

Results from a National  
COVID-19 Vaccination Survey:

# Strengthening Vaccine Efforts in Indian Country



**Urban Indian  
Health Institute**  
A Division of the Seattle Indian Health Board

## **Acknowledgements**

Funding for this report was provided by the Washington State Department of Commerce from General Fund-Federal (Coronavirus Relief Funds) and the Indian Health Service (IHS) Epidemiology for American Indian/Alaska Native Tribes and Urban Indian Communities program grant U1B1IHS0006-19-03. The contents of this report are solely the responsibility of the authors and do not necessarily represent the views of the State of Washington or the Indian Health Service.

Urban Indian Health Institute would like to thank the survey participants who generously shared their time and thoughts.

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## **Recommended Citation**

Urban Indian Health Institute (2021). Results from a National COVID-19 Vaccination Survey: Strengthening Vaccine Efforts in Indian Country. Seattle, WA: Urban Indian Health Institute.

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## PURPOSE

The analyses and recommendations presented in this report can be used to inform the development and delivery of culturally attuned COVID-19 vaccination campaigns, education materials, and programs tailored to urban and rural American Indian and Alaska Native (AI/AN) communities. All analyses are stratified by willingness to get vaccinated to identify determinants of vaccine uptake and hesitancy among AI/AN subgroups.

*“We have to protect our old ones and 7 generations to come. It’s a big responsibility. Warrior up.” – Survey respondent*



# EXECUTIVE SUMMARY

## Key Findings

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Among all participants surveyed, **75% were willing to receive a COVID-19 vaccine.**

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**The primary motivation for participants who indicated willingness to get vaccinated was a strong sense of responsibility to protect the Native community and preserve cultural ways.** Despite hesitancy towards the vaccine due to historical and current abuse from healthcare and government institutions, they ultimately felt that the heavy cost of COVID-19 on their community outweighed potential risks from the vaccine.

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For those willing and unwilling to get vaccinated, **the most frequently reported reason behind hesitancy was how fast the vaccine moved through clinical trials.**

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**Ninety percent of those unwilling to get vaccinated recognized COVID-19 as serious disease and 75% felt they were at risk of infection.** Perception of disease severity and personal risk of infection from COVID-19 was higher among those willing to get vaccinated.

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**On average, all participants reported engaging in COVID-19 prevention behaviors often or always.** However, those willing to get vaccinated engaged in all prevention behaviors more frequently.

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**Seventy-four percent of all participants believed getting vaccinated is their responsibility to their community.**

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**Seventy-five percent of those unwilling to get vaccinated perceive COVID-19 vaccines as dangerous to their health.**

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**Two thirds of participants willing to get vaccinated were confident that COVID-19 vaccines were adequately tested for safety and effectiveness among Native people, compared to 31% among participants unwilling to get vaccinated.**

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**Concerns about potential side effects was high for both willing (75%) and unwilling (89%) participants.**

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**Knowledge on how vaccines work and are developed was greater among those willing to get vaccinated.**

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**Fifty-nine percent of participants willing to get vaccinated had a University degree and 61% of participants unwilling to get vaccinated had an education level of vocational training or less.** This highlights the importance of tailoring vaccination campaigns to education level and utilizing plain language to describe health concepts.

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**Seventy-two percent of all participants wanted evidence that the vaccine is safe right now and in the long term.**

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**Participants unwilling to get vaccinated had the highest trust in vaccine efforts by Urban Indian health clinics, their regular doctor, and Tribal clinics, respectively.**

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**Among all participants, 39% reported difficulty traveling to their clinic for an appointment and 18% travel an hour or more to get to a primary care provider.**

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**Sixty-four percent of those unwilling to get vaccinated indicated they would receive the vaccine at some point in the future, with the greatest proportion (23%) reporting at least one year from now.** This may suggest with proper messaging and education on the efficacy and safety of vaccine, hesitancy can be addressed.

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## Key Recommendations

Native people continue to build thriving, vibrant communities rooted in traditional ways despite ongoing historical trauma stemming from more than 500 years of colonization. The stories told through data illustrate the primary motivation for receiving a COVID-19 vaccine was Indigenous cultural values of community responsibility and service to the future generations. In spite of colonial legacies, Native people have continued to do what is needed to preserve traditions and boldly build stronger communities.

These key recommendations were developed based on the findings in this report and are intended to inform the development and delivery of culturally attuned vaccination campaigns, educational materials, and programs. They demonstrate the ways in which data from this report can be operationalized to improve vaccine acceptance and uptake among AI/AN communities.

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- 1.** Center vaccination campaigns on the cultural values of Native peoples by tailoring messaging on community responsibility and by drawing connections between getting vaccinated and the preservation of Native traditions, cultural pride, as well as love and respect for family, Elders, future generations, and the broader Native community.
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- 2.** Support tribal and urban Indian health clinics in leading COVID-19 vaccination efforts, given their position in the community as a trusted, safe, and familiar spaces, with cultural knowledge and expertise.
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- 3.** Utilize effective ambassadors, such as healthcare providers, Elders, and tribal leaders, to provide accessible and clear information about the COVID-19 vaccines, including the process of vaccine development, vaccine safety and effectiveness, potential side effects, cost, and personal and community benefits of vaccination.
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- 4.** Acknowledge how historic and current harms perpetrated by healthcare institutions and the US government have contributed to skepticism of vaccines. This can be accomplished by holding a public forum with Native community leaders on vaccine hesitancy or by utilizing resources developed by Native-led organizations to build trust in vaccines (Urban Indian Health Institute [UIHI], 2020).
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**5.** Ground vaccination campaigns in community participation and community voice to ensure vaccine messaging is culturally relevant. As evidenced by the high completion rate of this survey and interest in participating in future surveys, the community is willing to share their knowledge and experiences to benefit Native communities.

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**6.** Recognize that vaccine acceptance is a spectrum and those unwilling to get vaccinated may change their opinions once concerns of safety, effectiveness, and accessibility have been addressed. Conversely, acknowledge vaccine acceptance does not mean hesitancy is not present, as those willing to get vaccinated voiced similar concerns around safety for Native people.

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# INTRODUCTION

## About Urban Indian Health Institute

Urban Indian Health Institute (UIHI) is one of 12 Tribal Epidemiology Centers (TECs) in the United States and serves to strengthen the health and well-being of American Indians and Alaska Natives (AI/AN) in urban communities across the nation. UIHI grounds these public health activities in Indigenous knowledge systems and science. UIHI’s mission is to decolonize data, for Indigenous people, by Indigenous people.

## Background

**Among AI/AN, the COVID-19 incidence rate and mortality rate are 3.5 and 1.8 times that of non-Hispanic Whites, respectively.**

American Indian and Alaska Native people continue to be disproportionately impacted by the COVID-19 pandemic in incidence and mortality (Arrazola et al., 2020; Hatcher et al., 2020). Among AI/AN, the COVID-19 incidence rate and mortality rate are 3.5 and 1.8 times that of non-Hispanic Whites, respectively (Arrazola et al., 2020; Hatcher et al., 2020). Inequities in public health funding and infrastructure, access to

medical care, education, housing, and clean water and healthy foods have contributed to health disparities in chronic conditions which place AI/AN communities at higher risk for infection, mortality, and severe illness from COVID-19 (Arrazola et al., 2020).

These inequities are also the result of structural racism produced by policies and practices sanctioned by various levels of government and built into economic systems and societal norms (Bailey et al., 2020). The interconnectedness of oppressive structures and inequity seeps into Western education systems creating disparities in opportunities and health literacy, which also carries significant implications for the health and well-being of AI/AN communities. However, as Native people we recognize that traditional Indigenous knowledge systems will continue to sustain us as we build thriving communities grounded in our traditional ways.

This report seeks to uphold community perspectives and experiences as a form of resistance to oppressive structures and in recognition of Indigenous values that acknowledges our community as knowledge keepers. With the emergence of several COVID-19 vaccines, there is an urgent need for information on knowledge, attitudes, and beliefs among AI/AN regarding the vaccines. Particularly as historic distrust, rooted in the legacy of colonialism, genocide, and medical experimentation (Pacheco et al., 2013), may contribute to vaccine hesitancy. Historical and recent instances of abuses by health care institutions and government agencies serve to deter AI/AN people from participating in vaccination campaigns. In addition, other structural barriers to access vaccines, such as distance to clinics and cost of vaccines, may also impede vaccine uptake among AI/AN.

**With the emergence of several COVID-19 vaccines, there is an urgent need for information on knowledge, attitudes, and beliefs among AI/AN regarding the vaccines.**

Disparate uptake of COVID-19 vaccines among AI/AN has the potential to widen health disparities in morbidity and mortality from SARS-CoV-2. This report provides data on vaccine perceptions and offers recommendations for improving vaccine acceptance and uptake among AI/AN for COVID-19.

