, institutions, and lands – and the policies that structure them. Further, even though they don't use the FCT framework explicitly, legal scholar Hoss (2019) makes similar arguments about the importance of AI/AN policy for understanding health disparities for this group and offers important support for this framing of cultural trauma as a fundamental cause of health disparities with their discussion of Federal Indian Law (including its unique healthcare policies) as structural violence and an important structural determinant of health for Native communities. Taken together, Subica and Link (2022) and Hoss (2019) outline how structural violence and cultural trauma work as a fundamental cause of health and illness, partially through how they shape institutions in ways that shape flexible resources – including health systems, which is the focus of this study.

American Indian/Alaska Native Health Disparities in Old Age

Given their widespread use, cumulative advantage and fundamental cause theories of health disparities in old age have scarcely been applied to American Indian/Alaska Native (AI/AN) populations. This omission is particularly curious given that this community's unique policy history and ongoing inequality have implications for health in later life. To date, scholars have explained poor health in the Native population in terms of unique colonial histories that have resulted in trauma and cut off access to care, among other effects (Braun and LaCounte 2015, Walls and Whitbeck 2012, Jones 2006). Additional research on the well-being of Native elders in particular, including both their mental and physical health, consists largely of reservation-based studies that focus on protective factors within communities that value their aged members which find that older AI/AN adults report higher levels social and emotional support than their younger counterparts, and that higher levels of support were associated with higher levels of measures for mental and physical well-being (Conte, Schure, and Goins 2015). Considering the cultural value of caring for elders - which is an established protective factor for Hispanic populations as well (e.g. Angel 2018), one might assume that the health status in old age of Native people would be better than that of Black Americans and other non-Hispanic marginalized racial groups. In comparison to older white populations, research has shown that older Native people experience poorer health outcomes, similar to those found among old Black people (Ng et al 2014).

The Indian Health Service (IHS) is a program run by the federal government, as mandated by treaty agreement that guarantees healthcare as a right for Native Peoples

in exchange for colonizing their ancestral lands. Because the federal government is obligated to provide healthcare for the AI/AN population (but not for other racial groups) and because Medicare is nearly universal in its coverage of Americans 65 and over, one might also assume that old AI/AN peoples have increased health-care resources, given their access both to Indian Health Service (IHS) facilities based on their status as AI/AN, and to Medicare coverage based on their age However, the IHS has been chronically underfunded and poorly staffed since its inception – often working to further disadvantage Native communities and uphold the colonial relationship (Jones 2006). As such, many Native elders (96%) list Medicare as a source of healthcare coverage – for which nearly all US citizens are eligible at age 65 (Boccuti, Swoope, and Artiga 2014). The entanglement of these programs also creates complex systems for Native people to navigate and may not always increase access to health care (Warne and Frizzell 2014). As a result of these racialized structures, Native people face long wait times to access healthcare, express low satisfaction with healthcare due to mistrust of government-employed medical personnel, and experience issues in finding transportation to access medical care, particularly in rural settings (Trout, Kramer, and Fischer 2018, Martino et al 2020, Sommerfeld et al 2019).

Scholars focusing on aging Native populations in particular also point out unique considerations for Native elders' health status, including migration to reservations in later life; increased levels of homelessness, particularly in urban settings; reluctance to seek healthcare due to lack of access and healthcare literacy on the part of both the patient and provider; as well as barriers faced by the broader Native population,

including funding shortfalls in the Native healthcare system; and mistrust of western medical personnel (Yuan et al 2014, Smyer and Stenvig 2007, Willging et al 2018, Skinner 2016, Broken Promises Report 2018, Brown et al 2000).

While analyses show worse health outcomes in old age for Native groups than for whites (Ng et al 2014), this research did not include a comparison to Black and Hispanic groups, with which Native populations share some characteristics. For example, this population may share comparable experiences of racism and historical trauma with the Black community. Likewise, they may experience selective migration and cultural protection (e.g., cherishing elders) comparable to those of Hispanics. However, because that protection dissipates for Hispanic people over time (Brown 2018, Angel 2018), one might wonder whether these factors offer any protection at all to Native elders, and in either case, how health outcomes may differ or share similarities among these groups.

Examining these four groups together can help us understand not only how the health of Native elders might differ from that of other groups, but also how the relationship between policy and health outcomes in old age can vary among these groups. This comparison is important and interesting in and of itself in that it includes a largely overlooked marginalized population in a larger discussion of health inequality in old age, but also allows for the potential that some policies may offer benefits to some groups and not to others. As Brown (2018) notes, despite unique patterns across race and nativity groups, CAD processes explain much of the variation; but to date, AI/AN peoples have not been included in these patterns. Ferraro, et al. (2017) also highlight

the differences in racial health disparities in old age due to the fact that different cultural and environmental factors are more salient for different racial groups, and that old age policy has differential ameliorative effects for various groups as well (see also Brown, O'Rand, and Adkins 2013).

Colonial policies have created barriers to health equity for Native Peoples throughout US history, and new barriers continue to emerge with the evolving policy landscape (Braun and LaCounte 2015, Jones 2006, Yuan et al 2014, Smyer and Stenvig 2007, Willging et al 2018, Skinner 2016, Broken Promises Report 2018, Brown et al 2000). Looking at differences between racial groups, including AI/AN people, might offer a clearer picture of processes through which inequalities emerge for different groups, in terms of access to resources. For example, Native Peoples may not see the same benefits of old age policies that other groups do, due to administrative and geographical barriers to Medicare benefits (Brown et al 2000). Their greater engagement with subsistence living and reliance on mixed economies (Kuokkanen 2011) can diminish or preclude Social Security benefits altogether. Indeed, data show that AI/AN peoples are less likely than other racial groups to receive Social Security benefits; and, among those who do, benefit amounts are lower than those of the total older population (Smith-Kaprosky, Martin, and Whitman 2012). So, while Medicare and Social Security may account for some leveling out of health disparities in old age for some groups, they may be less likely to benefit Native elders specifically because these policies were not written in such a way that accounts for the unique disadvantages

Native communities face as a result of a long-standing colonial policy history with the

US.

Research Questions

This study will include structural factors established as important predictors of health in old age (SES, public assistance), and healthcare coverage because of the AI/AN population's unique eligibility for different kinds of healthcare and other public assistance programs. While some research includes education as a measure of SES, this study will use Income as the main indicator for SES due to its importance for accessing care. While Social Security is an important financial resource in old age as it contributes to income, it is not included in the models as a variable. Instead, I include income as the variable of interest as it is a flexible resource for accessing health resources (see Link and Phelan 2015). While access to medical care is only one of the factors shown to be important for racial disparities in health in old age (along with discrimination, immigration, and segregation – see Ferarro 2002), this project will focus on healthcare coverage and access to care through the Indian Health Service. Because of the resources afforded to AI/AN peoples (based on federal recognition of rights afforded to those with tribal membership) via Indian Health Service and its potential to overlap with Medicare, examining healthcare access offers an opportunity to understand how healthcare access provided on the basis of AI/AN status and on the basis of old age might work together to predict health outcomes. This project will use age 55 as the cut-off point for old age. Categorizing old age as 55+ in this project serves two purposes. First, this is a common approach in research with aging Native populations, due to tribal stakeholders establishing this threshold, steeper declines in health and shorter life expectancies compared to other groups, and this is also the age at which

tribal members often become eligible for senior programs (e.g. Conte, Schure and Goins 2014, Schure, Conte, and Goins 2015). Second, increasing this cut-off to age 65+ severely limits the sample size for Native people within this dataset. While this project will include factors that have been shown to be meaningful in regard to healthcare for Native populations such as satisfaction with care, transportation delays, and doctors appointment delays (Trout, Kramer, and Fischer 2018, Martino et al 2020, Sommerfeld et al 2019), other factors often included in examining racial health disparities in old age (e.g. segregation, immigration, and discrimination) operate through complex pathways due to the highly heterogeneous effects of AI/AN policies over the last century. However, variables that can indicate these factors in a meaningful way are not available in the dataset used for this project.

To understand racial health disparities between these groups, I ask: to what extent do older (55+) AI/AN, Black, and Hispanic people experience different health outcomes (measured by both self-rated health and physical limitations) relative to the non-Hispanic white, population? Next, I ask, to what extent are structural factors important to the health of older AI/AN people compared to non-Hispanic whites, Blacks, and Hispanics? And finally, are factors associated with structures of racism for Native populations significant in predicting health outcomes for older AI/AN populations? To address these questions, specifically I ask:

1. How do health outcomes for those AI/AN, Black, and Hispanic populations under 55 and over 55 differ from white populations?

2. Do the structural factors discussed in the literature (SES, healthcare coverage, and public assistance) that predict disparities in self-rated health in later life differ across racial groups?

    a) Are factors associated with structures of racism for Native populations (transportation delays, satisfaction with care, and delays in making doctor's appointments) significant for health outcomes for older Native populations compared to other racial groups?

3. Is having IHS coverage significant for health outcomes for older Native people, and does it intersect with Medicare coverage to predict better health outcomes?

Data and Methods

I will address these questions using data from the 2014 - 2018 National Health

Interview Survey (NHIS). The NHIS began in 1957, and is cross-sectional data collected

via face-to-face interviews focused on various health topics. Because of the cost of

face-to-face interview data collection, the sampling method used for this dataset relies

on geographically clustered sampling, using census data to ensure a nationally

representative sample (NCHS, National Health Interview Survey 2018). This dataset is

compiled and managed by the CDC and has increased AI/AN sample sizes in recent

years, growing from 670 in 2005 to 1,115 in 2014. Still, because I will be analyzing data

just for those who are over 55, I will employ an aggregate of 5 years of data to ensure a

sufficient sample size. My designation of using 55 as the cut-off for old age is informed

previous research (Conte, Schure, and Goins 2014, Schure, Conte, and Goins 2015),

and, due to limitations in the data, analysis of only the 65+ age group would be limited

due to limiting sample sizes. There were high levels of missing values among all groups

for the variables included as measures for structural racism (satisfaction with care,

transportation delays, and doctor's appointment delays), but these missing data

disproportionally impacted the sample size for the AI/AN group. Due to the nature of the

missingness because certain segments of the survey were not asked for some groups,

using imputation was not an appropriate method to use. As such, these cases were

excluded from the analysis. After cleaning the data, I have a total sample size of

114,699 respondents, which includes 1,007 AI/AN respondents, 363 of whom are over

age 55. For white respondents, the total sample size is 83,243 (41,178 over 55); for

Black respondents the total sample size is 14,656 (61,173 over 55); and for non-white

Hispanic respondents the total sample size is 15,793 (4,692 over 55)[2] Individual weights

were used, dividing by the numbers of sampling years (5) to adjust for the NHIS

sampling design in accordance with the NHIS documentation (NCHS, National Health

Interview Survey, 2018). My first dependent variable, self-rated health, is categorized

into responses of very poor, fair or poor, good, and excellent and will be reverse coded

so that higher values indicate poorer levels of self-rated health. My second dependent

variable, physical limitations, is a binary variable with 1 coded as having physical

limitations and 0 as having no physical limitations.

To answer the question about differences in health outcomes in old age of

American Indians and Alaska Natives compared to those of white, Black, and Hispanic

groups, I ran an logistic regression model for self-rated health and physical limitations;

race, income, age, and gender were the independent variables. Then, to explore how

these variables might influence health differently in later life, I split the models by age

group, with one set of models for the under 55 age group, and one set for the 55+ age

group.

The next step considers whether these predictors are more salient for some

groups. Exploring how AI/AN peoples might experience health based on these

important factors is a necessary step in painting a clearer picture of how health

disparities emerge in later life differently between groups. Thus, to determine if social

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[2] Both Asian and multi-race respondents were excluded from this analysis, as they are not within the scope of this project as there are more commonalities in how policy might drive health disparities for Black, Hispanic, and AI/AN groups.

factors proposed in the literature predict disparities in self-rated health in old age among

all racial groups, I ran multivariate ordered logistic regressions for the 55+ group only,

split by race. In the first model, I included common predictors of health, including

income, gender, age, and private health insurance coverage. Income is reported by

annual salary bracketed in 5 categories: 0-34,999, 35,000- 49,999, 50,000 – 74,999,

75,000 – 99,999, and 100,000 and over. Gender is a dummy variable, with female

coded as 1 and male coded as 0. Age is a continuous variable. Private health insurance

is a dichotomous variable, with respondents reporting private health coverage as 1 and

those without as 0. Then, in the second model, I added variables measuring benefits

stemming from health and old age policies: Medicaid, IHS access, and Medicare. Each

of these variables are dichotomous, with those receiving benefits for each of these

programs coded as 1 and those not receiving benefits as 0. Also added in the second

model are variables representing common issues established for AI/AN healthcare

access which are included as measures of *structures of racism*. These variables include

issues in finding transportation for medical care; delays in scheduling doctor's

appointments; and satisfaction with healthcare. Each of these variables are

dichotomous. These models will allow for comparisons of odds ratios for these social

factors between racial groups, which will allow a broader understanding of how

structural factors differentially impact various groups. Finally, I ran a post-estimation

analysis to compare odds ratios across racial groups using the seemingly unrelated

estimation command *suest* to test each set of independent variables to compare the

difference between odds ratios for the AI/AN population and the other racial groups

(StataCorp 2021).

Results

The age for respondents in the dataset ranged from 18-85, with 46% of people being over the age of 55. 73%% of the sample population was white, 13% was Black, 14% was Hispanic, and only 1% of the sample population represented the AI/AN population. The sample was 57% female. 37% of respondents made less than $35,000 a year, 12% made between $35,000 and $49,999, 17% made $50,000 to $74,999 and 12% made $75,000 to $99,999 while 22% made over $100,000. Most respondents reported either excellent health (25%), very good health (33%), or good health (27%) while only 15% reported fair or poor health. As well, 79% percent of respondents reported no physical limitations. 65% reported private health insurance coverage, while 13% reported having Medicaid, and 30% reported having Medicare. Only 2.5% reported delays in accessing healthcare due to transportation issues, 7% reported difficulty in getting appointments, and 5.6% reported dissatisfaction with care [See unweighted descriptive statistics in Appendix A, Table 1].

Descriptive statistics for the AI/AN population reveal demographic differences, as well as disparities in health, healthcare access, and experiences of systemic racism. First, the AI/AN population was on average younger, with the mean age being 47, and only 36% of respondents being over the age of 55. The sample was still 57% female. More AI/AN respondents reported lower incomes, with 58% reporting income of less than $35,000 per year, and only 9% and 10% reporting $75,000-99,999 and greater than $100,000 respectively. As well, AI/AN respondents more frequently reported fair or poor health (24%) and functional limitations (30%). AI/AN respondents were less likely

to report private health insurance and more likely to have Medicaid or Medicare, and

IHS coverage was the most frequently reported source of healthcare coverage. Only

35% reported private insurance coverage, 24% reported Medicaid coverage, 23%

reported Medicare coverage, and, unique to this group, 45% reported IHS coverage.

AI/AN respondents were also more likely to report delays in care due to transportation

issues (6%), difficulty scheduling appointments (10%) and dissatisfaction with

healthcare (9%) [Appendix A, Table 2].

Research Question 1

        In looking at how AI/AN self-rated health compared to white, Black, and Hispanic

groups, I found that all age groups were significantly more likely to report a poorer

health status compared to whites, with AI/AN having the largest difference, being 68%

more likely to report poorer health than whites. Black and Hispanic respondents were

38% and 28% more likely to report poorer health than whites, respectively. These

effects were smaller for the under 55 age group when the models were split, but

remained significant, with AI/AN (58%), Blacks (8%), and Hispanics (7%) all being more

likely to report poorer health than whites [see Appendix A, Table 3]. For those aged 55

and over, the odds of all non-white groups reporting poorer health became more similar,

again with all groups reporting poorer health than whites aged 55 and over. However,

while the AI/AN group was 53% more likely to report poorer health – lower than the

under 55 group, the effects for Black (78%) and Hispanic (66%) both increased. It

seems then, that there is less variation in health status by age among the AI/AN

population as compared to other racial group, though the likelihood to report poorer

health compared to whites overall was higher for AI/ANs than other non-white groups. This might suggest that although CAD might apply more other groups, the persistent inequality thesis is more applicable for this group, as the disparity in health outcomes remains similar across age groups [See Appendix A, Table 3]. This can only be assessed through longitudinal analysis, however.

The pseudo r-squared values for the self-rated health models were somewhat low, but increased with the models using functional limitations, indicating that the variables employed were better predictors of this outcome. This analysis yielded similar, but more robust, results. Among the total population, AI/AN peoples proved to be 45% more likely to have physical limitations as compared to whites [Appendix A, Table 3]. When these models were split by age, the relationship was not significant among those under 55 [Appendix A, Table 3], but was significant for those over 55 [Appendix A, Table 3]. Although this might be a result of a cohort or period effect, it also suggests a need for future analyses assessing CAD, as disparities emerge in later life. Where AI/AN elders were 56% more likely to have functional limitations than whites, Black elders were 19% more likely to report functional limitations than whites, and Hispanics were 18% less likely to report functional limitations than whites (consistent with the Hispanic Paradox) [Appendix A, Table 3].

Research Question 2

In comparing some of the structural factors established in the literature that predict disparities in self-rated health in later life, I found that many factors that are predictive of health outcomes for other groups are not significant for the AI/AN

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population. Income was a protective factor in predicting health in old age for white,

Black, and Hispanic groups, with higher levels of income predicting better health

outcomes across the board, both in models with self-rated health and functional

limitations outcomes [Appendix A, Tables 4]. This relationship was not significant for the

AI/AN group, except for the highest income category ($100,000 and over) which was

strongly predictive of better health outcomes, both for self-rated health and functional

limitations [Appendix A, Table 5]. This indicates that low to moderate income increases

were not enough to offer any protective benefits on health outcomes for AI/AN elders.

This could indicate that other social determinants of health might be stronger for the

AI/AN population, and that higher levels of protective resources are needed to balance

out the negative effects of these factors.

Similarly, having private health insurance was predictive of better health across

both outcome measures for all groups [Appendix A, Tables 4], again except for the

AI/AN group, for whom private insurance predicted better health outcomes only before

adding in measures of structural racism, which include factors that are established to be

important variables in healthcare access for AI/AN populations based on the racialized

organization of healthcare. Once variables for transportation issues, delays in receiving

care, satisfaction with care were added, private insurance lost significance in predicting

functional limitations, indicating that the mediating effect of structural racism cancels out

the protective benefit of private health coverage. For the models using self-rated health

as the outcome, private insurance remained predictive at the $p<0.1$ level with the

structural barriers to care variables added, but was mediated out by access to IHS

facilities, indicating that private healthcare coverage does not offer an additional protective benefit among those who receive care at IHS facilities [Appendix A, Table 5]. Being a Medicaid and/or Medicare beneficiary was associated with poorer health outcomes across all groups and for both outcome variables. Given that Medicaid is a means-tested program, predicting worse health may illustrate the persistent effect of poverty on health status. While Medicare is associated with poorer health outcomes for all groups across both outcome measures in these models, it is likely due to lowering the age threshold to 55 as the analysis includes those not yet eligible for Medicare. In previous models, Medicare was not a significant predictor for any racial group. Thus, while significant in predicting poorer health outcomes for both measures across racial groups, this is largely an effect of increased chronological age influence declining health status [Appendix A, Tables 5].

Although the differences between groups are interesting, only a few of these relationships indicate significant differences between racial groups. In conducting a post-estimation test to compare the odds ratios for each variable in the AI/AN models to other racial groups, the difference in income between whites ($p>0.1$), Blacks ($p>0.05$), and Hispanics ($p>0.1$) was significantly different only at the second to lowest income category ($35,000-$49,999). This indicates that the lowest increase in income from the reference category ($0-34,999), associated with better health outcomes for all non-AI/AN groups, but *not* AI/AN groups. So, while an increase in income at the lowest levels are important for all other groups, there is an important factor related to the AI/AN group's experience that income does not buffer [Appendix A, Table 5].

As well, Medicaid had a unique and important impact on this group. Medicaid had significantly stronger effect for the AI/AN group, with Medicaid associated with a higher likelihood of functional limitations as compared to both Black and Hispanic groups [Appendix A, Table 5]. This might be explained by geographic contexts, as those living in extremely rural areas may experience greater difficulties in maintaining continuity Medicaid coverage and have fewer options for care due to a scarcity in providers (Henley and Boshier 2016). However, given that there is limited literature on AI/AN health, there may be additional factors that matter beyond what is available in this dataset. Future research should control for rurality to see how this relationship might be explained, but also consider what other unmeasured factors might explain differences in health outcomes for this group.

Research Question 3

For the AI/AN group only, I also ran a series of models to explore the relationship between IHS access, health outcomes, and measures for structures of racism (delays in care due to transportation issues, delays in getting a doctor's appointment, and satisfaction with care) [Appendix A, Table 5]. For the first set of models using functional limitations as an outcome, having IHS access was protective, with respondents with IHS access being significantly ($p > 0.05$) less likely to report functional limitations. This relationship remained significant after controlling for Medicaid, Medicare, private insurance, as well as the barrier variables that were included to measure structures of racism. Not only did the relationship remain significant across all models, but the effect became larger as more variables were added to the model. An interaction term for IHS

access and Medicare was not significant, indicating that these policies do not combine in such a way as to enhance health outcomes in old age.

