# Perception and Impact of Covid-19 and Vaccination in the Hmong Minnesota Community

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# Abstract

The Covid-19 pandemic disproportionately impacts communities of color. While information is becoming available about the impact of the pandemic on communities of color as a whole, little data is available about the Hmong American community. The Minneapolis-St. Paul area is home to the largest Hmong American community in the United States. The Hmong American community makes up 27% of Asian Pacific Minnesotans. A report released in 2021 showed that 49% of the deaths in the Asian community in Minnesota were Hmong Americans. In response to the lack of information about the perception and impact of the pandemic in the Hmong American community, a cross-sectional study was conducted to assess perception of the pandemic and the Covid-19 vaccine. A bilingual survey was developed and distributed through a multi-faceted approach to gather information from the community. Of 944 respondents, 90% indicated that they believed Covid-19 was a significant crisis, while 94% had received the vaccine. People who chose not to be vaccinated mostly cited not trusting the government and being afraid that the vaccine would harm or kill them as the reasons why. We hope that this study will shed some light on the Covid-19 experience in the Hmong community in Minnesota and serve as a reminder of the importance of disaggregated data and timely information during crises.

# Introduction

The Covid-19 pandemic disproportionately impacted racial and ethnic minority groups, further compounding the health disparities faced by these communities. Communities of color saw higher rates of infection, hospitalization, and death compared with White people [1]. These communities are more likely to begin working low-income jobs, live in large multi-generational households, work jobs that cannot be performed remotely, and utilize public transportation services. Those who can stay home, often live with essential workers and are more likely to be exposed to the virus and test positive [2]. Communities of color also saw higher hospitalization and death rates, reflecting higher rates of infection and underlying health conditions, putting them at higher risk of serious illnesses if infected [3].

The Asian community is one of the fastest-growing communities in Minnesota. According to the 2020 U.S. Census, the Asian community grew 40% from 2010 to 2020. It makes up 5.2% of the population in Minnesota [4]. While data is becoming more available about the impact of the pandemic on communities of color, COVID-related health disparities in Asian communities remain relatively unknown. Reporting on the health burden of Covid-19 continues to be aggregated at the 'Asian and Pacific Islander' level. While race captures important information regarding the social determinants of health, the monolithic conceptualization of the Asian race overlooks the complexity and diversity of the community. Aggregation of data fails to recognize each community's unique experience and needs.

The Hmong population is the largest Asian American population in Minnesota, comprising 27% (81,161) of all Asian Pacific Minnesotans [5]. The Minneapolis-St. Paul metropolitan area is currently home to the highest concentration of Hmong anywhere outside of Asia after seeking political refuge in the aftermath of the Vietnam War in the mid to late 1970s. Currently, 94% of the Hmong American population in Minnesota resides in the Twin Cities. Among Asian Americans, Hmong Americans are ranked the third lowest at 23% of their population having attained at least a bachelor's degree. Among all Asian American groups, 36% of Hmong Americans (top 5) are the most likely to live in a multi-generational household [6]. A report released in early 2021 showed that the Hmong, Karen, and Karenni were more impacted by the Covid-19 pandemic compared to other Asian American ethnic groups in Minnesota. Looking at death certificate data between March 2020 and December 2020, 49% of Covid-19 deaths in the Asian Minnesotan population were from the Hmong American community. Of those that died in the Hmong, Karen, and Karenni communities, the top five occupations listed included farmer, homemaker, and machine operator [7].

Given the unique growth of a once predominantly refugee community into a fast-growing and concentrated minority community, more community-focused research needs to be conducted to understand the unique health behavior and needs. The absence of accurate, reliable, and timely data on all aspects of the Hmong American community fails to address the health disparities that exist and continues to plague this growing community in Minnesota.

# Methods

A cross-sectional study was completed from October 2021 to January 2022 to understand the perception and impact of the virus and the vaccine in the Hmong American community. A multi-faceted approach was carried out to enable an understanding of the breadth and depth of Covid-19 experiences in the Hmong American community. A survey was developed to gather both quantitative and qualitative information from respondents. All consented to participate in this study prior to completing the survey. This study aimed to gather information from anyone 18 years and older, who identified as Hmong and living in Minnesota.