# METHODS

## Survey Development and Administration

The data in this report is sourced from UIHI's National COVID-19 Vaccination Survey. The survey was developed utilizing questions from existing COVID-19 vaccine surveys, including Global Attitudes on a COVID-19 Vaccine by Ipsos (Ipsos, 2020), Harris Poll COVID-19 Survey (The Harris Poll, 2020) and COVID Collaborative Survey (COVID Collaborative, 2020). Survey questions were culturally adapted to AI/AN communities when appropriate.

The survey included 49 questions on COVID-19 vaccine knowledge, attitudes, and beliefs. It was comprised with various types of questions, including multiple choice, rating scale, Likert scale, and one open-ended. It was hosted online via Alchemer (formerly SurveyGizmo) and conducted from December 11, 2020-December 30, 2020. Participants were permitted to skip questions they did not feel comfortable answering.

## Participant Recruitment

Participants were recruited through a volunteer sampling method, where individuals selected themselves to participate. The inclusion criteria were individuals over 18 years of age living in the U.S. that identify as AI/AN. The survey was advertised in UIHI's Bi-Weekly Newsletter, news outlets, including KRTV in Montana and Indian Country Today, and social media platforms, such as Facebook, Twitter, and Instagram. Participation was incentivized with a raffle for various gift cards and prizes. Prior to beginning the survey, each respondent was prompted with screener questions to determine eligibility based on the inclusion criteria. All eligible participants were advanced to the survey questions. A total of 1,435 eligible participants completed the survey, with **91% completing more half of all questions** and **65% indicating interest in participating in future surveys**.

## Quantitative Data Analysis

Survey data was extracted from Alchemer on December 30, 2020, after it was closed for submissions. Responses were analyzed utilizing RStudio 1.3, and descriptive statistics, including frequencies and percentages, were generated. This report presents percentages as rounded to the nearest integer, thus tabular percentages may not sum to 100.

Rating scale questions were recoded as dichotomous responses to enhance interpretability of the data. Demographic categories, employment, education, and gender were also recoded to improve readability and relevance. Age categories were created from the age variable and grouped to yield an even distribution of participants in each category to ensure meaningful data for each age category.

## METHODS

Likert scale questions were converted to numerical values with the most negative response assigned a value of 1 and the most positive response assigned a value of 4 or 5, depending on the number of response options. Each participant's response was weighted according to these values in order to produce a mean score. Scores were then used to characterize participants responses on knowledge, attitudes, and beliefs.

This report stratifies all analyses by participants willing to get vaccinated and participants unwilling to get vaccinated to examine determinants of vaccine uptake. This is based on a 4-point rating scale question, "If a vaccine were available, I would get it", with the following response categories, "Strongly agree", "Somewhat agree", "Somewhat disagree", "Strongly disagree". Responses were collapsed into a dichotomous scale stating agree or disagree.

Data that contains less than 10 individuals was suppressed to protect privacy and confidentiality. In recognition of Indigenous Data Sovereignty (Kukutai & Taylor, 2016), tribally specific data, such as areas that may include tribal nations or data fields with tribal affiliation, were not analyzed or presented in this report.

**In recognition of Indigenous Data Sovereignty, tribally specific data were not analyzed or presented in this report.**

Participants were asked to provide the zip code that corresponds to the place in which they live most of the time. Zip code responses were used to categorize participants according to rural or urban counties as defined by the 2013 National Center for Health Statistics Urban-Rural Classification Scheme (Ingram & Franco, 2014). Zip code responses were also used to categorize participants by IHS region. The number of participants from Navajo and Tucson Areas fell within the threshold for data suppression. Therefore, participants from these areas were grouped with other IHS regions based on state lines. All participants in the Tucson Area were grouped with Phoenix Area. Participants in the Navajo Area were grouped with Albuquerque or Phoenix Areas, depending on whether the majority of the zip code was in New Mexico, or Arizona or Utah, respectively.

Missing data is excluded from the analysis of all responses. Unknown data, whereas a participant responded with "Not sure", is also excluded in the analysis of demographic categories.

## Qualitative Data Analysis

The survey had one free text prompt, "Please share why you think it's important to be vaccinated as a Native person." This prompt was only provided to participants who indicated they would be willing to get the vaccine if it were available to them. **Out of the 983 participants who were provided the prompt, 922 (94%) responded.** A thematic analysis was conducted by analyzing responses for thematic patterns. When responses were illegible or had errors in the data, they were excluded in

the analysis. Final themes were determined through consensus amongst four reviewers. Questions with an “Other – Write-in” response option were also analyzed according to thematic patterns and then summarized in this report.

### Limitations

The data was collected through volunteer sampling, therefore the findings may not be generalizable to the entire AI/AN population. People who volunteered may have specific characteristics that differ from the general AI/AN population. For example, individuals may be more compelled to participate if they have stronger opinions about vaccines, which consequently introduces volunteer bias. Other biases that may be present include incentive-caused bias, in which the incentive may have attracted a subset of the population with distinct characteristics. In addition, the media channels utilized to promote the survey may also lend to bias, with individuals more likely to see the advertisement if they use these channels and others less likely if they do not use these channels.

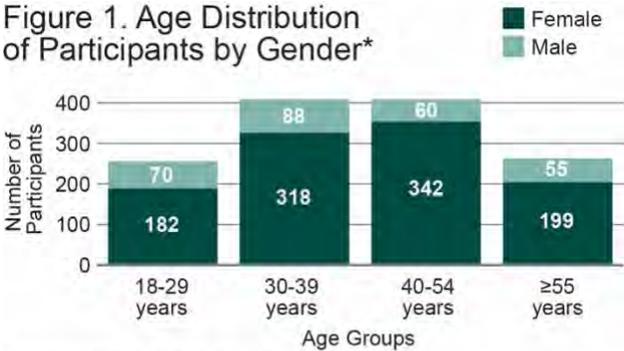
The sample of participants had an overrepresentation of college-educated women as compared to the general AI/AN population, which may be due to the sampling methods. It also included a higher proportion of those willing to get vaccinated (n=983), as compared to those unwilling to get vaccinated (n=321), a three-to-one ratio. This should be taken into consideration in the interpretation of the analyses presented.

It is also important to note, this survey was launched on the same day the Pfizer-BioNTech COVID-19 Vaccine was approved for emergency use access (EUA) by the FDA in the United States (Food and Drug Administration [FDA], 2020b). The EUA for the Moderna COVID-19 Vaccine was issued one week later (FDA, 2020a), also within the timeframe in which the survey was ongoing. This may or may not have had an impact on participant responses.

# PARTICIPANT DEMOGRAPHICS

## Gender, Ethnicity, and Age

Seventy-six percent of participants identified as female, 20% as male, and 4% as LGBTQ2S+ (not shown). Approximately, 10% of all participants were of Hispanic/Latinx ethnicity (not shown). Of all participants, a majority (62%) were between the ages of 30 and 54 (not shown). By gender, the highest proportion of females were in the age group 40-54, and the highest proportion of males were in the age group 18-29 (Figure 1). The number of LGBTQ2S+ participants was suppressed to protect privacy and confidentiality.

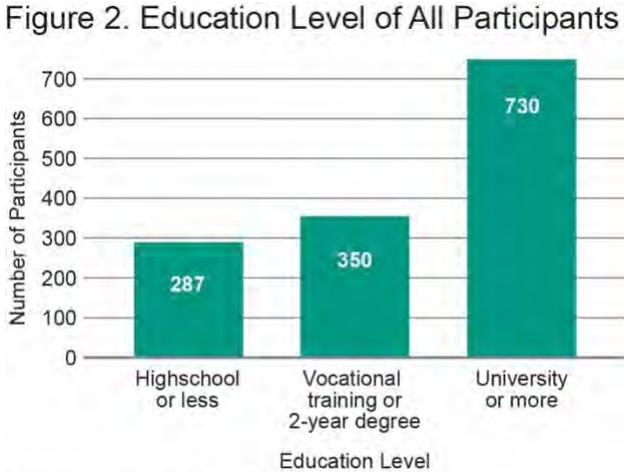


Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

\*The number of LGBTQ2S+ participants was suppressed to protect privacy and confidentiality.

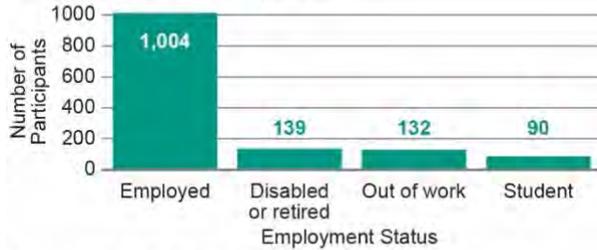
## Education, Employment Status, and Income

For education level, more than half (53%) of participants received a bachelor or graduate degree and 21% had a high-school education or less (Figure 2). Seventy-four percent of participants are currently employed (Figure 3) and 85% of participants are able to stay home from work for two weeks if they are infected with COVID-19 (not shown). Approximately 10% of participants stated they were out of work. For household income, 17% of participants reported a household income of less than \$25,000 and almost one third (31%) reported a household income of \$75,000 or more per year (Figure 4).