Although having IHS access was an important variable in predicting functional limitations, IHS access was not significant in predicting self-rated health in old age. The racialized barriers to care variables, while offering some mediating effects on other variables in the model, also were largely not significant in predicting health outcomes for this group. This may be due partly to the fragmented nature of the measures due to the availability of variables in the existing dataset and may also fail to capture the more nuanced nature of how the barriers operate, as they are often associated only with extreme rurality. Adding geographic variables in future analyses as well as avoiding so much missing data may add more insight into the importance of these variables and how they may contribute to health disparities in later life for this group.

Overall, these analyses reveal that established factors in predicting health outcomes in later life don't hold the same predictive power for the aging AI/AN group, and that there is room for expanding analyses of health disparities in old age to create more inclusive frameworks of health and aging, particularly in terms of health care access and resources.

Discussion

This study's findings offer some additional ways to think about theories of health disparities in old age. The analyses across racial groups show support for Fundamental Cause Theory (Link and Phelan 1995, Phelan and Link 2015), but with consideration for factors unique to the AI/AN population. Link and Phelan's empirical work was embedded in the history of residential segregation and other policies for the Black population to show how structures of racism shape socioeconomic status which in turn determines flexible resources that affect health outcomes. However, the relationship between SES and health outcomes for the AI/AN population differs significantly for the AI/AN population in comparison to the other racial groups due to their unique political status as members of sovereign tribal nations. What remains salient for this group, however, is that racism is a fundamental cause for health status and disease for the AI/AN population based on what we know about the history of the racialized organization of healthcare (Warne and Frizzel 2014, Smyer and Stenvig 2007, Willging 2018, Sommerfeld et al 2021). This is particularly illuminated in the context of Subica and Link's (2022) most recent expansion of Fundamental Cause Theory, which argues that the cultural trauma experienced by this group affects cultural institutions like healthcare systems. As such, cultural trauma causes the racialized organization of Native healthcare, both because of increased psychological stressors as well as decreased resource availability at the institutional level, leading to unequal health outcomes (Subica and Link 2022). This is apparent in the analysis in that said flexible resources in terms of health systems, measured here by various healthcare coverages

(Medicaid, Medicare, IHS access, and private health insurance coverage) do not consistently yield better health outcomes.

A departure from Phelan and Link's (1995) original framework emerges in these analyses in that flexible resources yield less benefit for the AI/AN group as compared to others. This is particularly notable at both ends of the income range, where we see only the highest levels of income associated with better health outcomes, and the lowest income increase showing significantly higher association with better health outcomes for all groups *except* the AI/AN group. Having private insurance (a flexible resources associated with higher SES), while significant in early models, is not associated with better health outcomes once measures for issues associated with the racialized nature of healthcare organization for Native communities are added into the model. This suggests support for Subica and Phelan's (2022) approach, wherein cultural trauma shapes institutions (such as healthcare) for marginalized groups, which in turn influences the effect of flexible resources on health outcomes. This approach is more inclusive of factors that are emerging in the literature as important for health and well-being for Native peoples, including both social causes for poor health rooted in cultural trauma (e.g. Walls and Whitbeck 2012) and in terms of flexible resources available through institutions shaped by federal policy for specific groups (e.g. Hoss 2019). Specifically, this approach creates space for previously unrecognized flexible resources that come from three kinds of cultural resources – cultural modes of being (e.g. Burnette, Clark, and Rodning 2018), land (e.g. Norgaard 2019), and institutions – including healthcare systems and policies (see also Hoss 2019, Skinner 2016). Overall,

this points to the importance of all policies, historic and contemporary, that generate

cultural trauma for Native Peoples and their capacity to cause health disparities *and*

damage resources that are important for ameliorating health disparities.

Healthcare access and shortcomings in the federal government's funding and

organization of IHS systems is an important factor for AI/AN health outcomes (e.g.

Warne and Frizzell 2014). In this analysis, I included measures for common barriers to

healthcare access for Native communities: transportation, delays in getting doctor's

appointments, and satisfaction with healthcare. These measures were intended to

capture some facets of the unique constriction of resources at the institutional level as

described by Subica and Link (2022). Including these measures showed that those who

have difficulty with finding transportation to obtain medical care were much more likely

to have physical limitations, and those who experienced delays in scheduling doctor's

appointments were more than twice as likely to report poorer self-reported health. Even

though not all these measures were significant in predicting health outcomes for Native

elders, their inclusion in the models rendered other variables measuring flexible

resources (private insurance) insignificant in their association with physical limitations.

This finding is unique to this group and indicates particular barriers to good health that

may be unmeasured aspects of this group's experiences. Further, the factors that we

focus on expanding to ameliorate health disparities do not sufficiently explain disparities

in health outcomes for AI/AN elders compared to other groups. This analysis

demonstrates that there are more factors that might be critically important for the AI/AN

population that have been largely overlooked in sociological scholarship in racial health

disparities in old age. Further, this analysis suggests that factors that are beneficial for

health outcomes for other groups are less protective for Native elders. This finding

points us to consider factors that shape and damage resources as well as social

determinants of health for this group. Important future considerations for health might

include cultural modes of being and sovereignty over Native land, as these are

important cultural resources for health, and the loss or damaging of these resources is

linked to poorer health for Native Peoples (Subica and Link 2022, Burnette, Clark, and

Rodning 2018, Norgaard 2019). However, measures for these factors are largely not

included in larger datasets, and this combined with already smaller sample sizes and

missing data for constructs that do measure some aspects of access to care barriers

further represents the need to further edify these important factors as structural

determinants of health in order to promote more inclusive data collection and

availability. Ways forward might include broad qualitative research that considers these

cultural resources and their relationship to both healthcare resources and health

outcomes.

Limitations

My research encountered many issues in navigating the analysis for this project.

First, small sample sizes for AI/AN populations (particularly for those in later life) are

notoriously common in the social sciences (e.g. Collins, Estes, and Bradsher 2001,

Angel, Mudrazia, and Benson 2015). Indeed, many scholars have pointed to the low

numbers of AI/AN peoples in national-level datasets as grounds for excluding the group

from analyses altogether (Angel, Mudrazia, and Benson 2015, Willging et al 2018),

although such a move promotes the continued erasure of Native Peoples from society and diminishes our sociological understanding of health and well-being, healthcare access, and aging among both Native and non-Native respondents. This project was no exception to this issue of sample size, and this should be borne in mind when interpreting some of my results. This is particularly true for the barrier to care variables included in the AI/AN models (transportation issues, delay in scheduling appointments, and satisfaction with care), where there were high levels of missing values across all groups, though because of extant underrepresentation in the sample, this presented challenges for the generating models for the AI/AN group in particular. One strategy used in this analysis for was using the age 55 as the threshold for old age, partially due to this being the standard threshold for this population but also partially due to the severe reduction in observations in using the 65+ threshold. Even with this lower threshold, standard errors for the Medicaid and Medicare variables remain slightly inflated, and while we can reasonably interpret these variables as important in predicting health outcomes in later life, the odds ratios may be overestimating the degree to which Medicaid and Medicare are associated with physical limitations and self-rated health in old age for this group.

Another limitation that emerged in using the 55+ age threshold for these models is that there is greater variation in the Medicare variable than would be using the 65+ threshold. In previous models using the 65+ threshold, Medicare was largely insignificant in its relationship to physical limitations and self-rated health for all groups, where using the 55+ threshold we see a strong association of Medicare with poorer self-

rated health and physical limitations across all groups. Thus, it is reasonable to believe

that some of my results concerning Medicare are an artifact of those eligible being

decade older and therefore experiencing poorer health.

Finally, the availability of measures that represent constructs that are important for

the AI/AN group are limited in national level health datasets, and as such support for the

theoretical frameworks emerging in this area is difficulty to model. Thus, the inferential

leaps between measuring delays in doctor's office visits and transportation issues to

cultural and institutional resources may rely too heavily on the small constructs in the

qualitative literature in this field. As such, the quantitative analyses in this project are

best understood with a strong appreciation for the qualitative work emerging in this field.

Conclusion

In all, this analysis shows that health disparities for the aging AI/AN population are stark in comparison to other groups and that existing frameworks of health disparities in old age have room to expand to be more inclusive of Native Peoples. Beyond finding that the AI/AN population has a greater risk of reporting physical limitations and poorer self-rated health in later life, this analysis shows that the social determinants of health and racism as a fundamental cause of health and disease operate in similar but also different ways for this group because of how cultural trauma has shaped healthcare and access to resources in old age. As such this project supports the recent theoretical developments to Fundamental Cause Theory (Subica and Link 2022), showing that racism and cultural trauma are fundamental causes of health and disease in more complex ways than the connection between race and SES.

While this analysis is focused on illuminating how structures of racism shape health disparities for aging Native populations, which dovetails with the framework FCT offers, it is important to consider how both Persistent Inequality and Cumulative (dis)Advantage frameworks may also offer important understanding for how health disparities persist or accumulate over time. One difficulty with applying these frameworks to analyses for Native populations is the need to aggregate years of data to reach sufficient sample sizes for analysis, thereby making longitudinal analysis largely unviable. However, some results from this analysis highlight future opportunities to delve into how health disparities change across the life course. For example, while AI/AN respondents under age 55 were nearly 60% more likely to report poorer self-rated health than white

respondents, they were not significantly more likely to report functional limitations, as compared to the over 55 age group, where respondents were 46% more likely to report functional limitations compared to their white counterparts. As data sources continue to improve in representing the AI/AN population, more doors open to expand existing frameworks to be more inclusive of unique factors that are important to this group.

Further analysis in this area also ought to consider more robust measures for how structures of racism shape health outcomes for this group and include cultural resources beyond healthcare outlined by Subica and Link (2022), such as modes of being, access to cultural lands, and other institutions beyond healthcare. While there is some qualitative work in each of these areas (e.g. Brzuzy et al 2000, Burnette, Clark, and Rodning 2018, Norgaard 2019), data availability in quantitative datasets to measure such constructs remains lacking. Future work in this field ought not only rely on secondary data analysis but should also studies designed to capture more robust measures that better include issues specific to aging Native populations in analyses of racial health disparities in old age.

Article 2: Disparities in Access to Care for AI/AN Elders: Conceptual Frameworks and Policy-Based Resources and Barriers

Introduction

The percentage of the AI/AN population that is 65 and older increased dramatically in recent years – a 40.5% increase between 2000 and 2010, significantly outpacing the growth of older people in other racial groups (Bylander 2018). This rapid increase warrants added attention given several known health disparities that contribute to higher mortality rates across multiple chronic conditions across the life course compared to the general population. Health disparities among this population are attributed to a range of social factors rooted in historical trauma, which refers to the violent colonization processes that continue to affect each new generation of Native Peoples through ongoing racism and political and economic disadvantages (Braun and LeCounte 2015). These racialized disadvantages have also resulted in access-to-care issues that further impede the pursuit of good health for Native communities (Braun and LaCounte 2015, Walls and Whitbeck 2012, Jones 2006, Goins and Pilkerton 2010, Sotero 2006). Prominent barriers to healthcare in Native communities include transportation issues, long wait times for accessing care, and poor satisfaction with care received (Moss 2010, Martino et al. 2020). Native elders face unique obstacles to healthcare access and utilization; Martino and colleagues (2020) show that AI/AN Medicare beneficiaries are likely to experience more significant barriers in accessing needed and timely care than Black and non-AI/AN Hispanic beneficiaries.

Literature Review

Given its importance to overall health and mortality, access to care is critical.

Scholars have often employed Andersen's behavioral model of medical care utilization

(Andersen and Newman 1973) to examine access to care issues. This model posits that

realized access to care (that is, the actual use of appropriate medical care) is

determined by predisposing characteristics (demographic characteristics, such as age

and race), enabling factors (availability and mobilization of resources such as family

support and health insurance), and need-based factors (perceived or measured need

for medical care). Andersen and Newman's (1973) original model has evolved over the

last few decades to consider healthcare policy and organization, environmental factors,

and sociopolitical elements (Andersen 1995). While this model tends to focus on

individual characteristics like age and race as they pertain to healthcare utilization

(Andersen, Davidson, and Baumeister 2014), some have found this framework helpful

in looking at contextual factors in accessing healthcare – which includes, for example,

the demographic composition of a community that may predispose its members to have

differential resources and need for care. Contextual factors that enable healthcare

access in this model include healthcare policy, healthcare financing, and healthcare

organization (Andersen, Davidson, and Baumeister 2014). Andersen (1995) outlines

essential concepts for this model and what they might mean for analysis by defining

enabling resources as *potential access*, **realized access** as the *actual use of health*

services, **equitable access** as *realized access driven by need and predisposing*

(demographic) characteristics, and **inequitable access** as *driven by social structure,*

health beliefs, and enabling resources. That is, inequitable access is defined by social

structures and access to resources, which are determined by inequality.

In exploring racial/ethnic and gender disparities in health care utilization,

researchers have looked at economic enabling factors, and how these disparate

resources had different effects on care utilization by race and gender (e.g., Dunlop et al

2002). Scholars have also worked to expand this framework to appreciate how

enabling, predisposing, and need-based characteristics are interrelated (Bradley et al.

2002). This expanded framework has been helpful for some in discussing cultural and

behavioral differences and racial/ethnic variation in the utilization of care (e.g., Travers

et al 2020). But ultimately, Andersen's modified model that incorporates structural

components of healthcare and Bradley et al.'s (2002) expanded framework remain

rooted at the individual level in relation to predisposing characteristics.

Some gerontologists have challenged this model for oversimplifying the

relationship between age and healthcare utilization without full consideration for the

relationship between age and different kinds of care. For example, little consideration

was given to access to and use of informal care (as distinct from formal care) later in life

(Wolinsky and Johnson 1991) or to the increased need for care with advanced age that

complicates the relationship between predisposing and need-based characteristics

(Porter 2000). Scholars who have used this model have observed that measures of

need characteristics predict health services utilization differently by Black elders,

showing that this group is more "constrained by and sensitive to the need

characteristic," as need-based variables (such as ADL limitations) were more predictive

of healthcare utilization for Black elders than for white elders (Wolisnky and Johnson 1991: S355).

Scholars have found that race and gender are important factors in predicting care utilization as measured by physician visits and hospital admissions (e.g., Bowen and Gonzalez 2008, Green and Pope 1999, Springer and Mouzon 2011, Dunlop et al. 2002). Research examining physician visits and hospital admissions in old age has found that while need drives hospital and physician office utilization for all racial groups, non-white elders utilizing care (both hospital and physician visits) are more likely to have more functional limitations and more mobility limitations (Bowen and Gonzales 2008). Interestingly, hospital care utilization is primarily driven by need-based factors, while race and enabling factors (including economic factors) are not significant predictors of hospitalization (Dunlop et al. 2002). This research shows that while demographic characteristics drive hospital use in ways that may seem equitable based on Andersen's (1995) model, non-white elders are likely to report greater needs, which might signal greater delays in accessing care. As well, this indicates that looking at physician visits is a better measure for understanding equity in healthcare access, as hospital care requires need factors to be extensive (that is, people need to be sick enough to seek care and for physicians to admit them) to access care regardless of whether they have the resources to pay for it. Dunlop (2002) also found that Medicare was an essential resource for alleviating health disparities, as racial disparities in care utilization only emerged for services not covered by Medicare. Thus, the issue appears

not to be race as a demographic variable, but race-based unequal access to costly services.

Reflecting on gender and care utilization, scholars have established that women report higher levels of need and higher utilization of healthcare services when all types of care are looked at together, net of economic resources. Importantly, gender also becomes more predictive of healthcare utilization with age (e.g., Green and Pope 1999). In considering care utilization differences, Dunlop et al. (2002) found that gender differences appear in healthcare utilization when separated into different types of care utilization, such as physician visits or hospitalizations, with women being more likely than men to visit physicians but less likely to use hospital-based services. They further found that race and gender together (but not separately) are essential in predicting physician visits, with non-white men (Black and Hispanic) being the least likely to visit a physician, indicating that gender differences in care utilization may vary by race. Chronic conditions also have a significant positive effect on physician visits (Dunlop et al. 2002). Health policies and organization matter such that the combination of Medicaid and Medicare coverage is associated with increased physician visits, while being in the lowest income bracket decreased the likelihood of seeing a physician at all. Racial and gender differences in dental services not covered by Medicare suggest that Medicare is an important factor for non-white and female elders accessing medical care (Dunlop et al. 2002).

Despite the criticism that Anderson's model treats some structural determinants of health as an individual or demographic characteristic rather than a structure of

inequality, race remains an immutable and fixed demographic variable in the model, rather than one that is systematically structured into factors that might influence health care utilization (Ford and Airhihenbuwa 2009). Indeed, one of the main goals of Anderson's model is to parse out what factors are mutable and, therefore an avenue for ameliorating health resource inequity – which Andersen (1995) argues ought to be focused on enabling factors, not race and gender.

Using critical race theory to critique the use of race as a demographic or risk factor rather than "a marker of risk for racism-related exposure," Ford and Airhihenbuwa (2009: S33) reimagine Andersen's framework to include instead race as a structural context that allows for examining patterns of opportunities and constraints for healthcare utilization. They suggest limiting the sample in the model to one group and then including racism variables – such as segregation or other racialized environmental contexts and experiences of discrimination to appreciate race as a social construct and therefore focus on racialized experiences rather than individual behaviors. Important structural factors for Latino elders utilizing care include how immigration law discourages care utilization due to the perceived risks of being denied permanent residence or citizenship (Wallace and Villa 2003). Racial segregation is an important factor for both Latino and Black elders in terms of leading to an increased need for care and a decreased likelihood of having regular and reliable access to care due to the organization of healthcare services (National Academies for Sciences 2018). These factors might be expected to be similar but unique for Native populations, and the

racialized structure and organization of healthcare for AI/AN people points to important

ways in which gender and race might shape healthcare utilization for Native elders.

The factors included in these models may be related to the aging AI/AN

population in unique ways because of how race relations have structured this

population's position within the US. This project then, will consider race as a structure of

inequality that shapes the resources available to and used by AI/AN older adults.

Resources include traditional healthcare services alongside myriad other racialized

policies and social organizations that might influence healthcare access and utilization

for this group. I discuss these resources at length below.

Health Policy, Financing, and Health Care Organization for AI/AN Elders

Suppose we understand health disparities across the life course and in old age

as a product of policies developed in systems underpinned by both racist and ageist

ideologies (Poole 2006, Estes 2001, Walker 2005, Estes and Phillipson 2002, Estes and

Wallace 2010, Calasanti 2010). In that case, we can also understand that racial groups

experience health inequality differently. Despite this strong connection, little attention

has been paid to the AI/AN experience of health disparities in old age (Angel, Mudrazia,

and Benson 2015) – a clear example of the intersection of race and age. Both policy

history for this group in particular, as well as healthcare policy, public policy, and old

age policy in the US in general, create a unique situation for the aging AI/AN population.

The complex particularities of this historical and social context may represent one

reason for this lack of attention in the literature. To address this gap, I present AI/AN

policy and health care policy concerning healthcare access and then discuss specific

implications for healthcare access for this group in old age.

The contemporary organization of healthcare for Native Peoples is rooted in a

colonial history surrounding health, illness, and healthcare that is intricately woven into

the relationship between AI/AN peoples and the US government (Jones 2006). The

characteristics of healthcare services systems specifically designed for Native Peoples

result from various policies throughout US history. The Indian Health System, often

misunderstood as a health insurance program, is a collection of programs commonly

referred to as the I/T/U, standing for Indian Health Service, Tribal Health, and Urban

Health. The Indian Health Service is a group of 170 direct health care services facilities

managed by 12 regional offices serving 2.56 million AI/AN people (IHS Fact Sheet

2020). Most services provided at IHS facilities are limited, and the majority are primary

and outpatient services, as they are often not equipped or funded for critical or long-

term care programs. While IHS facilities can contract out more specialized care, this is

also poorly funded, limiting their capacity to provide care: "One hears of 'life or limb'

requirements for contracted out services…one hears that to get paid care you had

better get sick by June" (Moss 2010:71).

The Indian Health System is funded annually by congressional appropriation, and

because of a public law (93-638) passed in 1975 as part of the Indian Self-

Determination and Education Assistance Act (ISDEAA) (Warne and Frizzell 2014), 60%

of those appropriations are managed by Tribes or Alaska Native Corporations (IHS Fact

Sheet 2020). Tribally operated healthcare facilities[3] allow each tribe to receive IHS

funds to manage its own healthcare operations, though the IHS is the payor of last

resort[4]. The organization of what are called 638 facilities also allows for tribally run

clinics to bill and collect 3rd party revenue from private insurance plans. The passage of

the Indian Health Care Improvement Act (IHCIA) in 1976 allowed for billing Medicaid

and Medicare services, which has led to a significant increase in resources and helped

expand facilities for some Native groups (Warne and Frizzell 2014). Still, operating 638

facilities offers benefits for some Native groups but not others. This is in part due to

regional differences in how care is funded and organized but also based on the

inconsistent organization and delivery of federally managed IHS programs. For

example, tribes in rural areas without resources and personnel to operate a clinic likely

will not see the same benefit as those closer to larger populations where they may find

an easier time recruiting medical personnel to staff their facilities (Skinner 2016:52).

Thus, rural groups are less likely to participate in or benefit from these policies (Moss

2010, Skinner 2016).

At the same time, urban areas can also lack health care resources for Native

people. According to the most recent census data (2010), 71% of Native people now

reside in urban areas, due in large measure to Relocation Era policies like The Indian

Relocation Act of 1956 (National Council of Urban Indian Health n.d.). But while most

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[3] Tribally operated healthcare facilities with IHS funding are commonly known as 638 facilities, as the contracts are guaranteed under public law 93-638

[4] Payor of last resort means that all other insurances, public or private, are billed to cover healthcare services first, and the IHS is only billed only after these resources have been exhausted or to cover co-pay or cost-sharing balances.

