

**The Effects of Historical Trauma on the Health of Indigenous Communities in North America**

by

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# **The Effects of Historical Trauma on the Mental Health of Indigenous Communities**

Hannah Danielle Brown, MPH

University of Pittsburgh, 2022

## **Abstract**

Indigenous people living in the United States and Canada experience much poorer health outcomes than other groups of people in the regions. In addition to facing higher prevalence of many health conditions that shorten overall life expectancy, many Native Americans face restricted access to health care. Limited access to care affected the Indigenous community's health during the COVID-19 pandemic. Income level and socioeconomic status are perhaps the most powerful social determinant of health, affecting access not only to health care itself, but also to other basic needs like nutritious food and safe housing, that in turn affect health. This essay is a review of the literature exploring physical and mental health disparities among Native and Indigenous peoples in North America and the potential roots of these disparities in historical events that caused widespread and lasting trauma to Native American communities. Sections of this paper explore the historical, cultural, and intergenerational traumas that contribute to physical and mental health issues, while also referencing and describing health disparities, social determinants of health, and the effects of historical events, colonization, and prevailing Eurocentric views. Information referenced in this essay was collected using the program Ovid to search for relevant documents. Like many marginalized communities, Indigenous communities experience racist or prejudice-filled acts, including physical assaults and microaggressions or subtle discriminations, which are common in LGBTQIA+ communities and Black communities. Studies have shown that there are direct relationships between racism and mental health, along with physical health. This essay

explores the connections between historical trauma and current poor health indicators among Native American populations while exploring Methods of Measuring Health Outcomes Associated with Historical Trauma and presenting a discussion that seeks to place the reviewed information into context, offer conclusions and suggest next steps to address public health needs.

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## **Preface**

I would like to acknowledge my professors Todd Swanson, Annie Preaux, Lauren Dodaro, Elodia Dagua and Belgica Dagua from my Pitt in Ecuador study abroad experience. These individuals helped me to see the inequities that many indigenous communities around the world face constantly and they are who inspired my interest in the health disparities of this population.

This essay will focus on the Indigenous populations within the North American Continent, also referred to as the United States and Canada. This is because the populations of Indigenous communities within these nations underwent similar battles with residential boarding schools and colonialism.

## **1.0 Introduction**

More than 6.79 million people in the United States identify as Native and Indigenous along with more than 1.67 million people in Canada (Annual Report to Parliament, 2020 and United States Census Bureau, 2020). Canadian Policy regarding Indigenous Nations were mainly focused on assimilation and creating of residential boarding schools; for example, the Indian Act that was implemented by British Colonial Policy in 1876 (Taylor, 2021). Much of this relationship between the early French Canadians and the Indigenous sovereign nations focused on missionary work and the trading of goods (Taylor, 2021). Previously to the Indian Act, the Royal Proclamation of 1763 was created to extinguish Indigenous rights to soil (Taylor, 2021). Indigenous Canadians have been expected to assimilate for the majority of their history with French and British Canada.

Treaties in the United States for Native American Nations were negotiated starting in 1774 to establish boundaries and conditions of behavior between the U.S. Government and the Native American Nations (National Archives, 2016). At the time, this did not give the Indigenous populations U.S. citizenship. Citizenship status for Native Americans Nations changed in 1832, when they became dependent tribes of the United States, and remained that way until 1871, when the treaties were ended. Since then, relations between the U.S. government and Native American Nations are managed through congressional acts, executive orders and executive agreements (National Archives, 2016). This change meant that Native Nations relinquished the status of sovereign nations and gave the U.S. Government more power over the Indigenous populations. This change in sovereignty arguably broke more than 370 treaties that had previously been agreed upon by both parties the U.S. government and Native Nations (National Archives, 2016). In 1978, the Federal Acknowledgment Process (FAP) was established in response to the recommendations

of the American Indian Policy Commission Report of 1977 that concluded that the United States was not fulfilling its trusted obligations to tribal nations (*Native American and Indigenous Peoples FAQs*). The United States now recognizes that Native nations are sovereign political entities and now Native nations have the right to, “freely determine their political status and freely pursue their economic, social and cultural development” (*Native American and Indigenous Peoples FAQs*). It is important to state that the U.S. Federal Government is not granting sovereign status or powers to each tribe, but recognizing that they have existed before and continue to exist.

Today Native American people living in the United States and Canada experience much poorer health outcomes than other groups of people in the regions. This essay is a review of the literature exploring physical and mental health disparities among Native and Indigenous peoples in North America and the potential roots of these disparities in historical events that caused widespread and lasting trauma to Native American communities.

After a brief description of the Methods used to develop this essay, the first section of this essay’s Findings describes the health disparities common in Native communities, exploring inequities in physical, mental, and sexual health, as well as differences in Adverse Childhood Experiences among Native peoples and rates of Contemporary Trauma, concluding with a description of factors that limit Native Americans’ access to health care. The essay then describes Social Determinants of Health among Indigenous Communities, exploring the way that the current living situations and environments of Native Communities can negatively affect individual and collective health. These sections serve to establish a context for the next section, which review the Effects of Historical Events, outlining key events that irrevocably changed the lives of Native Americans since the arrival of European settlers. In this section, the essay defines and describes the role of Colonization, Historical Trauma, Cultural Trauma and Intergenerational Trauma, with

sub-sections on the Role of Residential Boarding Schools. Finally, the essay explores Methods of Measuring Health Outcomes Associated with Historical Trauma and presents a discussion of that seeks to place the reviewed information into context, offer conclusions and suggest next steps to address public health needs.

## **2.0 Research Methods**

To research the information used in this essay, the database Ovid was used to search for relevant documents. The search terms used for the main search were historical trauma, stress disorders, traumatic, PTSD, psychological trauma, trauma, intergenerational trauma, transgenerational, Indians, North American, Alaskan Native, Indigenous Canadians, Inuit, American Natives, first nations, Indigenous peoples, America and Canada. PubMed searches in relation to ethnocentrism, cultural racism, structural racism, and historical trauma were also conducted. Other PubMed searches based on genetic research on intergenerational trauma and other general searches on library search engines for historical events of Indigenous populations of North America were also conducted.

### **3.0 Findings of the Review**

The findings of this review range from description and discussion of health disparities, to social determinants of health and the effects of historical events. These different topics include subtopics like physical and mental health, access to health care, contemporary trauma, and historical trauma. Through these next few sections, each of these topics will be described to describe the potential relationship between historical traumas, physical and mental health of the North American Indigenous populations.

#### **3.1 Health Disparities in Native American and Indigenous Canadian Communities**

##### **3.1.1 Physical Health**

According to the Indian Health Services, the death rates of American Indian and Alaskan Native populations are higher than the rates for all other United States races (Disparities, 2013). This includes the overall death rate and the individual disease death rates. In the United States the overall leading causes of death are heart disease, cancer and, more recently, COVID-19. Relationships the Indigenous communities experience with COVID-19 will be discussed later in the essay. The rates of cancer and heart disease are slightly higher among the American Indian and Alaskan Native populations, and they are more than three times likely to die of diabetes-related causes and 2.5 times more likely to die from accidents. Information describing these disparities can be found in Figure 1.



# MORTALITY DISPARITY RATES

American Indians and Alaska Natives (AI/AN) in the IHS Service Area

2009-2011 and U.S. All Races 2010  
(Age-adjusted mortality rates per 100,000 population)

	AI/AN Rate 2009-2011	U.S. All Races Rate – 2010	Ratio: AI/AN to U.S. All Races
<b>ALL CAUSES*</b>	999.1	747.0	1.3
Diseases of the heart (heart disease)	194.1	179.1	1.1
Malignant neoplasm (cancer)	178.4	172.8	1.0
Accidents (unintentional injuries)*	93.7	38.0	2.5
Diabetes mellitus (diabetes)	66.0	20.8	3.2
Alcohol-induced	50.5	7.6	6.6
Chronic lower respiratory diseases	46.6	42.2	1.1
Cerebrovascular disease (stroke)	43.6	39.1	1.1
Chronic liver disease and cirrhosis	42.9	9.4	4.6
Influenza and pneumonia	26.6	15.1	1.8
Drug-induced	23.4	12.9	1.8
Nephritis, nephrotic syndrome (kidney disease)	22.4	15.3	1.5
Intentional self-harm (suicide)	20.4	12.1	1.7
Alzheimer's disease	18.3	25.1	0.7
Septicemia	17.3	10.6	1.6
Assault (homicide)	11.4	5.4	2.1
Essential hypertension diseases	9.0	8.0	1.1
* Unintentional injuries include motor vehicle crashes.			
NOTE: Rates are adjusted to compensate for misreporting of American Indian and Alaska Native race on state death certificates. American Indian and Alaska Native age-adjusted death rate columns present data for the 3-year period specified. U.S. All Races columns present data for a one-year period. Rates are based on American Indian and Alaska Native alone; 2010 census with bridged-race categories.			

**Figure 1. Mortality Disparity Rates based on Indian Health Services Data (Dispareties, 2013)**

The Indian Health Services collected the data represented in the table above to show the difference in the mortality rates among different ethnic groups compared to American Indians and

Alaskan Natives. As seen in the table, the ratios of all causes of death show how the Indigenous populations have higher rates of death in every category (Disparities, 2013).