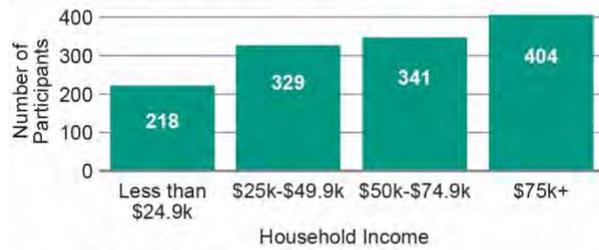
Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

Figure 3. Employment Status of All Participants



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

Figure 4. Household Income of All Participants



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

## Tribal Affiliation

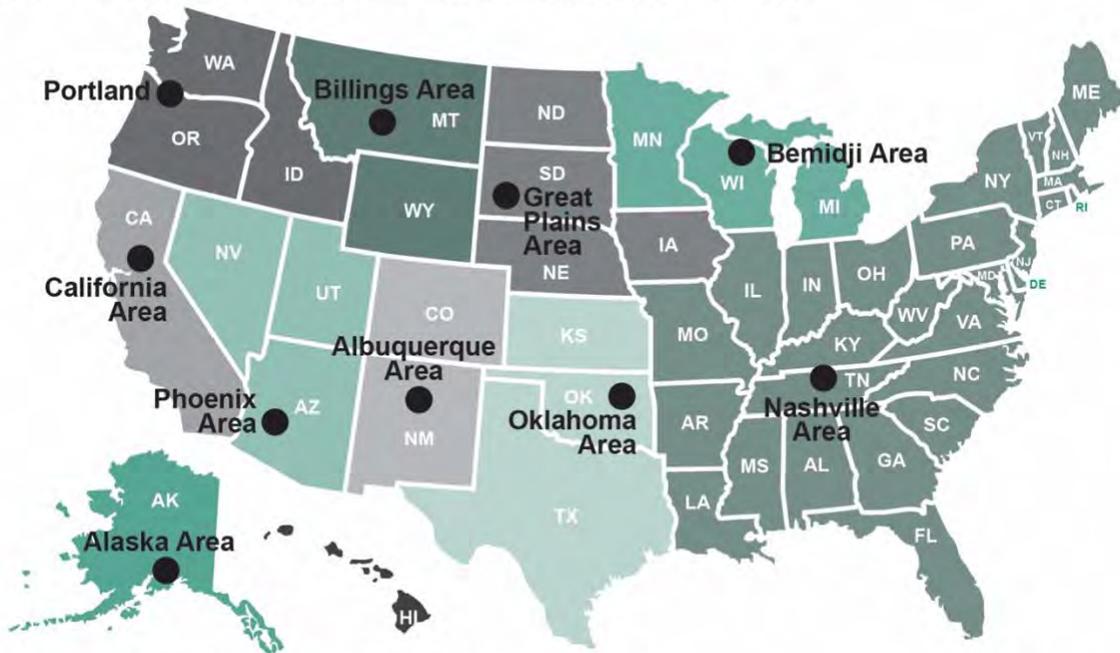
Participants were representative of a diverse AI/AN community. Three hundred eighteen unique tribal affiliations were provided, with 8% of participants reporting more than one tribal affiliation (not shown).

**Participants represented 318 unique tribal affiliations across 46 U.S. states.**

## Geographic Distribution

There was wide geographical diversity across participants, with a total of 863 zip codes across 46 U.S. states. Participants reported living in all IHS regions, with the greatest proportion from Portland Area (23%), Nashville Area (16%), and Billings Area (15%) (Figure 5).

Figure 5. Geographic Distribution of Participants by IHS Region



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020  
Strengthening Vaccine Efforts in Indian Country

# FINDINGS



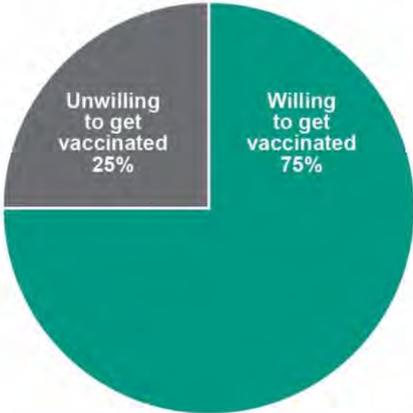
## WILLINGNESS TO RECEIVE A COVID-19 VACCINE

### KEY FINDINGS:

- Among all participants surveyed, 75% were willing to receive a COVID-19 vaccine.
- Fifty-nine percent of participants willing to get vaccinated had a University degree and 61% of participants unwilling to get vaccinated had an education level of vocational training or less. This highlights the importance of tailoring vaccination campaigns to education level and utilizing plain language to describe health concepts.

Among all participants, **the majority (75%) reported they would receive a COVID-19 vaccine if it were available and 25% reported they would not** (Figure 6). The percent willing to get vaccinated is higher in comparison to national statistics, which indicate 64% of the general U.S. population are willing to get a COVID-19 vaccine (Ipsos, 2020).

Figure 6. Percent of Participants Willing and Unwilling to Receive a COVID-19 Vaccine



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

## Demographic Determinants of Willingness to Receive a COVID-19 Vaccine

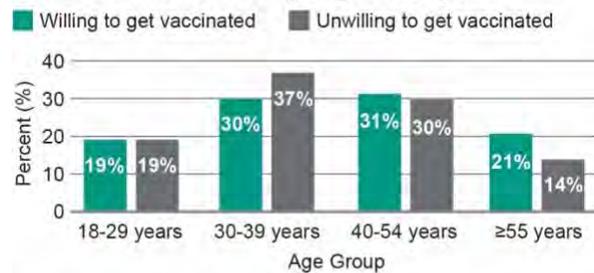
Research shows demographic factors are associated with willingness to get vaccinated (Nguyen et al., 2011; Reiter et al., 2020). To assess determinants of willingness to receive the COVID-19 vaccine among AI/AN, willing and unwilling groups were stratified by demographic categories: age, gender, education, income, and employment status.

When analyzed by age groups, **61% of those willing to get a COVID-19 vaccine were between the ages of 30-54, as compared to 67% of those unwilling to get a COVID-19 vaccine** (Figure 7). Among those willing, **approximately one-in-five were 55 years or older**. Gender distribution was similar across willing and unwilling groups (not shown).

Education reflected the greatest difference between willing and unwilling groups, with 59% of those willing to receive a COVID-19 vaccine holding a University degree (Figure 8). In contrast, those unwilling to receive a COVID-19 vaccine were more represented among participants with vocational training and among participants with a high school education or less. This highlights the importance of tailoring vaccination campaigns to education level and utilizing plain language to describe health concepts.

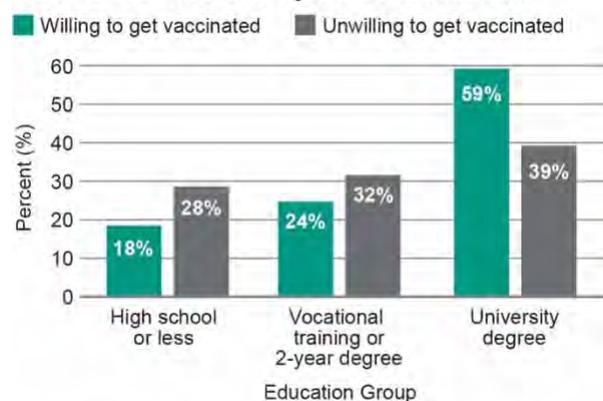
Other demographic categories, such as income and employment status, did not differ between willing and unwilling groups (not shown).

Figure 7. Willingness to Receive a COVID-19 Vaccine by Age Groups



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

Figure 8. Willingness to Receive a COVID-19 Vaccine by Education Level

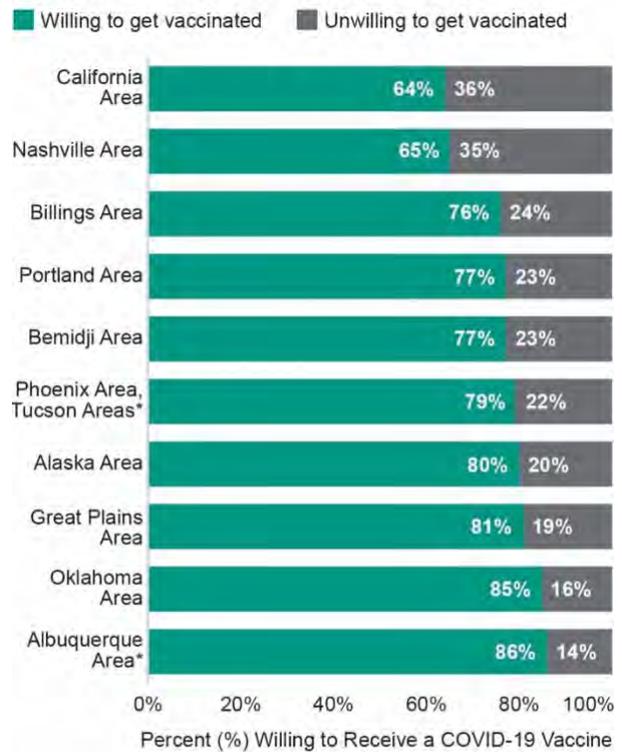


Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

## Willingness to Receive a COVID-19 Vaccine by IHS Regions

Willingness to get vaccinated was high across all IHS regions analyzed, with California Area (64%) having the lowest proportion of participants willing to get vaccinated and Albuquerque Area (86%) having the highest (Figure 9).