## Survey and Modes of Delivery

A bilingual (English, White Hmong, Green Hmong) survey was developed with 32 items relating to perception around Covid-19 and the Covid-19 vaccine, along with some demographic information. The survey allowed for questions to be skipped depending on the respondent's response. The survey was also designed to allow respondents to share their personal Covid-19 stories and the impact it has had on them and their families. All answers provided by the respondent were recorded and coded in the questionnaire.

The survey was delivered via a multi-faceted approach that included direct phone interviews, online surveys endorsed by community organizations and influencers, and in-person interviews.

- ***Direct Phone Interviews.*** Due to the spread of the pandemic limiting in-person interviews, it was perceived that the best way to reach the community was through direct phone calls. One of the main challenges was figuring out how to get a list of contact information. After thorough research, a registered voter platform called the VAN, a privately owned voter database of registered voters was utilized. The VAN contained contact information of people that had voted in previous elections. In combination with other direct voter registration and grassroots political campaigns, this same voter database has been used to elect more than a dozen Hmong Americans to public office in Minnesota. Hmong voters were identified by using a list of the 18 Hmong last names. The voter base file was further narrowed down by zip-codes in the metro Twin Cities area since that was where the Hmong American community is concentrated. The VAN system was able to produce a list of 28,192 contacts for direct phone interviews. Five bilingual community members carried out direct phone interviews.
- ***Online Survey.*** An online survey was created to gather information from the community direct phone interviews would not reach. Community members that did not have time to complete the phone interview were also directed to the online survey. Outreach was conducted through social media platforms, community leaders, and influencers to inform the community about the survey.
- ***In-Person Interviews.*** Due to the spike in Covid-19, in-person interviews were limited to ensure safety and limit the spread of the virus. In-person interviews took place at an adult daycare center to gather information from elders in the community who may not be in the VAN system and did not have access to the internet to complete the online survey.

## Analysis

The sample size of the study was 944 respondents. Descriptive statistics were used to summarize demographic variables (age, gender, marital status, education level, number of people in household, family household income), Covid-19 perception, vaccine perception, and trusted sources of information.

# Results

Of the 944 respondents, 707 (75%) surveys were completed through direct phone interviews, and 237 were completed (25%) online or through in-person interviews. The response rate for direct phone interviews was 36%. We cannot ascertain the response rate for the online survey since it was opened to the community. Table 1 displays the sociodemographic for survey respondents. The survey reached an even number of males and females, with 34% between 30-39 years old. More than half were married, nearly half had at least a two-year degree, and 38% of the respondents disclosed their annual income was between $25,000 and $150,000.

## Covid-19 Perception

A Majority (90%) of the respondents saw Covid-19 as a significant crisis. A majority were also concerned about the spread of Covid-19 in the Minnesota based Hmong American community: 74% were very or extremely concerned, and 22% somewhat concerned. More than half of the respondents were very or extremely concerned about being in contact with unvaccinated people. When asked if others in the community were doing enough to prevent the spread of the virus, 50% responded that they were not. More than half did not feel that it was safe to send children to school during the pandemic.

The majority (74%) of respondents said that the people in their household always wear a mask, while 24% said the people in their household wear a mask sometimes. Almost half (49%) responded that no one in their immediate household was infected by Covid-19, whereas 46% said that someone in their immediate household was infected. Of those that were infected with Covid-19, the majority were between the ages of 18 and 44. More than half (51%) said they knew of someone who has died from Covid-19.