The United States Census Bureau estimates life expectancy ratings every ten years. According to the 2020 Census, the life expectancy for American Indians/Alaska Natives at birth averages 78.4 years, around 81.1 years for women and 75.8 years for men (OMH, 2022). According to the same census, the projected life expectancy at birth is higher for non-Hispanic whites, at 80.6 years, with around 82.7 years for women and 78.4 years for men (OMH, 2022). These differences in life expectancy introduce initial questions about health disparities between Native Americans and non-Hispanic whites.

While there is not yet updated data available on the mortality rates of the Native American population in relation to the other racial groups in the United States, the Office of Minority Health states that the Native American population have higher rates of leading causes of diseases (OMH, 2022). Native populations also experience high prevalence of and risk factors for mental health and suicide, unintentional injuries, obesity, substance use, sudden infant death syndrome (SIDS), teenage pregnancy, diabetes, liver disease, and hepatitis (OMH, 2022). It is also important to note that tuberculosis rate in 2019 was nearly 7 times higher for Native Americans when compared to the white population in the United States (OMH, 2022).

Indigenous women are disproportionately affected by diabetes, food insecurity, and undernutrition (Neufeld & Richmond, 2020). They also perceive their health less positively than men do. Studies show that food insecurity could be associated with cultural loss that has resulted from the intergenerational trauma of residential schools in the southwestern Ontario region of Canada (Neufeld & Richmond, 2020), which will be described in a later section of this essay.

Indigenous women experience chronic food insecurity and undernutrition at a much higher rate in comparison to men.

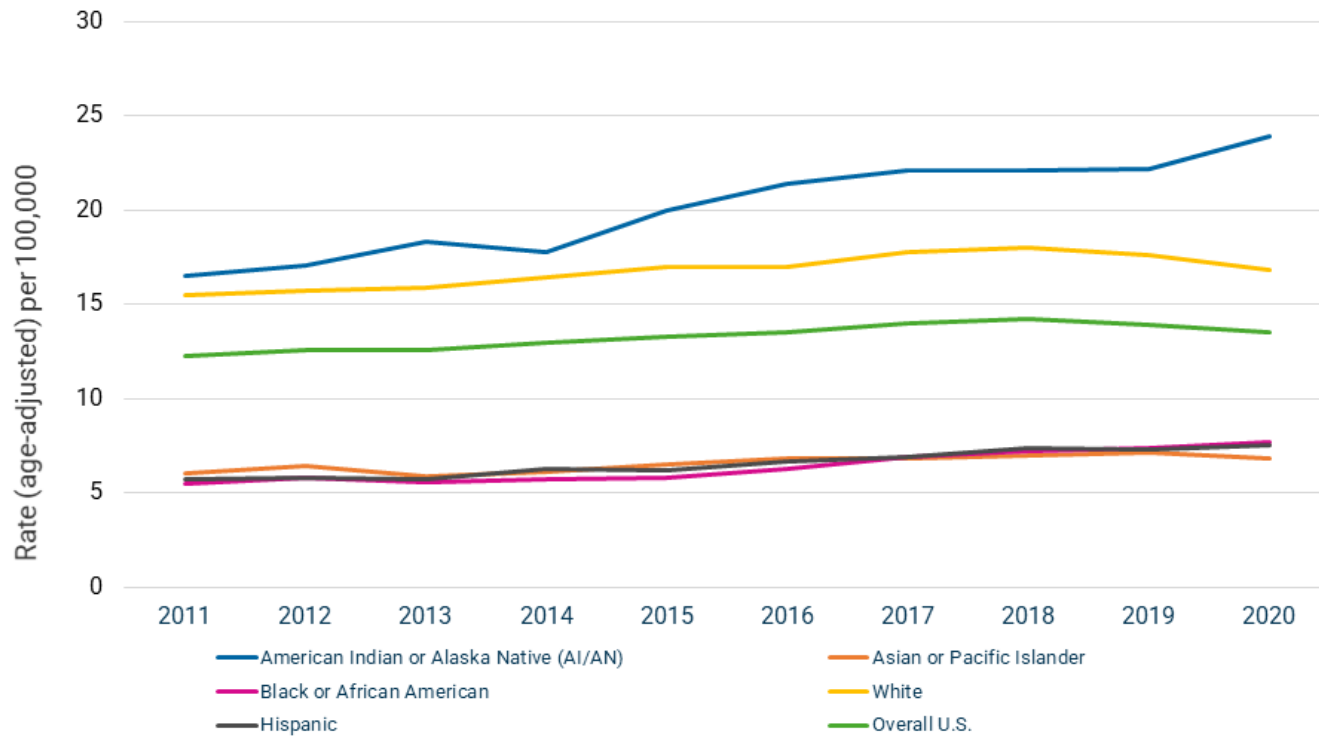
### **3.1.2 Mental Health**

Lifetime diagnoses of alcohol dependence, posttraumatic stress disorder (PTSD), and major depressive disorder are higher in Native American populations than overall U.S. rates (Ehlers, 2013). For example, one study that researched historical trauma and how it relates to substance dependence, affective disorder, and PTSD determined that 32 percent of the sample size had PTSD, 17 percent had an affective disorder, and 48 percent had alcohol dependence (Ehlers, 2013). The largest percentage recorded among the sample was that 72 percent of individuals had a family history of alcohol dependence. Lifetime PTSD numbers also are higher in Native American populations compared with the National Epidemiological Survey on Alcohol and Related Conditions-III (Beals et al, 2005). The percentage of alcohol use disorder in this study was 20.3 percent among American Indians and Alaskan Natives and 14.2 percent in non-Hispanic Whites; for lifetime major depressive disorder, 7.1 percent and 4.3 percent respectively. PTSD in the recorded American Indian and Alaskan Native men was 17.2 percent compared to the non-Hispanic White men of 7.7 percent (Beals et al, 2005). When the alcohol use disorder rate and the PTSD rates are combined for both populations, American Indian and Alaskan Native men have greater than three times the percentage when compared to the non-Hispanic White men (Beals et al, 2005).

Overall, this data suggests that these American Indian populations had similar, or in some cases greater, mental health service needs when compared to the general population of the United States (Beals et al, 2005). The following sections of this essay will explore the historical, cultural,

and intergenerational traumas that contribute to these mental health issues. Indigenous residential school attendance is a significant health determinant and intergenerational trauma can be passed on from this experience through multiple pathways (Kaspar, 2014). The effects of residential schools are discussed in a following section of the essay, and examples are presented to show the traumatic experiences and lifelong effects on families of the schools.

## Rates of Suicide by Race/Ethnicity, United States 2011-2020



[www.sprc.org](http://www.sprc.org)

Source: CDC, 2021

**Figure 2. A graph based on data collected by the Suicide Prevention Resource Center that describes the relationships between the suicide rates of different ethnic and racial groups in the United States (Racial and Ethnic Disparities, 2020)**

The high levels of mental illness of the Indigenous populations in the United States directly correlate with high rates of suicide in the population. As shown in Figure 2, the suicide rate has increased since 2011 for all racial groups and ethnicities in the United States. However, for American Indian and Alaska Native populations, the age-adjusted suicide death rate increased at a significantly higher rate, from 16.5 per 100,000 in 2011 to 23.9 per 100,000 in 2020 (Racial and Ethnic Disparities, 2020).

### **3.1.3 Adverse Childhood Experience and Sexual Victimization**

The definition of adverse childhood experiences (ACEs) includes negative experiences that happen during childhood and are related to increased risk for a host of negative outcomes that reach beyond individuals and across generations (Ports et al, 2020). Native Americans have been reported to have the highest average number of ACEs, compared to any other U.S. racial or ethnic group, while also having the greatest number of reported physical abuse, sexual abuse, parental substance abuse, and witnessing violence (Ports et al, 2020). Sexual victimization is three times more likely to occur for Indigenous women when compared with non-Indigenous women (Murphy-Oikonen, 2021). Further, this sexual victimization of Indigenous women can be traced to chronic sexual victimization of Indigenous women that has taken place since colonization, (Wieskamp & Smith, 2020), which will be discussed later in this essay. ACEs, much like sexual traumas, are linked to many mental illnesses that are later reported in adolescence and adulthood, including PTSD, generalized anxiety, and major depressive disorder (Herzog & Schmahl, 2018). This is just one of many important reasons to make sure that every marginalized group is represented in national surveys and other forms of data and research to recognize and target the disparities.

### **3.1.4 Contemporary Trauma**

Contemporary trauma is a term that has been used recently in literature, but no formal definition has been created for the term. For the purposes of this essay, the term contemporary trauma will be defined as trauma that occurs in daily modern life that ranges from verbal prejudices to physical assault. Many marginalized communities experience racist or prejudice-filled acts, including physical assaults and microaggressions or subtle discriminations, which are common in LGBTQIA+ communities, Black communities, and more relevant to this essay, Indigenous communities.

#### **3.1.4.1 Racism**

Racism is conceptualized in health science literature as a psychosocial stressor; mental health issues are the strongest, most consistent evidence of its adverse health effects (Bailey et al, 2017). Structural racism can be described as the ways in which a society fosters racial discrimination through housing, education, employment, earnings, benefits, credit, media, health care and criminal justice while reinforcing each other (Bailey, 2017). Institutional racism is a form of racism that represents actions, policies, and practices that result in ethnic and racial inequalities in life outcomes (Better, 2008). Cultural racism is more focused on the general notion that some believe societal customs and beliefs of white people promote the assumption that the products of white culture are superior to the cultures of people of color or POC (Cogburn, 2019).