Figure 9. Willingness to Receive a COVID-19 Vaccine by IHS Region



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

\*Participants in the Navajo Area were grouped with Albuquerque or Phoenix Areas, depending on whether the majority of the zip code was in New Mexico, or Arizona or Utah, respectively.

# GENERAL COVID-19 KNOWLEDGE, BELIEFS, AND PREVENTION BEHAVIORS

## KEY FINDINGS:

- Ninety percent of those willing to get vaccinated recognized COVID-19 as a serious disease and 75% felt they were at risk of infection. Perception of disease severity and personal risk of infection from COVID-19 was higher among those willing to get vaccinated.
- On average, all participants reported engaging in COVID-19 prevention behaviors often or always. However, those willing to get vaccinated engaged in all prevention behaviors more frequently.

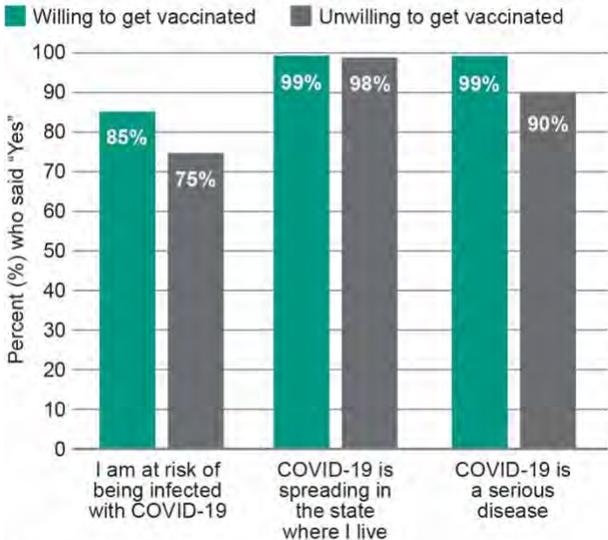
General COVID-19 knowledge, beliefs, and prevention behaviors were stratified by participants willing and unwilling to receive a COVID-19 vaccine to determine whether they play a role in vaccine acceptance. Previous research on influenza vaccine acceptance among racially diverse populations indicates that differences in knowledge and beliefs about a disease can influence willingness to get vaccinated (Wooten et al., 2012).

## Knowledge and Beliefs

Several categories of knowledge and beliefs were assessed, including perceptions on COVID-19 as serious disease, personal risk of infection, and disease transmission. **Among those willing to receive the vaccine, 99% perceive COVID-19 as a serious disease compared to 90% among those unwilling** (Figure 10).

Eighty-five percent of participants willing to get vaccinated reported they felt they were at risk of

Figure 10. Willingness to Receive a COVID-19 Vaccine by COVID-19 Knowledge and Beliefs



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

being infected (Figure 10). **In comparison, 75% of participants unwilling to get vaccinated felt they were at risk of infection.**

Despite the differences between the two groups, a majority of those **unwilling to get vaccinated recognized COVID-19 as serious disease and felt they were risk of infection** (Figure 10). **Both groups also acknowledged the spread of COVID-19 in the state where they live** (Figure 10).

## Prevention Behaviors

Participants were asked to report how often they adhere to practices such as, mask wearing, quarantine guidelines, social distancing, travel and social gathering recommendations on a scale of “Never”, “Sometimes”, “Often” and “Always”.

**On average, both participants willing and unwilling to get vaccinated engage in prevention behaviors often or always** (Figure 11).

Figure 11. Frequency of COVID-19 Prevention Behaviors Among All Participants

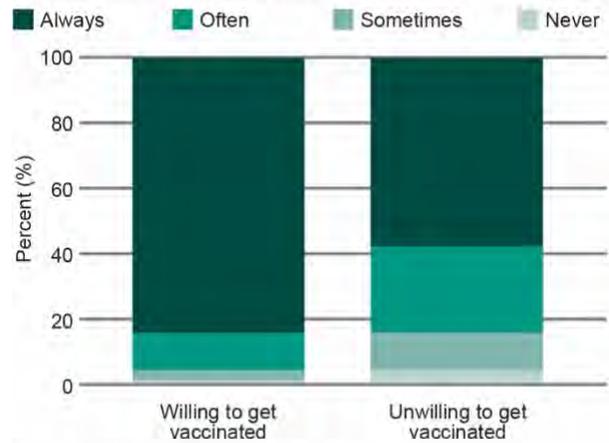
Prevention Behavior	Average Response*
Wearing a mask when out in public	Always
Staying home if you feel sick	Always
Quarantining after possible exposure	Always
Limiting in-person contact a few friends or family members	Always
Avoiding crowded places	Always
Not attending social gatherings of 6 or more people	Always
Avoiding travel to high-risk areas	Always
Wearing a mask when seeing friends, family, or coworkers	Often
Staying at least 6-feet apart when visiting friends or family	Often
Not seeing anyone outside of your immediate home	Often

**Source:** Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

\*After converting Likert scale response to integers, the rounded average response was “Often” or “Always”.

However, those willing to get **vaccinated engaged in all prevention behaviors more frequently** as compared to those unwilling to get vaccinated, with the greatest difference between the two groups in staying home when feeling sick (not shown). **Those willing to get vaccinated stay at home more often when they are feeling sick, as compared to those unwilling** (Figure 12).

Figure 12. Staying Home When Sick by Willingness to Receive a COVID-19 Vaccine



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

# COVID-19 VACCINE KNOWLEDGE, ATTITUDES, AND BELIEFS

## KEY FINDINGS:

- Knowledge on how vaccines work and are developed was greater among those willing to be vaccinated.
- Seventy-four percent of all participants believed getting vaccinated is their responsibility to their community.
- Seventy-five percent of those unwilling to get vaccinated perceive the COVID-19 vaccine as dangerous to their health.

Participants were asked a series of questions regarding their knowledge, attitudes, and beliefs on COVID-19 vaccines. The responses capture the underlying perceptions that determine willingness to receive a COVID-19 vaccine. Health beliefs, such as perceived likelihood, severity, effectiveness, and harms, are also key constructs in health behavior models which can be adapted as targeted public health interventions for COVID-19 vaccines (Reiter et al., 2020).

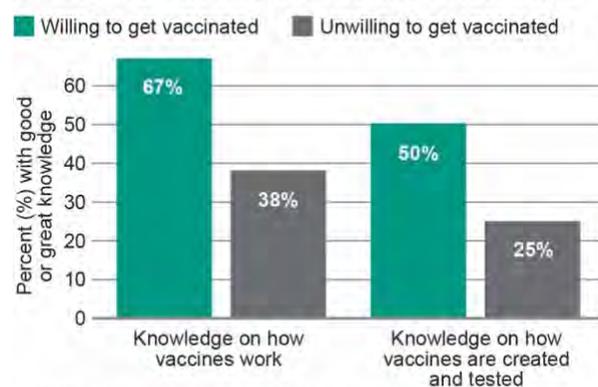
## Vaccine Knowledge

Research studies suggest knowledge on vaccines is associated with higher vaccine uptake, as information or evidence can be used to inform decision-making (Martinello et al., 2003).

