COVID-19 Vaccination Experiences & Perceptions among Communities of Hawai‘i

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Table of Contents

Executive Summary

The Hawai‘i State Department of Health (HDOH) is dedicated to protecting and improving the health of all people in Hawai‘i. The COVID-19 pandemic has been an unprecedented public health emergency in which governments and health departments have had to react to evolving dynamic conditions and make quick decisions with limited information. Striving for equity among the most underserved and marginalized communities is at the core of the HDOH's mission and this can be achieved through preventative measures including immunization.

In March 2021, the HDOH published a report titled "Addressing Health Equity in Diverse Populations: COVID-19 in Hawai‘i" describing how long-standing structural inequalities manifested as health disparities during the COVID-19 pandemic. This coincided with a monumental effort to provide equitable access to the COVID-19 vaccine to every eligible individual in the state in the earliest months of vaccination availability. This new report details the experiences of the front-line COVID-19 vaccine providers and trusted community messengers and organizations. The purpose of this report is to review COVID-19 vaccine effort in Hawai‘i from December 2020 – June 2021 in order to better understand successful strategies and identify the lessons learned from this large scale public health prevention campaign.

This report contains the responses obtained from interviews conducted with twenty-eight individuals representing twenty-five different organizations statewide and details their experiences vaccinating in under served and marginalized communities. These interviews were transcribed using a standard method known as emergent coding. The qualitative data was then analyzed to emergent patterns and themes. Native Hawaiians and Pacific Islanders communities emerged as a particular concern during the process of data analysis. It is because of this that the format of this report reflects the practices of kanaka ‘ōiwi (the indigenous people of Hawai‘i) and Pacific Islander ways of thinking.

The report begins with a brief mō‘aukala (history) of infectious disease in Hawai‘i and its impact on the kanaka ‘ōiwi. This history provides context to what is happening now and can suggest solutions to a way forward that respects that history. People from different islands located in the Pacific are not monolithic, but instead, represent a diverse set of communities, each having unique experiences, histories, and cultures. However, the themes identified during the interview process point to structural and persistent downstream impacts common to Pacific people's experiencing colonization – degradation of natural resources, urbanization fueled by consumerism, introduction of foreign diseases, systemic changes in their social system, and generational traumas that have led to health disparities and inequities. These shared generational traumas manifest today through continued structural racism, inadequate health services, and broken promises from the federal and state governments, undermining the trust that is taken for granted by many other communities. For these reasons, and because the vaccination effort described here was situated within the ancestral lands of the kanaka ‘ōiwi, the authors have used Native Hawaiian history to contextualize this report as it is representative of Pacific peoples lived-life experiences. The summaries are organized into the four key themes of mo‘olelo (story), pilina (relationship), maopopo (understanding), and ho‘olālā (plan).

The stories and experiences shared under these themes are relevant to Native Hawaiians and Pacific Islanders and inform the five recommendations provided to guide equitable pandemic recovery efforts, as well as future public health preparedness and prevention.

Key Recommendations:

1. *Acknowledge the historical trauma and the lived experiences of marginalized communities to understand their effects on an individual's mental and physical health.*

2. *Foster collaborative partnerships with trusted community messengers and organizations to promote community wellness.*

3. *Ensure transparency and diverse representation in decision-making processes and execution of resource allocation.*

4. *Utilize multidimensional approaches that promote holistic healthcare by prioritizing in-language services, cultural values, and traditional practices.*

5. *Document processes and protocols to create streamlined clinical responses that are replicable for future health emergencies.*

Introduction

"COVID-19 Vaccination Experiences and Perceptions among Communities of Hawai'i" represents a collaborative effort among community partners and the Hawai'i State Department of Health to evaluate statewide COVID-19 response efforts through a health equity lens. The authors of the report include staff who have worked within the Department of Health COVID-19 response as well as community and academic partners who have provided feedback and guidance to the department throughout the pandemic. Honest, timely, and constructive critique have been essential in shaping the pandemic response and have helped the Department of Health to identify gaps and implement changes. The qualitative approach and grounding of the report in history and values of Native Hawaiian and other Pacific cultures bring to life the voices and perspectives of community partners who have been integral in providing COVID-19 vaccines to individuals and communities across the state. While the report brings to the foreground the impact the pandemic has had on indigenous peoples of the Pacific, the themes and topics discussed are by no means limited to particular racial and ethnic groups. The community partners interviewed speak to the experiences of rural and urban communities, the houseless, old and young, and people working in front-line occupations. We have much to gain through the act of listening. So much of the pandemic has been about striving and doing. Now we can begin to understand where we have been and what it will take to grow, to become resilient. At the same time, one cannot simply arrive at resilience or equity and be done. We will need to continuously learn from and build upon our experiences. Partnerships and the voices of community members are essential to that journey.

- Dr. Sarah Kemble, State Epidemiologist, Hawai'i Department of Health

The COVID-19 Vaccine in Hawai‘i

This report evaluates the initial phase of the COVID-19 vaccination rollout in Hawai‘i from December 2020 to June 2021 in order to understand the successful strategies and the lessons learned.

The COVID-19 pandemic has been an unprecedented public health emergency in which governments and health departments had to react to evolving dynamic conditions and make quick decisions with limited information (State of Hawai‘i, 2021). Interviews with medical and community partners administering vaccine efforts were conducted to provide narrative context for the vaccination rates achieved during this initial period among underserved and marginalized communities. Qualitative data was sought to describe the experiences of vaccine providers, identify critical barriers, and to understand perceived determinants of success. In addition, the COVID-19 vaccination effort is placed in the broader context of indigenous Pacific cultures and the history of infectious diseases in Hawai‘i. The findings of this report can inform the next phase of equitable COVID-19 vaccination efforts, as well as future public health interventions in underserved and marginalized communities such as those in Hawai‘i.