Native people now live in urban areas, the organization and funding of Native healthcare has not kept up with this demographic shift. Although urban health programs for Native Peoples were established in 1976 and have been expanded since the 1990s, only 34% of urban-dwelling Natives have access to Urban Indian Health Centers (Castor et al 2006). Further, these programs are funded only at 22% of their need (Moss 2010), and only 1% of IHS funding is delegated to providing care for the non-reservation dwelling urban AI/AN population while 99% is allocated to IHS facilities that are reservation-based. As such, while all IHS systems are underfunded, urban facilities are particularly overlooked in the allocation of funding from the federal government. Because of the chronic underfunding of IHS facilities, Native groups have been encouraged to enroll in more stable entitlement programs like Medicaid and Medicare in order to fill these gaps. However, these programs are only likely to benefit some groups[5] such as those closer to urban areas with participating Medicaid or Medicare providers (Skinner 2016). Because of these issues, healthcare coverage and access for Native people comes from many sources and may not always lead to increased utilization of care.

In both rural and urban settings, gaining access to IHS services may prove to be a complicated process. This is due not only due to its complex interface with Medicaid and Medicare programs; access to IHS care is also determined by tribal membership (defined in various ways depending on the tribe) and federal recognition of the tribe.

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[5] While these programs may extend coverage to some AI/AN people and provide increased resources/decrease financial strain for IHS and other Native health centers, these remove the treaty-based trust responsibility for the provision of Native health care from the US government, and some Native people oppose participating in these systems for fear that it will result in less funding for the IHS (Skinner 2016).

Further, in some areas, requirements for beneficiaries to reside within a geographical

service area sometimes restricts access even to those with recognized tribal

membership. This system is complicated for patients to navigate, and healthcare

providers not working in the IHS service often misunderstand the system and its

complex overlap with other programs and reimbursement schemes (including those for

Medicaid and Medicare coverage), creating increased barriers to accessing care

(Smyer and Stenvig 2007, Willging et al 2018). According to a UCLA Center for Health

Policy Research and the Kaiser Foundation report, only one in five Native people have

IHS access and among those who do, one in three has private insurance through their

employer, and one in five has Medicaid coverage (Brown et al 2000[6]), and Most Native

people over the age of 65 have Medicare (Boccuti, Swoope, and Artiga 2014).

In relation to health inequalities in old age, Medicare and Medicaid could play a

significant role in ameliorating disparities in access to care. These policies are important

for older Americans' ability to maintain health and economic security in old age. While

Medicare provides access to health care to the vast majority of Americans aged 65+,

out-of-pocket co-payments are still out of range for those with lower incomes. Recent

data show that most Native people 65+ have Medicare; nearly a quarter also list access

to IHS Facilities, and another quarter also list Medicaid as a source of coverage. 28

percent of Native elders, however, list Medicare as their only healthcare coverage,

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[6] These data are 20 years old, but no updated report has yet come out. Descriptive statistics for AI/AN healthcare coverage will be included in the analysis for this chapter to provide updated numbers for access to IHS, employer-based and private health insurance, and Medicaid coverage.

leaving them responsible for all out-of-pocket cost-sharing unless they also have access

to an I/T/U (Boccuti, Swoope, and Artiga 2014).

Medicaid can cover these co-payments for those poor enough to be eligible.

Even so out-of-pocket healthcare expenditures for the those with income 125% of the

federal poverty line or below (categorized as poor or near-poor) reached 19% of

household income in 2017 (Federal Interagency Forum on Age Related Statistics 2020).

As a result, middle-class and especially lower-income retirees retain gaps in coverage

and increased risks for incurring significant out of pocket costs (Moon 2015).   Further,

while some (roughly 1 in 5) low-income Medicare beneficiaries also qualify for Medicaid

(Moon 2015), actual coverage is dependent upon state level policies – which has

particular implications for the AI/AN population (Henley and Boshier 2016).

The organization of Medicaid programs creates unique barriers to accessing care

based on the way tribes are organized and rurally located. Specifically, the Navajo

Nation has shown that because Medicaid expansion programs were funded differently

by state, the resources included in the expansion gives Navajo tribal members different

resources and access to care, given that their territory is not contained by state lines.

Thus, some tribal members living on the reservation may be eligible for Medicaid, but

members living just over state borders are not (Henley and Boshier 2016). Similar

concerns have been brought forth by the Eastern Shoshone and Northern Arapahoe

tribes, as their reservations extend into Wyoming, which has not expanded Medicaid

(Skinner 2016). In terms of Medicaid and its efficacy for AI/AN population specifically,

one 2015 study of Centers for Medicare and Medicaid Services data found poorer

health outcomes in home healthcare service areas with larger AI/AN populations (Towne, Probst, Mitchell, and Chen 2015), and another found that functional disability was quite prevalent among Native elders while they were also likely to experience an unfulfilled need for care (Schure, Conte, and Goins 2015:924).

While Medicare offers universal coverage for those aged 65+, utilization and quality of care do not necessarily follow suit. Dunlop, Manheim, Song, and Chang (2002) found race and gender differences in Medicare utilization that were not explained by economic access among Black, white, and Hispanic groups. For example, they found that Black men were less likely to have regular physician contact, women and all racial minorities were less likely to use outpatient surgery services, racial minorities and non-Hispanic white women had fewer hospital admissions, and women and Black men reported greater use of home health services. Their findings suggest that race and gender might present particular obstacles (whether based on healthcare coverage, discrimination or bias among providers, or cultural practices and beliefs) to health care utilization and care among older adults, which is particularly important in considering the aging AI/AN population.

Martino et al.'s (2020) recent study found that AI/AN Medicare beneficiaries were likely to have more barriers to accessing care compared to non-Hispanic whites, and poorer satisfaction with care upon gaining access. Further, these disparities were 3-6 times larger than comparisons of Black and Hispanic beneficiaries to non-Hispanic whites, and these effects were even larger for Alaska Natives (Martino et al 2020). Sommerfeld et al (2019) also found that among Native elders and stakeholders in the

southwest, organizational barriers both in terms of health insurance and healthcare facilities are among the most important factors impacting the health of Native elders. Ultimately, these scholars suggest further exploration into the organization of Native health services and geographic factors to explain disparities in accessing care.

Race, Class, and Health Care Utilization

Additional policies for AI/AN peoples have implications for healthcare access and utilization through a variety of mechanisms and policies, including the lasting effects of forced relocation and boarding schools, and loss of culture, language, and familial networks (Moss 2010). One such consequential policy is The Indian Relocation Act of 1956, which forced many Native people from their communities to urban areas to work low-paying and seasonal jobs and led to higher numbers of Native people residing where they could not access resources and networks available to tribal members living on reservations. Scholars have also conducted intergenerational analyses that show lasting negative effects on mental health and family ties specifically resulting from the relocation policies of the 1950s (Walls and Whitbeck 2012).

The increase of casino operations on reservations as a result of the 1988 Indian Gaming Regulatory Act has increased job opportunities and expanded social services programs and services for some AI/AN groups (Davis et al 2016). However, poverty rates for Native people are double those of non-Hispanic whites in both urban and rural locales "net of all occupational, labor market, and gaming measures," and Native women (with or without children) experience even higher rates of poverty than do Native men (Davis et al 2016:23). Native women also experience inequalities embedded in

public policies beyond those that were written specifically for the AI/AN population. For instance, social welfare policies tied to paid labor markets combine with AI/AN policies to further disadvantage Native people, which disproportionally impacts poor Native women. AI/AN women were uniquely impacted by the restrictions implemented by the Personal Responsibility and Work Opportunity Act (PROWA) of 1996, which set work requirements and time limits for the distribution of resources through Temporary Assistance for Needy Families (TANF). While there is a special consideration in the PROWA legislation for Native Peoples living on reservations with unemployment rates of greater than 50% that exempts recipients from TANF time limits, work requirements remain. This mandate means that those Native women receiving benefits must be actively seeking employment or participating in a job training program. While some tribes have job training programs that meet this requirement, others do not. Further, participation in indigenous economies via apprenticeships that teach indigenous skills do not meet the federal criteria for maintaining benefits, as these operate outside of the formal economy (Brzuzy et al 2000). Thus, Native Peoples, especially women, face pressures to pursue labor market opportunities in order to increase economic stability, but also face losses of geographically-bound tribal based resources – which might include access to health resources like IHS facilities.

Pressures to move from Native communities to urban areas may increase eligibility for social services and access to employment but may also lead to loss of culturally protective benefits attendant to remaining in their communities. Researchers have demonstrated explicit ties between traditional indigenous subsistence living and

health outcomes. For example, Norgaard (2019) found that declines in subsistence living was significantly correlated with poorer health outcomes for Native People in northern California, with rates of diabetes and heart disease emerging after losing access to traditional fishing, hunting, and gathering practices. Having access to subsistence practices has also been shown to buffer the effects of poverty, revitalize cultural practices, and foster intergenerational learning and teaching of Indigenous knowledges leading to increased cultural identity, pride, and subjective well-being (Burnette, Clark, and Rodning 2018). So while subsistence living works to buffer economic marginalization and promote resilience on one front (Burnette et al 2018), it also creates additional barriers or precludes some Native people – particularly Native women, who face increased pressure to leave such communities in order to engage in the wage economy from having access to benefits of paid labor market participation on the other (Kuokkanen 2011), including social welfare programs (Brzuzy et al 2000), wages, employer-based insurance, retirement benefits (Kuokkanen 2011) and retirement income through Social Security benefits (Smith-Kaprosky 2012, Murphy and Huggins 2015). As such, the racialized gender and economic systems unique to this group create differential experiences with and access to enabling resources, especially in consideration of the urbanization of Native People without Native resources – particularly Native health services – following at the same rate.

Research Questions

Previous literature establishes three important factors for health care utilization in later life: perceived need for healthcare, available resources that can be mobilized to attain medical care, and "predisposing factors," such as race, age, and gender (Anderson 1995). Andersen (1995) defines equitable healthcare access as driven only by need and predisposing characteristics, while inequitable access will be characterized by enabling resources and social structure predicting healthcare use. Available resources are contextualized by how healthcare is organized, either through policy changes and/or changes in how healthcare is financed (e.g. Andersen 1995, Andersen Davidson and Baumeister 2014, Wolinsky and Johnson 1991). In order to analyze how race works as a structural context rather than a personal predisposition to shape healthcare utilization, Ford and Airhihenbuwa (2009) suggest narrowing analysis to one group and including measures for structures of racism. The present study builds on this suggestion by including measures for barriers associated with the racialized organization of healthcare for Native Peoples (such as transportation availability, wait times for receiving care, and satisfaction with care).

This research is critical as Native populations are more likely to experience a greater need for healthcare due to higher occurrences of chronic conditions and higher rates of comorbidities than national averages (Braun and LaCounte 2015, Goins and Pilkerton 2010). Native populations are also more likely to have fewer financial resources than non-Hispanic whites across urban, rural, reservation, and non-reservation contexts (e.g. Davis et al 2016). Further, policies unique to this population

have made healthcare more difficult to access in spite of the IHS. Indeed, scholars have found that the organization and underfunding of the IHS itself is associated with long wait times; large service areas result in lengthy travel time and transportation barriers, poor quality of care, and few treatment options for specialized or chronic care (Moss 2010). Previous scholarship has found these factors to be important specifically for the aging AI/AN population (e.g. Martino et al 2020, Sommerfeld et al 2019). These studies focus on AI/AN elders only, and point to policy-based resources, like Medicare, as mechanisms for impeding equitable access to care due to increased administrative barriers resulting from competing insurance and reimbursement structures. They suggest that barriers to care not only remain in place for aging populations, but may also be heightened, though these analyses did not include younger populations as a comparison. Multiple policies have led to the urbanization of many AI/AN people, and while some urban areas have some IHS funded healthcare facilities to meet this need, they are limited both in number and in resources, and the majority of urban Natives do not have access to them (Castor et al 2006). As such, both urban and rural Native likely experience barriers to healthcare utilization. So, although need factors explained much of the racial variation in care utilization in previous research on racial disparities in care utilization in old age, structural factors particular to this group (such as the organization of AI/AN healthcare systems and the urbanization that has limited Native people's access to AI/AN healthcare systems) might remain important even in the face of heightened need factors. The extent to which these relationships hold have yet to be explored. Further, the ways that gender might influence these relationships differently

for Native men and women have not been examined. Thus, my study asks the following research questions.

Research Question 1: Previous research has found that need is a driving factor for racial differences in care utilization, with racial and ethnic minority groups having greater need. Given data on AI/AN health in old age, we could expect that need will also be a strong predictor of health care use for Native elders. At the same time, economic resources and access to care are particularly constrained for AI/AN populations. To what extent, then, does need still predict care utilization for Native elders, net of enabling resources such as income and insurance coverage? Are there additional barriers to care for this group, as suggested by the critiques leveled at IHS healthcare organization and funding?

Based on the literature, I would expect that need remains an important factor in predicting care utilization for this group, but also anticipate that healthcare policy-based enabling resources, such as Medicare coverage and IHS access, are important in predicting care use. However, given how Medicare and IHS systems work together, I do not anticipate that an interaction term for these two resources will result in higher levels of realized healthcare access. Further, I anticipate the measures for structural racism to emerge as barriers to healthcare use (delays in accessing physician care, transportation delays, and satisfaction with care) and will decrease realized access to care for this group.

Research Question 2: The literature on gender and healthcare utilization shows that women will visit the doctor more frequently than will men but will be hospitalized less

often. Based on the literature review in relation to AI/AN populations, gender, policy, and economic resources, we can expect that gender will matter for both urbanicity and resources, as gendered policies that might lead to women's urbanization could increase enabling resources on one front (via increased geographical access to care, increased economic resources) and remove them on the other (less access to Native healthcare services). Thus, I ask, does gender still predict healthcare utilization for the AI/AN population such that AI/AN women are still more frequent users than are men in old age? Are there gender differences in how need and enabling factors predict barriers and utilization of care? Do Native women experience different barriers to care than Native men?

Based on the literature, I would expect for women to report greater healthcare utilization, less IHS coverage, and more Medicaid coverage, but also anticipate that women are more enabled by economic resources and more constrained by the racialized barriers to care.

Data and Methods

I address these questions using data from the 2014 – 2018 National Health

Interview Survey. This dataset is compiled and managed by the CDC and has increased

AI/AN sample sizes in recent years, growing from 670 in 2005 to 1,115 in 2014. Still,

because I will be analyzing data just for those who are over 55, I will employ an

aggregate of 5 years of data in order to ensure sufficient sample size. My designation of

using 55 as the cut-off for old age is informed previous research (Conte, Schure, and

Goins 2014, Schure, Conte, and Goins 2015), and, due to limitations in the data,

analysis of only the 65+ age group would be limited due to limiting sample sizes. There

were high levels of missing values among all groups for the variables included as

measures for structural racism (satisfaction with care, transportation delays, and

doctor's appointment delays), but these missing data disproportionally impacted the

sample size for the AI/AN group. Due to the nature of the missingness because certain

segments of the survey were not asked for some groups, using imputation was not an

appropriate method to use. As such, these cases were excluded from analysis. After

cleaning the data and narrowing the sample size to include only AI/AN respondents, I

have a total sample size of 1,007 AI/AN respondents, 363 of whom are over age 55.

Individual weights were used, dividing by the numbers of sampling years (5) to adjust

for the NHIS sampling design in accordance with the NHIS documentation (NCHS,

National Health Interview Survey, 2018). My dependent variable, number of doctor's

office visits in the past year, is coded as an ordinal variable, with the categories being 0-

1 visits, 2-3 visits, 4-7 visits, and 8 or more visits. This variable was recoded from the

original 9 category variable to decrease the number of categories that originally included no visits, 1 visit, 2-3 visits, 4-5 visits, 6-7 visits, 8-9 visits, 10-12 visits, 13-15 visits, and 16 or more visits.

To answer the first research question about how need predicts care for AI/AN groups when considering enabling resources and barriers to accessing care that are important for AI/AN populations, I first ran a series of 9 ordered logistic regressions. In the first model I included an age variable with two categories as a conservative measure for age: over 55 and under 55, income as a categorical variable with 5 categories: 0-34,999, 35,000- 49,999, 50,000 – 74,999, 75,000 – 99,999, and 100,000 and over. The lowest income bracket was designated as the reference category. Gender was as a dummy variable with female coded as 1 and male coded as 0. Self-rated health was included as a measure for healthcare need, and was categorized into responses of very poor, fair or poor, good, and excellent. This variable was recoded to combine the fair and poor categories, and reverse coded so that higher values indicate poorer levels of self-rated health. Then, in the second model, I added variables measuring enabling health resources based in healthcare policy: Medicaid, IHS access, and Medicare. Each of these variables are dichotomous, with those receiving benefits for each of these programs coded as 1 and those not receiving benefits as 0. In the third model, I added private health insurance coverage. In the next models (4-9), I began adding measures for structures of racism: delays in scheduling appointments, delays in care due to transportation, and dissatisfaction with care. I also created interaction terms for the categorical age variable (with the under 55 group designated as the reference category)

by each of the measures for structural racism to assess how the barriers might have a unique impact for those over age 55. While these barriers likely impact the many within the Native community, adding an interaction term for categorical age will tell us whether the effect of these barriers depends on being in the over 55 age group. In this case, a significant interaction term would indicate the extent to which the barrier impacts care utilization depends on whether someone is over 55. If the interaction term is not significant, this does not indicate that those over 55 do not experience these barriers, but that they experience them similarly to their younger counterparts. Thus, I added in a structural racism variable independently, and also as an interaction term for categorical age with under 55 as the reference category: model 4 added transportation delays, model 5 added delay in appointments, model 6 added satisfaction with care, model 7 added transportation delays by old age, model 8 added an interaction term for appointment delays by old age, and model 9 added an interaction term for satisfaction with care by old age. To answer my second question, I repeated all of the modeling for the first question, split by gender. I ran each of the 9 models again for AI/AN men and women separately to assess the gender differences in what drives healthcare access for AI/AN elders.

Results

The average age for this sample was 47.28, ranging from 18-85. 36% were over

the age of 55; more than half (57%) of this sample were women. Most respondents

reported an income of less than $35,000 per year (58%), 12% reporting $35,000-

49,999, 12% reporting $50,000-74,999, and only 9% and 10% reporting $75,000-99,999

and greater than $100,000 respectively. Given that most AI/AN respondents fall in the

lowest category (and there were no finer gradations of income data available for this

category), this was used as the reference category against all other categories were

compared. In terms of health, 24% of respondents reported that theirs was fair or poor,

while 36% reported good health, 22% reported very good health, and 18% said their

health was excellent. Looking at health care coverage, 35% reported having private

health insurance, 24% reported having Medicaid coverage, and 23% reported Medicare

coverage; 45% reported having IHS coverage. 26% reported visiting the doctor's office

0-1 times in the past year, 29% reported 2-3 visits, 24% reported 4-7 visits, while 21%

reported 8 or more visits. Relatively small percentages of AI/AN respondents reported

delays in care due to transportation issues (6%), difficulty scheduling appointments

(10%) and dissatisfaction with healthcare (9%) [See unweighted descriptive statistics for

all AI/AN respondents in Appendix B, Table 1].

Gender differences were observed in the sample in the descriptive statistics.

Female respondents were overall younger (average age of 46 compared to an average

49 for men) and in better health, with only 22% reporting fair or poor health (compared

to 26% for men), 21% reporting excellent health, 24% reporting very good health, and

33% reporting good health (compared to 15%, 20%, and 38% respectively for men).

Women also reported higher use of care, with 21% reporting 0-1 visits annually, 30%

reporting 2-3 visits, 25% reporting 4-7 visits, and 23% reporting 8 or more visits

(compared to 32%, 29%, 21%, and 17% respectively for men). Women reported slightly

higher access to private insurance (36% as compared to 33%) and Medicaid coverage

(23% compared to 20%), while there was no notable difference between men and

women for Medicare coverage (23% vs 24%), and IHS coverage (45% for both men and

women). Women were somewhat more likely to report delays in care due to

transportation (7% compared to 5% for men), and delays in making doctor's

appointments (12% compared to 8% for men). No gender differences in satisfaction with

healthcare emerged as 91% of both men and women reported being satisfied with their

healthcare [See unweighted descriptive statistics for AI/AN men in Appendix B, Table 2,

and AI/AN women in Appendix B, Table 3].

Research Question 1: What Predicts Realized Access to healthcare for AI/AN

populations?

    In the first model, need (measured by self-rated health) and predisposing factors

(age and gender) are predictive of healthcare utilization. Poorer health, old age, and

being female are all associated with increased doctor's office visits in the past year

[models 1-9 can be found in Appendix B, Table 4]. At the same time, income, as an

enabling factor, is not significant in predicting healthcare utilization. The first model

alone would, according to Anderson's model, indicate health care access equity within

this group, as only the measures for need (self-rated health) and demographic characteristics (old age and gender) are significant in predicting realized access to healthcare.

However, when adding in variables for structural enabling factors such as Medicare, Medicaid, and IHS access, the predisposing factors lose significance in the model. Although need is still strongly predictive of healthcare utilization, so too are Medicare, Medicaid, and IHS access, which indicates inequitable access according to Anderson's model. Private health insurance (added in model 3) was not significant in predicting care utilization and did not have any mediating effect in the model.