**Sixty-seven percent of participants willing to get vaccinated had knowledge on how vaccines work, in comparison to, 38% among those unwilling to get vaccinated (Figure 13).**

Good or great knowledge on how vaccines are created and tested was low among both those willing and unwilling to get vaccinated. However, **a greater proportion (50%) of those willing to get vaccinated had knowledge on how vaccines are created and tested, as compared to those unwilling (25%) (Figure 13).**

Figure 13. Willingness to Receive a COVID-19 Vaccine by Vaccine Knowledge



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020



**74% of all participants believed getting vaccinated is their responsibility to their community, which is unique when compared to other communities of color.**

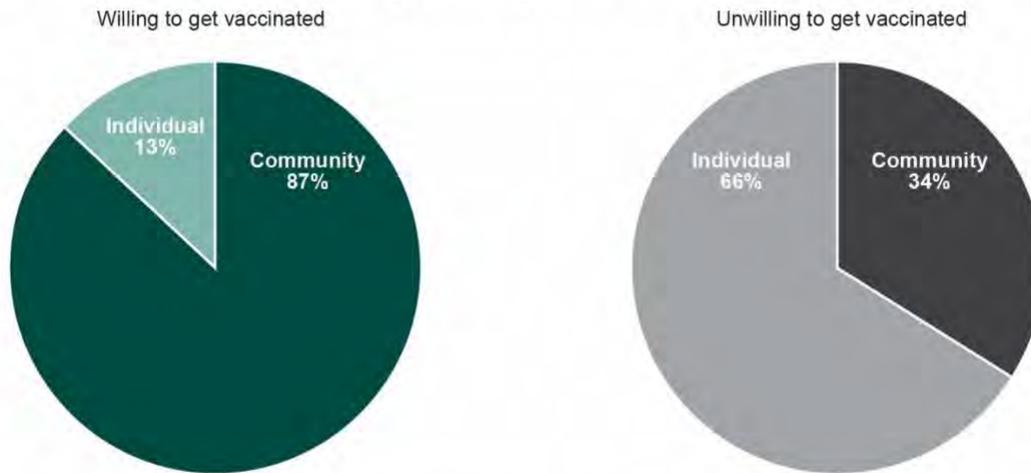
## Attitudes and Beliefs

Knowledge on vaccines is not sufficient to change perceptions, as it does little to alter the underlying beliefs and attitudes that shape behavior (Corace & Garber, 2014; Dubé et al., 2019).

**Seventy-four percent of all participants believed getting vaccinated is their responsibility to their community.** A survey among other communities of color found perceptions of vaccination as a community responsibility to be lower in comparison; specifically, 36% among Black communities and 53% among Latinx communities (COVID Collaborative, 2020). This highlights a unique difference between Native communities and other communities of color. These findings illustrate the importance of community in Native cultural value systems and in serving as a protective health factor (Henson et al., 2017).

Among participants willing to receive a COVID-19 vaccine, **87% believe getting vaccinated is their responsibility to their family, tribe, and community** (Figure 14). Among those unwilling to be vaccinated, **66% of participants unwilling to receive a COVID-19 vaccine believe getting vaccinated is an individual choice** and community considerations should not be involved.

Figure 14. Willingness to Receive a COVID-19 Vaccine by Belief that Vaccination is Community Responsibility or Individual Choice



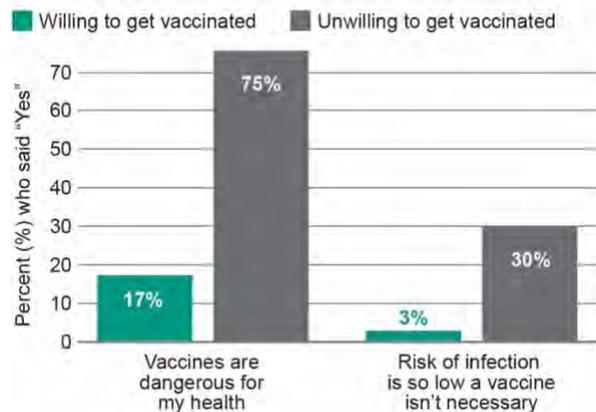
Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

There was divergence between those willing and unwilling to get vaccinated on whether COVID-19 vaccines are dangerous to personal health. **Only 17% of those willing to get vaccinated perceived them as dangerous, as opposed to 75% of those unwilling to get vaccinated** (Figure 15).

Similarly to general COVID-19 knowledge and beliefs, perception of personal risk of infection was a factor in the decision to get vaccinated. **Three percent of those willing to get vaccinated viewed the chance of infection as so low that a vaccine is not necessary, as compared to 30% among those unwilling to get vaccinated** (Figure 15).

Among those unwilling to get vaccinated who perceive vaccines as dangerous to their health, **about a third (36%) also viewed the chance of infection as so low that a vaccine is not necessary** (not shown).

Figure 15. Willingness to Receive a COVID-19 Vaccine by Vaccine Beliefs



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

# COVID-19 VACCINE ACCEPTANCE

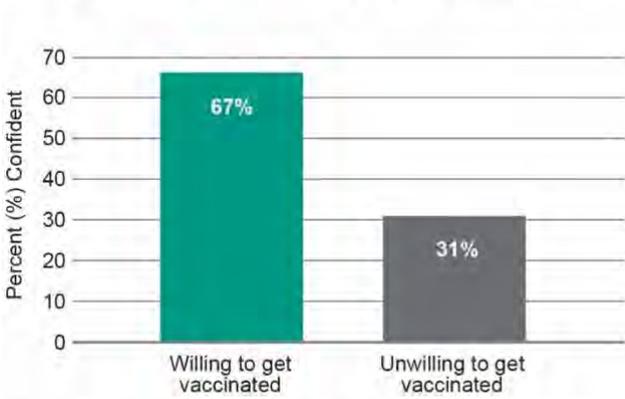
## KEY FINDINGS:

- Two thirds of participants willing to get vaccinated were confident that the vaccine was adequately tested for safety and effectiveness among Native people compared to 31% among participants unwilling to get vaccinated.
- Concerns about potential side effects was high for both willing (75%) and unwilling (89%) participants.
- Participants unwilling to get vaccinated had the highest trust in vaccine efforts by Urban Indian health clinics, their regular doctor, and Tribal clinics, respectively.
- For those willing and unwilling to be vaccinated, the most frequently reported reason behind hesitancy was how fast the vaccine moved through clinical trials.

**Concerns about potential side effects was high for both willing (75%) and unwilling (89%) participants.**

Vaccine acceptance is the inverse of vaccine hesitancy or the refusal to vaccinate despite the availability of vaccines. Numerous studies have demonstrated the importance of trusted sources or messengers and intentional health messaging in increasing vaccine acceptance (Ozawa & Stack, 2013). To understand barriers to vaccine acceptance, participants were asked about concerns regarding safety or trust, trusted sources of health information, and reasons behind hesitancy.

Figure 16. Confidence in Vaccine Safety and Effectiveness for Native People by Willingness to Receive a COVID-19 Vaccine



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

## Vaccine Safety and Trust

Participants willing to get vaccinated mostly trusted that the vaccine would be safe (62%) and effective (66%) (not shown). Among participants unwilling to get vaccinated, **few trusted the vaccine would be safe (11%) and effective (11%)** (not shown).

**Two thirds of participants willing to get vaccinated were confident that the vaccine was adequately tested for safety and effectiveness among Native people**, compared to **31% among participants unwilling to get vaccinated** (Figure 16). **Concerns about potential side effects was high for both willing (75%) and unwilling (89%) participants** (not shown).

## Trusted Sources

Trusted sources or messengers are key in addressing vaccine hesitancy, as they may influence a person’s judgement of the quality of the information and their compliance with the recommended actions (Quinn et al., 2013). A National Survey on H1N1 vaccines found those who trusted the source of vaccine information were more likely to be vaccinated (Quinn et al., 2013).

Among all participants, **the most trusted source of information was healthcare professionals** (Figure 17). When comparing the willing and unwilling groups, **those unwilling to get vaccinated reported less trust across all sources of information, except for family,**

Figure 17. Trusted Sources of COVID-19 Vaccine Information Among All Participants

Trusted Sources of COVID-19 Vaccine Information	Average Response*
Healthcare professionals	Mostly
IHS	Mostly
Government organizations (e.g., CDC, FDA, NIH)	Mostly
Pharmacist	Mostly
Tribal leaders	Somewhat
Family	Somewhat
Spiritual	Somewhat
Non-profit organization	Somewhat
TV	Somewhat
Friends	Somewhat
Newspaper	Somewhat
Radio	Somewhat
Native celebrities	Somewhat
Magazines	Not much
Social Media	Not much

Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

\*After converting Likert scale response to integers, the rounded average response was “Not much”, “Somewhat” or “Mostly”.

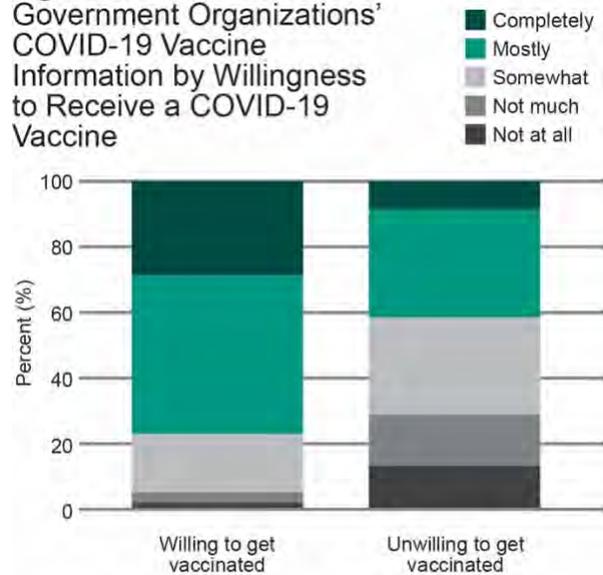
social media, and spiritual leaders, where they reported more trust as compared to those willing to get vaccinated (not shown).