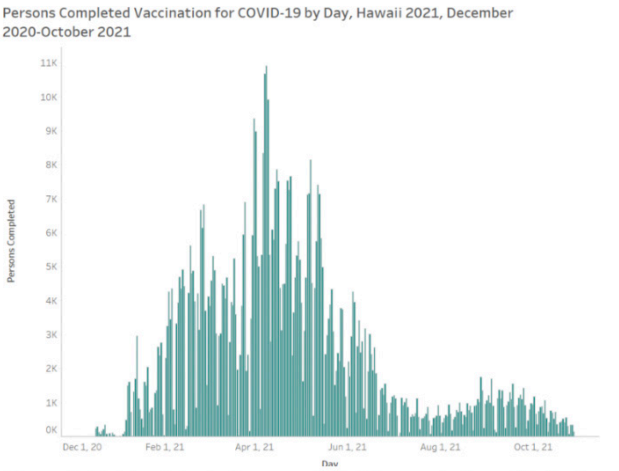

Figure 1. Epidemiological curve of eligible population with first and second COVID-19 vaccine doses, Hawai‘i, December 2020-October 2021.

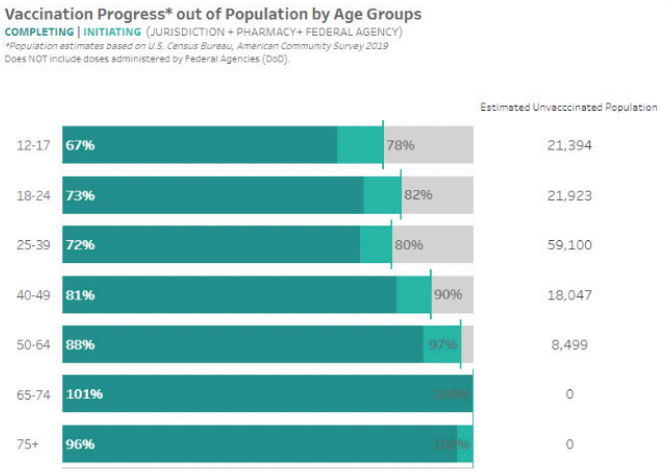

Figure 2. Percentage of eligible population with first and second COVID-19 vaccine doses by eligible age group, Hawai‘i, December 2020-October 2021.

Problem

During the earliest phase of vaccine distribution, the state of Hawai‘i experienced high demand for the COVID-19 vaccine (Figure 1), especially among the initial eligible groups. HDOH implemented the Centers for Disease Control and Prevention (CDC) guidance that emphasized age and occupation in defining initial eligibility criteria for vaccination (Centers for Disease Control and Prevention, 2021). However, prioritization based on age alone can exclude underserved and marginalized communities who have a shorter life expectancy and are at higher risk due to comorbidities and socioeconomic factors (Wrigley-Field, 2021).

In Hawai‘i, an initial brisk demand for the vaccine driven by limited supply, in addition to graduated availability by age (Figure 2) and occupational group was followed by a plateau in vaccine uptake. Significant barriers continued to be observed in attempting to reach the wider state population in Hawai’i, with statewide total population vaccination rate reaching a plateau of approximately 60% in

June 2021 (Figure 3). While many of these barriers are common throughout the continental United States, the demographics and sociopolitical dynamics in Hawai'i present unique challenges and opportunities to understanding this unprecedented mass vaccination effort. Hawai'i also has a distinctive geographical layout, which affects communities' access to resources and information. These differences influence the decisions of Hawai'i residents about receiving the vaccine, which can be seen in Figure 4.

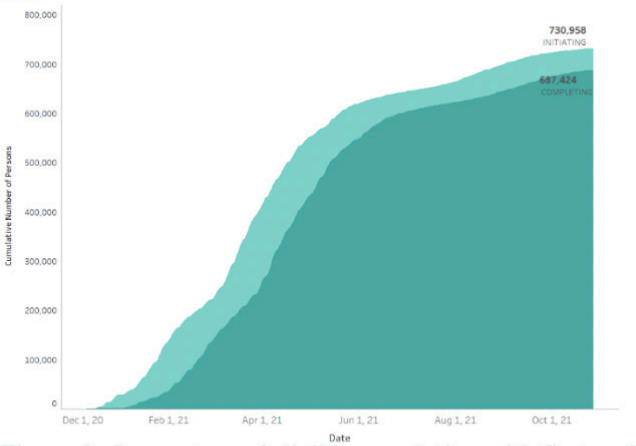

Figure 3 . Percentage of eligible population with first and second COVID-19 vaccine by month, Hawai'i, December 2020-October 2021.

In March 2021, HDOH released a report titled "Addressing Health Equity in Diverse Populations: COVID-19 in Hawai'i", describing how long-standing structural inequalities further manifested as health disparities during the COVID-19 pandemic. Specifically, the report identified that Native Hawaiians, Pacific Islanders, and Filipinos experienced a disproportionate burden of the COVID-19 morbidity and mortality. This report was a foundational step in recognizing the role of social determinants in COVID-19 outcomes and the need for greater equity in the COVID-19 response.

Figure 4 . Percentage of eligible population with first and second COVID-19 vaccine doses by ZCTA, Hawai'i, December 2020-October 2021.

The emergence of the more highly infectious delta variant in Hawai'i in July 2021 exposed similar health disparities and a lack of vaccine confidence. This left a large unvaccinated population within underserved and marginalized communities susceptible to COVID-19 infection, hospitalization, and death. These disparities in risk and outcomes have underscored the need for COVID-19 vaccination strategies to be in-language, culturally appropriate, and tailored to the historical experiences of communities.