In adding in variables for measures of structural racism, models 4-6 yielded surprising results. Of the barrier variables added in models 4-6, only transportation issues in accessing care was significant in model 4, but not in the direction one might expect – issues accessing healthcare due to transportation are actually associated with increased levels of care utilization. While this result is surprising, it might well be explained by rurality: those in more rural areas may have higher needs for care, leading to increased care utilization. In spite of dealing with transportation issues, I hypothesize that adding urbanicity into this model will moderate the relationship between transportation and care utilization. Finally, it is important to note that a very small percentage of respondents reported experiencing these barriers to care (though these numbers were higher than in the overall population). Thus, the explanatory power of these variables may be diminished, particularly in their use for the interaction terms in models 7-9, 17-19, and 27-29.

Research Question 2: Are there Gender Differences in Predictors of Realized Access to

Healthcare for AI/AN populations?

In model 1, gender is a significant predictor of healthcare utilization, and women are 28% ($p>0.1$) more likely to have more frequent doctor's office visits than men. However, once structural enabling factors are added in model two, the relationship between gender and healthcare utilization is no longer significant.

I then ran each of these models again, once for women [models 11- 19 in Appendix B, Table 5] and once for men [tables 21-29 in Appendix B, Table 6]. Gender differences in how enabling factors predict healthcare utilization emerged across different types of resources. Income as an enabling resource is predictive of care use for men for one income category ($35,000-$49,999) as compared to the lowest income category ($0-$34,999) [Appendix B, Table 6], whereas income was not predictive of care for the women's models [Appendix B, Table 5] at all. This indicates that income as an enabling resource has greater importance for men accessing care, and that this is only significant for the income group above the lowest bracket (which was the reference category). This indicates that any additional income earned above $50,000 does not significantly increase healthcare utilization for men compared to the poorest group. This might indicate that regardless of income, the structure of Native healthcare systems is organized in such a way that higher levels of income do not translate to increased care utilization. For both men and women, the predisposing factor of age is significant in the first model, and then loses significance once structural enabling factors for IHS access, Medicaid coverage, and Medicare coverage are added. Older age returns to

significance for women [Appendix B, Table 5] and men [Appendix B, Table 6]

respectively, once enabling structural factors (IHS, Medicaid, and Medicare) are

removed but is loses significance again in model 19 and 29 [Appendix B, Tables 5 and

6, respectively] upon the addition of a variable for satisfaction with care with the

interaction term for satisfaction with care by older age – which was not significant for

either group. As Andersen (1995) argues, predisposing characteristics such as age

should be predictive of care use if access to care is equitable. However, my findings

indicate that the enabling structural factors are important for both men and women

realizing access to care in older age, as age loses significance in predicting care

utilization between models 21 and 22 [Appendix B, Table 6] for men and 11 and 12

[Appendix B, Table 5] for women as structural enabling factors are added – this follows

the same pattern as the change between models 1 and 2 for the AI/AN sample prior to

splitting the analysis by gender [Appendix B, Table 4]. This indicates a lack of equitable

access to care for aging AI/AN people, regardless of gender.

Medicare is a significant structural enabling resource, predicting higher care

utilization for both men and women, but the effects are stronger for men than women

across all models, again indicating that care use is largely driven by enabling resources,

for those in old age, and that this is particularly important for men. Medicaid is a

significant predictor of care utilization for women in model two at the p>0.1 level but is

mediated by the effects of the addition of private health insurance coverage in model

13. Medicaid returns to significance in model 14 with the addition of transportation-

related delays in accessing care [Appendix B, Table 4]. This indicates that Medicaid

might be more beneficial in predicting increased care access if transportation issues for

Native women were addressed; Medicaid does not predict higher care use for men in

any models. While Medicaid is important for women to an extent, overall, these results

might suggest that even though Medicaid is discussed as an important resource for IHS

facilities, having Medicaid coverage only increase access to care at the individual level

for the AI/AN population in limited contexts.

    Transportation issues in accessing care appears as an important variable for both

men and women, and both sets of models [Appendix B, Tables 5 and 6] predict higher

uses of care (see discussion above). However, in the men's models [Appendix B, Table

6], transportation is significant in model 24 and model 27 on its own but not significant

when included in an interaction term with older age, indicating that the effect of

transportation issues on care utilization does not depend on age. By comparison,

transportation issues are significant in model 14 for women, but transportation alone is

insignificant with the inclusion of the interaction term in model 17 – which is significant

($p>0.1$) [Appendix B, Table 5]. This indicates that transportations issues are amplified

for women over the age of 55, which, if this variable is indeed acting as a proxy for

rurality, might suggest support for the hypothesis that women are differentially affected

by reservation and relocation policies. Older women may have greater transportation

barriers due to being more rural or isolated, but they may also have greater access to

care due to greater proximity to reservation-based services and supports, including IHS

facilities.

Discussion

This study asks how need predicts healthcare utilization for Native elders in consideration of enabling resources and barriers unique to this population, and whether resources and barriers hold a different meaning for men and women. Using modifications to Anderson's behavioral model (e.g. Ford and Airhihenbuwa 2009), I expected results from this analysis to reflect and augment literature on disparities in health care utilization considering policy and old age (e.g. Andersen 2014, Andersen et al 2014, Wolinsky and Johnson 1991) and critical scholarship on healthcare access and barriers for Native elders (e.g. Martino et al 2020, Sommerfeld et al 2021). Thus, I hypothesized that policy-based resources like Medicare and IHS access would also be important in predicting higher levels of healthcare utilization, and that measures for structural racism would predict lower levels of healthcare utilization. Further, I expected that women would experience both higher levels of care utilization, as we know that women tend to report greater use of care despite having fewer resources. At the same time, I expected that Native women would experience greater constraints due to racialized barriers to care, given their unique situation within the racialized organization of healthcare.

Results from this analysis reveal that overall, enabling factors are important in predicting realized access to healthcare for the AI/AN population, rather than predisposing (demographic) characteristics, as predisposing characteristics quickly lose significance in each model sequence as enabling factors are introduced. Need for care, measured by self-rated health, was significant in predicting care utilization across all

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models, but the effects were sensitive to the addition of enabling variables as well as barrier variables, which decreased the impact of self-rated health on care utilization. As such, access to care, as defined by Andersen's (1995) model is not equitable for this group. Further, that income did not play a large role in these models, save for one income group for the male population only, might indicate that disparities in care result from other racialized factors beyond income inequality. This suggests inequitable access for this population in general, as enabling factors increasingly became dominant in predicting realized access to care as they are added to the models, supporting the hypothesis that the policy-based racialized organization of healthcare through policy does generate barriers to healthcare access for this group.

The regression analyses also reveal that income is more important as an enabling resource for men than it is for women in the models split by gender, and we see also in the first set of models that women report higher care use net of need and income – but that this gender difference loses significance with the addition of policy-based enabling resources (this is also where older age loses significance). As Andersen (1995) posits that both gender and age should drive care use (in addition to need) because we know that both characteristics are associated with higher levels of care use, this mediation effect suggests that policy-based resources are important factors in driving inequitable access levels for aging Native men and women. That is, while Medicaid and Medicare point to increased care access, we know that these policies benefit Native people differently based on various contexts (e.g. Henley and Boshier 2016, Skinner 2016). Conversely, while the IHS was born from treaty agreements with

the US government as the fulfillment of the promise to provide healthcare to all Native

Peoples, respondents who reported having IHS access in these analyses were

associated with less care utilization than those who reported not having IHS access

(this is particularly true for Native women). This finding illustrates the chronic

shortcomings of the federal government's compliance with this agreement (e.g. Moss

2010). This is also important in that Andersen argues that enabling resources have the

highest levels of mutability and are therefore the avenues by which we might leverage

the most change in increasing healthcare equity.

While Andersen's model is useful here in understanding the dominance of

enabling factors driving realized access to healthcare utilization, the application of Ford

and Airhihenbuwa's (2010) development of the Behavioral Model did not provide as

much support for my hypotheses as I anticipated, though there were some suggestive

findings. As such, future use of this model with better data may yield more meaningful

results. Had the measures for structural racism had better predictive power in the

model, these results could have bolstered the results from recent qualitative work

dealing with healthcare equity for Native elders (e.g. Sommerfeld et al 2021) and

opened an avenue to leverage quantitative data to interrogate the racialized

organization of healthcare as a mechanism of healthcare inequity. The addition of

measures to address the impact of factors shown to matter for the delivery of Native

healthcare (delays in getting doctor's appointments, delays due to transportation, and

satisfaction with care) did not help to paint a clear picture elucidating how the racialized

organization of healthcare for this group generates inequitable access to care for the

AI/AN population. However, this may be due to limitations in this dataset, and there remains potential for future application of this model.

Limitations

I encountered many issues in navigating the analysis for this project. Small sample sizes for AI/AN populations (particularly for those in later life) are notorious. Indeed, many scholars have pointed to the low numbers of AI/AN peoples in national-level datasets as grounds for excluding the group from analyses altogether (Angel, Mudrazia, and Benson 2015, Willging et al 2018). This project was no exception to this issue of sample size, and this should be borne in mind when interpreting some of my results. This is particularly true for the barrier to care variables included in the AI/AN models (transportation issues, delay in scheduling appointments, and satisfaction with care), where there were high levels of missing values across all racial and ethnic groups. However, because of their underrepresentation in the data, this presented challenges for the generating models for the AI/AN group in particular. My analysis relied on using the age 55 as the threshold for old age, partially due to this being the standard threshold for this population but also partially due to the severe reduction in observations in using the 65+ threshold. Even with this lower threshold, the limited sample size led to methodological adjustments for this project: while these models were originally intended to be run for only the 55+ age group of the AI/AN population and then split by gender, once the data were cleaned and missing observations removed from the sample, this plan became untenable. Instead, I included a categorical age variable

in all models, and then generated an interaction term to assess whether barriers to care

had a unique impact on this age group.

Finally, the availability of measures that represent constructs that are important for

the AI/AN group are limited in national-level health datasets, and as such support for the

theoretical frameworks emerging in this area is difficult to model. Thus, the inferential

leaps between measuring delays in doctor's office visits and transportation issues to

cultural and institutional resources may rely too heavily on the small constructs in the

qualitative literature in this field. As such, the quantitative analyses in this project are

best understood with a strong appreciation for the qualitative work emerging in this field.

Conclusion

Concerning Andersen's model, this study revealed that there is indeed inequitable access to healthcare for AI/AN people. While need-based factors remain significant across all models, the introduction of both enabling factors as well as measures for structures of racism, result in a decrease in the magnitude of these effects. As well, the introduction of enabling factors cause predisposing factors to lose significance altogether in each series of model. As such, Andersen's model proves useful in establishing inequity in healthcare access for this group. However, the application of Ford and Airhihenbuwa's (2010) adaptation of the model designed to illuminate how structures of racism affect realized healthcare access did not elucidate clear connections between the factors emerging in qualitative research and patterns of healthcare utilization in a national level dataset.

Overall, this analysis does show that gender differences in healthcare access for this the AI/AN population are similar to other groups, in that women report better health and greater use of care despite also reporting lower income and more barriers to care. However, where some scholars found this to become more salient with age, age was not significant for women once enabling factors were introduced into the model (e.g. Green and Pope 1999, Dunlop et al 2002). The effects of having greater need (those reporting fair or poor health) was particularly predictive of higher care use by AI/AN men, mirroring results for Black elders found by Wolinsky and Johnson (1991). The regression models in this study also show that income is important as an enabling resource for AI/AN men but not for women.

Article 3: Organizational Perspectives: Policy Gaps, Resources, and Strategies for Improving Health and Well-being for Native Elders

Introduction

Despite treaties that guarantee healthcare as a right for all Native Peoples, health disparities persist for this population, which is often attributed to settler colonialism, historical trauma, other social determinants of health such as income and education, and access-to-care issues (Braun and LaCounte 2015, Walls and Whitbeck 2012, Jones 2006). Native elders, in particular, experience poor health outcomes relative to non-Hispanic whites and similar to those experienced by Black elders (Ng et al 2014). As well, Native elders report more obstacles to healthcare compared to other racial groups, despite the presence of health care provided through the Indian Health System (IHS), and the fact that 96% of Native elders report having Medicare coverage (Martino et al 2020, Boccutti, Swoope, and Artiga 2014).

In exploring these barriers to healthcare, researchers point to policies that have resulted in Native People's segregation on reservations; urbanization policies; resource scarcity; and complex administrative obstacles in place for those navigating overlapping healthcare systems and services (Warne and Frizzel 2014, Smyer and Stenvig, Willging 2018, Sommerfeld et al 2021). Scholars have contributed to our understanding of how policy generates inequitable access to health resources for Native elders through policy analysis (e.g. Skinner 2016, Moss 2010, Hoss 2019) and through interviews and focus groups conducted among these older people (e.g. Jaramillo and Willging 2021, Schure, Conte, and Goins 2015, and Goins and Pilkerton 2010). Recently, scholars have included organizational perspectives to gain insights into how actors within Native

health systems understand barriers to healthcare similarly or differently from Native

elders (Sommerfeld et al 2021). While community stakeholders, including organizational

actors, largely agree with Native elders as to what issues are important in determining

barriers to healthcare for Native elders, they also have additional insight into how

organizations are addressing these concerns in ways that diverge from the perspectives

of individual community members. For example, Native elders ranked Tribal and

National policy as the most critical factor in increasing access to care, as compared to

healthcare professionals, who ranked Health-Related Self-Efficacy highly, while elders

ranked it low (Sommerfeld et al 2021). However, this study also found that different

groups understand the challenges in improving Native health and healthcare delivery

differently. Groups working to improve systems pursue solutions that depend on their

understanding of the issue. This project will further explore policy and advocacy efforts

across large organizations focused on promoting well-being for the aging Native

population. In expanding knowledge of how different organizations understand the

central issues in Native health and healthcare delivery and work to address them in

relation to policy, this project works to illuminate what policies groups treat as most

salient for promoting health and increasing access to healthcare for Native elders and

where we might focus on expanding resources or advocacy for this group.

Literature Review

Political Economy of Aging: A Focus on Policy Formation, Implementation, and Healthcare

Political economists of aging connect group struggles, such as those based on class or race, to policies, including those for later life and ultimately, experiences of old age (Estes 2001). This approach is thus useful for considering the relationship between policy and inequality for the aging AI/AN population because of the overlapping nature of policies targeting Native Peoples and old age policies. Also important to this framework is its sensitivity "to the integral connections between the societal (macrolevel), the organizational and institutional (mesolevel), and the individual (microlevel) dimensions of aging" (Estes 2001:1). As such, the political economy of aging framework allows scholars to connect how race, class, and gender relate to the kinds and levels of resources available to the older population, including income, the ability to retire, healthcare, and experiences of old age (Estes, Linkins, and Binney 1996). This chapter employs this framework to develop a greater understanding of how policy shapes the organizational level of Native healthcare organizations.

Political economists Estes and Wallace (2010) argue that the state can enact redistributive policies and mediate between various segments of society; it can also maintain the status quo. Further, the inclination of the state to implement social welfare policies remains situated in the global context. As such, global pressures for the privatization of the welfare state in order to make market segments globally competitive have significant implications for the financing and delivery of various social services,

such as healthcare and pension programs. This global move towards privatization also leads to the commodification of old age services by for-profit organizations, which has pronounced implications for healthcare (Estes and Wallace 2010).

This neoliberal trend is also apparent in AI/AN policy, contradicting the guaranteed federally provided promise of healthcare access for this group. As a result, AI/AN people and Native health organizations rely on a combination of public and private health insurance as well as federal IHS funding (Warne and Frizzell 2014, Moss 2010). Thus, two ideologies compete to shape Native healthcare – the neoliberalism that propels much healthcare policy in the US, and the sovereignty of Native treaty agreements and the federal government's obligation for providing healthcare for Native Peoples. This has positioned Native organizations in a situation of competing policy landscapes wherein they must work creatively to maximize resources for Native communities.

This scenario is made more complicated because federal health policies for older people were not formulated with Native Peoples in mind. Medicare and Medicare were passed into law in 1965 as amendments to the Social Security Act, with the former designed to expand access to health care for older people and disabled people, and the latter as a program to provide services for low-income families and individuals through joint federal and state funding (Department of Health and Human Services 2005). In both in their inception and through policy developments such as the Medicare Modernization Act (MMA) of 2003 and the Affordable Care Act (ACA) of 2010, these programs are shaped by competing political agendas and interest groups, including the

American Medical Association, private insurance and pharmaceutical lobbyists, employers and trade unions, and pro-life lobbyists (Quadagno 2011, Oliver, Lee, and Lipton 2004). As a result, provisions within them are not necessarily coherent and can aid profit-making within the healthcare sector as much or more than program beneficiaries. For example, adding drug benefits to Medicare: while adding the program would ultimately benefit low-income Medicare beneficiaries without supplemental drug coverage, the program is confusing and varies in its coverage and cost. However, much of the policy was negotiated by the private insurance and pharmaceutical industries, whose benefits were more definitive: the legislation resulted in their ability to charge higher prices for drugs without worrying about the reimportation of international pharmaceuticals (Oliver et al 2004). Still, both of these policies are important for those in old age, as Medicaid supplements the gaps in Medicare plans for acute coverage, drug costs, and long-term care protections for low-income elders (Moon 2015). Despite these shortcomings, most Native elders list Medicare as a source of coverage, and a quarter also lists Medicaid (Boccuti, Swoope, and Artiga 2014).

Medicaid funding has not changed from its initial formulation: it is comprised of state-managed programs and is subsidized by matched federal funding (Moore and Smith 2005). However, eligibility requirements vary by state and change over time, and the recent Medicaid expansion has increased coverage for AI/ANs peoples in participating states – and thus IHS facilities. One crucial policy development for determining eligibility for Medicaid has been the introduction of a work-requirement in several states, which has implications for both individual and tribal resources, in that

those receiving care at IHS facilities will still be able to receive services – but the facility will not be able to bill Medicaid for them: "Unlike other Medicaid programs, patients in the Indian health system will still be eligible to receive basic care. So stricter rules will mean fewer people will sign up for Medicaid and the Indian Health Service — already significantly underfunded — will have to pick up the extra costs from existing appropriations. That will result in less money, and fewer healthcare services, across the board" (Trahant 2018). So, while many states have expanded Medicaid, a generally positive development for increasing coverage for AI/AN populations and more significant revenue for IHS facilities (Artiga, Ubri, and Foutz 2017), ongoing policy decisions contribute to the fractured and inconsistent nature of how this policy interfaces with IHS policy.

Skinner (2016) notes that while there have been overall gains in resources for Native communities in policy developments, there is a more critical reading of how policy has shifted as well. For example, some provisions in the ACA specific to Native populations and Self-Determination policies might ultimately work to pressure Native healthcare organizations from operating via stable federal benefits to less stable resources via private healthcare markets. This move towards integrating the provision of healthcare for the AI/AN population with other public and private insurance schemes in effect "would be not only a continuation of the failure to provide adequate public services for Native Americans but also a shifting of costs from the US government to tribes and individuals" (54). While some of these policies do offer significant benefits and additional resources to some Native groups, it leaves others out and fundamentally

alters original trust and treaty relationships between Native Peoples and the US government (Skinner 2016).

In addition to offering critical engagement with global, state, and corporate structures, the political economy perspective also turns our attention to how structural inequality creates circumstances that restrict how social actors can engage with the market economy (and tied to it, redistributive public policy), particularly in terms of paid labor (Kail, Quadagno, and Keene 2009). Because the AI/AN population has been governed with a unique set of rules throughout US History, they engage with the labor market and thus public policy from a different structural location than other racial groups, which has implications for inequality in old age, both in terms of financial security and health equity (e.g. Smith-Kaprosky 2012, Murphy and Huggins 2015).

For instance, gaps in Native healthcare funding require some people to participate in programs that include cost-sharing measures, such as Medicare. In this context, disparities in retirement income can impact health equity. Scholars have shown that those with the fewest economic resources enter old age with poorer health and face the most extensive financial strains in meeting co-pays (Cubanski and Boccuti 2015). Further, those with the fewest resources and poorer health tend to spend the highest percentage of their incomes on out-of-pocket costs (Herd et al 2010). Scholars have demonstrated that gender, class, and race inequalities are embedded in the original Social Security legislation as eligibility and benefit amounts are tied to years of formal labor market participation and earning levels (Calasanti and Slevin 2001, Poole 2006). In this regard, Native groups may be uniquely disadvantaged in that many Native

communities rely on subsistence or mixed economies. Social Security and other policies

tied to the paid labor market do not account for these kinds of informal labor practices

(Kuokkanen 2011). As a result, Native elders' work histories render them less likely to

receive Social Security income than the general older population, and when they do,

their benefits are lower (Smith-Kaprosky 2012). The resultant lower retirement incomes

of Native elders (Murphy and Huggins 2015) can thus influence their ability to gain

healthcare. As I discuss below, policies (both generally and those specific to Native

populations) can overlap to create high barriers to health, both in terms of access to

healthcare and health outcomes.