The greatest difference between the groups was in the trust of government organizations, such as Centers for Disease Control and Prevention (CDC), FDA, and National Institutes of Health (NIH). Those willing to get vaccinated had more trust for government organizations than those unwilling to get vaccinated (Figure 18).

As for trusted vaccine efforts, those willing to get vaccinated had the highest trust in Dr. Anthony Fauci, scientists creating the vaccine, and their regular doctor, respectively (not shown). In contrast, those unwilling to get vaccinated had the highest trust in Urban Indian health clinics, their regular doctor, and Tribal clinics, respectively (not shown).

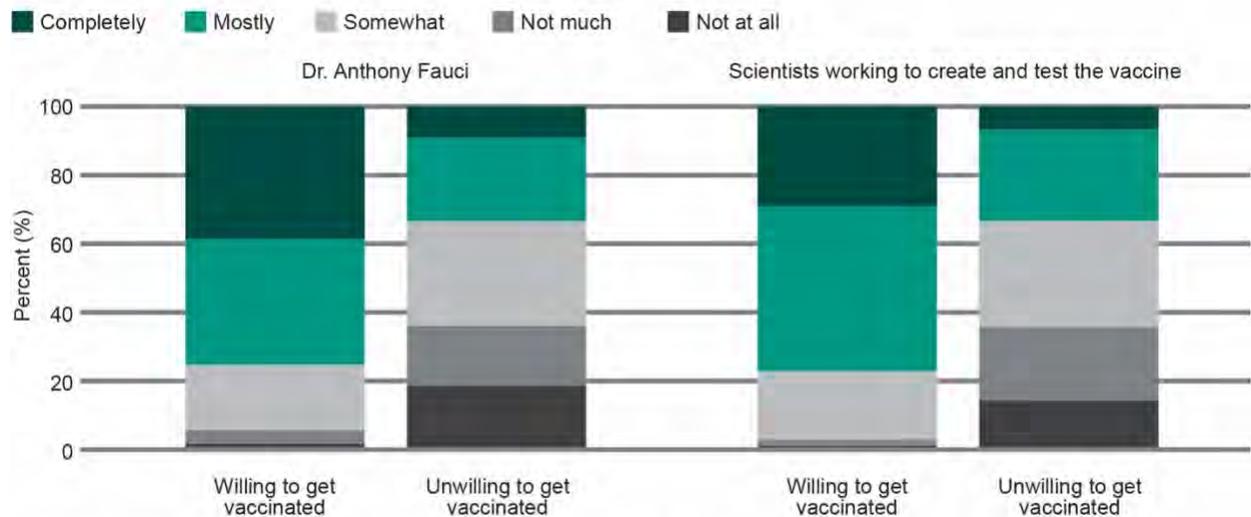
The greatest difference between the two groups was in trust of Dr. Anthony Fauci and scientists creating the vaccine, with those unwilling to be vaccinated having less trust in these vaccine efforts (Figure 19).

Figure 18. Trust of Government Organizations' COVID-19 Vaccine Information by Willingness to Receive a COVID-19 Vaccine



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

Figure 19. Trusted COVID-19 Vaccination Efforts by Willingness to Receive a COVID-19 Vaccine



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

## Reasons Behind COVID-19 Vaccine Hesitancy

Participants willing and unwilling to be vaccinated were both asked to describe any hesitation they have about the vaccine. **All participants, regardless of whether they are willing or unwilling to be vaccinated, expressed some hesitancy to the COVID-19 vaccine.**

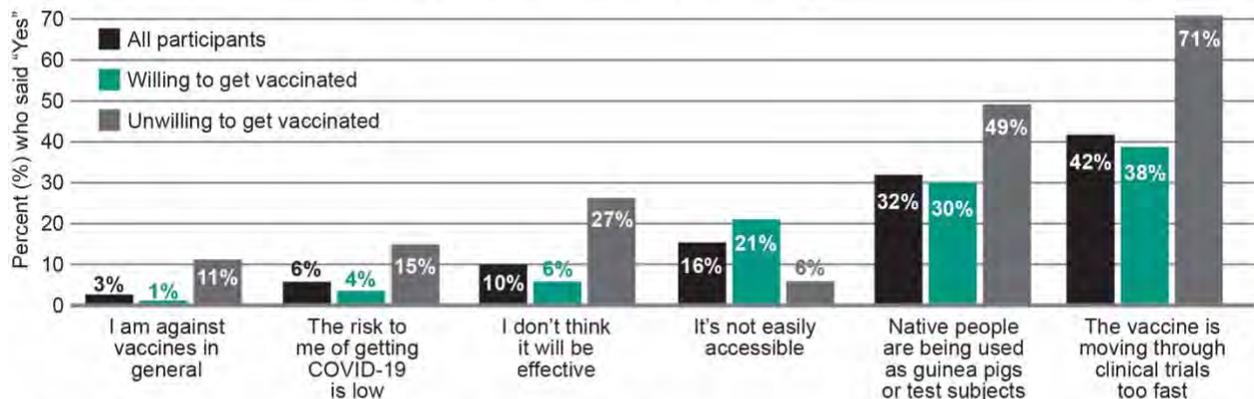
When asked about reasons behind vaccine hesitancy, **a greater proportion (71%) of those unwilling to get vaccinated were worried that the vaccine moved through clinical trials too quickly, as compared to those willing (38%)** (Figure 20).

**All participants, regardless of whether they are willing or unwilling to be vaccinated, expressed some hesitancy to the COVID-19 vaccine.**

Despite the difference between the two groups, **concern about how quickly the vaccine was tested was high among both those willing and unwilling to be vaccinated.** Concerns around the COVID-19 vaccine moving too quickly through trials was also a commonly reported hesitancy among the general U.S. population (Ipsos, 2020).

**A greater proportion of those unwilling to get vaccinated were hesitant about the vaccine due to effectiveness, as compared to those willing to get vaccinated** (Figure 20). Nearly a third of participants in both the willing and unwilling groups expressed concern that Native people were being used as guinea pigs or test subjects (Figure 20).

Figure 20. Reasons Behind COVID-19 Vaccine Hesitancy\*



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

\*Categories were not mutually exclusive

Twelve percent of all participants provided an “Other” response (not shown). Those who chose to write in, expressed that their hesitancies focused **on how they perceived the vaccine to have been rushed and quickly rolled out, doubting what scientists know about its side effects, unforeseen financial costs associated with the vaccine, and that many people perceived the messaging around the vaccine as “mandatory” as opposed to a choice.** Responses also included a distrust of the federal government and a focus on allergic reactions, pregnancy, fertility, and having pre-existing health conditions that they felt may make receiving the vaccine riskier.

# COVID-19 VACCINATION DECISION-MAKING

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## KEY FINDINGS:

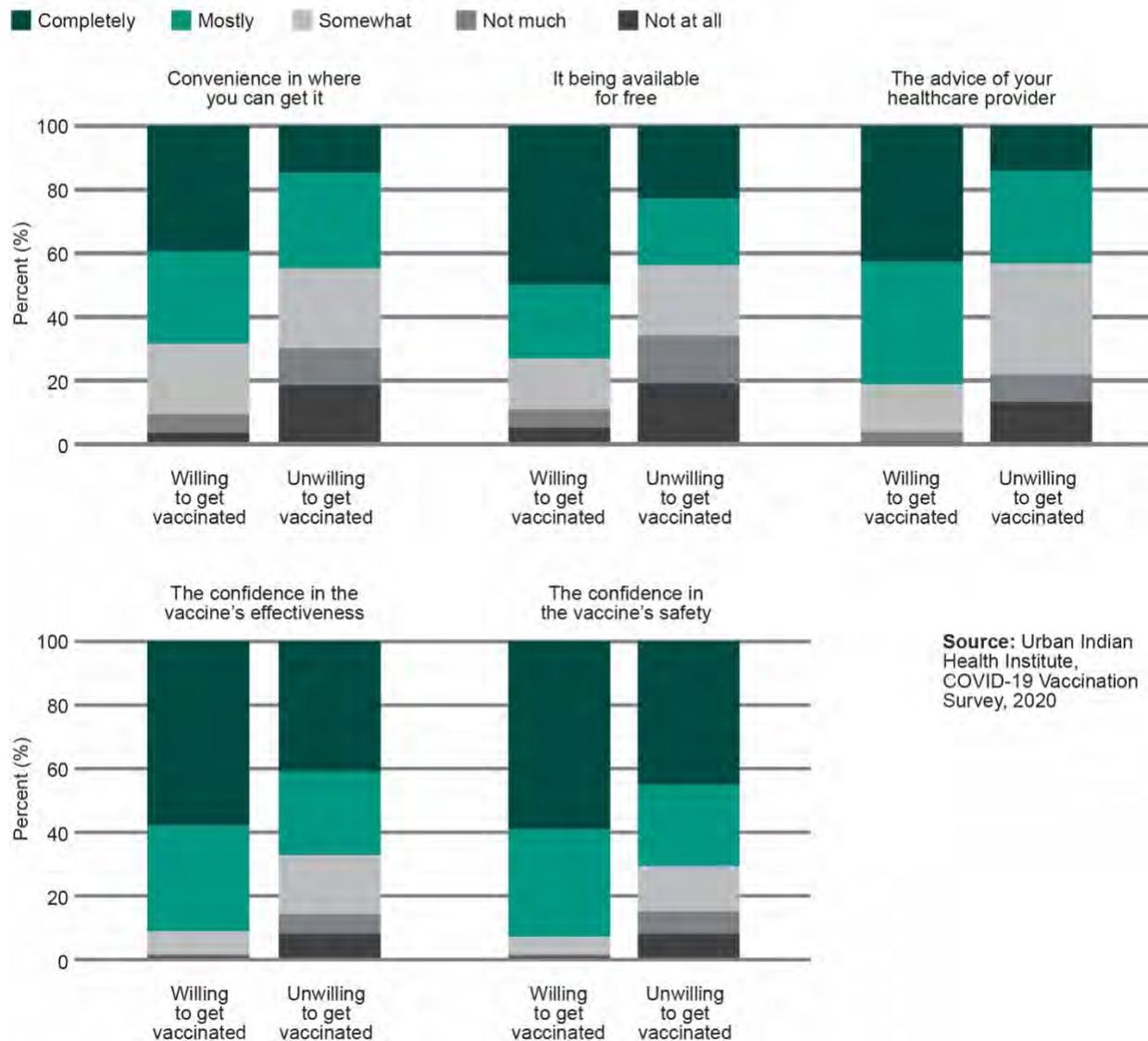
- Seventy-two percent of all participants wanted evidence that the vaccine is safe right now and in the long term.
- 

The decision to get vaccinated is determined by a combination of personal and external factors, including, trust in vaccine safety and sources of information, confidence in vaccine effectiveness, accessibility, and cost as indicated in the literature (MacDonald et al., 2018). By understanding these decision-making factors, COVID-19 vaccination campaigns can be adapted to more effectively reach those with vaccine hesitancy.

## Decision-Making Factors

Decision-making factors play an important role for both those willing and unwilling to get vaccinated. Participants willing and unwilling to get vaccinated reported the most important factor in decision-making was vaccine safety and effectiveness (Figure 21). However, **those willing to get vaccinated reported convenience, cost, and the advice of their healthcare provider as more important decision-making factors** than participants unwilling to get vaccinated (Figure 21).

Figure 21. COVID-19 Vaccination Decision-making Factors by Willingness to Receive a COVID-19 Vaccine



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

## Decision-Making Information

Participants were asked what information could help them make an informed decision about receiving the COVID-19 vaccine. Among all participants, **the greatest proportion (72%) reported they want evidence that the vaccine is safe now and in the long term** (not shown).

This question was analyzed among both willing and unwilling participants to identify types of information that can improve informed decision-making. In willing and unwilling groups, **a majority wanted information on all side-effects that can be expected** (Figure 22). A higher proportion of those unwilling to be vaccinated reported a need for information on whether they have to pay for the vaccine and if it will hurt more than other vaccines (Figure 22).

Figure 22 depicts decision-making information ranked according to the frequency of participants that reported it is important to make an informed decision on vaccination.

When asked how they would prefer to receive vaccine information the **most frequent responses among all participants were a letter in the mail from their healthcare provider, a handout or poster from their healthcare provider, or social media, respectively** (not shown).

Figure 22. Top Five Information Requests By Those Willing and Unwilling to Receive a COVID-19 Vaccine\*

Rank	Willing to get vaccinated	Unwilling to get vaccinated
1	Evidence that says the vaccine is safe for me now and in the long term (84%)	A list of the side effects that I can expect (65%)
2	A list of the side effects that I can expect (71%)	Evidence that says the vaccine is safe for me now and in the long term (65%)
3	What my healthcare providers tells me about the vaccine (51%)	If I'll have to pay for the vaccine (27%)
4	Where I can receive the vaccine (32%)	What my healthcare providers tells me about the vaccine (26%)
5	If my family members can get it at the same time I do (30%)	If the COVID-19 vaccine will hurt more than other vaccines (22%)

**Source:** Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

\*Categories were not mutually exclusive

# OTHER CONSIDERATIONS

## KEY FINDINGS:

- Sixty-four percent of those unwilling to be vaccinated indicated they would receive the vaccine at some point in the future, with the greatest proportion (23%) reporting at least one year from now. This suggests with proper messaging and education on the efficacy and safety of vaccine, hesitancy can be addressed.
- Among all participants, 39% reported difficulty traveling to their clinic for an appointment and 18% travel an hour or more to get to a primary care provider.

Other decision-making considerations include timing on when to get vaccinated, difficulty traveling to a clinic, and distance to primary care providers.

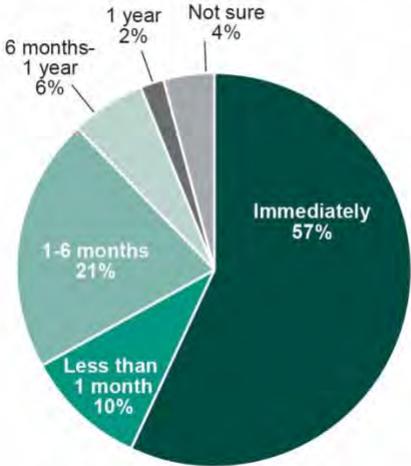
## Timing on When to Get a COVID-19 Vaccine

Fifty-seven percent of those willing to be vaccinated **stated they would receive the vaccine immediately and 39% would prefer sometime in the future** (Figure 23).

Sixty-four percent of those unwilling to get vaccinated also indicated they would receive the vaccine at some point in the future, with the greatest proportion (23%) reporting at least one year from now (not shown).

These findings suggest that the majority of those unwilling to get vaccinated were not closed off to the idea of vaccination but may require more evidence on vaccine safety and effectiveness.

Figure 23. Timing on When to get Vaccinated Among those Willing to Receive a COVID-19 Vaccine



Source: Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

## Logistical Barriers

Logistic barriers may also lower vaccine acceptance and uptake, as difficulty traveling to clinics differed between participants willing and unwilling to be vaccinated.

Among all participants, 39% reported difficulty traveling to their clinic for an appointment and 18% travel an hour or more to get to a primary care provider (not shown).

When stratified by willing and unwilling groups, **one third of participants willing to get vaccinated reported difficulty traveling to their clinic for an appointment, as compared to 58% of participants unwilling to get vaccinated** (not shown). Among those willing to get vaccinated, **20% reported traveling an hour or more to get to a primary care provider, as compared to 13% among those unwilling to get vaccinated** (not shown). This suggests there may be other barriers to traveling to clinics beyond the time it takes to get to the clinic.

**Among all participants, 39% reported difficulty traveling to their clinic for an appointment.**

Among all participants living in urban counties, 41% reported difficulty traveling to their clinic with approximately one-third stating that it took them 15-30 minutes to travel to their primary care provider (not shown).

While participants reported they use a variety of healthcare facilities, **the most common facilities among both those willing and unwilling to get vaccinated were private doctor's office (44%) and Indian Health Service clinics (47%), respectively** (not shown).

# COMMUNITY PERSPECTIVES

## KEY FINDINGS:

- Sixty-three percent of all participants suggested healthcare professionals would be the most effective ambassadors for promoting COVID-19 vaccines.

In the development of culturally attuned COVID-19 vaccination campaigns, it is important to seek the perspectives of AI/AN communities to ensure strategies are responsive to their needs.

## Effective Ambassadors

Participants were asked to provide perspectives on effective ambassadors for promoting COVID-19 vaccines, strategies to deliver vaccines, and preferred communication mediums for receiving vaccine information. Responses to these questions strengthen the information gathered on vaccine acceptance and decision-making factors by providing action-oriented suggestions from survey participants.

Effective ambassadors for COVID-19 vaccines build public confidence in their safety and effectiveness. Among all participants, the greatest proportion (63%) suggested **healthcare providers** would be the **most effective ambassadors**. **Elders, Native community leaders, and Tribal leaders** were also among the top ambassadors (not shown).

The 7% of all participants that provided an “Other” response discussed wanting to **see Native health care professionals, scientists, and respected Elders in their communities** advocate for the vaccine as well as **everyday people who have survived COVID-19** (not shown). A few participants wrote that there is “nobody” they would trust to be an ambassador and that more time is needed to understand the virus and the vaccine.