## Covid-19 Vaccine Perception

Table 1 also shows demographic information stratified by vaccination status. A majority of respondents (83%) felt that the Covid-19 vaccine is safe, and 79% believed the vaccine is effective. Ninety-four percent (94%) of the respondents said they had received the Covid-19 vaccine. Of those that received the vaccine, almost half (49%) received Pfizer, followed by Moderna (32%) and Johnson & Johnson (13%). Respondents reported getting the vaccine because they wanted to prevent the spread of Covid-19, didn’t want to get sick, had young children or elders at home, and knew someone who died from Covid-19. Sixty-nine percent (69%) received their vaccine at a local health clinic or pharmacy. The majority shared that the process to get the vaccine was easy because they were able to get an appointment right away, or because the line was short.

There were 53 respondents who had not received the vaccine. The primary reason for not getting the vaccine was not trusting the government and being afraid that the vaccine would harm or kill them.

## Sources of Information and Trust

Family members and friends were the top sources of information about Covid-19 for respondents. This was followed by the Minnesota Department of Health (MDH), work, and the Centers for Disease Control and Prevention (CDC). MDH and the CDC were the most trusted sources of information. Social media such as Tiktok, Instagram, and Facebook ranked lowest in terms of trusted sources of information.

# Discussion

This study examined the Hmong Minnesota community's perception of the Covid-19 pandemic, vaccine, and trusted information sources. The findings from this study provide a unique perspective of how the pandemic has impacted the Hmong American community.

Though not surprising for a refugee and immigrant community who has experienced generational trauma due to war, disease, and relocation, an overwhelming 90% of the respondents saw Covid-19 as a significant crisis. A majority was very concerned about the spread of Covid-19 in the community and about themselves or a loved one getting infected. While the majority stated that they were very concerned about coming into contact with people who had not been vaccinated, younger people between the ages of 18-29 and single people tend to be less concerned about it. That is in line with other reports that have stated that there are generational differences in responses to Covid-19.

Of the respondents who reported having someone in their immediate household infected by Covid-19, the majority of those infected were between 18 to 44 years old. This is in line with what MDH reported at the end of 2021, where the majority of positive cases occurred for those between the ages of 20 to 39 [8]. Of those that reported knowing someone who has died from Covid-19, the majority of those who died were in their 50s, followed by people in their 60s. Compared to what MDH was reporting, the age of death from Covid-19 appeared to be younger in the Hmong American community. There could be some recall bias, so in order to get exact statistics, more research will have to be completed by looking at actual death certificates. However, the younger age of deaths in the Hmong American community appears to be similar to what has been previously reported across the country for communities of color. In 2020, a report by the CDC showed that communities of color under age 65 were dying in greater numbers compared to White people [9]. While communities of color tend to be younger compared to White people, they also present with underlying health conditions at an earlier age, face health access barriers, and increased financial and health risks with Covid-19 due to their economic and social situations [10].

In terms of vaccination perceptions in the Hmong Minnesota community, an overwhelming majority of respondents, 94%, had received the vaccine at the time the survey was conducted. Of those that received the vaccine, almost half (49%) received Pfizer, followed by Moderna (32%) and Johnson & Johnson (13%). This is in line with the vaccination roll-out in Minnesota by MDH. As of March 2022, 60% of doses administered in Minnesota were Pfizer, 36% were Moderna, and 3.6% were Johnson & Johnson [8]. One glaring and significant reason for Hmong Minnesotans for getting the vaccine is knowing someone who died from Covid-19 (58%).

Most of the survey respondents received the vaccine at a local health clinic, pharmacy, school, or the county, with respondents 60+ years of age as likely to get their vaccine from Hmong Village compared to other locations such as their local health clinic. While the majority reported that the process to get the vaccine was easy, there were some that faced challenges. For those that reported the process was hard, reasons included: hard to make an appointment, didn't know where to find vaccine location, long lines, and having to wait until one was qualified for the vaccine.