Native Policy and Healthcare Organization

Although treaty agreements and trust relationship between tribes and the US

government grant healthcare as a right for the AI/AN population, the policy history

surrounding this relationship has left the promise of healthcare largely unfulfilled and

has led to the underfunding of healthcare for Tribes. In addition to colonial histories,

ongoing social, political, and cultural developments further contribute to the inadequate

provision of resources and resultant health disparities. Trout, Kramer, and Fischer

(2018) argue that rights to social determinants of health (for example economic and

environmental stability and sustainability) must be considered in fulfilling the Native right

to health. That is, all policy is essential for Native health, not just IHS and other

healthcare policies. Although looking at local and federal healthcare policy and access

or utilization of care measures for Native Peoples is an important endeavor, a more

detailed look at how all policy affects Native groups and translates into health services

or addresses social determinants of health through Native health services organizations is also needed to understand health disparities and access to care for Native elders (Sommerfeld et al 2021).

The organization of Native healthcare has evolved through policy changes over the last century but remains rooted in a colonial relationship between tribes and the US Government (Jones 2006). The Indian Health Service (IHS) is a network of direct care facilities designed to fulfill a treaty agreement for the US government to provide healthcare for Native Peoples. It comprises federally run hospital facilities, tribally-run clinics, and urban clinics run by urban Native organizations. It consists of 170 facilities managed by 12 regional offices and serves 2.56 million AI/AN people (IHS Fact Sheet 2020). While these facilities are generally limited to primary care and outpatient services, they can contract out specialized and acute care needs. However, the funding for contract care often runs out quickly. There are also services for elders living on reservations; these are quite limited, however, even though many elders return to reservations in later life (Moss 2010, Yuan et al 2014).

Native elders are also often eligible for Medicare and Medicaid (Brown et al 2000, Boccuti, Swoope, and Artiga 2014), by virtue of their age (Medicare) or poverty (Medicaid). Native healthcare organizations gained the ability to bill these programs starting in 1976, which has led to expanded services for some groups (Warne and Frizzell 2014). However, the overlap between these programs and IHS has led to confusion over what services are covered, leading to increased administrative barriers to care for Native elders (Smyer and Stenvig 2007, Willging et al 2018). Further,

benefits from Medicaid programs are regionally disparate due to state-level decisions

about expansion concomitant to the Affordable Care Act (ACA); this complicates

resources within Tribes whose borders are not contained within a single state (e.g.

Henley and Boshier 2016, Skinner 2016). Although the overlap between these policies

may have led to increased financial resources for Native healthcare organizations, they

have also given rise to confusion among Native elders, leading to decreased access to

and utilization of care (Jaramillo and Willging 2021). In fact, recent scholarship has

shown that AI/AN Medicare beneficiaries are more likely to experience barriers in

accessing healthcare than all other racial groups. These effects were even more

prominent for Alaska Natives (Martino et al 2020).

Expanding Native people's access to care is typically discussed in this literature

rather broadly as increasing access to care for all AI/NA people. However, the unique

contexts for specific regions or tribes make this a complicated project. As scholars note

(e.g. Skinner 2016, Moss 2010, Henley and Boshier 2016), because different groups

exist in widely varying political contexts by specific regions, they have access to vastly

divergent resources due to different treaty agreements, land rights, and various forced

relocation policies. This is particularly true with healthcare policy:

> "Considering differences in the nature of IHS service units, which range from
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> those that serve many tribes within a large geographic region to those focused
>
> on smaller areas populated by one or two large tribes, tribal engagement with the
>
> question is likely to depend on context. Accordingly, comparatively isolated tribes
>
> for whom contract care may not open access to regional providers may be less

sanguine than tribes looking to supplement already adequate services in IHS services areas. While regional circumstances matter greatly, the broader point is that tribal dispositions to contract care will reflect that quality and nature of available IHS services" (Skinner 2016:52).

Variation in Native elders' healthcare access is also determined by federal recognition of tribal status, which in itself excludes many groups (Moss 2010, Hoss 2019). Within federally recognized tribes, the availability of services is largely inconsistent, and different groups have disparate access to resources to meet their service area needs (Skinner 2016). There is significant divergence as well between those living in rural areas compared to urban areas. While much of the health disparities research for the AI/AN population emphasizes rural reservation-dwelling tribal members, the proportion of those living in urban areas has increased in recent decades, partially due to the relocation and termination eras of US policy (National Council of Urban Indian Health). Health care is funded and organized differently between reservations and urban areas, with urban clinics (which are run by urban Native organizations rather than individual Tribes or the federal government) operating with only 1% of the IHS budget even though 70% of Native people live in urban areas (National Council of Urban Indian Health 2010). This, combined with the continued effects of relocation policies that have kept AI/AN people in poverty, has done little to improve this group's economic or health equity (Davis et al 2015). For instance, Castor and colleagues (2006) found that in 2000, 61% of people claiming only AI/AN heritage

lived in an urban area, and that only 34% had access to Urban Indian Health

Organizations.

Hoss (2019) also points to the intricate ties of federal law and policies targeting

Native populations (beyond IHS and other healthcare policies) throughout US history

that have continuously led to structural violence and adverse health outcomes. Native

policy histories specific to the development of the IHS and also related policies specific

to AI/AN groups contribute to other social determinants of health. This includes policies

that impact Native communities in terms of economic development, civil and criminal

jurisdiction, education, and access to social services (Hoss 2019) – while also shaping

how tribes are able to fund and deliver healthcare and services and resources for elders

(e.g. Nagle, Jensen, and Erkinnen 2011). Recent scholarship from Subica and Link

(2022) also theorize cultural trauma as a fundamental cause of health disparities both in

terms of how systems of inequality limit resources for minority cultural groups, and "by

disadvantaging cultural groups through the damaging/suppression of health-protective

resources" (291). A key component of this theory is that the mechanisms that generate

health disparities adapt and change over time. For example, Link and Subica (2022)

explain that while Jim Crow laws were outlawed, new mechanisms emerged that

perpetuated cultural trauma and damaged cultural resources, such as mass

incarceration and housing discrimination. Further, while they emphasize the importance

of social institutions (including both political and health systems) for influencing health

outcomes, they also highlight that cultural modes of being and access to cultural lands

are critical resources that can be damaged and suppressed via mechanisms of cultural

trauma, leading to negative health outcomes (Subica and Link 2022).

Thus, policies not explicitly designed to promote health for Native communities

may still be important in how healthcare organizations generate resources for Native

elders. Recent research has found that the organization of Native healthcare and

complicated overlapping health insurance schemes that result from varying policies has

worked to *create* health illiteracy among Native elders, which means that healthcare

policy and complex insurance systems contribute to both a lack of knowledge for

navigating health insurance and also lower utilization of care (Jaramillo and Willging

2021). This health illiteracy has resulted in heightened distrust in the system and

decreased continuity of care for Native elders (Sommerfeld et al 2021, Jaramillo and

Willging 2021). Specifically, Jaramillo and Willging (2021) found that the overlap

between Medicare billing and IHS services resulted in much confusion among Native

elders, who reported that they were often in the dark concerning what services would be

covered. They also voiced concerns about how ongoing policy development (especially

following the 2016 election and moves to repeal the ACA) would further dissipate

healthcare resources for their communities. Further, Native elders expressed

frustrations about the poor continuity of care they were able to receive, citing high

provider turnover, despite facility administrators' assertions in this study that efforts

have been made to address this issue.

Using data from the same larger research project, Sommerfeld and colleagues

(2021) highlight subtle variations between barriers experienced by Native elders and

how community stakeholders viewed those barriers. While both groups agreed that insecurity stemming from a lack of knowledge about healthcare systems has a significant impact on Native elders accessing care, they diverged concerning the importance of other factors. Stakeholders were likely to rate such issues as limited availability of services and health-related self-efficacy[7] as most important. Native elders, however, saw national and tribal policy and issues with providers as having the most impact on Native elders' access to healthcare care. As this research has shown, the inclusion of organizational level actors within Native healthcare systems offers an important perspective on how healthcare organizations understand barriers for healthcare access for Native elders.

One key policy concerning Native elders that must be considered is the Older Americans Act of 1965. This important legislation was expanded in 1978 to include provisions specifically for aging Native Peoples, addressing some of the gaps in resources and barriers to care associated with the policies discussed above, including transportation services, home healthcare services, and outreach programs to increase healthcare literacy. Title 6 of the OAA includes funding opportunities to support health and well-being for Native elders that includes management of chronic health conditions but also offers services more comprehensive than access to medical care. Title 6 funding is available for Tribal organizations to support nutrition and supportive programs (such as transportation assistance, home care services, and outreach programs), that have proven to be "critically important for American Indian Elders" (National Association

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[7] Sommerfeld et al (2021) defined this concept as themes of insecurities or inabilities to effectively interact with healthcare systems, such as not knowing how to advocate for one's health.

of Area Agencies on Aging 2017, LaCounte 2022, Bylander 2018). Thus, this project will focus on organizations that work to promote Native elder health and well-being broadly through policy advocacy, public health initiatives, and supporting data and resources access for Native communities in order to further understand how organizations define issues in Native health and healthcare for aging communities and how, based on those definitions, they work to resolve them through policy advocacy or leveraging policy-based resources.

Native Healthcare and Data Limitations

Expanding our understanding of regional and tribal differences in health equity within the AI/AN population is crucial, as groups within this larger population are highly diverse politically, culturally, and geographically. As such, researchers have critiqued the use of large datasets alone for drawing conclusions about all Native Peoples. Reliance on large datasets is understandable given small sample sizes; but this can also lead to generalized conclusions about Native Peoples that are inaccurate or incomplete (Willging et al 2018, Johnson, Blewett, Call, and Davern 2010, DeWeaver 2013, Broken Promises Report 2018). Conversely, concerns about small samples can lead to excluding Native people from health and policy research altogether (e.g. Willging et al 2018). Yet, it is important to consider the histories of healthcare policy and federal laws that contribute to how Native groups provide healthcare for their communities that may be unique to smaller groups within the larger AI/AN population. In addition, some scholars argue that consulting with key stakeholders within Native communities ought to be a critical and central step in doing health research, particularly in consideration of

longstanding histories of unethical health research involving Native Peoples (Randall 2014, Cook 2014). Thus, this study will focus on how Native organizations themselves talk about and work to address barriers to health and healthcare within aging Native communities at different legislative, organizational, and community levels.

Tribal organization and access to healthcare have important roots in both IHS policy developments as well as other policies and laws that have significant bearing on the well-being of their people. For example, Norgaard (2019) discusses at length the impact environmental and land management policies have had for Tribes in Northern California, linking policies that limit traditional subsistence living cultures or that damage ecosystems with elevated rates of negative health conditions such as heart disease and diabetes. Similarly, lasting impacts from policies dealing with relocation and boarding schools continue to impact Native health through trauma processes that have intergenerational effects associated with substance abuse, PTSD, and other mental health issues (Moss 2010, Walls and Whitbeck 2012).

Some literature also details the creative and strategic approaches Tribes and organizations have taken in response to harmful policies passed at federal and state levels that have yielded gains in resources for promoting health for their aging population. For instance, in their history of the Puyallup Tribe, Nagle, Jensen and Erkinnen (2011) detail how provisions in the original 1854 Medicine Creek Treaty between the US government and many Native Peoples in the region gave way to important, lengthy, and hard-fought struggles at both the federal and state level. The resultant fishing and hunting rights and land claims settlements enabled economic

development, including the development of multiple casinos that generate revenue and resources for the Tribe. Further policy developments and lengthy battles fought by the Tribe for the provision of resources for health and education services allowed for the development of a widely renowned Native healthcare center that currently serves 8,500 Native people, both from the Puyallup Tribe and those with other tribal memberships. Long negotiations for facilities and land with state and federal governments also led to the 2003 construction of a $13 million Elder Center that "serves as an exemplary model of tribal respect and care for elders," and provides a variety of services for Puyallup elders (Nagle, Jensen, and Erkinnen 2011:157).

Healthcare policies themselves – such as the Indian Health Care Improvement Act (IHCIA) of 1976 and the Indian Self-Determination and Education Assistance Act (ISDEAA) in 1975 also provide necessary funding for the delivery of healthcare. In fact, the Puyallup Tribe was one of the first to apply for self-determination status in order to obtain block funding for their clinic. But they also emphasize that "land planning and community development are imperative to the Tribe's continued efforts to flourish and thrive and acquire property to expand their services to members" (Nagle, Jensen, and Erkinnen 2011:205). As such, in working to understand AI/AN health disparities, we must consider policy history and social context including but also beyond the provisioning of healthcare. On a larger scale, Native organizations have also had success in advocating for policy changes that increase access to resources for their aging populations in terms of specific provisions in the Older Americans Act (Title VI) (LaCounte 2022), as noted above. Although the original OAA of 1965 sought to address

shortfalls in community social services for all aging populations, grants were awarded to states, which created potential to overlook the needs of Native populations. Beginning in 1975, a group of policy advocates representing several Tribes worked to push Congress to amend the OAA to include title VI, which now provides grant funding for aging programs directly to Tribal organizations (LaCounte 2022).

As both history and recent research has established, Native healthcare organizations can provide a critical resource and alleviate gaps emerging from the disjuncture in how different federal policy provisions health resources. These organizations can operate to shaping policy, elucidating needs of aging Native communities, and making policy resources accessible to Native communities that need them (e.g. LaCounte 2022, Sommerfeld et al 2021, Jaramillo and Willging 2021, Nagle, Jensen, and Erkinnen 2011).

Research Questions

While there are several healthcare policies that help provide healthcare services for older Native people, they continue to experience poorer health outcomes and report higher barriers for accessing care than other racial and ethnic groups (Ng et al 2014, Martino et al 2020). Previous research has shown that just because these policies overlap, they don't necessarily work together to increase access to care (Warne and Frizzell 2014, Smyer, Stenvig 2007, and Willging et al 2018, Sommerfeld et al 2021, Jaramillo et al 2021). Indeed, these policies were written to serve particular groups: Medicare was written to expand access to care for those in old age or those with disabilities, Medicaid was formulated to address the need for healthcare access for those in the lowest income brackets, and the IHS was established to fulfill treaty agreements for the federal government to provide healthcare for Native Americans and Alaska Natives. Although the first two, Medicare and Medicaid, were developed in tandem, they were shaped by interest groups that had a stake in profiting from health care, and neither were formulated with the particularities of the IHS in mind. However, given that the IHS system has come to rely heavily on the revenue from Medicaid and Medicare in order to fill in funding gaps, the organization and delivery of healthcare through IHS facilities is intricately tied to these other polices – whether they work well together or not.

Within this broad policy landscape, Native organizations are operating within and in opposition to the neoliberal policy context in the United States, where policy agendas are often shaped by the shift of responsibility for health and well-being from the state to

the individual (Estes and Wallace 2010). Native scholars and activists push back

against this notion and advocate for increased funding and services for healthcare and

social services from the foundation that the US government is obligated to bear

responsibility for provisioning these services because of treaty agreements (e.g. Skinner

2016, Moss 2010). Native organizations that advocate for their older population also

have been instrumental in carving out niche legislation to better support their aging

communities by addressing the persisting shortcomings of these patchwork policies

(e.g. LaCounte 2022). However, As Sommerfeld et al (2021) have established,

sometimes those working in Native healthcare organizations define central issues for

promoting health for Native elders differently than do Native elders themselves. As

such, depending on how organizations are constituted and whom they represent, the

central issues and solutions posited to promote health and healthcare for aging Native

populations may vary, though ultimately all are working towards similar goals.

In order to understand how Native organizations target and navigate these

various discordant and overlapping policies so as to promote health equity for Native

elders, this project will examine content from websites of three different Native

organizations that contain important perspectives: community stakeholders and elders;

health administrators focused on increasing access to care and well-being for elders;

and offices aimed at increasing resources for Tribal programs. First, I will examine

materials from the National Indian Council on Aging (NICOA). NICOA is a non-profit

Native-led advocacy group founded in 1976 "…to advocate for improved comprehensive

health, social services and economic well-being for American Indian and Alaska Native

elders" (NICOA 2022) following the National Indian Conference on Aging. Among its

legislative priorities is a focus on Title VI of the OAA, which it describes as "the key

legislative framework for developing, coordinating, and delivering home and community-

based services" (NICOA 2022). NICOA has published policy recommendations and

resolutions to various legislative agencies developed and voted on at biennial

conferences with community stakeholders, Tribal leadership, and elders across the

nation. The organization is run by a board of directors representing each region of the

country and holds a voting member base of Native elders aged 55 and above that

contribute their knowledge and opinions by submitting resolutions and voting on issues

at conferences. The second organization is the National Resource Center on Native

American Aging (NRCNAA), which was founded in 1994 with funding from the

Administration on Aging (AoA) and is housed in the Center for Rural Health at the

University of North Dakota. This organization is focused on identifying health and social

needs for Native elders and implementing community-based strategies to "improve

quality of life and delivery of related support services to the Native aging population"

(NRCNNA 2022). This organization offers many practical informational resources for

Tribal organizations via its website, but also publishes reports detailing important issues

in health and healthcare for Native elders, important policy considerations, and filling

gaps in resources for aging Native communities. Lastly, the Office for American Indian,

Alaskan Native, and Hawaiian Programs, which operates under Title VI of the Older

Americans Act, has a website "dedicated to delivering technical assistance resources to

Title VI directors" (olderindians.acl.gov 2022). This organization publishes a quarterly

newsletter that highlights advances in health promotion efforts at organizational and local community levels and distributes information on changing policy efforts and how to access potential resources and funding sources (olderindians.acl.gov 2022). Each of these groups is focused on increasing resources and well-being for Native elders, but they may differ in their understanding of central issues and approaches to finding solutions for various problems. As Sommerfeld et al (2021) found, people in different roles within the Native organizations and communities may focus more on the individual or community level as most critical for health promotion and improving healthcare utilization, as compared to focusing attention on the policy level for potential solutions to low healthcare utilization. Given this background, I pose the following research questions for this section of the project:

- Given that organizations working to promote resources and well-being for Native elders differ in what segment of the Native community they represent, do these organizations differ in how they approach promoting health and healthcare access for AI/AN elders in terms of their focus on individual, community, or policy-based strategies?
    - How do organizations talk about gaps in resources, funding mechanisms, and the policy landscape?
    - How do organizations representing different groups identify needs and promote health for Native elders in similar or different ways?

o   What strategies, approaches, or policies do these organizations

believe are most salient in generating resources and barriers for Native

elders in terms of promoting health and accessing healthcare?

Data and Methods

  To address these questions, I will conduct a thematic analysis of publications from three organizations focused on healthcare access and well-being among Native elders. This first set of texts will comprise NICOA resolutions approved at the 2014 and 2016 conferences (n=19). Additionally, I will use the policy recommendations published on its website detailing the organizations position and recommendations for Title 6 of the Older Americans Act. The second set of texts will be comprised of reports published by the NRCNNA in 2021 (n=4). This set of texts ranges from 2-48 pages each. I include reports from 2021 only as there is a gap in their publishing, with the next most recent report available being published in 2008. Thus, these reports can be seen to represent the present thinking and concerns of the organization. The final set of texts for this project will be quarterly newsletter published by the Office for American Indian, Alaskan Native, and Native Hawaiian Programs under Title 6 of the Older Americans Act. This project will rely on these quarterly newsletters from the years 2018-2021 (n=16). These publications are generally only 2-3 pages each, so using newsletters across four years will yield content comparable with other data sources. As well, using newsletters from across this time period will offer perspective on how policy translates into health resources for Native elders before and during the Covid-19 pandemic, which has brought many shortcomings within healthcare and public health to light.

  Each organization differs in how they direct their focus towards improving health and well-being for Native elders and represent different groups and interests. NICOA is a very intentional representation of elders themselves, as any Native person aged 55

and over can submit a resolution and vote on their passage; thus, this organization

directly represents Native elders' interests. Based on the literature, I hypothesize that

this organization will more often focus on federal policy advocacy and intervention. In

contrast, the NRCNNA, which is a better representation of organizational interests,

seeks to empower Native organizational leadership by partnering with individual Tribes

and organizations to expand resources, data, and support for Native organizations. I

hypothesize that this organization will more often focus on community-based solutions

and problem solving. Lastly, the OAA Title 6 office is also run by Native community

stakeholders, but operates on more of a federal level, so while I would anticipate again

seeing community-based strategies, there might be new perspectives on identifying

problems and promoting health and healthcare access for Native elders beyond what

the literature describes. Further, while I anticipate that most of this analysis will reveal

community or policy level focus, this may be a unique context in which individual

approaches emerge, due to this office being housed within the federal government

structure and therefore subject to more influence of neoliberal policy agendas and

ideology.

Each of these data sources will be downloaded from these websites and

imported as a set into Nvivo. Then, each file was coded in an iterative fashion to

uncover emergent themes and relying on previous literature to develop a codebook,

looking for how organizations talk about barriers, solutions, resources, and policy in

service of improving health and well-being within aging Native communities. Each set of

documents was created as a set in NVivo, and I started with a basic codebook to

organize what organizations identified as problems for health and well-being, what the

problems were in funding or policy, and then what strategies or approaches they

advocate for or discuss having put into practice. Within the code for identified problems

for health, I further coded text into the specific problems identified (for example: poor

healthcare literacy or limited resources). I then coded each instance into structural,

community or organizational, or individual-based issues. For example, when documents

referred to the limited resources available for federally-funded health and wellness

programs, I would code this as a policy problem. In contrast, if a document referred to

issues of health care literacy, I coded this as an individual-based problem.

I then employed the same process for the strategies and approaches used by

organizations to address these problems, coding first for the specific interventions (for

example, increasing cultural relevancy in programing and targeting unique provisions in

policy for AI/AN elders) and strategies listed in the documents and then classifying them

as either individual, community or organizational or policy-level strategies. For example,

increasing cultural relevancy was discussed as a community-based strategy, and

targeting unique policy provisions for AI/AN elders was coded as a policy-level strategy.