## Vaccination Strategies

As mentioned, accessibility is a key factor in decision-making around vaccination. This was also reflected in suggested strategies to deliver vaccines. The greatest proportion of participants **willing and unwilling** to get **vaccinated reported the strategy** that would increase the likelihood of

receiving a vaccine is for the **process to be simple, quick, and easily administered** (Figure 23). Both groups also reported increased likelihood of getting vaccinated if they could **receive the vaccine** at an **already-scheduled appointment** or in a **place in the community** that was safe and familiar (not shown). All strategies that were identified as key to increasing the likelihood of vaccination are listed in Figure 23.

**The greatest proportion of participants reported if the process were simple, quick, and easily administered it would increase their likelihood of receiving a vaccine.**

Figure 23. Strategies to Increase Likelihood of Getting a COVID-19 Vaccine Among All Participants\*

Strategy
Process is simple, quick, easily administered
Vaccine provided at an already-schedule appointment
Vaccine available at safe and familiar location
Increased social distancing during vaccination
Drive-through or mobile vaccination facility
A mobile vaccination unit available closer to where you live

**Source:** Urban Indian Health Institute, COVID-19 Vaccination Survey, 2020

\*After converting Likert scale response to integers, the rounded average response was “Likely”.

# QUALITATIVE RESULTS: STORIES OF STRENGTH AND RESILIENCE FOR GENERATIONS TO COME

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## KEY FINDINGS:

- The primary motivation for participants who indicated willingness to get vaccinated was a strong sense of responsibility to protect the Native community and preserve cultural ways. Despite hesitancy towards the vaccine due to historical and current abuse from healthcare and government institutions, they ultimately felt that the heavy cost of COVID-19 on their community outweighed potential risks from the vaccine.

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Qualitative data analysis was conducted to honor the wisdom and knowledge Native communities weave into their stories and reclaim storytelling as an Indigenous research methodology. This mixed method approach grounds our research findings in the lived experiences of the participants, whilst simultaneously addressing the limitations of both quantitative and qualitative research. It also enriches the findings presented in this report by providing a holistic understanding of participants' attitudes and beliefs on vaccination.

Participants who indicated they were willing to get vaccinated were asked to share why they believe it is important to be vaccinated as a Native person. Findings fell into three major themes: 1) Protecting Our Community, 2) Social Disparities Among AI/AN, and 3) Moving Through Hesitancy. Participants shared that **vaccination was a way to protect Native communities and preserve cultural ways**. Many shared that their decision to be vaccinated stemmed from a sense of duty, respect, and love for community. Some even thought of **vaccination as a form of resistance to longstanding colonial and racist violence**.

Many participants **felt or understood others' hesitancy towards getting the vaccine**. Despite systemic injustice and skepticism of vaccine development, **their love for Native people and wish to prevent unnecessary deaths and illness ultimately outweighed potential risks from the vaccine**.

## Protecting Our Community

A resounding theme was the sense of responsibility to protect the health of others—especially that of elders, youth, and future generations.

*“As a Native person, I have a duty to my family, friends, and community in keeping them safe. Therefore, it is my responsibility to be vaccinated to prevent people at risk from getting sick. I think of my grandmother, a 76 year old woman with Lupus. I have to protect her and everyone like her.”* – Survey respondent

Many shared that getting vaccinated was not only important to **prevent unnecessary death and illness of loved ones**, but **also essential for preserving Native cultures, traditions, languages, and sacred knowledge**. As one participant shared, they planned to get the vaccine in order to *“protect the knowledge keepers; ensuring knowledge is passed to our future generations.”* Getting the vaccination was not only viewed as an act of love and accountability to community, but for many it was **also tied to cultural and physical survival**.

For some, this sense of duty was connected to experiences of losing family members and friends to the pandemic. Others mourned how not seeing family due to social distancing measures has had a toll on mental health—as one respondent reflected, *“we have lost so much...”* Amidst this sense of loss, getting the vaccine was also perceived as a way to more quickly return to in-person community. As one respondent explained, *“A big part of our Native culture is family and being together. Gathering with family, eating together, helping with child care and elder care, celebrating each other, etc. For these reasons, getting vaccinated would keep us all safe.”* Taken together, at the heart of participants’ decision to be vaccinated was a love of Native people and desire to protect the larger community and culture.

## Social Disparities Among AI/AN

*“Native people are some of the most at risk of dying from COVID-19 because of systemic racism that has greatly affected the overall health of our community.”* – Survey respondent

Throughout the survey responses, many expressed an **awareness that the AI/AN community is at higher risk for death and severe illness from COVID-19 due to underlying health conditions**. Some participants shared how **poverty, a lack basic resources (such as clean water), and limited access to quality healthcare contribute to the disproportionate impact that COVID-19 has had on Native communities**. In the words of one respondent, *“We are innovators and warriors.*

*We protect our Tribe by using the best medicine, tools and love to protect ourselves and our community.”*

Strong ties to cultural identity and community act not only as protective factors for AI/AN health, but also are examples of Native resilience. For some survey participants, **getting the vaccine was viewed not only a way to protect Native community, but also as a form of resistance to oppression by continuing to survive.**

*“As a demographic we are exponentially more affected by the virus than the general US population, due to our socioeconomic positions, community structures, and disadvantages. We tend to live in multigenerational households, and our community members depend upon each other and yet are [devastated] by COVID isolation and by losses to this virus at the same time. Our health crises are usually neglected and even expedited by the United States government...increasing our community resistance to the virus will preserve our communities for our future generations.” – Survey respondent*

## Moving Through Hesitancy

*“I know there are possible side effects, but I also know that the risk of that is so low that the benefits to protecting my community right away far outweigh the possible risk.” – Survey respondent*

An interconnected theme from the survey responses was **skepticism of the vaccine, healthcare institutions, and federal government.** One respondent shared, *“I agree vaccines aide in stopping the spread of disease, but I have to also acknowledge that there is grim history of Indian Health Services and the health care system with Indigenous people and how they've provided care for our communities in the past and even currently.”* In recalling historical abuses and unethical research, **many participants shared concerns about the rapid development of the vaccine and fear of being a ‘guinea pig.’**

However, even with stated hesitancies and acknowledgements of institutional harm, **through weighing the risks participants felt that the cost of COVID-19 was too great and stated they would get vaccinated if given the opportunity.**

As one person reflected, *“it's important to decrease the spread and infection rates within our tribal communities...as a Native person, I think it's important to be wary of the science and the studies, but it's also important to trust science for the health benefit of our communities so we can continue*

## QUALITATIVE RESULTS

on traditions, languages, and cultures.” While these participants understood others’ hesitancy, **they also hoped to encourage fellow community members by being a model and getting the vaccine themselves.**

*“It [the vaccine] is the only real precautionary and preventative step the US Federal government is providing the people. Although the US government should have and could have done so much more for all people living here, if we turn down the vaccine, we not only risk our lives and the lives of others...we undermine all the struggles our tribes have gone through to keep our people safe. Even when the US government has directly worked against our tribal checkpoints and safety efforts. To not get vaccinated, is to say the US government’s failure to protect the people is right, and our tribal efforts, wisdom, and courage is wrong.” – Survey respondent*

# URBAN INDIAN HEALTH INSTITUTE RESOURCES

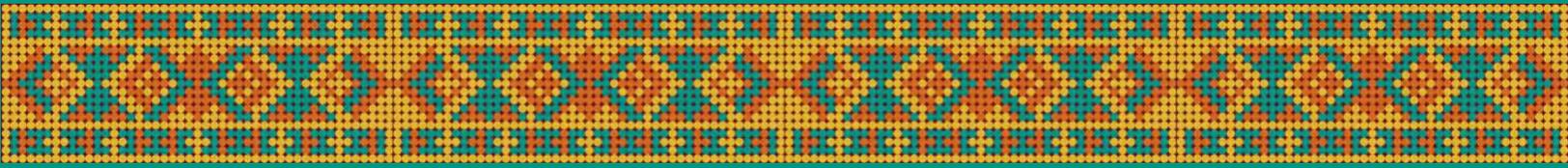
Urban Indian Health Institute has developed a [COVID-19 Vaccination campaign](#) tailored to AI/AN communities (UIHI, 2021). Our aim is to provide accurate, up-to-date, and culturally relevant COVID-19 vaccine resources for community members, tribal leaders, and healthcare facilities serving Indian Country. All resources are hosted on the UIHI website, including factsheets, educational materials, testimonial videos, and other media. Urban Indian Health Institute will continue to monitor the latest developments surrounding COVID-19 vaccines and will publish additional resources as information becomes available.

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Health Institute**  
A Division of the Seattle Indian Health Board

**Our mission is to decolonize data,  
for Indigenous people, by Indigenous people.**  
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