During the delta surge in Hawai'i, the *kanaka 'ōiwi* were disproportionately impacted by COVID-19 and their vaccination rates stagnated. In comparison, an increasing proportion of the state population became vaccinated and COVID-19 restrictions gradually were lifted. This created an increased risk for the unvaccinated population. Collectively, Native Hawaiians and Pacific Islanders[1,2], were the least vaccinated racial group, accounting for 13% of vaccine recipients and 21% of Hawai'i's population (Office of Hawaiian Affairs, 2021). This report aims to provide a better understanding based on the experiences of vaccination and testing providers, community-based organizations (CBOs), and trusted community messengers.

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1 Disaggregation of COVID-19 vaccination data is limited to the Federal 7 guidelines and its preset race and ethnicity categories that is used in the federal registry for reporting COVID-19 vaccinations.

2 Kanaka 'ōiwi (Native Hawaiians) and Pacific Islanders **are defined by the US Census** as the people who have origins in any of the original peoples of Hawai'i, Guam, Samoa, or other Pacific Islands. Pacific Islanders include diverse populations that differ in language and culture.

Approach

In keeping with prior community feedback and the mixed methodology approach as reported in the HDOH report "Addressing Equity in Diverse Populations: COVID-19 in Hawai'i," the objectives of this analysis of vaccination attitudes are as follows[1]:

1. Document the experiences of vaccine providers and trusted community messengers during the first eight months of vaccination efforts.

2. Evaluate community-based strategies used and barriers encountered.

3. Understand how approaches can be tailored to meet the unique needs of Hawai'i's underserved and marginalized communities.

The qualitative research approach *talanoa* (Vaioleti, 2006) was implemented to gain a deeper understanding of the quantitative COVID-19 vaccination data through interviews with vaccine providers and trusted community messengers sharing from their direct experiences. *Talanoa* is an indigenous methodology that integrates cultural protocols and structures into semi-structured and unstructured interviews and focus groups. The interviewer and participants start the conversation by identifying who they are and where they are from. This creates a familial setting and allows for more in-depth conversation. Participants lead the conversation topics and the role of the interviewer is to listen and build upon the information given.

An interview request was sent out to one hundred contacts from an internal HDOH list of approved vaccine providers on O'ahu, Kaua'i, Maui, and Hawai'i Island. From this list, twenty-eight different vaccine providers and trusted community messengers from twenty-five different organizations across the state of Hawai'i responded and agreed to be interviewed. The twenty-five organizations ranged in location, the populations they served, organization size and service capacity.

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1 This report addresses recommendation #3 and #4 in the HDOH report "Addressing Equity in Diverse Populations: COVID-19 in Hawai'i".

3. Conduct qualitative and quantitative studies to better understand the complexity of factors influencing the susceptibility to COVID-19 across the most impacted groups and communities.
4. Include community stakeholders and use community-based research principles throughout the data analytic process.

Provider Characteristic	Number of Providers
Geographic Location	
Statewide	7
Hawai'i County	6
Maui County	3
Honolulu County	9
Kaua'i County	3
Gender	
Male	9
Female	19
Clinical Professional	
Yes	16
No	12
FQHC	6
Pharmacy	4
Other Medical Provider	10
FBO *(Faith-based organization)*	1
501(c)3 (*Nonprofit organization)*	3
Government agency	4

Table 1. Characteristics of providers interviewed, Hawai'i, December 2020-October 2021.

During the interview participants were prompted to discuss their experience with those communities they serve and their perceived hesitancy or barriers to receiving the COVID-19 vaccine. Each interview was approximately 30 minutes in duration and had a uniform template that covered the following topics.

- Population served
- Successful strategies employed
- Barriers encountered
- Open discussion

Notes from each interview were transcribed using emergent coding. This style of qualitative analysis preserves the interviewee's words and phrases by turning them into codes that label key themes and topics. The quotes were organized by themes and the connection of their stories. These themes reflect common values found in Pacific cultures. We have chosen to describe them through the Hawaiian language, as these communities are situated in the ancestral lands of *kanaka 'ōiwi*. As is customary in the Pacific, this report offers a history of infectious disease in Hawai'i to provide an understanding of the past and its effect on current conditions caused and exacerbated by this pandemic. The authors understand that the history of the Pacific is diverse, but the impact of colonialism upon the population has led to similar outcomes, so that in telling the history of the Native Hawaiians, it tells the story of those in the Pacific. The subsequent sections present the narrative themes that emerged from the interviews, expressed as direct quotes from interview respondents or as summaries of recurring themes expressed by multiple respondents. These narratives are inclusive of Native Hawaiian and Pacific Islander experiences. Our intent was, while respecting the confidential nature of the interviews, to preserve and share as directly as possible the voices of those who participated in the interviews.

Limitations

The mixed methodology used in this evaluation takes a novel approach by contextualizing the rigidness of numbers with the pedagogical properties of community narratives. The limitation to this approach is similar to any other methodology in that the accuracy is dependent upon reported data. As new data is collected and community experiences are ever-changing, we must be prepared to adjust, incorporate, and update as is necessary. Since *talanoa* is entirely participant-driven, the interviewer does not choose or control the themes that emerge. The views expressed in this report are, by the nature of the method, those of the participants interviewed, and may not be representative of the experience of all populations and groups disproportionately impacted by COVID-19. Further work is needed to ensure that all groups that have been historically marginalized and underserved can receive equitable access to the resources needed for a healthy life.

Mōʻaukala
(history)

It is common practice in Pacific cultures to look to one's past as a guide to move forward into the future. Infectious disease would become a key factor that would alter Hawaiian culture and history.