On a biological level, perceiving an act as racist results in physiological arousal and activation of the hypothalamic pituitary adrenal cortical system, which releases the stress hormone cortisol and results in changes in immune and cardiovascular functioning (Harrell et al, 2012). The described biological pathway directly correlates the stress caused by racism to health.

Studies have shown, as described above, that there are direct relationships between racism and mental health, along with physical health. An article titled *Structural racism and health inequities in the USA: evidence and interventions* describes different pathways by which racism harms the health of marginalized communities. Several of the pathways involve adverse physical, social, and economic exposures while also including maladaptive coping behaviors, microaggressions and stereotype threats (Bailey et al, 2017). A key example of structural racism that is noted in this article is state-sanctioned violence and alienation from property and traditional lands. Examples of this are police violence, the use of eminent domain to force the relocation of urban communities of color, and the forced removal of Native Americans as discussed in other sections of the essay. The study also highlights the direct relationship between interpersonal discrimination and psychosocial stress.

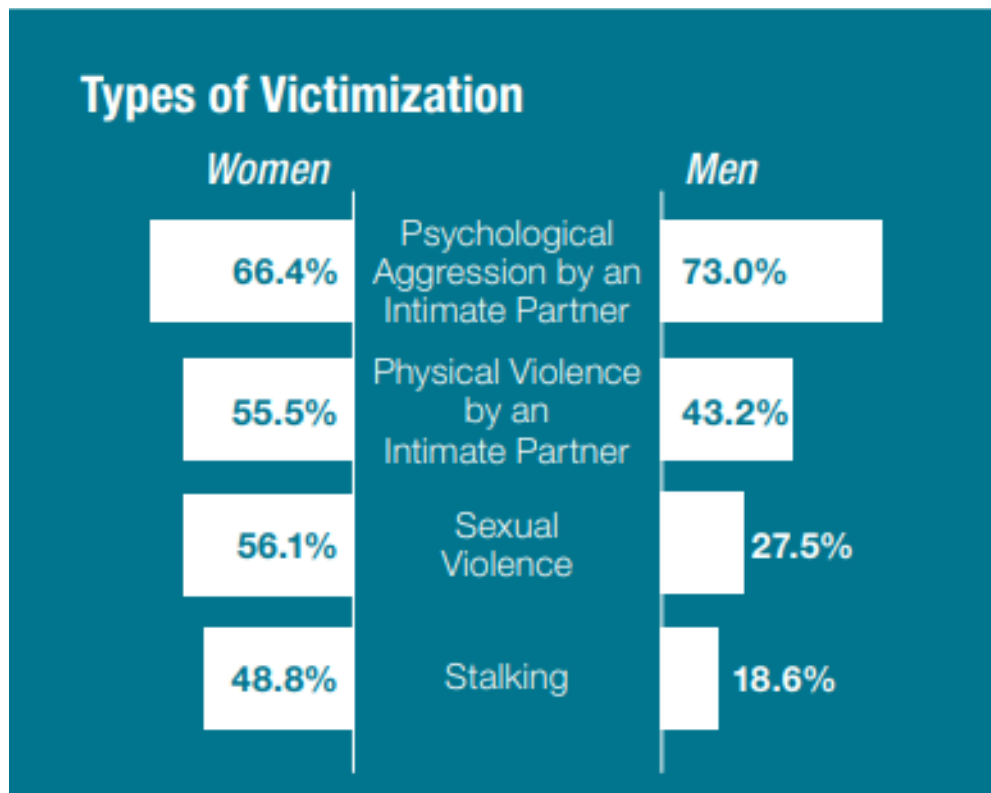
In the United States rates of violent crime against Indigenous individuals are 2.5 times higher than the national average (Greenfeld and Smith, 1999). Indigenous peoples in the United States often experience violence: 56 percent experience simple assault, 28 percent aggravated assault, and 6 percent sexual assault as of 1999. Additionally, researchers today note a visible intersection between the traumas of the past generations and current generations among Indigenous populations within North America. Unfortunately, no recent data has been collected on violent crimes and victimization of Indigenous individuals.

According to the National Institute of Justice, 83 percent of American Indian and Alaskan Native adults have experienced violence to some degree in their lifetime (Five Things About Violence...). The majority of these acts of violence are committed by perpetrators that are of different ethnic groups than the victims; 97 percent of crimes against women and 90 percent of crimes against men of these populations. As of 2016, the percentages of Indigenous US citizens



who have experienced violence in their lifetimes are 84.3 percent and 81.6 percent respectively (Five Things About Violence...).

Intersectionality can worsen these statistics on frequency of violent experiences, and create more encounters with violence and microaggressions. Some characteristics that add to an individuals' intersectionality are their LGBTQIA+ identity, age, gender, socioeconomic class, disability status, and race (Hill Collins, 2020). Many studies already take into account the gender, ethnicity and socioeconomic class of their population, but statistical data that record the damaging effects of victimization when a multitude of these characteristics are in combination among a population is not yet available.



**Figure 3.** The figure above provides a representation of the types of victimization that Native Americans and Alaskan Natives experience and their percentage between only two genders representing women and men according to data collected by the National Institute of Justice (Five Things About Violence...)

### **3.1.5 Access to Health care**

In addition to facing higher prevalence of many health conditions that shorten overall life expectancy, many Native Americans faced restricted access to health care. Many Native American reservations are not equipped with paved roads; in some, like the Navajo, as many as 30 percent of their homes are without electricity or piped water (Solomon, 2022). More than 75 percent of the roads within Indigenous reservations are unpaved, limiting access to healthcare facilities, including mental health facilities (Solomon, 2022). Water is also often a great distance away and requires travel for collection; water obtained this way often comes with the risk of contamination. This is even more important today since access to water is a known factor to affect the spread of COVID-19. The lack of access to clean water was one of the main reasons COVID-19 infection rates were 3.5 times higher on Native American Reservations, which lead to higher death rate (NCRC, 2022).

In addition to physical barriers to accessing quality health and medical care, Native communities often face cultural barriers, including low socioeconomic status (Solomon, 2022). The significant barriers to health care access faced by Indigenous Americans compared to other groups of Americans, are similar in relation to sexual health. American Natives encounter higher rates of STD infection, inconsistent condom use, pressure to have sex at younger ages, and teen pregnancy compared to white Americans.

In the past, Native American governments have agreed to U.S. treaties that would maintain the rights of reserved lands and provide protection to the population, which included the right to healthcare (Solomon, 2022). These treaties, however, are no longer recognized by the United States government (National Archives, 2016). New forms of agreement and legislation are used now, like the Tribal Self-Governance Act of 1994, to allow Indigenous populations in the United States more governing freedoms. However, such change does not erase the fact that breaking

treaties that were beneficial to Native Nations between the United States Government and the Native American Nations removed Indigenous people from their homelands and placed them in food deserts, which both in the short-term and the long term, have led to starvation and disease.

Issues with transporting medical and other kinds of supplies to reservations complicates access to care because many online companies and retailers do not send products to Post Office boxes, and the houses on the reservations rarely have street addresses. Emergency vehicles often have trouble locating houses on reservations due to the lack of street addresses, as well. During the COVID-19 pandemic, since personal protective equipment, sanitizing products and the means to wash hands were all limited by access barriers like inadequate delivery services among the Indigenous population, the communities, as a result, dealt with an inability to protect themselves from the viral transmission of COVID-19. The University of Minnesota's Center for Infectious Disease Research and Policy recorded that 267 out of 100,000 Native Americans among the studied population would die of COVID-19, compared to 73 out of 100,000 White people among the studied population (NCRC, 2022).

### **3.2 Social Determinants of Health for Indigenous Communities**

The Centers for Disease Control and Prevention defines social determinants of health as the conditions in which we are born, live, learn, work, play, worship, and age (Kim, 2019). The disruptions to Indigenous traditions and communities due to colonialism, relocation, loss of ancestral land, forced assimilation, and genocide, have made Native communities vulnerable to negative social determinants of health and risk factors that contribute to higher rates of chronic disease (Cogburn, 2019). These include obesity, malnutrition, commercial tobacco use, alcohol

abuse, diabetes, hypertension, and mental illness and suicide. Other highly prevalent health-related issues among this population are unintentional injuries, substance use, sudden infant death syndrome, teenage pregnancy, liver disease, and hepatitis.