53 respondents had not been vaccinated at the time of this study. While this is a small percentage of the respondents that were not vaccinated, it should be noted that for those that did not receive the vaccine, 34% stated they did not trust the government,

and 32% were scared it would harm or kill them. These are similar to reasons that are reported across the country and for all people who are unvaccinated. According to the Household Pulse Survey conducted by the U.S. Census Bureau, 42.4% reported not trusting the Covid-19 vaccines and, 35.4% don't trust the government [11]. Education level and annual family household income did not seem to determine whether someone was vaccinated or not. The results also showed that some used herbs/Hmong medicine instead, which was more prevalent in the older population (50-69 years old). Traditionally, in the Hmong community, there is extensive knowledge of medicinal plants. This is still a common practice for the elders in times of significant health issues.

Covid-19 posed an old challenge to the community regarding sources of information and whom they trust. Family members and friends were the top source of information for the majority of people when it comes to Covid-19. MDH, CDC, and their workplace were the top sources of information for people with at least a four-year degree.

Though the Hmong Minnesota community is a closely knitted community, social media also plays a big role in how information is received and perceived. For example, Facebook ranked highest as a source of information on Covid-19 for younger people (ages 18-39). Youtube Hmong news channels and Hmong radio ranked highest for older people (ages 40+). In terms of trust, overall, MDH, CDC, and workplace ranked high as a source of trusted information; ranked highest for 18-49 year olds. Hmong radio, Youtube Hmong News Channels, and family members ranked highest as sources of trusted information for 50+ year olds. Social media platforms such as Facebook, Instagram, TikTok, and WhatsApp ranked lowest across all age groups as a source of trusted information in the Hmong Minnesota community. The source of information is important for being able to get reliable and accurate information out to the community. Understanding where the community gets its information from will be critical for future dissemination of information.

As with any study or survey, there are limitations to the data collected, how they are interpreted, and ultimately, how they will be used to form conclusions and recommendations not only for the community that is impacted but for policy makers in their respective jurisdiction and beyond for all racial groups in the United States. Findings from our study should be viewed with the following limitations. First, this study collected information over a four-month period from October 2021 to January 2022, so study respondents' perceptions and experiences may differ if collected at another time. There could also be some recall bias with respondents since the pandemic had started in early 2020. We were also faced with resources and time constraints and were not able to contact everyone in the community to partake in the study. A majority of respondents were registered voters, which meant they were U.S. citizens. It's possible that non-registered voters and non-U.S. citizens in the community may have different perceptions that were not captured. Our method of survey delivery also had its limitations and challenges. The team learned that many of the contacts in the VAN database were either bad data, not updated, or unreliable to fully complete the survey. We needed another mechanism to capture those in the community who could not be contacted by the voter database we were given. These would be people who were not necessarily registered voters but should be equally included in a community-wide survey about the impact of Covid-19. This study was also only carried out in Minnesota, so it cannot be generalized to the Hmong communities across the United States. Depending on the allocation of resources and community outreach efforts, perceptions and experiences in the Hmong community may vary from state to state.

One of the major questions or challenges raised by the result of this survey is how our methodology can be a turnkey tool for change in society. What, and how accurate, timely and reliable information about a specific group or population in America can and should be collected to make not just a marginal difference, but substantial change. Imagine the myriad of issues that need to be addressed, whether health, social, economic, or political. It is our hope that what we have created with this community outreach effort in the Hmong American community can be duplicated anywhere in any community.

## Conclusion

Disparities in disease outcomes for communities of color, including the Hmong American community are not new. If anything, the Covid-19 pandemic reminds us of the importance of addressing disparities through disaggregation of data, allocation of resources, expanding access to culturally competent health care, and establishing equitable care models relevant to the needs of the Hmong American community. It is important to note that previous studies carried out in the Hmong American community had very small sample sizes. Our sample size of 944 is a significant step towards a better understanding of health behaviors in the Hmong community. It is critical to continue carrying out future community-driven studies that will address factors that contribute to preventable health issues in the Hmong community.