During the *talanoa* interviews, a constant theme identified by the participants was the colonial history of Native Hawaiians and Pacific Islanders, specifically how that has affected their mental and physical health. One participant from a healthcare organization stated,

> **"It is important to understand that the public health issues experienced by Native Hawaiians and Pacific Islanders today are not new. Instead, they are a [result] of colonial experiences...[like] the nuclear testing in the Marshall Islands or the illegal overthrow of the Hawaiian Kingdom. Minus this understanding, appropriate engagement and strategies cannot be created."**

For this section, as we are located in Hawai'i, it is culturally appropriate for the authors to share the history of the indigenous peoples of Hawai'i. However, this is with the understanding that each Pacific Island's colonial experience is different, but the long-term outcomes have been the same.

Kanaka ʻōiwi (kanaka) are the indigenous peoples of Hawaiʻi. Prior to the arrival of Western explorers, it is approximated that there were between 500,000 to 1,000,000 *kanaka* (Stannard, 1989; Kirch, 2007). *Kanaka* are well-known scholars, navigators, skilled artisans, healers and a people whose livelihood is deeply rooted in their land. When foreign entities entered the shores of these islands in the late 1700s, they brought with them the beginning of what would become centuries of depopulation and cultural genocide. This is also true of the many different island nations throughout the Pacific.

While diseases such as sexually transmitted infections (STIs) are not known to immediately kill infected individuals, the long-term complications can be devastating. STIs such as syphilis had an impact on fertility and infant mortality, which contributed to the decline of the *kanaka* population. Captain Cook's first interactions with Hawaiʻi in 1778 would bring new infectious diseases to Hawaiʻi. It is well documented that half the men on his ships were known to be carrying STIs, specifically infections like syphilis and gonorrhea.

In addition to sexually transmitted infections, foreigners brought respiratory illnesses, as well as food and water-borne diseases, to the islands. The great warrior chief Kahekili of Maui is believed to have died from tuberculosis, more commonly known at the time as consumption. *Kanaka* women and younger adults were reported to have been more susceptible to the disease. By 1810, the increased mortality and decreased fertility would cause the *kanaka* population to be cut in half. From 1804-1850, many other infectious diseases such as smallpox, cholera, typhoid, influenza, measles, mumps and whooping cough, would enter Hawaiʻi and continue to disproportionately affect the *kanaka* population. Most of the people diagnosed with Hansen's disease, also known as leprosy, were *kanaka*. Diagnosis resulted in criminalization, stigmatization, and exile to an isolated colony named Kalaupapa. This traumatic and extreme measure was justified by the imperative to protect public health and has had residual effects into the present.

The introduction of infectious disease combined with the overthrow of the Kingdom of Hawai‘i created a deep-rooted mistrust in future foreign governing bodies in Hawai‘i. In contrast, some of the earliest known population-wide interventions to protect public health were instituted by the *Mō‘ī* (monarch) and *ali‘i* (chief). During Kamehameha III’s reign in the 1840s, when measles and smallpox were the emergent threat to Hawaiian health, the Hawaiian population fell to approximately 82,000 by 1850 (Schmitt & Nordyke, 2001).

To counter this existential threat, Kamehameha III took aggressive actions to save the *lāhui* (community) by creating quarantine orders, as well as home inspections, to identify cases of measles that were wiping out entire communities. He introduced travel bans since many kanaka were interested in following their voyaging roots and learning abroad, but large numbers of them were falling ill and dying before returning home. Kamehameha III also introduced the novel medical technology of immunization to Hawai‘i, going to great lengths to ensure that the smallpox vaccine was readily available to the *lāhui*. He surmised that once smallpox reached the shores of Hawai‘i, it would quickly devastate the indigenous community if they did not take action to slow the spread. Samuel Kamakau, who had no formal medical training, famously “busied himself administering vaccines” to *kanaka* when the foreigners in western leadership failed to protect his rural community (Archer, 2018). A well-known Hawaiian scholar that played an instrumental role in the preservation of many mo‘olelo (story) and lineages of chief, his career was dedicated to learning and disseminating accurate information (Archer, 2018).

Finally, Kamehameha III established the Hawaiian Board of Health in 1851. Under the leadership of the Mō‘ī, the ali‘i fulfilled their traditional *kuleana* (responsibility) to care for the life of the *kanaka*. Their legacy of dedication to the health of Hawai‘i’s people is still present today, and it can be seen in the numerous healthcare facilities that bear their names. While some of these initiatives were considered radical initially, these decisions reversed the population decline and for the first time in 70 years, the *kanaka* population experienced an increase.

As we continue to face another pandemic that has disproportionately impacted indigenous populations, there is a deep-rooted *kuleana* to not allow history to repeat itself. Native Hawaiian and Pacific cultures always emphasize the importance of the past and relying on the wisdom of our kūpuna (elders) to guide our efforts to build a better future.

Mo‘olelo

(story)

In Pacific cultures, it is common for individuals to identify themselves by sharing their genealogy and personal histories. It is through this exchange that connections with other people are made. By building on these connections, people of the Pacific sustain relationships that are healthy, respectful, and honors the space between them.

Understanding the historical mistrust between indigenous communities and foreign entities has proven essential to establishing the trust of community members. The impacts of historical colonial actions and disease introductions continue to manifest in modern health outcomes mediated by disparities in socioeconomic status and behaviors (Braveman, Egerter, & Williams, 2011). While the introduction to the historical perspectives provided a brief history of infectious disease in Hawai‘i, this section identifies some of the modern day consequences of the history of colonization on current experiences with Native Hawaiians and Pacific Islanders living in Hawai‘i.

Tourism is the largest source of private capital for Hawai‘i’s economy, accounting for $2.07 billion in state tax revenue (Hawai‘i Tourism Authority, 2019). When the pandemic forced the temporary closure of the tourism industry, many individuals were financially impacted (Finnerty, 2020). When the state proposed to begin gradually reopening the tourism industry, there was backlash from some affected communities (Mzezewa, 2020). The role that tourism plays in the local economy is a hotly debated issue (Yerton, 2021). One member of a Native Hawaiian serving health center expressed that some community members felt as though tourists were being prioritized through these mandates and locals were being pushed to, **“get vaccinated to support the government’s decision even though I don’t support it.”** Hotel workers were not yet eligible to be vaccinated, even as some politicians and business persons encouraged the reopening of tourism (Solina, 2021).