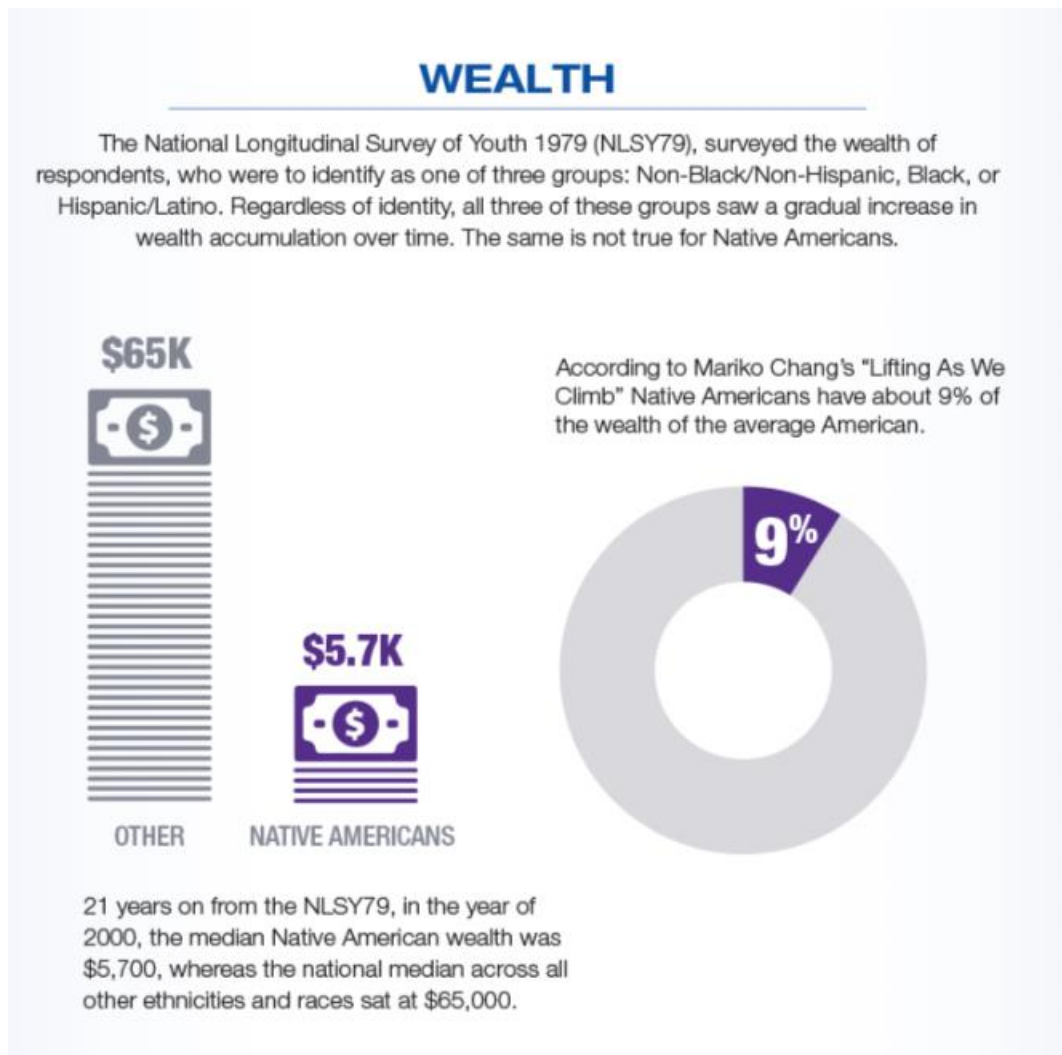
This long list of health risks is further complicated by the many issues, including lack of paved roads for driving, access to clean water, piped water systems, or electricity, as well as cultural and economic barriers, that prevent Native Americans from accessing quality health and medical care as described above (Solomon, 2022). This limited access to care affected the Indigenous community's health during the COVID-19 pandemic, as previously described. Furthermore, transmission of all infectious diseases happens much faster when there is nowhere to wash hands or go for proper treatment. Lack of access to health care leaves Indigenous community members that are living on reservations in a health-care desert.

### **3.2.1 Socioeconomic Status**

Income level and socioeconomic status are perhaps the most powerful social determinant of health, affecting access not only to health care itself, but also to other basic needs like nutritious food and safe housing, that in turn affect health. In 2015, the average income on reservations was 68 percent below the U.S. average at around \$17,000 annually (NCRC, 2022). According to data obtained from 2015-2019, the Native American population had a median household income of \$43,825, which is much lower than the non-Hispanic white American median household salary of \$68,785 (NCRC, 2022). The Native American population also has the highest rates of poverty according to the 2018 U.S. Census. As shown in Table 1, there are huge discrepancies among national poverty rates in the United States based on race and ethnicity, with White poverty rates being at 8.1 percent in 2018 and Native American poverty rates being at 25.4 percent.

**Table 1. National Poverty Rate According to the 2018 US Census (NCRC, 2022)**

<b>Racial/ethnic group</b>	<b>National Poverty Rate</b>
Native American	25.4%
Black or African American	20.8%
Hispanics	17.6%
White	8.1%

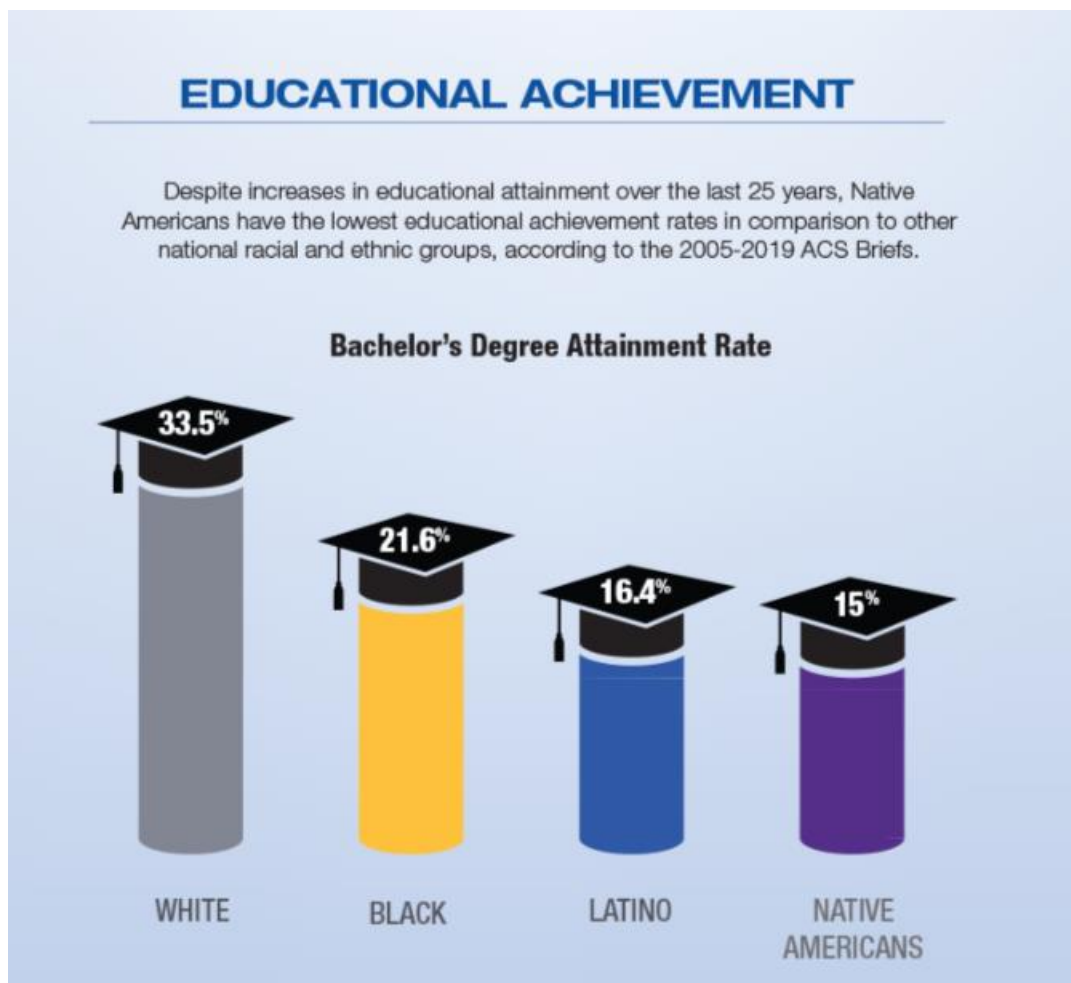


**Figure 4. The Wealth of Native Americans in comparison to the rest of the United States population (NCRC, 2022)**

### 3.2.2 Education

Another key social determinant of health, education level has been shown to be directly linked to overall health, as well as health-care seeking behavior. Native Americans have the lowest rates of formal educational achievement in the United States, in comparison to national racial and ethnic groups (NCRC, 2022). American Community Survey data from 2005 to 2019 presents that

15 percent of Native Americans have a bachelor's degree or higher, when the same level of education is accomplished by 16.4 percent of Hispanics, 21.6 percent of African Americans, and 33.5 percent of White people, as shown in Figure 4 (NCRC, 2022). Even though these rates are low, data shows that the Native American population has increased their educational attainment levels over the past 25 years. To help raise this level, Native American focused incentives could be put into place. For example, a college education that is fully funded by the institution or the federal government considering the levels of poverty among this community are relatively high in comparison to the White population.



**Figure 5. Educational Achievement of Native Americans in comparison to other US population (NCRC, 2022)**

### 3.3 Effects of Historical Events

According to the Oxford Languages Dictionary, colonization is the action or process of settling among and establishing control over the Indigenous people of an area. When the Indigenous populations of North America were colonized by European settlers, many Native people died early in conflicts with the settlers or from new diseases introduced by the colonizers. But even for Native people who survived colonization, their way of life was interrupted and constrained by colonization in ways that have had lasting effects on individual and community health (Subica & Link, 2022). Ethnocentrism is defined as the belief that one's own group is superior, which leads to disdain of all other groups (Yenni et al, 2014). The deep-seated ethnocentrism of colonizers, along with the structural racism, institutional racism and cultural racism described earlier, have been affecting Indigenous Americans and Canadians since the 1600s.