I also coded the data looking specifically for how policy contributed to gaps in

resources and challenges in funding mechanisms for the older AI/AN population. I then

conducted a thematic analysis in order to further parse out how Native organizations

defined what policy issues were salient in advocating and promoting health for Native

elders. Through this analysis, three themes emerged: administrative barriers in policy

resources, federal funding shortfalls, and geographic variation leading to unequal

resources.

Specifically, this analysis was designed to reveal what policies groups focus on

most, reflecting where they see the potential for generating the most helpful resources

and how they might be leveraged to best serve the communities. Through careful

reading of these reports, newsletters, and statements, I gained further understanding of

how these organizations conceptualize health and health care access, what issues and

resources they see as most salient in provisioning healthcare and services for Native

elders, and how Native organizations work to navigate various federal, state, and local

policies in order to generate resources and promote health and access to healthcare for

the aging Native population.

Results

How do organizations talk about gaps in resources, funding mechanisms, and the policy landscape?

Organizational Focus (NRCNNA) – Disjuncture between Funding Requirements and Native Cultures

The reports from the NRCNNA outline the disjuncture between the needs of Native communities and how funding mechanisms embedded in policy resources are distributed. That is, resources are distributed are in opposition to Native culture and the experiences of the older Native population. Although Title 6 of the OAA was written specifically to fund grants to promote health for Native elders, new programmatic requirements were established in 2012 that limited funding for programs to those using Evidence Based Programs (EBPs) as defined by the Administration for Community Living (ACL), which is part of the Department of Health and Human Services. One report critiques the adoption of this requirement for its assumption of blanket applicability across all aging populations:

> "The motivation for a steady move toward evidence-based programs (EBPs) is a combination of funding only "what works," which has been defined as programs that are effective based on peer-reviewed research, and more accountability toward ensuring programs lead to health improvements for community participants. This process has been implemented through both state and federal policies. EBPs, when implemented with fidelity to the curriculum, work effectively for participants whose characteristics match those of the EBP research participants. However, these programs have been almost exclusively developed and evaluated for the general U.S. population and with very limited AI/AN/NH community engagement." (Evidence Based Health Promotion Programs Among American Indian, Alaska Native, and Native Hawaiian Communities: A Call to Action to Improve Cultural Relevance and Accessibility)

This is particularly problematic for Native communities because research that provides

the evidence for these best practices do not include or address the unique needs of

Native elders, thus necessitating that Native organizations adapt approved

programming to serve their aging community while also remaining eligible for OAA

funding. While there have been successful adaptations of EBPs in various communities,

these reports emphasize bridging this gap takes time and resources, and smaller

communities with fewer resources saw increased barriers in providing programming for

their elders:

> "Considerable discussions during listening sessions with program staff centered on administrative aspects of the programs, both successful programmatic initiatives as well as challenges at different phases including introduction, implementation, and sustainability. For small communities with limited resources and fragile infrastructures, several challenges were identified, i.e., 1) lack of space for group activities; 2) transportation barriers; 3) lack of ability to provide a healthy snack or other incentives for participants (due to either lack of funding or restrictions on funding); and 4) short-term funding, which may lead to insufficient time to hire and train staff, as well as recruit program participants. Furthermore, some health promotion intervention programs require data gathering, which can be a challenge for organizations that need approval for data collection from local Institutional Review Boards (IRB). IRB approval processes take time, potentially delaying implementation of the interventions." (Evidence Based Health Promotion Programs Among American Indian, Alaska Native, and Native Hawaiian Communities: A Call to Action to Improve Cultural Relevance and Accessibility)

 The analysis of the reports from this organization highlights community level

experiences and approaches, but also connect these experiences and approaches to

larger structures. This finding of organizations bridging problems and strategies from the

community to policy level is discussed further below.

Elder Advocates (NICOA): Targeted and Broad Issues

The NICOA resolutions ranged from old age and healthcare policies to

environmental and agricultural policies and highlight the myriad ways in which policies

in different areas are all seen to be connected to health and well-being for Native elders.

Resolutions included broad support for services and programs for elders' health

including IHS funding increases, OAA funding increases to keep pace with the aging

population and expanding funding for dental and long-term care services.

They also wrote resolutions in support of issues that impact Native communities and

health more broadly, including opposition of pipelines and agricultural provisions that

better incorporate traditional food sources and subsistence living into caring for elders:

> "WHEREAS, Section 4033 of the Agricultural Act of 2014 (P.L. 113-79)
> (Farm Bill) directs the U.S. Department of Agriculture (USDA) and the
> Food and Drug Administration to allow donations and serving of traditional
> food through food service programs at public and nonprofit facilities,
> including those operated by Indian tribes and facilities operated by tribal
> organizations, that primarily serve Indians. The donated foods can include
> food caught or harvested locally to be given to programs serving tribal
> Elders living in hospitals, clinics, long term care facilities, and senior meal
> programs with the understanding that safe food practices are ensured;
> and WHEREAS, we support the following methods to accomplish this
> Elder centered approach: community food donations, use of local vendors,
> effective tribal food code procedures, development of traditional food
> councils within Long Term Care facilities which receive support from tribal
> leadership and federal, state, and local regulatory agencies. Healthy,
> traditional food choices lead to better health outcomes including: improved
> diabetic management, reduced renal disease, improved cardiovascular
> disease management, prevention of unintended weight loss, improved
> mood, and the assurance of independence and self-control." (Resolution
> #2016 –01: NICOA Elders Support Implementation of the Service of
> Traditional Food in Public Facilities)

More targeted resolutions highlight areas where Native elders are overlooked in unique

ways in policies, pointing out how the reservation system regional differences creates

particular needs in the provision of healthcare, especially in the funding and

administration of Medicaid and the lack of funding for long-term care:

> "WHEREAS, federal law requires recovery of assets ("estate recovery") by states when a patient has been in long term care. Trust assets and some traditional property may not be recovered but most real and personal property of AI/ANs is subject to liens by the state under this rule when a patient dies; and WHEREAS, estate recovery was authorized to alleviate some of the financial costs of long term care provided by the Medicaid program. States are required to recover the costs of nursing home or home and community-based services and may recover for other related Medicaid expenses. There is narrow discretion to grant hardship exemptions or waive estate recovery; and WHEREAS, one third of AI/ANs are in families with incomes below the federal poverty line. A report by the Kaiser Family Foundation states that "[the AI/AN] poverty rate is higher than any other racial or ethnic group and about twice as high as the poverty rate of the overall nonelderly population." This means that many AI/ANs have no choice but to accept Medicaid benefits for life-saving care. They may be aware of the dangers of estate recovery but have few other options available, or they may decline needed care; and WHEREAS, an exemption from estate recovery for AI/ANs nationwide would be consistent with the Affordable Care Act exemption from tax penalties and would ensure that the health status of AI/ANs would be substantially improved; it would likely save lives. This exemption is fundamentally consistent with the trust responsibility the US government owes to AI/ANs." (Resolution # 2014-03: Medicaid Asset Recovery Exemption for American Indian/Alaska Native Elders)

These policy resolutions not only reflect the federal policy focus expected for this group,

but also offer insight into how Native organizations and communities understand the

ways in which Native elders are not given adequate consideration across federal

policies.

*Policy Office (*OHAIANNHP) *– Program Navigation, Community Resilience, and*

Program Partnerships

The Title 6 office newsletter series focus on navigating administrative barriers

and confusion for Title 6 program directors. The challenges that emerge in leveraging

funding resources is discussed openly, and newsletters offer resources, webinar

schedules, and guidelines for securing funding for various programs. These resources

include advice on navigating Title 6 resources and how they might compliment other

services pertinent to serving Native elders, like Medicare enrollment programs:

"Medicare Improvements for Patients and Providers Act (MIPPA) is a program that

helps to make Medicare affordable for older Americans who need help paying for

portions of their Medicare costs. Tribal MIPPA grants are awarded to Title VI grantees

to advertise MIPPA benefits and to help their elders get enrolled in programs that will

cover Medicare costs" (Older Indians Newsletter Summer 2021). These newsletters

also highlight Tribal success in their application of Title 6 resources, highlighting a "Tribe

of the Quarter" in each publication as examples of how groups work to meet the needs

of their elders with Title 6 resources. These newsletters also often highlight partnerships

within communities, partnerships with private industry, and external funding

opportunities to bolster the effects of Title 6 funding and programming:

> Within our Aging division, we have the 12-resident Wolf River CBRF
> (Community Based Residential Facility), 2 meal sites that produce over
> 220 hot meals per day, a Long-Term Care program that case manages
> over 135 community members, an elder benefit specialist, a dementia
> care specialist, 2 elder support providers, a loan closet, and a caregiver
> program. The Long-Term Care Program just celebrated its 3-year
> milestone of partnering with Lakeland Care to provide key services to our
> members. Through this third party agreement we are able to make use of
> and expand services for tribal members by utilizing Lakeland's provider
> network for needed services. These provider partners are the backbone to
> ensuring that members are able to live in the community they call home.
> Despite challenges, we continue to promote and attempt to grow our
> caregiver programs. We have Title III and Title VI that support our efforts.
> We realize how important it is to document our work so that we can track
> the growth of community assistance. (Older Indians Newsletter: Fall 2021)

Emphasis on communities finding efficient ways to leverage partnerships and navigate

funding systems was prevalent across these newsletters, as was celebrating community

accomplishments and highlighting the pride communities take in caring for their aging

community.

How do organizations representing different groups identify needs and promote

health for Native elders in similar or different ways?

Organizational Focus (NRCNNA) – Bridging Levels

From the organizational standpoint, needs assessment itself was a large part of

promoting health through program development. This was largely due to the challenges

generated in the blanket EBP requirements written into the OAA grand funding structure

that overlooked the unique needs of AI/AN elders in terms of health promotion

programming. As such, in order to identify the needs of Native communities in relation

to this funding requirement, the NRCNNA reviewed literature to assess the existing

research on EBPs for AI/AN populations, surveyed Title 6 directors and staff working

within Native communities, and also conducted listening sessions to hear directly from

elders themselves. Further, they link this this process of identifying needs across levels

to promoting collective action across levels as well:

> "The purpose of this report is to summarize lessons learned from the
> literature on how to implement culturally appropriate community-based
> health promotion programs; share the results of listening sessions
> conducted with both organizational program coordinators and AI/AN/NH
> Elders; share the results of a national survey of Older Americans Act Title
> VI program staff about the use of EBPs; and recommend action steps to
> collectively work towards solutions for more inclusive programming for
> AI/AN/NH Elders." (Evidence Based Health Promotion Programs Among
> American Indian, Alaska Native, and Native Hawaiian Communities: A Call
> to Action to Improve Cultural Relevance and Accessibility)

While my hypothesis for this organization was that the focus would center on Native

organizations and leadership and generating resources at that level, all of these reports

emphasize garnering input from elders themselves and including them in the program

development and adaptation process in order to generate resources and programs that

address the specific needs in their community.

Elder Advocates (NICOA) – Bringing Overlooked Issues to Light with Data and

Research

Resolutions from NICOA also highlight and critique issues at the federal policy

level, centering on the ways that the unique needs and circumstances of Native elders

are overlooked, and pushing for funding and resources to generate research and

knowledge to bring these gaps to light. Specifically, in a resolution from the 2014

conference, NICOA highlights a gap in gerontological and geriatric research that

"contributes to AI/AN health disparities, maltreatment, exclusion, gaps, and other

gerontological health issues" (Resolution #2014-02: Gerontology and Geriatric

Research to Benefit American Indian/Alaskan Native (AI/AN) Elders & Tribes). They

further emphasize how providing funding and expanding research in this area also

requires culturally relevant research methods and offers the potential to generate

increased resources through leveraging new evidence-based findings. Several

resolutions also focus on appropriating funding for programs and services, leveraging

data and research from Native communities to point out shortfalls in funding and unmet

needs. A common theme here is not only that existing programs are underfunded, but

that they are also not growing commensurate with the population aging trends in the

AI/AN population and does not address unique circumstances of Native communities

and their elders. Identifying needs unique to aging Native communities is outlined as a

policy level issue for this group.

*Policy Office (*OHAIANNHP) *– Program Evaluation, Supporting Communities with*

Information

This office regularly advocates for communities to participate and leverage

program evaluation surveys both to update understanding for community needs, but

also to provide feedback to the larger program office to improve how Title 6 funding

programs are managed:

> "Evaluation can sometimes feel like a challenge. As program directors,
> you likely have questions about your program but may not know where or
> how to start with evaluation. As part of the Evaluation of the ACL Title VI
> Programs, ICF, in partnership with ACL, worked with a group of Title VI
> grantees to understand the kinds of questions local Title VI programs have
> about their program and what types of resources would be most helpful in
> answering those questions. A common concern shared by program staff
> was how to know if program services are meeting the needs of elders and
> caregivers and what other needs elders and caregivers may have. To help
> with that, ICF developed the Title VI Evaluation Toolkit… The toolkit,
> developed with input from local Title VI program staff, is a ready to use
> resource designed to help Title VI programs better understand how
> nutrition services, supportive services, and caregiver support services are
> meeting the needs of elders and caregivers." (Older Indians Newsletter:
> Summer 2020).

Much of the content in these newsletters focuses largely on community or

organizational level issues and solutions, such as navigating funding and program

processes, expanding nutrition and transportation services, addressing needs for home

modifications to support aging in place, and maintaining programming to support social

connectedness. These newsletters also report persistent needs and interventions at the

individual level in Native communities such as family and caregiver respite and

resources that emphasize familial caregiving:

> "We all know it can be difficult to have someone else take of your loved
> one. But if a Caregiver is sick, they may be unable to give an Elder the
> care they need and keep their loved ones safe from illness. Caregivers
> often need to be reminded that they, too, deserve to rest and heal. A way
> to make sure that Elders continue to get the help that they need when a
> Caregiver is unable to be there, is to make an Emergency Support Plan.
> This plan means the Caregiver, and Elder if possible, sitting down and
> talking with other family members, friends or neighbors to prepare for
> "what if". The Caregiver usually knows best what the needs of an Elder
> are and what their daily routine is like. We can encourage Elders and
> Caregivers to identify those they trust and prepare to talk about what
> others may be willing and able to help with in case the Caregiver is sick or
> unable to get to their loved one in an emergency. Encourage Caregivers
> and help walk them through the process of creating an effective plan"
> (Older Indians Newsletter: Spring 2020)

This individual focus (though, granted, still a minority one) is unique to this organization

in the context of the broader study.

What strategies, approaches, or policies do these organizations believe are most

salient in generating resources and barriers for Native elders in terms of

promoting health and accessing healthcare?

Organizational Focus (NRCNNA) – Cultural Relevancy, Elder Input, and Program

Adaptation

The consistent critique of the OAA funding challenges in the addition of EBP

requirements for grant funding was the lack of consideration for culturally relevant

programming for Native elders. In this regard, documents stressed that implementing

western-centered curriculum was unappealing for this population both because it

overlooks community values, but also because it brings back memories of the boarding

school era, thus generating community mistrust of these stock programs:

> " The specified requirements for EBP delivery could also be a challenge. It
> is not always possible to encourage participants to commit to a program
> that meets for a few hours per session for several weeks. Program
> requirements, some reported, are not only restrictive, but also inflexible.
> One program staff member indicated that when there is more flexibility to
> program attendance, more participants remain in the program. Flexibility
> was also valued since weather can be severe barrier in parts of the
> country, leaving staff to cancel activities following significant time spent
> recruiting participants. The required homework that comes with some
> health promotion programs is also difficult to maintain. Some Elders resist
> these requests, indicating they didn't want to revisit their school days."
> (Evidence Based Health Promotion Programs Among American Indian,
> Alaska Native, and Native Hawaiian Communities: A Call to Action to
> Improve Cultural Relevance and Accessibility)

The overarching themes from these reports emphasize adapting and expanding

programs in ways that rely on community and Elder input and increase cultural

relevance while maintaining OAA funding. These strategies were suggested for

individual communities but were also proposed for community collaboration in sharing

successful program adaptations, and posited long-term goals of employing successful

program development, adaptation, and evaluation to advocate for updating funding

requirements at the policy level.

Elder Focus (NICOA) – Addressing what gets Erased in Policy

NICOA resolutions highlight policy issues wherein the experience of Native

elders have been erased or ignored. In bringing these resolutions forward, NICOA

advocates for increased resources and exemptions for the AI/AN population from policy

provisions that disproportionately generate hardship or barriers for Native elders in

targeted and explicit ways. Further, these resolutions highlight where these policy

provisions directly contradict treaty agreements and AI/AN policies specifically. For

example, one resolution from the 2014 conference, quoted above, responds to how

estate recovery provisions for Medicaid long-term care beneficiaries disproportionately

affect Native communities because of the high prevalence of poverty and argues that

exempting Native families from this provision would increase well-being in Native

communities. The estate recovery provisions in the Medicaid policies work to maintain

poverty and create barriers to growing wealth in Native communities, long-standing

issues directly linked to poor health and well-being. As such, approving an exemption

from these provisions would be "fundamentally consistent with the trust responsibility

the US government owes to AI/ANs." Similarly, NICOA also submitted resolutions

supporting better funding of long-term care provisions, as the ACA authorized IHS

facilities to provide long-term care services but then never appropriated funds to cover

this service expansion:

> "WHEREAS, as the American Indian/Alaska Native Elder population
> increases, the urgent need for long term care services and supports also
> increases. According to the Administration on Aging, the number of AI/AN
> people age 65 and older is projected to increase by nearly 75% between
> 2010 and 2020. The Centers for Disease Control and Prevention found
> that Native people overall were 50.3% more likely to have a disability,
> when compared with the national average. Overall AI/AN populations
> experience some of the highest rates of chronic disease and disability in
> the U.S; and WHEREAS, a 2010 survey by R. Tuner Goins, Ph.D. found
> that out of 566 tribes only 15 percent of tribes had nursing home services
> and 16 percent had assisted living services; and WHEREAS, The
> Affordable Care Act and its dual legislation, the Indian Healthcare
> Improvement Act grants the Indian Health Service (IHS) specific
> authorities for provision of long term care; and WHEREAS, the
> aforementioned legislation only authorizes IHS to provide services but
> does not mandate any new funding specific to long-term care. The Indian

Health Service does provide care but has been underfunded for decades. In a 2005 GAO report titled "Indian Health Service: Health Care Services Are Not Always Available to Native Americans" highlighted the ongoing problems of long wait times, lack of adequate facilities and rationing of care due to lack of funding; and WHEREAS, adequate appropriations are needed to address this looming health crisis; and NOW THEREFORE BE IT RESOLVED, that NICOA Elders do hereby call on the Obama administration to request and for Congress to authorize and appropriate adequate funding for the provision of long term care services and supports for American Indian and Alaska Natives." (Resolution # 2014-07: NICOA Elders Request Long Term Care Funding)

Each resolution tackles a unique policy issue and works to carve out a place for Native elders in broad sweeping policy landscapes where they have previously been ignored.

*Policy Office (*OHAIANNHP*)– Collaboration, Program Navigation Community Resilience and Creativity*

The foremost strategy in supporting Native communities in promoting health and healthcare access for this group was aiding the navigation of the policy landscape and funding mechanism. This was evident in providing support to programs for Title 6 programs and identifying external funding sources, compiling additional educational resources for a variety of challenges prevalent in Native communities as they pertain to elders. In highlighting various tribal groups as exemplars in leveraging program funding, this organization further illustrated how creative navigation of resources and partnerships had the potential to leverage available resources and promote services despite funding shortfall:

"The Long-Term Care Program just celebrated its 3-year milestone of partnering with Lakeland Care to provide key services to our members. Through this third-party agreement we are able to make use of and expand services for tribal members by utilizing Lakeland's provider network for needed services. These provider partners are the backbone to

ensuring that members are able to live in the community they call home. Despite challenges, we continue to promote and attempt to grow our caregiver programs. We have Title III and Title VI that support our efforts. We realize how important it is to document our work so that we can track the growth of community assistance. Our elder support providers are an active component that help caregivers with respite care and assess needs to support caring for their family members. They also perform chores, transportation, pharmacy delivery, and grocery shopping for the elders." (Older Indians Newsletter: Fall 2021)

Overarching themes in these newsletters revolve around social connectedness (particularly in newsletters issued after the start of the Covid-19 era), pride in caring for the aging population and supporting families, and community resilience. These themes suggest that while the overall focus of this organization tends to be at the community level, this is largely because this is where they see the solutions to promoting health and well-being originating on an everyday basis despite shortfalls in how programs are funded, and not because the problems originate in the communities.

Discussion

This research addresses the following question: Given that organizations working to promote resources and well-being for Native elders differ in what segment of the Native community they represent, do these organizations differ in how they approach promoting health and healthcare access for AI/AN elders in terms of their focus on individual, community, or policy-based strategies? Answers to these questions are important for better understanding how Native organizations and communities understand, navigate, and engage with policy to address disparities in health and healthcare for older AI/AN people. The texts analyzed in this study reveal how Native organizations connect individual, community, and organizational level challenges and solutions to policy in order to confront how inequality in old age operates for the AI/AN population. Further, these organizations work with and in opposition to a neoliberal policy landscape in strategic ways to meet the immediate needs of the older AI/AN population and push for increasing health equity at the policy level. They do this in part by navigating existing policies in creative ways to connect communities with resources and programs for their elders, and then leveraging the feedback and outcomes from those programs to advocate for policy change.