Employment based eligibility was mediated through employers. Essential workers had little recourse in requesting assistance in demonstrating their eligibility for the vaccine before it became widely available. For some groups, the definition of essential worker was clear, such as those in healthcare settings or grocery stores. However, many other workers do not fall under these common categories and it was difficult for them to qualify for vaccination.

One acute care provider to rural communities described the perception as being **“two buckets of essential workers”** - those who have been labeled as essential and those who are essential, but have not been given the label. They continued to say that some of these types of people include,

> **“People in housing work in Waikiki, but the restaurants, fast food, the places where Pacific Islanders work at these lower paying jobs – there’s no union to protect them like the hotel workers. When they get sick, they still go to work because they need to get paid.”**

Native Hawaiians and Pacific Islanders specifically tend to work in non-health care occupations that can be considered essential and are unable to be performed remotely (Liou, 2021; Bai & Akamine, 2018). People in unlabeled essential jobs were also asked to work longer hours and “[encountered challenges in] **getting time off to get vaccinated.”**

Pacific Islander communities experienced some of the worst outcomes of the pandemic in Hawai'i in 2020 (Hawai'i State Department of Health, 2021). The Pacific Islanders interviewed in this evaluation reported that their negative experiences instilled in them a sense of fear and urgency to get the COVID-19 vaccine as a way to protect themselves from further harm. One health center that serves primarily low income and immigrant families spoke about working with Pacific Islander parents, saying,

> **"The parents have been good [at] getting vaccinated, especially with [a specific Pacific Islander] population. Understanding how hard that community was hit last summer, [it] encourages a lot of the population to get [the vaccine] this summer....Overall for the parents that come in, most have been vaccinated or are in the process, [with] not a lot of resistance or fear."**

However, each community's experience with communicable diseases is different. Another story included the use of an unsuspecting symbol unique to the community. This story spoke about the importance of knowing the community and its members in order to better understand the cultural nuances.

> **"A 'Bayer Bayer Bag' is often used by doctors to transport aspirin in the Pacific. Since the outbreak of the pandemic...[the spiritual leader] has recycled these bags to fill them with candies as an incentive to encourage children to wear their masks. If a child wears his/her mask ... [they are rewarded] with candies. The kids noticed the bags as we walked by their homes. They immediately ran into their homes to put masks on and come back out to talk with us."**

Learning about the backstory and experiences of each community allows individuals to understand the rationale behind any hesitancy or willingness to engage with western medicine and to respond empathetically. Another organization that is an acute care center for a rural community shared a similar realization in regards to engaging with younger generations. They said at first they "**didn't really think about what was convenient to them,"** but after making an effort to understand the life circumstances of their population, they realized that clinics needed to **"extend their hours... and saw this population show up to the early morning hours and late evening hours."** When vaccination clinics are held during business hours, families are forced to choose between putting food on the table or protecting their family from disease.

By offering understanding, flexibility, and empathy, providers and educators were able to offer vaccination options that directly addressed the cultures, languages, and characteristics of Hawai'i's diverse communities.

Other factors that were mentioned during interviews included the role of multigenerational housing and split household views. Multigenerational housing is common in Hawai'i, in part due to cultural practices. It is also likely a result of the high cost of living and low wages available to immigrant families (Peterkin, 2017). Many vaccine providers described patients that live in multigenerational households and how many of these families were split in their views on the vaccine. In some homes, the head of the household makes decisions for the entire family.

> **"Oftentimes it's not the patient who doesn't want the vaccine, it's the family members. So, you have to talk to the family members as well and talk about their reasons for not getting the vaccine."**

The choice to be vaccinated in these communities is often a family decision rather than just an individual one. Awareness of familial dynamics based on culture and personal circumstance are important to consider.

A common theme emerging from interviews was that in order to understand the intricacies of a community's beliefs and relationships, one needs to have knowledge about the community either by being from the community or by collaborating with trusted community messengers that have this knowledge. By utilizing connections and taking initiatives to better understand the lived-life experiences of community members, providers, trusted community messengers, and organizations were able to offfer relevant resources and opportunities.

Pilina

(relationship)

Pacific communities have communal cultures, where relationships are important to the wellness of an individual. People of the Pacific prioritize their relationships with family, communities, land, and ancestors over individuality. They ground themselves in these ties and foster symbiotic connections that create purpose and balance. The collaborative partnerships that have been created and sustained during the pandemic reflect these important values.

The trusted messengers and leaders of communities are often not formal entities, but rather gems within a community that hold the trust and respect of the community. Whether based on blood ties or decades of relationships, these individuals have been key to linking vaccine partners to the communities they serve. One large network healthcare provider observed that many people would come to their vaccination event **"because 'Auntie' whoever was there, they got people who wouldn't have come to actually come."** By having someone present that they trusted, these individuals felt more comfortable participating in the event and receiving information than they otherwise would have. A Native Hawaiian-serving branch of an acute care center also stated that people in official roles are not necessarily trusted within the community.