Native Nations in North America have experienced continuous events and effects of colonization and White ethnocentrism since their land was overcome by settlers. Since the earliest colonization of North America, there have been countless acts of genocide against Indigenous populations, such as the United States Indian Removal Act of 1830 that led to the Trail of Tears, which caused over 4,000 Indigenous deaths (Drexler, n.d.). Prior to this act that President Andrew Jackson helped pass through Congress, on August 3<sup>rd</sup>, 1797 a man named Lord Jeffery Amherst was the first military strategist to knowingly engage in biological warfare against the Native Americans by providing blankets infected with small pox (ICT Staff, 2018). These historical events resulted in the death of thousands of Native people and established and maintained the historical marginalization of Native communities.

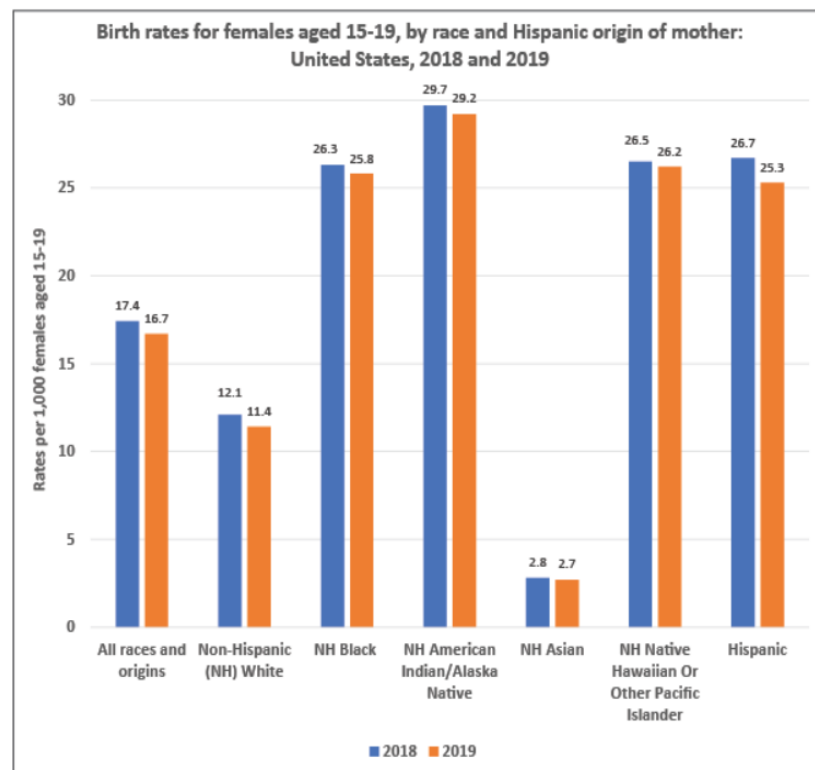


Additionally, colonialism created structured sexual violence against female Indigenous bodies, including forced sterilization (Leason, 2021) and rape (Kim, 2019). Forced sterilization happened in Alberta, Canada, where Indigenous women were targeted due to them being labeled as “feeble-minded” and “mentally defective” (Grekul, 2004). According to Dr. Jennifer Leason’s 2021 article *Forced and coerced sterilization of Indigenous women*, information continues to surface about this type of genocide, a practice often disguised as medical aid, when doctors forced or coerced Indigenous women to accept sterilization after delivering infants in their hospitals. Doctors and legislators hid the lack of consent from the Native women by allowing the board of eugenics to create the Sexual Sterilization Acts that authorized sterilization of institutionalized individuals, prisoners, and people with disabilities ostensibly to prevent the risk of passing the disability to the children (Leason, 2021). More than 1200 sterilizations of Indigenous people were documented in Canada between 1966 and 1976 (Leason, 2021). As recently as 2017, a class-action lawsuit was filed on behalf of women across Canada who reported their personal experiences with forced and coercive sterilization. Coerced Sterilization, as stated by Leason in her 2021 article, refers to the practice of sterilizing Indigenous women without free and informed consent (Leason, 2021). These historical events have led to *historical trauma*, a term used to describe the intergenerational collective experience of complex trauma that was inflicted on a group of people who share a specific group identity or affiliation, such as nationality, religious affiliation, or ethnicity (Ehlers, 2013).

For Native American women, historical trauma associated with structured sexual violence is implicated in on-going poor sexual and reproductive health outcomes. Another historical trauma involved the forced removal of approximately one third of Native American children from their parents between the years 1941 and 1967 (Martin, 2015). Both of these historically traumatic

experiences were strongly related to women’s engaging in survival sex work later in their lives. For example, a longitudinal study examined historical, structural and interpersonal factors associated with survival sex work involvement among Indigenous women who have used drugs in British Columbia, Canada. Data for this study was collected every six months, beginning in the year 2007 and ending in the year 2016. In this study, 292 participants were identified with information collected on a multitude of factors (Table 2).

### Birth Rates for Females Aged 15 to 19 Years, by Race and Hispanic Origin of Mother: United States, 2018 and 2019



Data source: Martin JA, Hamilton BE, Osterman MJK, Driscoll AK. Births: final data for 2019. Natl Vital Stat Rep. 2021;70(2):1-50.

**Figure 6. The CDC supports the data above showing high teen pregnancy in the Native American community (Martin, 2019)**

**Table 2. Longitudinal Reported Data from BC, Canada Research (Sharma et al, 2020)**

<b>Percentage of total involved in survival sex work (not exclusive)</b>	<b>Reported</b>
34%	Always/often lived by traditional culture
37%	Always/often spoke in traditional language
48%	Had a parent in residential school
72%	Were removed from their biological parents
55%	Were involved in survival sex work

Table 2 represents the percentages of Indigenous women in survival sex work and the reported reason why in a longitudinal study from British Columbia, Canada. These percentages demonstrate the needs for a wellness-based harm reduction and reform program addressing housing insecurity and recognizing the culture of violence against Indigenous women. As shown above, the largest percentage of this population of women with a shared characteristic involved in survival sex work is 72 percent, which represents the number of individuals that were removed from their biological parents. This is another way that eurocentrism and cultural genocide are represented in the data, including the fact that 48 percent had a parent enrolled in a residential boarding school. Residential boarding schools and their lasting effects on Native health will be further described in a later section.

### 3.3.1 Historical Trauma

Historical trauma is defined in the article *Measuring historical trauma in an American Indian community sample: Contributions of substance dependence, affective disorder, conduct disorder and PTSD* as a term used to describe the intergenerational collective experience of complex trauma that was inflicted on a group of people who share a specific group identity or affiliation, such as nationality, religious affiliation, or ethnicity (Ehlers, 2013). When historical trauma is passed on to younger generations, it is then referred to as *intergenerational trauma*, which will be discussed in more detail later in this essay. Regarding historical trauma, during an interview on a reservation in Montana, an Indigenous mother in her 40s stated:

I think that PTSD is within all of us because when our ancestors were assimilated into this society it was a holocaust, they were traumatically assimilated and so that put a mark on our DNA. So no matter what it's always there, that PTSD. So if you can recognize that within your child right away, you know how to help and know how to talk to them but if you're a parent that doesn't see those things or doesn't recognize those kinds of things that child is going to be made to go through them because you don't know how to guide that child yourself. So it's like you have to, as a parent you have to be able to recognize those things (Cox et al, 2021, 1781).

This quote is referring to historical trauma being passed down through generations epigenetically. Epigenetics is the study of how behaviors and environment (experiences) can cause changes that affect the way person's genes work. Unlike genetic changes, epigenetic changes are reversible and do not change the DNA sequence, but they can change how the body reads a DNA sequence. Epigenetic passing of intergenerational trauma has been observed in animals, but there is not enough evidence from studies among humans to demonstrate that this happens in humans (Lehrner & Yehuda, 2018). Despite the lack of evidence to effectively portray this phenomenon in humans, epigenetic transfer of historical trauma remains an ongoing area of interest and study.

In the study described above, interviewing Native people about historical events, over half of the 306 participants indicated that they thought about historical losses at least occasionally and that it caused them distress. Within this community, thoughts of historical losses and traumas were common, and the presence of these thoughts was associated with ties to cultural identification, heritage and substance abuse. As described earlier in this essay, Native Americans are known to experience traumatic events at a higher rate than the rest of the general population based on population surveys like the Behavioral Risk Surveillance Survey (Beals et al, 2005).

A study that created measures for historical trauma among Native Americans was conducted with a sample size of 143 Native American parents. Whitbeck et al developed two measures of how Indigenous populations think in relation to historical trauma among Indigenous people called The Historical Loss Scale and The Historical Loss Associated Symptoms Scale (Whitbeck et al, 2004.) The scales were created to quantify different types of losses that his populations might have experienced including things like loss of land, loss of cultural ties, broken treaties, genocide and more, while also comparing this to how often these populations think about these events in the present. These scales also test a variety of different symptoms that may have resulted from these losses such as anger, depression, anxiety, posttraumatic stress disorder, and more.

The study that developed the measures for historical trauma showed that, based on the group of Native Americans that participated in the study, historical losses are often thought about regularly by groups of people effected by historical trauma. However, it is also noted that comparatively, between different populations of Native Americans, variations are likely to occur that would translate to each community having different levels of historical trauma. This could be

due to different historical events within each region or community, or it could possibly have something to do with the number of resources that are available to each community.