The nuanced way these organizations define how policy challenges generate unique barriers at the intersection of race and old age also points to what issues and policies might benefit from further attention and scholarship as we work to create more inclusive sociological frameworks for studying racial health inequality in old age. The colonial history of policy and its relationship to health and healthcare for the aging AI/AN

population have resulted in equally complex disparities in health and healthcare access

(e.g. Warne and Frizzle 2014, Smyer and Stenvig 2007, Willging et al 2018). The

political economy of aging framework connects group struggles to policy and

experiences of old age, and further emphasizes the connections between individual,

organizational and policy levels (Estes, Linkins, and Binney 1996, Estes 2001).

Sommerfeld et al. (2021) use an organizational perspective to connect policy to the

aging AI/AN experience and illuminated important issues in barriers embedded in the

organization of Native healthcare for Native elders accessing care. These researchers

also suggest that organizational actors hold competing ideas about the most important

factors in promoting health and healthcare access for Native elders. As such, my study

seeks to expand on this emerging scholarship to further understand how Native

communities and organizations understand the challenges in health promotion for

Native elders, how they understand those challenges to be connected to policy (or not),

and what kind of strategies and approaches best meet their goals to increase health

and healthcare access for their aging populations.

In looking at organizations with different proximity to policy development and

advocacy, I anticipated finding some differences in approaches in how they navigated

policy and worked to increase support for the health and well-being of Native elders,

which would perhaps indicate contradictions in advocacy efforts. These contradictions

might have indicated variation and disintegration in how elders' interests were

represented at the policy level. However, I found that there was a strong priority across

organizations, in some capacity, in centering elders' experiences and values. This

hypothesis was informed by a political economy perspective, which would suggest that organizations operating in closer collaboration with federal offices might focus on approaches more in line with neoliberal policy agendas that might work to maintain the status quo (e.g. Estes and Wallace 2010). This surprising similarity in approaches across all groups might be best understood through the political position of Native Peoples, who exist not only US citizens but also as members sovereign nations with a government-to-government relationship with the US (e.g. Moss 2010). Skinner (2016) argues that policy developments in healthcare funding, while increasing resources for Native healthcare, also work to absolve the federal government's responsibility to fulfill its treaty obligation to provide healthcare for all Native Peoples. Organizations center and leverage these treaty agreements to push back against the neoliberal push to shift responsibility from the state to the individual. Organizations explicitly point to problems in policy agendas that illustrate how this contradiction works to disadvantage those in old age in particular – such as the case with estate recovery provisions in Medicaid policy.

While these organizations varied some in their approach (from individual, to organizational, to policy-based), the intentionality with which one organization (NRCNNA) in particular works to bridge individual experiences to organizational efforts to policy advocacy illustrates the highly collaborative and integrated position of Native organizations and their values. The NRCNNA is an organization with a mission to empower Native organizational leadership by partnering with individual Tribes and organizations to expand resources, data, and support for Native organizations. My

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hypothesis was that organizations representing organizational perspective (such as the NRCNNA) would be focused on offering solutions to challenges at the community level. In contrast, organizations representing elders (such as NICOA) would focus on solutions and change at the policy level (consistent with the findings of Sommerfeld et al 2021). While these organizations did operate somewhat consistently within the hypothesized areas, there also emerged a bridging between levels and intentionality in representing elders' values and voices in ways that blurred the divisions between different levels. This overarching agreement in how organizations approach defining policy-based problems and solutions emphasize cohesive and multi-pronged strategies to increase health equity and well-being for Native elders and offer definitive answers for what policies are most salient in generating barriers and resources for this population. This contributes to a greater understanding of how disparities in health and healthcare access are uniquely shaped for this group at the intersection of race and old age through federal policy.

While reports from this organization were largely focused on empowering communities to expand programming for Native elders, they also explicitly recognize and discuss the systemic nature of how gaps in resources are tied to the ongoing colonial nature of healthcare policy and federally funded social programs. While they critique and engage with policy challenges to address short-term solutions at the community level, they also set forth strategies to bridge their community-level work into national incentives with policy agendas. This was prevalent in their discussion of new OAA Title 6 requirements necessitating the development of Native-informed and

centered evidence-based programming (EBP) to receive program funding. In this report, this organization discusses the policy issue, connects the issue directly to community-based challenges, and then offers targeted community-based interventions with input from both organizational stakeholders and Native elders.

However, they then detail long-term action plans to leverage the products of community-based interventions to advocate for change on a national scale. This illustrates the link that organizational actors maintain between the delivery of healthcare and social services for Native Peoples and national-level policy processes. While neoliberal policy trends have been observed across health care policy as well as in AI/AN policy (e.g. Estes and Wallace 2010, Moss 2010) in ways that have created a complex web of health insurances and reimbursement structures, this analysis reveals the competing ideologies of Native organizations and the neoliberal public policy milieu. First, this is apparent in the ways that they define shortcomings and central causes for health and healthcare disparities for Native elders as resulting from an unfulfilled obligation on the part of the US federal government. Second, this is seen in the overall focus on expanding funding and supports for Native elders as a group rather than emphasizing individual interventions or solutions. Further, the evaluation of how Tribes adapted various EBPs to utilize culturally relevant community-based approaches (as opposed to individual self-management approaches) to health management revealed direct increases in program participation and improved chronic disease management for Tribal elders. This shows how Native communities continue to navigate a colonial relationship with federal funding agencies, and that neoliberal ideologies prevalent in

the policy landscape are directly at odds with the treaty relationship between the US

government and Tribes. Further, this discordant relationship between neoliberal

ideology and treaty responsibility emerges in blanket policies that overlook important

aspects of Native cultures and values, generating increased barriers to health services

and well-being.

NICOA resolutions necessarily focused on policy advocacy, and while this focus

was largely consistent with my expectations for this group, the scope of the resolutions

revealed additional insight. While I hypothesized that the organization representing

Native elders would be largely focused on federal policy, I did not appreciate the

nuanced way in which this group recognized and addressed the particular ways in

which Native elders have been ignored in the funding and administration of various

programs. This omission is unsurprising in many ways, in that the interest groups

shaping the commonly discussed healthcare and old age policies largely did not include

Native elders -or representation of any kind from Native communities – (e.g. Quadagno

2011, Oliver, Lee, and Lipton 2004). This reveals the importance of the intersection of

race and old age embedded in healthcare and social services policies. This study

bolsters previous research emphasizing the importance of a much broader range of

federal policies and how they are related to health and well-being (e.g. Norgaard 2019).

It also contributes to this literature in that these policies have unique impacts for Native

elders in particular. In relation to Subica and Link's (2022) theorizing that suppressing

cultural modes of being is part of how cultural trauma operates as a fundamental cause

of health disparities, this project both supports their approach and reveals examples of

those mechanisms that work to damage or overwhelm health protective resources. For example, the resolution advocating for incorporating traditional food sources and subsistence living practices into caring for elders indicates that food and safety regulations in policies damage cultural modes of being. Similarly, funding guidelines for Title 6 services and programs prove to be antithetical to Native elders' cultures and values. These examples illustrate that these mechanisms are not always blatant racism and oppression, but that they often occur when broad policy guidelines don't consider the unique intersections of race and old age.

Resolutions addressed issues in IHS, OAA, SSI, and Medicaid provisions and their overlap in explicit and targeted ways to advocate for increased resources and decreased barriers unique to Native elders. These concerns were often addressed through multi-pronged strategies that point out contradictions between different policy resources. For example, in the case of long-term care resources for Native elders, NICOA approved resolutions to address shortcomings in IHS funding and delivery, and how Medicaid's Long-Term Care (LTC) provision fails to adequately address the needs of Native elders specifically. Resolutions pointed out the approval of LTC delivery through IHS systems, but those funds were never appropriated to cover this service. While Medicaid serves to fill some of this service gap, the estate recovery provision has a disproportionate effect on Native families and is in direct contradiction to the federal government's obligation to Native communities that should be met through the IHS system.

This ignored intersection of race and old age was reflected in policy resolutions across various policy areas – not just for health policy, old age policy, and AI/AN policy. The comprehensive nature of these policy resolutions that extended well beyond healthcare and old age policy revealed that the particular situation of Native elders is not considered in many federal policies, all with unique implications for health and well-being for this group. In fact, throughout this analysis (and across all three organizations) Title 6 emerged as a key policy in that it is the *only* policy written explicitly for this group. However, it was not mentioned in most of the literature on policy and disparities in healthcare access for the AI/AN population which is more often focused on Medicare (e.g. Martino et al 2020), Medicaid (e.g. Henley and Boshier 2016, Trahant 2018), and federal AI/AN policies (e.g. Skinner 2016, Moss 2010). While this is important and valuable scholarship, as these are all critical policy issues regarding the aging AI/AN population, Title 6 emerged in this study as the focal policy for filling in the gaps and ameliorating barriers left by these broader policies. However, NICOA critiques the shortfalls persistent in the funding of Title 6 programs brought about by more general OAA guidelines and requirements, noting specific circumstances for Native communities (such as inflated costs for supplies on reservations and a rapidly aging population) that are not accounted for in the provision of resources for these programs.

The OAA Title 6 office was noticeably different in its approach. Whereas both the NRCNNA and NICOA centered their reports and resolutions on the critical shortcoming of policy resources and heightened barriers to health and healthcare for Native elders, the Title 6 office focused on working within existing systems and highlighting community

strengths and resilience in ways that encouraged a creative leveraging of resources to meet community needs. While this group was primarily focused on community-level interventions and problem solving, hints of an individual focus peaked through in their discussions of caregiving for elders. While this is one small example in a greater milieu of community focus, this offers some support for the hypothesis that this organization's position as a government agency may make it the most likely to take individual focus regarding caring for Native elders and also perhaps the least likely to base their problem-solving on the input and voices of Native elders.

Conclusion

While each of these organizations varied in their approach to improving the health and well-being of Native elders, several themes tied them all together. First, they all stress the importance of data and information. All organizations emphasized the need to promote appropriate data collection and research in Native communities to understand the needs of Native elders and bolster advocacy efforts for sculpting better resources, programs, and political recognition for the aging AI/AN experience. This often included explicit and intentional inclusion of Native elders. Second, they all point to the importance of localizing program administration to be housed within Native communities and have strong Native leadership in its organization and delivery, particularly in the context of increasing the cultural relevance of the design and delivery of programs for elders. Third, they focus on community partnership and creating relationships across organizations. Maintaining relationships between Tribal communities and with other organizations was discussed as a way to share information to promote better programing for all Native elders, which, for some groups, would in turn have the capacity to advocate for more inclusive policy and programming.

Taken together, these organizations demonstrated strategic problem solving at community, organizational, and policy levels and employ multi-pronged solutions to challenges facing Native communities regarding promoting health and healthcare access for the aging AI/AN population. While each organization operated largely consistently within the hypothesized levels, the similarities across all organizations rested in the recognition of the unique experience of Native elders, and the importance

of elders' inclusion, input, and representation. While previous research has found a

disjuncture between the opinions of Native elders and organizational actors, this study

found a deep understanding within Native organizations and communities of how policy

has worked to exclude and erase the experience of Native elders. Further, I found that

Native organizations work intentionally to re-center older Native people's experiences

and perspectives in their advocacy and programmatic efforts. The level of organizations

considered might explain this difference between previous research and my study.

While previous research has been community-based and occurring within specific

healthcare organizations, the organizations in this study, while recognizing the

importance of individual community contexts and sovereignty, also have a broader

focus and mission to advocate for Native elders. This driving tenant thus leads to

drawing on input from Native elders themselves as part of their approach in developing

an understanding of issues and problem-solving strategies.

While much of the literature in this area focuses on inequities resultant from IHS

policy, Medicaid, and Medicare, I found in this data that Title 6 of the OAA is a crucial

piece of legislation for promoting health and well-being for Native elders, not only

because it addresses some critical barriers for accessing healthcare and offers

programs for chronic disease management, but also because it generates resources to

promote overall health and well-being, particularly in regards to these programs'

capacity to increase social and cultural connectedness. However, because Title 6 is

managed under the broader OAA, it is still subject to guidelines and requirements that

work to generate administrative barriers in providing culturally relevant and adequately

funded programming for Native elders. Further research in this field should consider how the OAA fits within the larger policy landscape and its potential to ameliorate inequities that stem from longstanding colonial histories and shortfalls from other resource-generating policies.

Discussion, Limitations, and Future Directions

The overarching goal of this research was to develop a better understanding of disparities in health and healthcare access in the context of federal healthcare and old age policies. In particular, this project explored how these disparities might be informed by sociological theories of health, old age, and inequality. This research further explores how AI/AN experiences and contexts of colonial policymaking might inform those theories to create more inclusive frameworks. Because aging Native populations are notoriously underrepresented in datasets, scholars have found it difficult to include this population in sociological analyses and theorizing in regard to health disparities in old age (e.g. Collins, Estes, and Bradsher 2001, Angel, Mudrazia, and Benson 2015).

Although scholars have established that racial health disparities and disparities in health resources in old age are linked to social policy (e.g. Quadagno, Keene, and Street 2005, Poole 2006, Hudson 2015, Herd 2015), the ways in which these policies work together for this particular group has been less prominent in the sociological literature - though this has recently received attention (e.g. Sommerfeld et al 2021, Jaramillo and Willging 2021). In this project, my analyses aimed to understand how the overlaps between various policies generate inequality for this group in terms of health outcomes and healthcare access. This research also included an analysis of publications from Native organizations to further understand their perspectives on how policy shapes inequality for Native elders and what strategies are important in navigating policy to increase health and well-being for the older AI/AN population.

The first study in this project was designed to understand racial health disparities in old age for AI/AN elders compared to other racial groups, and how structural factors varied in importance among aging white, Black, Hispanic, and AI/AN populations. This analysis found support for the most recent developments in Fundamental Cause Theory (Link and Phelan 1995, Phelan and Link 2005), which was expanded to consider cultural trauma experienced by minority groups (Subica and Link 2022). This new extension of Fundamental Cause Theory details how resources, such as cultural modes of being and cultural institutions (such as healthcare systems) can be shaped by historical trauma (such as that experienced by Native Peoples). The analysis for this project offers links between existing work in public health that has detailed how racialized policies are embedded in the organization of Native healthcare (e.g. Warne and Frizzell 2014, Smyer and Stenvig 2018) and how healthcare and old age policies overlap in ways that can create barriers to health and healthcare for Native elders (e.g. Sommerfeld et al 2021, Jaramillo and Willging 2021).

This project expands on this important work by demonstrating how these systems work together to create and perpetuate health inequality in old age for the AI/AN population in ways that are not accounted for in sociological theories of racial health disparities and old age inequality. Further, this project sheds light not just on how barriers to health and healthcare work in unique ways for this group, but also how resources are shaped by these same systems in ways that decreases their potential for ameliorating health disparities for this group. These connections first emerged in the analysis in finding that income was less associated with better health outcomes for the

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AI/AN group than for other racial groups, and also in comparing how different types of health insurance predicted health outcomes differently by racial group. For example, having private insurance, while predictive of better health outcomes across all other groups, was only significant for AI/AN elders until variables measuring the racialized organization of healthcare, such as delays in getting doctors' appointments, transportation issues, and satisfaction with care, were taken into account. This part of the analysis thus suggests that colonial histories and trauma are important in considering both social causes of health and illness (e.g. Braun and LaCounte 2015, Jones 2006, Walls and Whitbeck 2012), and also how effective flexible resources (such as financial resources) are for alleviating health disparities, as they too have been shaped by the ongoing colonial nature of policy-making at the federal level (e.g. Hoss 2019, Skinner 2016).

Limitations in the analysis for the first two parts of this project revolved around data availability and sample sizes that were particularly constraining, especially for measures of racism that have been shown to be important to this group. Because of the limited availability for constructs of racism for Native elders, and the relatively low variation for the measures that were available (delays in appointments, transportation issues, and satisfaction with care), the analysis was not as sensitive as one would like. Thus, there remains room for further empirical analysis of how racial structures contribute to unequal health outcomes in old age for the AI/AN group. As advances are made in data collection efforts to better represent this group, inclusion of stronger measures for structural racism that is culturally relevant to the AI/AN community should

also be considered. As well, based on findings across these three analyses, adding

measures for Title 6 program access and utilization and measures for cultural resources

such as cultural modes of being, access to cultural lands, and culturally relevant

institutions (Subica and Link 2022) might yield better models for understanding how

structural racism shapes health disparities in old age for this group. As well, including a

measure for urbanicity, which was part of the original plan for this analysis that was

ultimately not included due to lack of data access, might reveal how these systems and

structures vary as a result of other policies pertinent for this group. Adding such a

measure could also be useful in exploring how the potential for flexible resources to

ameliorate health disparities may also vary based on geographic contexts shaped by

colonial policies.

That flexible resources are shaped through processes of inequality that also

influences their effectiveness matters when considering access to care issues in Native

communities (e.g. Braun and LeCounte 2015, Jones 2006), particularly for those in the

older segment of this population (Bylander 2018). As such, the second part of this

project employs Andersen's behavioral model of healthcare utilization (Andersen and

Newman 1973) in order to further delineate how cultural trauma shapes access to care

in the context of Native healthcare systems and overlapping healthcare policy.

Using more recent updates to this theory (e.g. Andersen 1995) and proposed

adaptations that make this framework useful for studying systems of racism (Ford and

Airhihenbuwa 2009), the second article in this study models the effect of demographic

characteristics, need for healthcare, enabling resources, and measures for systemic

racism to examine equitable access for this group. And further, whether healthcare

utilization is promoted through policy or hampered by barriers associated with racism as

it is experienced by Native Peoples (e.g. Subica and Link 2022, Sommerfeld et al 2021).

Andersen (1995) argues that equitable access to care should be driven by predisposing

(demographic) characteristics and need-based variables. By this model's definition, my

analysis revealed inequity. That is, once enabling variables (measured both by

economic resources and policy-based resources) were added to the models,

demographic characteristics lost significance and need-based characteristics decreased

in magnitude. Further, enabling resources was more predictive of increased healthcare

utilization for AI/AN men as compared to women, suggesting that gender inequality

might also contribute to how cultural trauma affects institutional resources like

healthcare policy. This suggests opportunities for future, intersectional research for the

aging AI/AN population, particularly within the context of Subica and Link's (2022)

theoretical developments.

As noted above, expanding data availability for this group and expanding

culturally relevant measures for structural racism might help in better modeling how

disparities in health and access to care for this group are shaped, particularly for those

in old age. Expanding availability of measures for important constructs, such as Title 6

program access and utilization and measures for cultural resources (e.g. Subica and

Link 2022) also offer potential to more effectively build on Ford and Airhihenbuwa's

(2009) expansion of Andersen's behavioral model of healthcare utilization (Andersen

and Newman 1973, Andersen 1995). While this analysis attempted to leverage Ford

and Airhihenbuwa's (2009) conceptual model by including measures for structural racism for this group, these measures were outcomes tied to the racialized organization of healthcare in qualitative work (Sommerfeld et al 2021) and not necessarily measures of structures themselves. Including larger constructs for cultural resources might help create a conceptual framework for understanding disparities in healthcare access that is inclusive of AI/AN experiences by linking Ford and Airhihenbuwa's (2009) conceptual framework with Link and Subica's (2022) understanding of cultural trauma and health equity.

How intersectional inequality is generated through policy became clearer in the third part of this study, which undertook a thematic analysis of publications from Native organizations focused on promoting health and well-being for Native elders. This section was informed by a political economy of aging perspective. By connecting racism and policy to experiences of old age at the individual, organizational, and policy level, my analysis revealed how Native organizations sought to bridge these integral connections between Native elder experiences and organizations in order to better navigate the policy landscape – which often fails to meet the needs of the aging AI/AN group (Estes 2001). While each organization varied slightly in their approach to alleviating inequality, they shared similar strategies rooted in centering the voices of elders in order to connect community experiences to policy level challenges and potential solutions (e.g. Estes, Linkins, and Binney 1996). This process for identifying unmet needs experienced by Native elders further shaped in understandings of how policy generates unique gaps in resources at the intersection of race and old age.

In this analysis, Title 6 of the Older Americans Act emerged as a key piece of legislation in addressing barriers and generating resources for Native elders that was largely undiscussed across the literature. This policy was also originally overlooked as an important health resource for this project. However, throughout the development of this chapter, the importance of Title 6 became increasingly clear, as this is the only policy that was written to specifically recognize the experience and needs of the aging AI/AN population – and it is not without critique. Organizations pointed to how the larger structure of the Older Americans Act created blanket regulations that created administrative barriers in providing culturally relevant and adequately funded programming for Native elders. This again details the importance of Subica and Link's (2022) framework for understanding that cultural trauma not only generates health disparities across different cultural modes, but also shapes flexible resources and their efficacy for this population. Political economists (e.g. Estes and Wallace 2010) point out that although redistributive policies may have the potential to alleviate inequality, they often work to maintain the status quo.

This insight emerged in my analysis as well, apparent in the ways that policy provisions for AI/AN elders and their communities are nested within broader policies. These broader policies (such as the OAA) are shaped by neoliberal ideologies and have regulations that create administrative barriers for leveraging policy-based resources for Native communities. I anticipated that organizations that were more closely connected to federal offices would focus more on maintaining and operating within current systems in ways that might work to maintain the neoliberal policy landscape (e.g. Estes and

Wallace 2010). However, all three organizations focused on grounding their understanding of and advocacy for policy resources through seeking out feedback from elders across Native communities. They all focused on working within systems to meet immediate needs by leveraging feedback from elders to shape programmatic efforts, and also centered elders' voices in working towards more transformational policy change in order to close the gaps existing at the intersection of old age and the AI/AN experience.