> **"[It's important to have]...awareness of the role of the person in the community or who they are representing ... Goverment officials or institutional officials who have kuleana, but aren't a part of the community isn't what I mean."**

The same center remarked that one challenge they encountered was **"getting the right voices in front of these people."** Leveraging a range of different types of relationships, both formal and informal, was a common theme when interviewing organizations about their most successful strategies. Some clinical organizations reported that their existing telehealth systems were critical for their providers to continue communicating with their patient population. One medical partnership group that used existing patient-provider relationships to administer the vaccine shared,

> **"Patients were really happy they [the doctors] were giving shots. It felt like the doctor was taking care of them and if something went wrong, the doctor was right there."**

This created a safe environment for the patient and allowed them to make these decisions with the support of someone they trusted. Many organizations spoke about their community partnerships and the importance of building these relationships on trust as a key to their success. Even if there was a lack of prior formal partnerships, organizations were able to rely on individual connections that fostered new partnerships. A health center that serves primarily low income and immigrant families spoke about their experience of tapping into individual connections, saying,

> **" [It] seems to be more people – people relationships that we fell back on than actual established organization relationships."**

Another rural healthcare center discussed their approach, explaining that they had already built a network of connections to help them provide support and resources to the communities that needed it most.

> **"I call it my "art of war" strategy. It's building a safety net before you need it...We partner with medically adjacent services like housing, domestic violence shelters, food baskets, anywhere that houses high risk patients."**

The collaborations fostered opportunities that were not previously possible at an individual organization level to the community. Some also spoke about the small number of marginalized community organizations being overused to represent a diverse population. One large healthcare center stated,

> **"We have to be aware of stretching partners [of specific demographics] too thin, because there is only so many of them. And then there was this sudden influx in demand for their assistance and expertise in these communities."**

This not only brought attention to the limited capacity that community organizations have to serve a large population, but also the need for additional support because of how essential their work is and will continue to be. Many partners spoke about their desire to see these new hui (group) continue beyond the pandemic to be used in future emergencies and address ongoing health disparities. While there was variation in newly established and previously existing relationships with individuals and organizations, the importance of partnerships in the success of working with communities was consistent.

In addition to community partnerships, the characteristic of consistency in providing opportunities and maintaining relationships was equally prominent in interviews and an important part of successful strategies. A participant at one rural healthcare center discussed the importance of persistence, saying,

> **"It's about showing up to the same place, giving multiple opportunities to get vaccinated.... We're the third or fourth pass, the ones who keep coming back. That choice can be personal and when [is] the "right" time is different – whether it's intergenerational issues or real hesitation."**

A non-profit health clinic spoke about their relationships with the community and how they had spent time before the pandemic and during the pandemic building trust with the houseless community.

> **"We had teams out there with the houseless community every week, every single week – they've always had those conversations with their clients, they said consistency is key. They do case management and outreach to them on a regular basis and built that relationship with them before hand."**

Consistently offering the opportunity to make the decision to get vaccinated and educational outreach to support informed decision making was pivotal.

Maopopo
(understanding)

Native Hawaiians and Pacific Islanders are guided by a feeling that is confirmed by the na'au (an intuitive moral nature), rather than solely depending on empirical evidence. The ability to trust the supernatural and its guidance is a also a key component of Pacific ways of knowing.

This understanding lends itself to empathetic gestures that are solution oriented and not fault-centered, affording space to create open paths of communication and eliminate a culture of shame associated with health conditions.

The urban setting is more common to O'ahu, with most of the state's rural populations being located on the islands of Hawai'i, Maui, Moloka'i, Lana'i, Kaua'i and Ni'ihau. The more isolated locations of rural communities increases the travel time required to reach places with food or other necessities compared to urban areas such as those found on O'ahu (Warshaw, 2017). The state's vaccination plan **"didn't account for the travel time to move clinics or for patients to reach a mass vaccination site[s]"** from rural areas. This created a barrier for rural communities in accessing the vaccine. In addition, a medical partnership group reported that **"those who live in rural communities think they don't see anyone"**, creating a belief that their remote location keeps them safe from encountering the COVID-19 virus. The geographical distribution of COVID-19 vaccines across the state of Hawai'i can be seen in Figure 4.

A health center listed some other concerns expressed across the state as **"some [people are] scared of the needle"**, some have a **"chronic illness and [are] not sure because of the side effects that they hear"**, or they **"fear that there is not enough study since it's an emergency authorization."** The pause on the J&J vaccine was inhibiting and a chain pharmacy provider stated **"it was hard to reestablish the popularity once J&J was resumed"** because the safety of the vaccine was being publicly questioned. The safety and efficacy of all vaccines have been established through vigorous testing and an abundance of cautionary assessment.

Some community members have continued to express their concerns and hesitation, as one clinical provider said **"information [is] updated [so] frequently for the general public, what they learn gets outdated quickly."** This constant turnover of information regarding COVID-19 and the vaccine has supported the already present mistrust of government (Priniski & Holyoak, 2022).

Mistrust can spread misinformation because individuals will say among their peers, **"I trust you so whatever you say, I believe you."** These individuals are often a part of specific demographics and can be analyzed within these categories. Figure 3 shows vaccination rates by age group according to CDC eligibility criteria. Community members trust those they know, so when those they know spread misinformation they may not see it as misinformation.

Older generations have consistently had higher vaccine uptake rates compared to younger eligible populations. They were reported as being the first in line when it was their turn to be vaccinated, with one acute care hospital that serves a primarily rural area saying,

> **"When it was [the older age group's] turn, they were there. This is what they needed to do to go about their business."**

They seem to understand their vulnerability and heightened fragility against this virus, and are more likely to take the precautions necessary to protect themselves. Respondents indicated it is also important to recognize that basing vaccination priority groups on age indirectly deprioritized Native Hawaiian and Pacific Islander communities, whose life expectancies are notably shorter than their Asian and White counterparts (Braun et al., 1997).

The younger generation of people in Hawai‘i have proven to be among the hardest population to reach. One community educator that serves a lower income area described this population, saying **“they seem to think they can take it or leave it,”** while an acute care hospital that serves a primarily rural community said,

> **“They’re healthier, they typically aren’t quick going to the doctors, you see a different kind of behavior and they’d cancel, be no shows. It was a harder group to manage schedules with.”**

Since this younger population tends to be healthier and less likely to visit a doctor or engage in conversations about health education, getting vaccinated may not be a priority in comparison to other daily needs. The routes to reach this group with reliable information about the vaccine are much more complex and pushing them to recognize their own susceptibility to see this disease can be challenging.