This research also shows that there is no correlation between contemporary trauma and the scores of the Historical Loss Scale (Whitbeck et al, 2004). This means that experience of present-day trauma does not seem to have any influence on how often individuals think about historical losses. It was also determined that significantly higher scores were found on the Historical Loss Associated Symptoms Scale and the Historical Loss scale when the individuals had experienced assaultive trauma, PTSD and/or anxiety/affective disorder (Whitbeck et al, 2004). The relationship between the mental illness and historical loss seems to be directly correlated.

In the Whitbeck study, age was not a determinate of how much an individual thought of historical losses. However, the results could suggest that a person with less Native American heritage will experience less historical trauma and, therefore, think less about historical losses. The 66 percent of the people in the study that had a lifetime diagnosis of substance use disorder and dependency had significantly higher total scores on both of the historical loss scales, meaning that they thought of historical losses more often than many of the other individuals that were involved in the study (Whitbeck et al, 2004).

### **3.3.2 Cultural Trauma**

Historical trauma coincides with cultural trauma within the Indigenous population because, as described earlier in this essay, many historically traumatic events that effect the Indigenous populations targeted their cultural ways of life; relocation from spiritual lands, altering traditional food access, limiting the passing on of culture through eugenics and residential schools. Other

policies like the United States Indian Removal Act and the Canadian Sexual Sterilization Act are referenced by Indigenous populations when referring to historically traumatic events, and have changed and limited the handing down of cultures to future generations by means previously mentioned.

When the Indigenous populations of North America were colonized, they were no longer able to use the land that they knew how to farm and collect food from or share with neighbors and other communities at times. This change completely uprooted their traditional diets and culture by forcing them to relocate (Subica & Link, 2022). Since the Indigenous populations had decreased access to their traditional foods, the foods then had to be replaced by marketed goods which are high in saturated fats and carbohydrates (Subica & Link, 2022). The locally harvested and hunted sources of food are much more nutrient-dense options. The abrupt and forced change in diet causes higher rates of obesity, diabetes, and malnutrition according to the elder women that were interviewed during a research study about Indigenous women's relationships with food. An elder woman named Rose described her childhood experience with food in the following statement:

I know we ran out of food once. All we had was just flour, and what my grandmother used to do is just have water with milk and this flour. I don't know how she'd do it, but [she'd] mix it up in her hand. It would fall into there and form a little, like, an ear ... curly stuff like that. Then we'd eat that. And sometimes we'd just have potatoes to eat. We had a big box upstairs filled up with potatoes for the winter (Neufeld & Richmond, 2020, 5).

According to Subica and Link, authors of *Cultural trauma as a fundamental cause of health disparities*, cultural trauma is an assault on an individual's culture by a dominant group through forces, threats, or oppressive policies to damage, devalue, or destroy that culture to allow the dominant group's interest to advance and gain resources or reputation (Subica & Link, 2022).

Results from the 2022 study titled, *Cultural trauma as a fundamental cause of health disparities*, shows how cultural trauma, like historical trauma, can have direct effects on the health disparities of the population that is targeted. The model shown in Figure 7 is based on how “culture represents an unrecognized flexible resource for health that is foundational to human survival” (Subica and Link, 2022). Some examples of cultural trauma are tied directly to the historical events that caused trauma within Indigenous communities including relocation, discriminatory policies put into place by governments, and blocking of resources that create massive stress among the population.



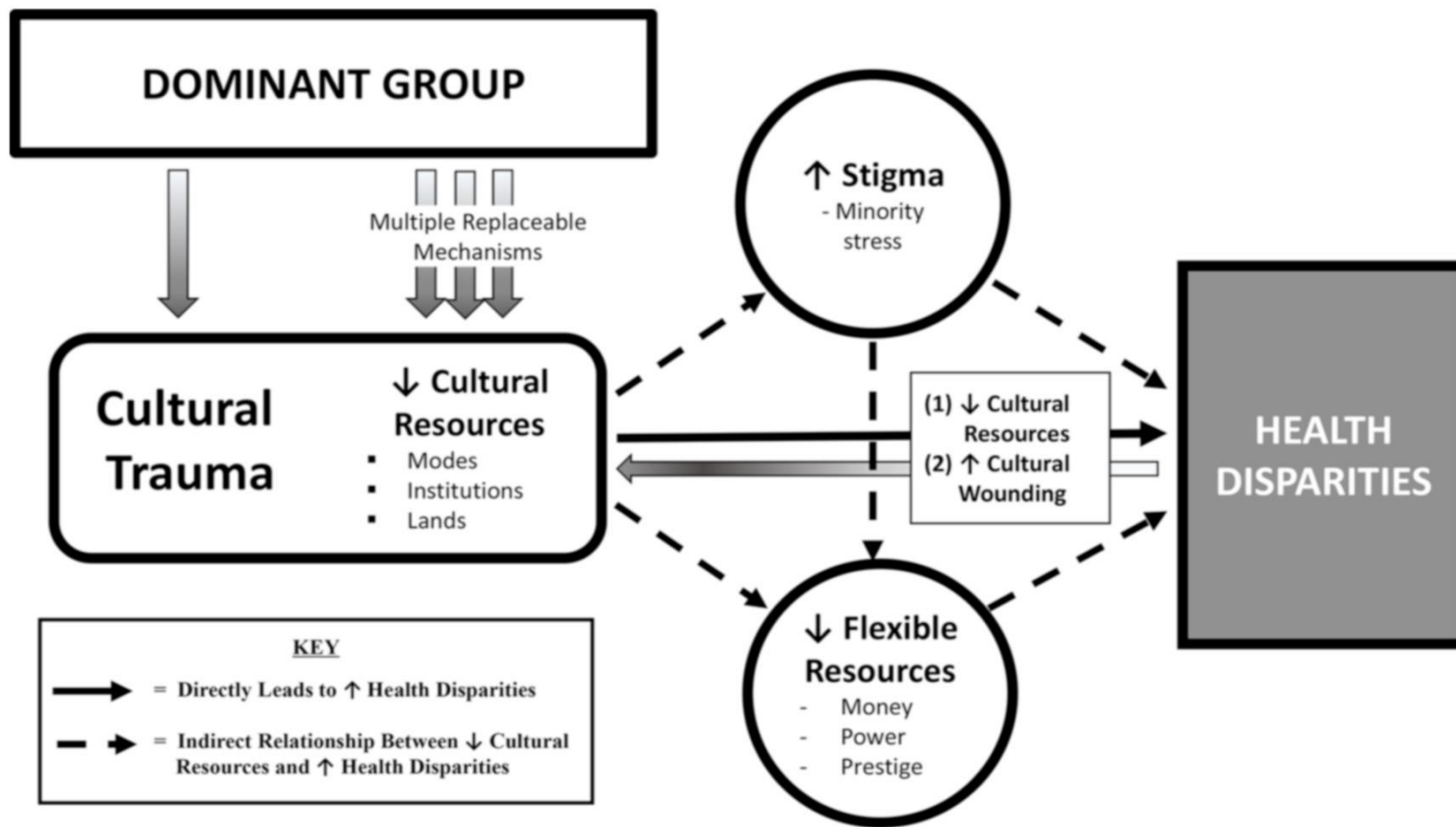


Figure 7. Cultural Trauma conceptual model from Cultural trauma as a fundamental cause of health disparities, ELSEVIER Social Science and Medicine (Subica and Link, 2022)

Both the historical trauma scales and the cultural trauma conceptual model point in the same direction: colonization and traumatic historical events lead to additional health disparities, including increased mental illness among affected populations. The forced power differential against the Indigenous populations and how these power differentials link to an increase in health disparities supports the fundamental cause theory described in research done by Subica and Link. Fundamental Cause Theory states that social inequality is linked to health inequality, not just because of the constraints placed on people with low status but also because of the health advantages enjoyed by population groups with high status (Clouston et al, 2016)

Research relating the fundamental cause theory and cultural trauma of Indigenous populations support how proper resources and replacements for all the things taken from Indigenous communities is needed for this trend to be reversed. Policy and restraints on land maintain this trend currently in the United States by keeping Native American reservations reliant on external sources run by the government and non-Native businesses. This can be seen when recognizing that the original creation of reservations did not include traditional lands of the communities, and the reservations created from the Indian Relocation Act limited the nomadic lifestyle that many Indigenous populations participated in. The relationship between cultural trauma and health disparities is shown in Figure 7 and could be slowed, halted, or even reversed by inputting flexible resources and cultural resources. For example, there are several interventions listed in the literature like prioritizing cultural education in the communities, capacity building and teaching self-advocacy (Subica & Link, 2022). The more challenging means to positively affect the population and reverse the flow of the model would be to decrease cultural stigmas, wounding and microaggressions.

### 3.3.3 Intergenerational Trauma

One core principle of Indigenous culture is storytelling or providing narratives to pass along history and teach lessons. This way of handing down narratives through generations has been tied to trauma responses among the Indigenous populations, which will be discussed further in this section. As noted previously, the process of passing on trauma to further generations is called *intergenerational trauma*. Intergenerational trauma can be passed on through many ways including parenting style, story-telling, or observation of maladaptive posttraumatic behaviors (Sharma, 2021).