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# References

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Table 1. Demographic characteristics of survey respondents. Demographic characteristics are also stratified by vaccination status.

| | Total (N=944) | | Vaccinated (n=891) | | Not Vaccinated (n=53) | |
|---|---|---|---|---|---|---|
| **Gender** | | | | | | |
| Female | 372 | 39.4% | 358 | 40.2% | 14 | 26.4% |
| Male | 374 | 39.6% | 350 | 39.3% | 24 | 45.3% |
| Non-binary | 1 | 0.1% | 1 | 0.1% | | 0.0% |
| Unknown | 197 | 20.9% | 182 | 20.4% | 15 | 28.3% |
| **Age Group** | | | | | | |
| 18-24 | 87 | 9.2% | 82 | 9.2% | 5 | 9.4% |
| 25-29 | 123 | 13.0% | 115 | 12.9% | 8 | 15.1% |
| 30-39 | 322 | 34.1% | 297 | 33.3% | 25 | 47.2% |
| 40-49 | 146 | 15.5% | 140 | 15.7% | 6 | 11.3% |
| 50-59 | 132 | 14.0% | 128 | 14.4% | 4 | 7.5% |
| 60-69 | 70 | 7.4% | 67 | 7.5% | 3 | 5.7% |
| 70+ | 42 | 4.4% | 41 | 4.6% | 1 | 1.9% |
| Unknown | 22 | 2.3% | 21 | 2.4% | 1 | 1.9% |
| **Marital Status** | | | | | | |
| Single | 270 | 28.6% | 252 | 26.7% | 18 | 1.9% |
| Married | 507 | 53.7% | 485 | 51.4% | 22 | 2.3% |
| Divorced | 24 | 2.5% | 21 | 2.2% | 3 | 0.3% |
| Separated | 10 | 1.1% | 9 | 1.0% | 1 | 0.1% |
| Widowed | 26 | 2.8% | 25 | 2.6% | 1 | 0.1% |
| Unknown | 107 | 11.3% | 99 | 10.5% | 8 | 0.8% |
| **Number of People in Household** | | | | | | |
| Live alone (0) | 7 | 0.7% | 7 | 0.8% | | |
| 1-5 people | 481 | 51.0% | 454 | 51.0% | 27 | 50.9% |
| 6 to 10 people | 345 | 36.5% | 327 | 36.7% | 18 | 34.0% |
| 11 to 15 people | 24 | 2.5% | 21 | 2.4% | 3 | 5.7% |
| 16+ people | 4 | 0.4% | 4 | 0.4% | | |
| Unknown | 83 | 8.8% | 78 | 8.8% | 5 | 9.4% |
| **Education Level** | | | | | | |
| Less than high school | 171 | 18.1% | 167 | 18.7% | 4 | 7.5% |
| High school degree | 114 | 12.1% | 103 | 11.6% | 11 | 20.8% |
| Some college but did not graduate | 102 | 10.8% | 96 | 10.8% | 6 | 11.3% |
| Two-year college degree | 91 | 9.6% | 82 | 9.2% | 9 | 17.0% |
| Four-year college degree | 233 | 24.7% | 222 | 24.9% | 11 | 20.8% |
| Post-graduate degree | 97 | 10.3% | 96 | 10.8% | 1 | 1.9% |
| Unknown | 136 | 14.4% | 125 | 14.0% | 11 | 20.8% |

| Family Household Income | | | | | | |
|---|---|---|---|---|---|---|
| Less than $10,000 | 41 | 4.3% | 39 | 4.4% | 2 | 3.8% |
| $10,000 - $24,999 | 31 | 3.3% | 27 | 3.0% | 4 | 7.5% |
| $25,000 - $49,999 | 88 | 9.3% | 81 | 9.1% | 7 | 13.2% |
| $50,000 - $74,999 | 92 | 9.7% | 89 | 10.0% | 3 | 5.7% |
| $75,000 - $99,999 | 83 | 8.8% | 81 | 9.1% | 2 | 3.8% |
| $100,000 - $149,999 | 95 | 10.1% | 90 | 10.1% | 5 | 9.4% |
| More than $150,000 | 32 | 3.4% | 32 | 3.6% | | |
| Unknown | 482 | 51.1% | 452 | 50.7% | 30 | 56.6% |