Finally, another complex population to navigate are eligible minors because parents are involved in the decision making process. This added a new set of opportunities and barriers, with providers finding the key to successful vaccination initiatives through the inclusion and engagement of parents. Some providers expected challenges convincing parents to get their children vaccinated, given that the parent population was of a demographic likely to be unvaccinated. Providers who focused their efforts on school-aged children say that preparation was the most important part. A pharmacy and rural-serving acute care center both said getting students vaccinated **“required parents to be there”** and some providers worked to anticipate potential barriers as much as possible. The pharmacy provider described their approach, saying,

> **“Consents were done in advance and the DOE got the information out to parents in advance.”**

The rural-serving acute care health center, whose work focused primarily on students during the latter months of the vaccine rollout, said,

> **“The parents would send the registration online and send kids to the vaccine clinic. It was important to make it a personalized and accessible experience to help them understand who we are and what we are doing. It was also important to make this as seamless and fearless as possible for the 12-17 year olds.”**

Transparency and communication were common themes in successful vaccination strategies in each age group. As younger age groups become eligible for vaccination, ongoing efforts continue to focus on providing education and vaccination opportunities to minors and young adult populations.

Hoʻolālā
(plan)

A unique characteristic of Pacific design, whether artistic or societal in nature, is the use of preexisting symbols and structures. Designs are rooted in tradition but adapted to serve the current context. A similar pattern of approach can be seen in the vaccine clinic designs and outreach used by organizations.

After considering historical context and developing an understanding of the community, organizations began to design their clinics and educational outreach with community partners. These collaborative relationships led to in-language and culturally appropriate engagements that were inclusive of trusted community messengers. This was an important factor that led to community investment and better community participation.

When the vaccine was first released and had limited supply, one rural healthcare provider said **"people were put in a scared position to make a right-now decision."** This was in part because providers did not know when or if the supply of the vaccine would increase. Some took an approach of prioritizing the opportunity occuring at that moment, rather than educating an individual in the choice of accepting the vaccine.

In comparison, community health workers emphasized the importance of consistently engaging with the community and providing ample opportunities to interact and build a relationship. One rural healthcare provider described this approach as,

> **"The right to ask a question is as essential of an access point as getting the actual shot... Health education is engaging. It's not one shot missionary work, this is for the long haul."**

These organic, person-to-person interactions built trust overtime with community members. As one provider stated **"[we need to] keep having conversations, keep relationships going, [and] to repeat the conversations."** Another provider pointed out that **"without the community partners, we wouldn't have the community trust."** It was important to integrate the community with these efforts in order to provide a safe and familiar environment. A Native Hawaiian-serving branch of a healthcare provider described the effectiveness of these strategies as **"someone that acts like you, talks like you, that's valuable."**

In-language education and consistent engagement have been vital in creating safe spaces where individuals can feel confident in making informed decisions. A few select organizations who often work with immigrant populations were able to have in-person volunteers and staff. Other providers that did not have in-person services available were able to use a variety of translation services, such as web-based and virtual designs.

One organization that canvasses neighborhoods and speaks to community members daily used incentives as a way to engage in conversations with community members. Through these conversations, they would learn what the community needed and were able to make the incentives offered reflective of those needs. This approach was derived from earlier in the pandemic, when they would use 5 pound bags of rice to encourage people to come get tested. A community educator also noted that the age and area of

the community played a role in the type of incentive that garnered interest, whether it was **"bigger gift cards"** or **"specific types"** of incentives.

Another nonprofit organization used **"a** *makana* **(gift) bag"**, which would be given after an individual received the vaccine. This gift bag included gift cards, sanitizers, masks and bracelets. As explained by the organization, the *makana* bag was not used as enticement and was more of a surprise reward at the end. This helped people to end the experience positively and encouraged them to share this positive experience with others.

Shorter clinics held at off-work hours tended to be more successful in rural communities, with some providers mentioning their most successful clinics were sometimes **"2-3 hours"** as one health center said. The location was also important because it had to be a central or familiar place to the community. A healthcare network explained that it could be a **"parking lot, warehouse, church, it doesn't matter where as long as there is a roof."** Others were on the side of a main road that people would pass on their way home from work. Providers were willing to go wherever they had to that was most comfortable to the community and provide vaccines.

One provider said for some individuals, it's easier for community members to drive by and make an immediate decision with immediate follow through than it is to preplan the decision days in advance. The provider used a metaphor of a **"flight versus a road trip,"** a flight can be intimidating because it requires more time adherence and follow through, whereas a road trip has a little more flexibility and spontaneity.

While certain aspects of clinic design are in more direct control of the clinic itself, factors such as dose vial size and federal vaccine registration systems are external challenges that providers had to navigate. Some expressed frustration at wasting doses when an entire vial could not be used, due to low vaccine appointments. There were also many gripes expressed about the registration system and the requirement for pre registration as a barrier. Two healthcare networks explained how they addressed the complex registration system by **"develop[ing] a system to bundle all the information to make it quick and easy and built into their work flow"**, or **"creat[ing] [their] own paper forms."** Another rural healthcare provider said that from experience,

> **"[Community members were] okay with filling out a paper- it's a lot more commitment to sign up for an appointment plus follow up. It's easier to just show up."**

Organizations need funding in order to build these systems and infrastructures. Funding is an issue that has long plagued organizations that work with underserved and marginalized communities. These organizations are often led by advocates from the community and tend to be smaller in capacity and minimally resourced. This can be a barrier as government grants are reimbursement-based. One non-profit provider stated,