This departure from and push back against neoliberal ideology and policy development apparent within Native organizations suggest that the political economy of aging framework might also expand to appreciate AI/AN political history. Native Peoples are not just operating within a US policy context as US citizens, but also as members of sovereign nations that have a government-to-government relationship with the United States (e.g. Moss 2010). Native organizations point out that there is a fundamental disjuncture in treating Native elders only as US citizens by applying federal social welfare policy parameters in ways that don't appreciate government-to-government treaty agreements. As such, policy and programmatic efforts from Native organizations that aim to alleviate resource gaps for Native elders are often curtailed by broader US policy parameters in ways that render policy-based resources less effective. While the neoliberal shift has moved responsibility for health and healthcare from the state to the citizen through privatization, this is fundamentally at odds with the US government's responsibility to provision healthcare for all Native Peoples. Instead, we see that their

rights as Native citizens often get erased by their position as a citizen of the United States.

Overall, this project illuminates some of the ways that the policy history for AI/AN peoples contributes to disparities in health and healthcare access, necessitating new adaptations and considerations in sociological theories of health and healthcare access in old age. In particular, while scholars have established that historical trauma is embedded in healthcare policy for the AI/AN population in ways that affect both health outcomes and healthcare access (e.g. Jones 2006, Skinner 2016, Hoss 2019), this project builds on previous research to show how the efficacy of health resources, even when present, is shaped by larger agendas and ideologies in ways that render those resources less effective for AI/AN peoples as compared to other groups. Thus, old age and healthcare policies exist as a potential source of health resources for Native elders, but less visibly, the potential for these resources to ameliorate disparities are often suppressed by larger policy parameters.

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Appendices

Appendix A

Table 1: Descriptive Statistics for Full Sample (N=114,699 Over 55 N=31,273)

Variable	Categories	Percentages	Percentages Over 55	Variable	Categories	Percentages: Total	Percentages Over 55
Old Age	Under 55	54.31		Health Status	Excellent	24.48	15.07
	55 and Over	45.69			Very Good	32.69	30.6
					Good	27.47	32.7
Race	White	72.58	79.96		Fair or Poor	15.36	21.64
	Black	12.78	10.94				
	AIAN	0.88	0.55	Limitations	No Limitations	78.62	63.5
	Hispanic	13.77	8.55		Has Limitations	21.38	36.5
Gender	Male	43.13	42.09	Private Insurance	No Private Insurance	35.55	50.54
	Female	56.87	57.91		Private Insurance	64.45	49.46
Income	$0-$34,999	37.09	47.19	Medicaid	No Medicaid	87.08	90.75
	$35,000-$49,999	12.27	13.61		Covered by Medicaid	12.92	9.25
	$50,000 - $74,999	16.68	16.32				
	$75,000 - $99,999	11.82	9.68	Medicare	No Medicare	69.93	4.43
	$100,000 and over	22.14	13.19		Covered by Medicare	30.07	95.57
Transportation	No Transportation Delay	97.48	97.51	IHS Coverage	No IHS	99.55	0.26
	Transportation Delay	2.52	2.49		Covered by IHS	0.45	99.74
Delay in Making Appointments	No Issues Making Appointments	92.89	94.82				
	Delays in Making Appointments	7.11	5.18	**Variable**	**Mean Total**	**Range Total**	**Mean Over 55** / **Range Over 55**
				Age	51.2	18-85	73.9 / 55-85
Satisfaction with Care	Satisfied with Care	94.37	96.27				
	Dissatisfied with Care	5.63	3.72				

Data Source: NCHS, National Health Interview Survey, 2018

Table 2: Descriptives Statistics for AI/AN Sample (N=1007, Over 55 N=363)

Variable	Categories	Percentages	Percentages Over 55	Variable	Categories	Percentages	Percentages Over 55
Old Age	Under 55	63.95		Health Status	Excellent	18.47	9.25
	55 and Over	36.05			Very Good	22.44	16.76
					Good	35.55	40.46
					Fair or Poor	23.54	33.54
Gender	Male	43	43.35				
	Female	57	56.65	Limitations	No Limitations	69.91	49.71
					Has Limitations	30.09	50.29
Income	$0-$34,999	57.5	69.79				
	$35,000-$49,999	11.72	9.25	Private Insurance	No Private Insurance	64.95	71.1
	$50,000 - $74,999	11.92	11.56		Private Insurance	35.05	28.9
	$75,000 - $99,999	9.04	6.94				
	$100,000 and over	9.83	3.47	Medicaid	No Medicaid	76.37	80.35
					Covered by Medicaid	23.63	19.65
Transportation	No Transportation Delay	93.84	93.06				
	Transportation Delay	6.16	6.94	Medicare	No Medicare	76.56	7.51
					Covered by Medicare	23.44	92.49
Delay in Making Appointments	No Issues Making Appointments	89.97	93.06				
	Delays in Making Appointments	10.03	6.94	IHS Coverage	No IHS	55.11	61.27
					Covered by IHS	44.89	38.73
Satisfaction with Care	Satisfied with Care	91.74	88.44				
	Dissatisfied with Care	8.74	11.56				

Variable	Mean Total	Range Total	Mean Over 55	Range Over 55
Age	47.28	18-85	72.9	55-85

Table 3: Logistic Regression Odds Ratios by Age Groups

	All Age Groups		Under 55 Group		Over 55	
	Limitations	Health Status	Limitations	Health Status	Limitations	Health Status
Race						
Black	1.069*	1.377***	0.828***	1.076*	1.196***	1.748***
AIAN	1.448***	1.678***	1.178	1.579***	1.563***	1.528**
Hispanic	0.675***	1.276***	0.490***	1.069*	0.827***	1.654***
income						
$35,000-$49,999	0.394***	0.596***	0.323***	0.580***	0.429***	0.556***
$50,000 - $74,999	0.291***	0.497***	0.215***	0.476***	0.322***	0.432***
$75,000 - $99,999	0.219***	0.384***	0.147***	0.355***	0.247***	0.319***
$100,000 and over	0.139***	0.273***	0.086***	0.235***	0.158***	0.215***
gender	0.895***	0.910***	0.887***	1.017***	0.923***	0.804***
age	1.041***	1.028***	1.067***	1.051***	1.025***	1.000
	N=114,699		N=62,292		N=52.407	

~=$p<0.1$ *=$p<0.05$ **=$p<0.01$ ***=$p<0.001$

Data Source: NCHS, National Health Interview Survey, 2018

Table 4: Logistic Regression Odds Ratios: Over 55 sample, split by race

	White				Black				Hispanic			
	Limitations		Health Status		Limitations		Health Status		Limitations		Health Status	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
income												
$35,000-$49,999	0.485***	0.579***	0.620***	0.721***	0.420***	0.510***	0.593***	0.690***	0.499***	0.599***	0.632***	0.684***
$50,000 - $74,999	0.374***	0.456***	0.486***	0.574***	0.343***	0.4157***	0.499***	0.576***	0.456***	0.553***	0.658***	0.711***
$75,000 - $99,999	0.279***	0.355***	0.357***	0.430***	0.343***	0.442***	0.388***	0.455***	0.506***	0.635***	0.526***	0.574***
$100,000 and over	0.195***	0.259***	0.246***	0.301***	0.182***	0.246***	0.310***	0.379***	0.292***	0.384***	0.421***	0.459***
Gender	0.935*	0.895***	0.776***	0.754***	0.924	0.846	1.021	0.983	1.079	0.989	1.084*	1.046
Age	1.024***	1.013***	0.996**	0.991***	1.013***	0.999	0.995	0.985***	1.048***	1.033***	1.036***	1.036***
Private Insurance	0.565***	0.794***	0.662***	0.829***		0.583***	0.441***	0.598***	0.426***	0.752***	0.680***	0.861**
Medicaid		3.878***		2.749***		2.744***		1.913***		2.717***		1.670***
Medicare		2.085***		1.403***		2.102***		1.556***		2.792***		1.170*
Transportation		5.432***		2.767***		3.621***		2.393***		3.261***		2.505***
Delay Appointments		1.959***		1.550***		2.282***		1.561***		2.155**		1.695***
Satsifaction		0.516***		0.510***		0.512***		0.608***		0.704***		0.645***
			N=41,179				N=8,483				N=11,101	

~=p<0.1 *=p<0.05 **=p<0.01 ***=p<0.001

Data Source: NCHS, National Health Interview Survey, 2018

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Table 5: Odds Ratios from Logistic Regressions for AI/ANs Over 55 with Post Estimation Significance Comparisons to Other Racial Groups

Limitations	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	White	Black	Hispanic
			AIAN Models Only					Comparison to Other Groups - Significance Levels		
income										
$35,000-$49,999	1.062	1.709	0.768	0.886	1.363	1.435	1.407	**0.072~**	**0.047***	**0.090~**
$50,000 - $74,999	0.630	1.114	**0.469***	**0.886~**	0.789	0.874	0.868	0.190	0.117	0.443
$75,000 - $99,999	0.630	0.785	0.367	0.360	0.528	0.645	0.642	0.494	0.895	0.753
$100,000 and over	**0.123****	**0.216***	**0.082*****	**0.085*****	**0.144****	**0.152****	**0.152****	0.992	0.918	0.573
Gender	1.165	0.914	0.966	0.928	0.960	1.007	0.999	0.937	0.781	0.478
Age	1.003	0.970	1.006	0.962	0.961	**0.959~**	**0.959~**	**0.058~**	0.193	0.115
Medicare		**4.283*****		**3.665*****	**4.629*****	**4.367*****	**4.115*****	**0.077~**	**0.080~**	0.115
Medicaid		**6.366*****			**6.361*****	**5.682*****	**5.731*****	0.303	**0.085~**	**0.035***
Private Insurance	**0.498***	0.846				0.701	0.697	0.858	0.306	0.607
Transportation		**3.451~**						0.495	0.944	0.749
Delay Appointments		2.317						0.746	0.977	0.822
Satsifaction		0.609						0.707	0.711	0.970
IHS Coverage			**0.542***	**0.530***	**0.512***	**0.466****	**0.420***			
IHS X Medicare							1.184			

Health Status	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	White	Black	Hispanic
income										
$35,000-$49,999	1.157	1.466	0.887	0.965	1.320	1.440	1.533	**0.063~**	**0.052~**	**0.034***
$50,000 - $74,999	**0.502~**	0.707	**0.368****	**0.395***	**0.515~**	1.440	0.605	0.595	0.603	0.878
$75,000 - $99,999	0.753	0.908	0.450	0.448	0.611	0.815	0.818	0.196	0.240	0.466
$100,000 and over	**0.215*****	**0.306***	**0.147*****	**0.164*****	**0.233*****	**0.270****	**0.281****	0.972	0.652	0.685
Gender	1.013	0.822	0.880	0.841	0.846	0.902	0.935	0.719	0.457	0.408
Age	0.989	0.971	0.994	**0.965~**	0.968	0.966	0.966	0.324	0.500	0.124
Medicare		**2.270****		**2.423****	**2.489*****	**2.284****	**2.902****	**0.080~**	0.180	**0.026***
Medicaid		**3.251*****			**3.508*****	**3.009****	**2.973****	0.637	0.147	0.240
Private Insurance	**0.454****	**0.637~**				0.586	0.611	0.327	0.819	0.530
Transportation		2.067						0.585	0.789	0.635
Delay Appointments		**2.480***						0.289	0.306	0.419
Satsifaction		0.650						0.565	0.883	0.923
IHS Coverage			0.856	0.848	0.875	0.743	1.055			
IHS X Medicare							0.530			

~=p<0.1 *=p<0.05 **=p<0.01 ***=p<0.001   N=363

Data Source: NCHS, National Health Interview Survey, 2018

Appendix B

Table 1: Descriptives Statistics: AI/AN Sample (N=1007)

Variable	Mean	Range	Variable	Categories	Percentages
Age	47.28	18-85	Health Status	Excellent	18.47
Variable	**Categories**	**Percentages**		Very Good	22.44
Old Age	Under 55	63.95		Good	35.55
	55 and Over	36.05		Fair or Poor	23.54
			Limitations	No Limitations	69.91
Gender	Male	43		Has Limitations	30.09
	Female	57			
			Private Insurance	No Private Insurance	64.95
Income	$0-$34,999	57.5		Private Insurance	35.05
	$35,000-$49,999	11.72			
	$50,000 - $74,999	11.92	Medicaid	No Medicaid	76.37
	$75,000 - $99,999	9.04		Covered by Medicaid	23.63
	$100,000 and over	9.83			
			Medicare	No Medicare	76.56
Transportation	No Transportation Delay	93.84		Covered by Medicare	23.44
	Transportation Delay	6.16			
			IHS Coverage	No IHS	55.11
Delay in Making Appointments	No Issues Making Appointments	89.97		Covered by IHS	44.89
	Delays in Making Appointments	10.03			
			Number of Office Visits (Annual)	0-1 Visit	26.08
Satisfaction with Care	Satisfied with Care	91.74		2-3 Visits	29.47
	Dissatisfied with Care	8.74		4-7 Visits	23.74
				8 or More Visits	20.70

Data Source: NCHS, National Health Interview Survey, 2018

Table 2: Descriptive Statistics: AI/AN Sample - Men Only (N=433)

Variable	Mean	Range	Variable	Categories	Percentages
Age	49.09	18-85	Health Status	Excellent	15.7
Variable	**Categories**	**Percentages**		Very Good	20.32
Old Age	Under 55	58.89		Good	37.88
	55 and Over	41.11		Fair or Poor	26.1
Income	$0-$34,999	54.04	Private Insurance	No Private Insurance	66.51
	$35,000-$49,999	12.7		Private Insurance	33.49
	$50,000 - $74,999	12.47			
	$75,000 - $99,999	9.93	Medicaid	No Medicaid	79.91
	$100,000 and over	10.85		Covered by Medicaid	20.09
Transportation	No Transportation Delay	95.15	Medicare	No Medicare	75.06
	Transportation Delay	4.85		Covered by Medicare	24.04
Delay in Making Appointments	No Issues Making Appointments	91.92	IHS Coverage	No IHS	55.20
	Delays in Making Appointments	8.08		Covered by IHS	44.80
Satisfaction with Care	Satisfied with Care	91.45	Number of Office Visits (Annual)	0-1 Visit	32.17
	Dissatisfied with Care	8.55		2-3 Visits	29.11
				4-7 Visits	21.44
				8 or More Visits	17.28

Data Source: NCHS, National Health Interview Survey, 2018

Table 3: Descriptive Statistics: AI/AN Sample - Women Only (N=574)

Variable	Mean	Range	Variable	Categories	Percentages
Age	45.9	18-85	Health Status	Excellent	20.56
Variable	**Categories**	**Percentages**		Very Good	24.04
Old Age	Under 55	67.77		Good	33.8
	55 and Over	32.32		Fair or Poor	21.6
			Private Insurance	No Private Insurance	63.76
Income	$0-$34,999	60.1		Private Insurance	36.24
	$35,000-$49,999	10.98			
	$50,000 - $74,999	11.5	Medicaid	No Medicaid	73.69
	$75,000 - $99,999	8.36		Covered by Medicaid	23.31
	$100,000 and over	9.06			
			Medicare	No Medicare	77.7
Transportation	No Transportation Delay	92.86		Covered by Medicare	23.3
	Transportation Delay	7.14			
			IHS Coverage	No IHS	55.05
Delay in Making Appointments	No Issues Making Appointments	88.5		Covered by IHS	44.95
	Delays in Making Appointments	11.5			
			Number of Office Visits (Annual)	0-1 Visit	21.46
Satisfaction with Care	Satisfied with Care	91.11		2-3 Visits	29.74
	Dissatisfied with Care	8.89		4-7 Visits	25.49
				8 or More Visits	23.30

Data Source: NCHS, National Health Interview Survey, 2018

Table 4: Ordered Logistic Regression Odds Ratios - All AI/AN Respondents									
Office Visits	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Old Age 55+	1.805***	1.255	1.252	1.278	1.268	1.252	1.721***	1.850***	1.426
Gender	1.284~	1.232	1.227	1.176	1.214	1.230	1.227	1.271	1.285~
income									
$35,000-$49,999	1.156	1.284	1.277	1.396	1.291	1.278	1.260	1.179	1.163
$50,000 - $74,999	0.906	0.936	0.928	1.009	0.940	0.924	0.989	0.920	0.902
$75,000 - $99,999	1.302	1.471	1.444	1.554	1.454	1.445	1.396	1.315	1.300
$100,000 and over	0.809	0.902	0.888	0.947	0.894	0.885	0.871	0.820	0.805
Health Status									
Very Good	1.816**	1.856**	1.856**	1.782*	1.835**	1.860**	1.757*	1.790**	1.819**
Good	1.996***	1.945***	1.948***	1.887***	1.915**	1.960***	1.933***	1.956***	1.996***
Fair or Poor	4.751***	4.002	4.006***	3.565***	3.845***	4.049***	4.351***	4.542***	4.760***
IHS Coverage		0.684*	0.694~	0.701~	0.691~	0.694~			
Medicare		2.251***	2.275***	2.259***	2.254~	2.281***			
Medicaid		1.555~	1.585~	1.666*	1.586~	1.587~			
Private Insurance			1.050	1.101	1.051	1.049			
Transportation				3.050***			1.987		
Delay in Appointments					1.287			1.382	
Satisfactiion with Care						1.099			0.929
Transportation X Age							2.885		
Delay in Appointments X Age								0.851	
Satisfaction X Age									1.294
~=p<0.1 *=p<0.05 **=p<0.01 ***=p<0.001									N=1,007

Data Source: NCHS, National Health Interview Survey, 2018

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Office Visits	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18	Model 19
Old Age 55+	2.048***	1.498	1.500	1.523~	1.494	1.481	1.838**	1.990**	2.102
income									
$35,000-$49,999	0.774	0.974	0.977	1.068	0.967	1.001	0.842	0.762	0.777
$50,000 - $74,999	0.817	0.917	0.920	0.988	0.913	0.931	0.884	0.811	0.813
$75,000 - $99,999	0.960	1.099	1.105	1.199	1.100	1.110	1.031	0.951	0.947
$100,000 and over	0.705	0.865	0.870	0.931	0.866	0.879	0.751	0.697	0.696
Health Status									
Very Good	1.385	1.307	1.304	1.247	1.316	1.313	1.359	1.406	1.398
Good	2.039**	2.018**	2.017**	1.929**	2.045**	2.097**	1.959**	2.081**	2.114**
Fair or Poor	4.008***	3.593***	3.592***	3.229***	3.685***	3.911***	3.809***	4.123***	4.316***
IHS Coverage		0.687~	0.683	0.681	0.689	0.686			
Medicare		1.850~	1.845~	1.793~	1.849~	1.919*			
Medicaid		1.676~	1.666	1.741~	1.677	1.700			
Private Insurance			0.985	1.016	0.991	0.961			
Transportation				2.256*			1.270		
Delay in Appointments					0.889			0.831	
Satisfactiion with Care						1.679~			1.500
Transportation X Age							3.876~		
Delay in Appointments X Age								1.226	
Satisfaction X Age									0.971

Table 5: Ordered Logistic Regression Odds Ratios - AI/AN Women

~=p<0.1 *=p<0.05 **=p<0.01 ***=p<0.001   N=574

Data Source: NCHS, National Health Interview Survey, 2018

Table 6: Ordered Logistic Regression Odds Ratios- AI/AN Men									
Office Visits	Model 21	Model 22	Model 23	Model 24	Model 25	Model 26	Model 27	Model 28	Model 29
Old Age 55+	**1.577***	1.071	1.072	1.110	1.126	1.061	**1.656***	**1.763****	0.651
income									
$35,000-$49,999	**1.938***	**1.938~**	**1.935~**	**2.154***	**1.964~**	**1.945~**	**2.133***	**2.117***	**1.988***
$50,000 - $74,999	1.097	1.015	1.011	1.099	1.036	1.047	1.203	1.138	1.130
$75,000 - $99,999	1.658	1.840	1.826	**1.972921~**	**1.858172~**	**1.831894~**	1.826	1.703	1.641
$100,000 and over	0.993	1.008	1.002	1.060	1.025	1.036	1.064	1.049	1.001
Health Status									
Very Good	**2.848****	**3.119****	**3.108****	**2.978****	**3.076****	**3.091****	**2.761****	**2.819****	**2.887****
Good	**2.075****	**1.997***	**1.997***	**2.005***	**1.983***	**1.943***	**2.095****	**2.074****	**2.028***
Fair or Poor	**6.022*****	**4.689*****	**4.69***	**4.070*****	**4.326*****	**4.532*****	**5.302*****	**5.456*****	**5.878****
IHS Coverage		0.699	0.704	0.737	0.720	0.714			
Medicare		**2.782****	**2.796****	**2.999****	**2.721****	**2.830****			
Medicaid		1.457	1.468	1.552	1.551	1.482			
Private Insurance			1.023	1.124	1.055	1.020			
Transportation				**6.004****			**5.235~**		
Delay in Appointments					2.330			**3.632***	
Satisfactiion with Care						0.611			0.406
Transportation X Old Age							1.042		
Delay in Appointments X Old Age								0.314	
Satisfaction X Old Age									2.576

~=p<0.1 *=p<0.05 **=p<0.01 ***=p<0.001   N=433

Data Source: NCHS, National Health Interview Survey, 2018