Intergenerational trauma is academically defined as traumatic experiences that are passed on to further generations through oral histories, psyche, genetic and epigenetic expressions (Sharma, 2021). This trauma includes all forms of colonization, including residential schooling. The combined results of colonization affect Indigenous peoples' health and well-being, including mental, emotional and spiritual wellness.

An article called *Narrative frames as choice over structure of American Indian sexual and reproductive health consequences of historical trauma* discusses a study that uses Community Based Participatory Research (CBPR) to investigate how the influence of historical trauma affects the sexual and reproductive health of on group American Indigenous persons. It was reported by Cox, in this 2021 article, that narratives can communicate adaptive capacity and resilience to historical trauma on a community and individual level.

The passing down of stories or narratives within Indigenous communities allow the youth to find individual and collective identity with the stories of their community and ancestors (Sharma, 2020). This is one area, along with epigenetics, where intergenerational trauma can possibly originate. Cox utilized interviews to find narratives that supported the theory that

historical trauma leads to the lack of sexual health among the community. First, a framework had to be created that kept in mind the cultural norms of the community that the study was partnering with. The Tribal Council requested this study due to the high levels of teen pregnancy (Figure 5) and STIs among their youth. Cox developed a framework that revolved around the cultural norms of the Nakoda, Nakota, Nakona, Lakota, and Dakota Nations.

The data showed that the results were a mix of interviews claiming individual choice caused the high levels of teen pregnancy and STI levels, but then the interviewees responses then switch and support that a collectivist mindset relates to the high levels of teen pregnancy in conversation thereafter. The researchers suggest that future studies focus on how social identity can interact with group culture and historical trauma that may have produced behaviors that allow these community members to avoid reprimanding themselves for the negative consequences in the past.

### **3.3.3.1 Residential Boarding schools**

Policies in the United States and Canada like the Canadian Indian Act focused on assimilation of the Indigenous populations, like the institution of Indigenous boarding schools, have added to the trauma and abuse of the Native North American populations immensely from 1869 to the 1960s. Canada had 139 residential schools and the United States had 150 residential schools. In these schools, physical, emotional and sexual abuses were rampant (Neufeld & Richmond, 2020). When exploring the historical perspectives of First Nation elders in Canada, Neufeld and Richmond interviewed a mother named Audrey who spoke of the secrets kept by many Indigenous people in history, including her mother.

... they never talked about when they were cuffed across the ear and now some of them are deaf, or prodded with a pig prod, pushed down stairs, and molested and there's a lot of children that never made it home. So they just block it and all those blockages ... they

know that energy doesn't flow [and] causes unbalance in your life (Neufeld & Richmond, 2020, 7)

The implementation of boarding school policies affected the spiritual and mental health of the native communities for generations to come. For example a Native American graduate student described how her mother, “was whipped with belts and wooden boards when she spoke her native language or did not pay attention during religious lectures” when she was in a boarding school that was 150 miles away from her family (Solomon, 2022, 283). The student later mentions how the worst of the abuse was the sexual trauma that children at the boarding schools had to encounter, that the women in the Native American community carry with them still today, stating:

Her stories remind me of prison life, and in many ways, it was a prison for American Indian children completely innocent and alone. But the worst atrocity was the sexual abuse that my mother experienced at the hands of people who were supposed to protect her and practice the word and work of God. By the time my mother returned home to attend high school, the psychological and physical abuse had already taken a toll (Solomon, 2022, 283).

This led to drug abuse and contemplation of suicide. The same graduate student stated, “From the outside, many considered her [my mother] to be a strong woman, but on the inside, she struggled to keep going, occasionally contemplated suicide, and smoked cannabis to ease the psychological suffering” (Solomon, 2022, 283). Over 500,000 American Indian and Alaskan Native children were sent to these boarding schools between 1869 and the 1960s. One such school was founded by Army officer Richard Henry Pratt who stated, “kill the Indian in him, and save the man” (Solomon, 2022, 284).

By the 1870s, the United States federal government had taken control of the residential boarding school system with the goal of “civilizing” the native children that were attending. The schools tried to accomplish this through basic education, vocational training, and “discipline through military-like drills and corporal punishment” (Solomon, 2022, 284). Many boarding

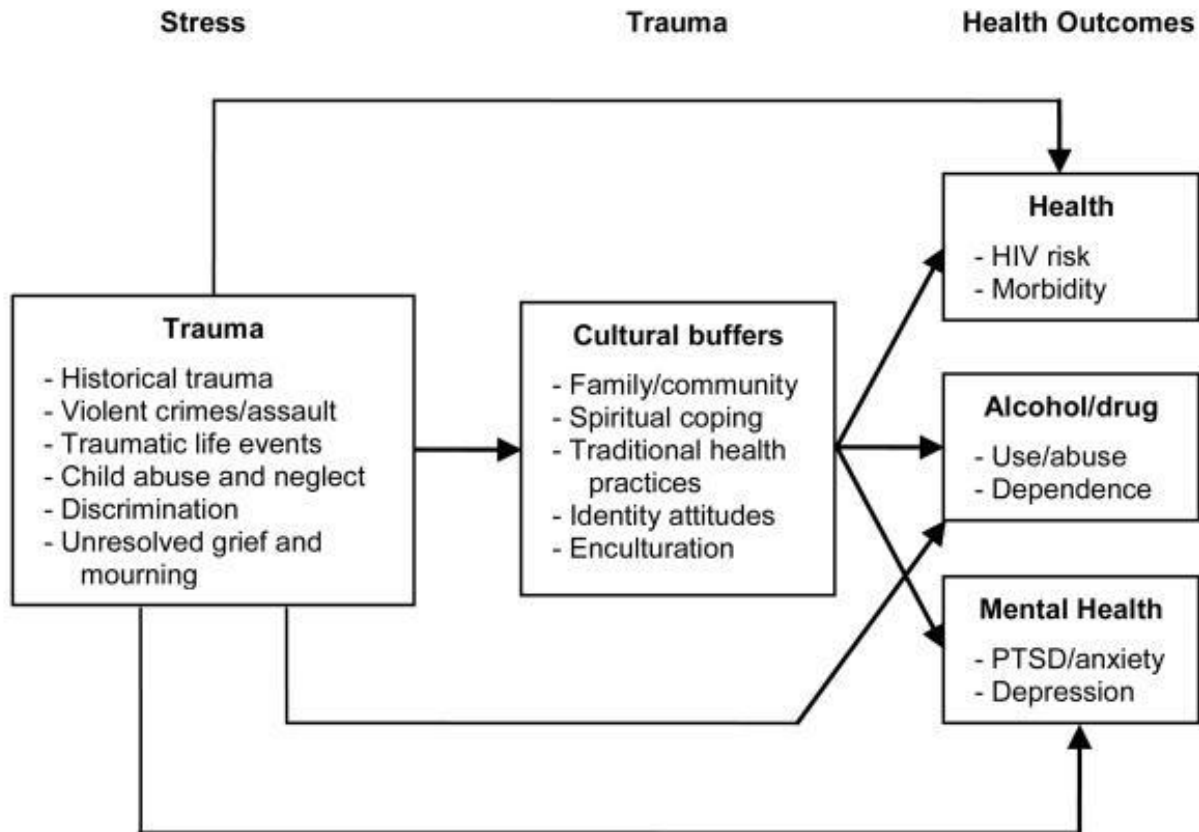
school survivors have reported being sexually, psychologically and physically abused during their time there.

The residential boarding schools have now been exposed as a form of direct genocide after the recent findings of the mass graves at many of these schools. A mass grave of 250 Indigenous children was found at one of the former residential schools known as Kamloops Indian Residential School in British Columbia, Canada according to The New York Times. A study done in Ontario, Canada gave opportunity to an Indigenous elder who told her story of going to residential school as a preteen and her reaction to coming home, “Yeah, I came home. I [found I] had no clothes [there]. I don't know what they did with them all. Maybe they thought I wasn't coming home” (Neufeld & Richmond, 2020, 5). When many of the survivors arrived back home after their forced stays at the boarding schools, many felt disconnected from their culture, which resulted in mental illness and substance abuse for years to come (Neufeld & Richmond, 2020). Thus, the residential boarding schools were a form of cultural genocide as well.

Because of the story telling and community-based practices that are at the core of Indigenous culture, these traumatic experiences were passed on to further generations through oral histories, psyche, and genetic and epigenetic expressions (Sharma, 2021). This intergenerational trauma and can be caused by certain unintentionally harmful parenting and observed maladaptive posttraumatic behaviors as well as the previously mentioned ways of transfer. More information on how epigenetics relate to intergenerational trauma is described previously in the Historical Trauma sub-heading of this essay.

### **3.4 Methods of Measuring Health Outcomes from Historical Trauma**

Often times when Eurocentric views are used to understand different cultural issues, not everything is considered. Previously discussed in the Historical Trauma section of this essay, the Historical Loss Scale and the Historical Loss Associated Symptoms Scale were described and referenced as on method of measuring health outcomes. Figure 8 shows a stress-coping model developed in 2002 by Walters and Simoni, that conveys the importance of cultural ties within the Indigenous communities and the risk factors like historical trauma that many Eurocentric populations do not have to contemplate when acknowledging health of a population.