> **"Funding was really difficult because we ended up fronting the money for six months...[We] still haven't gotten paid for a lot of testing we've done [and we're] lucky to use private donors..."**

Requiring organizations to front the funds for their work limits many organizations from supporting initiatives that focus on underserved and marginalized communities because they do not have the resources or infrastructure to do so. Another clinical provider said,

> **"[We] didn't do as much as others because [government agencies were] having problems paying us. [We had] no funds to do [non-organization] patients."**

The lack of funding limited the scope of the services and reach of the organization's potential impact. In addition to these challenges of obtaining funds, other providers expressed concerns about the lack of transparency or follow-up concerning grant distribution. One rural healthcare provider said,

> **"[We] haven't heard how much of [the] money [has] been spent and how much there's left. Where'd it go and how was it equitably distributed? How do people in rural Hawai'i know what they should've gotten? There isn't that transparency."**

In addition to the challenges that stemmed from funding and communication issues, other providers expressed barriers they encountered when they were trying to initially bring the vaccine to marginalized and underserved communities. A rural healthcare provider said,

> **"People have been acting as gatekeepers, there's strata within the community. Some places exclude certain groups and then when you make resources for the excluded, people get upset."**

Some providers were resourceful and reallocated their excess vaccine supply from larger events to mobile events that focused on marginalized and underserved communities. A clinical healthcare provider described one of their experiences, saying,

> **"[We] took extra [vaccines] from the [first event to] take to shelters, staying from 9 pm to midnight to give qualified people at [the second event]."**

As providers had situational awareness, they took the initiative to garner resources for their communities and implemented advanced solutions in order to serve the people who needed access to these resources the most. A rural healthcare provider explained the value in this work, saying,

> **"If you can provide to the most vulnerable, there's no reason you can't provide to everyone else, and it pushes everyone up."**

Once money became available later in the vaccination rollout, some providers expressed their frustration with the funding process. A non-profit provider stated,

> **"Now that there is so much money coming down, it's a little frustrating that we could've had it sooner when outreach started because we could've ramped up faster or prevented some burn out. There was a time when we were working seven days a week."**

Despite these resource barriers, organizations have leveraged this pandemic as best they can. For a portion of the population, mass vaccination clinics were held in centralized locations. However, mass vaccination clinics were not able to provide a holistic experience for patients due to the size of the event and were not appealing to some community members. Another medical partnership group mentioned that they felt a similar sentiment, expressing that,

> **"Group testing missed this part of good medicine [with a lack of consideration for] holistic wellbeing evaluation[s]."**

It was important to many providers to promote holistic services to the community that went beyond administering a vaccine. A health center that serves low income and immigrant families said of their partnership with a non-profit that serves Native Hawaiian and Pacific Islanders,

> **"[The organizations] didn't want to do just the vaccine, they wanted vaccines to be a part of your overall health. So they made sure people had medical homes and did an overall health check."**

In some communities, this was one of the few instances where an individual received medical attention and medical providers wanted to maximize the benefit of these interactions by providing wrap-around services. To support holistic approaches such as these that address health disparities in marginalized and underserved communities, proper funding and access to those funds needs to be provided.

Clinical providers have been innovative in their approach to address COVID-19 and its continually changing landscape, despite numerous barriers and challenges. Their swift thinking and holistic approaches resulted in creative solutions and important lessons learned. A large healthcare network summarized the experiences of providers as,

> **"COVID has changed the way health care is delivered and fast-tracked access to hard-to-reach populations by creating paths known but under-utilized, for example, telehealth and outreach on this scale. We have seen that collaboration at all levels can bring services to populations typically underserved when there is a potential impact to those who frequent those services."**

It is important that we take the knowledge and best practices identified during the pandemic beyond the immediate future and apply these teachings on a broader spectrum.

Recommendations

The experiences and perspectives expressed in this report center on indigenous/native knowledge, tradition, and culture. The following recommendations incorporate these values and summarize many of the practices that have been described above.

1. **Acknowledge the historical trauma and the lived experiences of marginalized communities to understand their effects on an individual's mental and physical health.**

   With a shared experience of colonialization across the Pacific, it is important to understand how this historical trauma has manifested into present day issues that impact the daily wellness of indigenous peoples.

2. **Foster collaborative partnerships with trusted community messengers and organizations to promote community wellness.**

   Information is best shared by trusted community messengers. Individuals who have an established rapport with community members are more likely to be trusted when they bring new information to their community. Collaborative partnerships with community organizations help to pool resources and create overlapping networks to meet a wider range of needs for communities.

3. **Ensure transparency and diverse representation in decision making processes and execution of resource allocation.**

   Solutions for this recommendation may include creating diversity through equitable hiring practices that ensure the reflection and inclusion of multiple perspectives. To attain this, there needs to be a diverse workforce that includes individuals of different cultures and ways of thinking. It is also critical to provide spaces for community voices to be heard. Transparency in the decision-making process builds trust with community members. It fosters decisions that are not only in the best interest of the community but are relevant to their livelihood.

4. **Utilize multidimensional approaches that promote holistic healthcare by prioritizing in-language services, cultural values, and traditional practices.**

   Faced with the new landscape that appeared when vaccination rates plateaued, organizations began to create innovative approaches that reflected cultural values and were in-language. Their events promoted holistic wellness and provided a range of health care and social services that communities may not have otherwise received.

5. **Document processes and protocols to create streamlined clinical responses that are replicable for future health emergencies.**

   The COVID-19 pandemic has provided a continual learning process. Existing emergency health disaster plans and infrastructure were not able to accommodate the scale and duration of this pandemic. It is critical to understand that disasters are inevitable, but the level of preparedness can be influenced by these formative experiences shared by communities. Documenting the work that has been done since March 2020 provides tools that can be used to guide future equitable efforts in emergency preparedness planning and public health prevention.

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