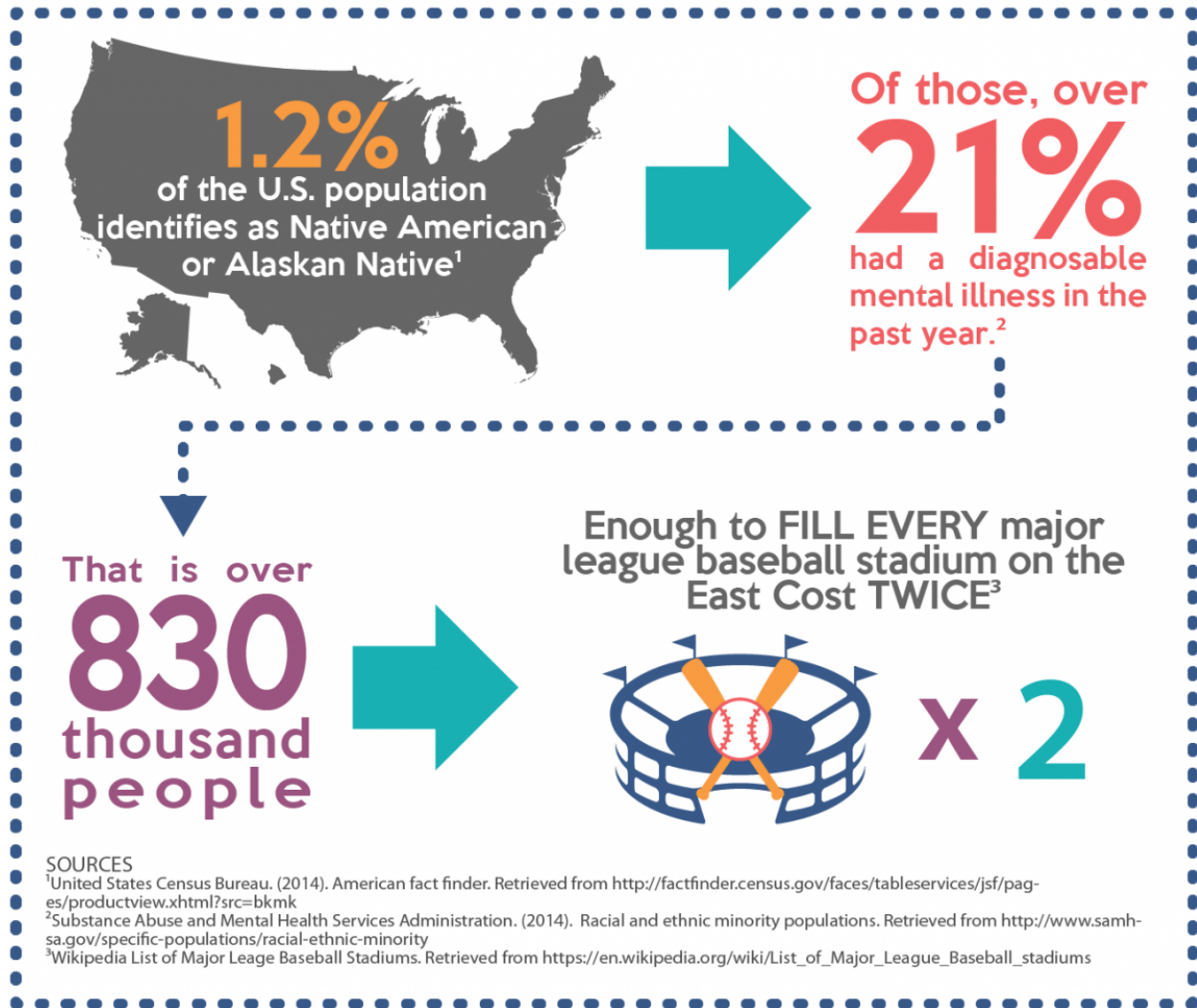


**Figure 8. Walters and Simoni, Indigenist Stress-Coping Model from Reconceptualizing Native Women's Health: An "Indigenist" Stress-Coping Model, Pubmed (Walters and Simoni, 2002)**

To develop this model, the researchers performed crosstabulations of data on racial/ethnic groups and demographic background factors, such as education level, marriage status, and household income. The study also examined the risk of alcoholism, diabetes, and depression in American Indian and Alaskan Native populations using the Behavioral Risk Factor Surveillance System. Results from this data review indicated that these populations are at a higher risk of alcoholism, diabetes and depression, when their presence was tested individually and combined in comparison to the white population. These results reinforce that fact that much work needs to be done in creating culturally appropriate interventions and resources that are made specific for these populations.



Later data collected on mental health issues among the Indigenous populations, further reinforced the need for more interventions and resources, specifically mental health-based programs. Figure 9 below, based on Centers for Disease Control and Prevention data and created by the National Indian Council on Aging, Inc., presents the size and scope of this issue. This data shows that 830 thousand people within the Native American or Alaskan Native populations have been victims of violence. Since 1999, the suicide rate among women and men of the Indigenous populations is up by 139 percent and 71 percent, respectively, as of 2019 (NICOA, 2019). Providing adequate mental health resources is a first step in addressing these disparities in the Indigenous population. Indigenous people need more than basic mental health resources to overcome these high rates of suicide and mental health that are created to support the community that have experienced such high rates of historical, intergenerational and cultural trauma. That is why it is important to take note of the inter-related aspects of the Indigenous communities and how each piece of the past effects the current population when applying frameworks. Past losses including land loss, cultural loss, loss of family members, and loss of cultural ties with ancestral land and neighboring communities, continue to affect people today.



**Figure 9. Statistical and physical representation of Native American and Alaskan Native Rates of mental illness diagnosis (NICOA, 2019)**

## 4.0 Discussion

This essay has explored the connections between historical trauma and current poor health indicators among Native American populations. Since the earliest colonization of North America, Puritans perpetrated countless physical battles and used biowarfare against the Indigenous populations. Early colonizers called Native Americans “savages” because they did not follow a Christian lifestyle. However, these historical events are not widely known by many non-native Americans. For example, I grew up in the United States Public Education system, but I was not aware of how recent some events of settler-colonization, direct and indirect genocide of the Native American Population have been. For example, in the 1950s there was an Indigenous Right’s Movement that happened alongside the African American Civil Rights Movement that reversed the US termination policy against the Native Americans that had previously allowed the Federal government to withdrawal all federal aid, protection, and services.

The many blatant acts of systemic racism described throughout this essay, that resulted in historical trauma, cultural and intergenerational trauma, provide a useful context for understanding the health disparities experienced by Native American and Indigenous Canadian communities. Many examples of health inequities appear to directly correlate with the effects of historical trauma. This essay also included the iterations of historical events and narratives from the Indigenous individuals themselves, which provide further evidence of the long-lasting effects of racist historical acts and injustices. Many individuals have described the intergenerational traumas they have experienced. Taken together, this review of historical events and first-hand Native American descriptions of the ongoing trauma of those events, provide compelling evidence of the mental and physical health-related effects of those historical traumas. Considering this connection,

future research and programs should focus their work on the voices of the Indigenous populations. Since the Indigenous populations are best aware of their own circumstances, they usually know what resources are needed in their communities and they simply need researchers and program coordinators who can provide the appropriate resources. Amplifying the voices of Indigenous people in future program development and research would ensure that programs are culturally appropriate because of direct input from Indigenous populations.

Like many other marginalized communities, Indigenous communities could benefit from resources like affordable and accessible culturally appropriate mental health services. Providing programs that reach out into Indigenous communities, such as mobile programs, could address the real transportation barriers faced by many native people. Additionally, communities could benefit from tangible resources to alleviate the high cost of daily life for Native people. For example, many common foods and household necessities cost a great deal more on Native reservations. Although the structure of goods and services provided on reservations is beyond the scope of this essay, it is important to recognize that affordability of food and other necessities relates directly to the social determinants of health, which so negatively affect many Native people's health. It is also often difficult for emergency vehicles to access and locate houses on Native reservations due to the lack of paved roads and because many houses are not marked with an address. A local option for health officials or better communication between emergency response would greatly benefit Indigenous populations that experience this particular disparity. Disability status data and resources focusing on Indigenous communities are also relevant and require more attention. There is no current data collected that has measured the disability status among Indigenous populations. Considering the difficulties surrounding accessibility including emergency medicine and lack of

paved roads, it is safe to assume that there are extensive barriers for Indigenous individuals with certain disabilities.

Countless efforts are needed to fill the holes created by the health disparities among Indigenous Nations in North America. There is not one solution that will heal the exhaustive list of traumas among the Indigenous populations. Public health efforts are needed on the policy, community, institutional, interpersonal and individual level to eliminate prejudices, biases and detrimental policies and practice regarding Indigenous people.

## **5.0 Conclusion**

This essay describes and explores the relationships between historical events and the health of Indigenous populations of North America. This was done by providing first-hand knowledge from Indigenous individuals and how these past traumas influence future generations of their children. While additional research is needed to explore the direct relationship between mental illness, intergenerational, cultural, and historical trauma, enough evidence does currently exist to inform the development and design of additional research. Some future research questions to explore could be how to address the effects of historical trauma on mental health of the current population and what resource would be necessary to make a notable public health improvement. For example, how can suicide prevention efforts be tailored to the North American Indigenous populations to improve this health disparity. Another example would be how can progress be made towards changing policy to relieve some of the burden of the past traumas that affect the North American Indigenous populations.

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