

# A Report on the Impact of the COVID-19 Pandemic on the Health and Social Welfare of the Native Hawaiian Population in Hawai‘i

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## Abstract

*Native Hawaiians (NHs) are among the most vulnerable groups at greater risk for coronavirus disease 2019 (COVID-19). To understand the impact of COVID-19 on the state’s population, a 35-question cross-sectional survey was administered across the state of Hawai‘i. NH data from the larger report are provided here. The findings indicate that the impact of COVID-19 is disproportionately affecting NH households in areas of income and housing stability, chronic disease prevalence, emotional wellness, and COVID-19 prevention. Short-, medium-, and long-term recommendations are presented as next steps to addressing the health inequities among NHs.*

## Abbreviations and Acronyms

CCO Unit = Community Care Outreach Unit  
CDC = Centers for Disease Control and Prevention  
COVID-19 = Coronavirus disease 2019  
ED = emergency department  
HI-EMA = Hawai‘i Emergency Management Agency  
ICS = incident command system  
NH = Native Hawaiian  
PHQ-4 = Patient Health Questionnaire-4  
PI = Pacific Islander  
S ESF 8 = State Emergency Support Function 8  
SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2

## Introduction

At the time of this publication the coronavirus disease 2019 (COVID-19) continues in the state of Hawai‘i and most places across the world. Nearly all communities and countries have been adversely impacted by this historic event. The state of Hawai‘i has not escaped the profound impact of the COVID-19 pandemic. While the test positivity rate is significantly lower than in other states, there have been 36 676 cases of the SARS-CoV-2 and 521 deaths recorded across the Hawaiian Islands, as of July 11, 2021.<sup>1</sup> In the spring of 2020, reports from western states such as California, Washington, Oregon, and Utah began identifying the aggregate Native Hawaiian (NH) and Pacific Islander (PI) group with the highest infection rates, compelling Hawaiian and Pacific Islander serving agencies and organizations in Hawai‘i to seek such race data. Initially reported in the aggregate, due to small case numbers per group, by mid-summer 2020, cases in Hawai‘i were reported separately for NHs and PIs rendering a clearer picture.

Of these total COVID-19 cases reported in Hawai‘i, racial identity is known for 26 827 cases, or 72.8%. NHs account for 21% of these positive cases, followed by PIs (19%), Filipinos (20%), and Whites (19%).<sup>1</sup> As no other states collect and report COVID-19 cases discretely for NHs (and only 20 states report NH and PI cases in aggregate), there is no other reference database. In the state of Hawai‘i, NH, PI, and Filipino populations were identified as vulnerable aggregate groups that have disproportionately borne the brunt of the impact of COVID-19.

In order to address the impact of COVID-19, the state activated the Hawai‘i Emergency Management Agency (HI-EMA) and used the incident command system (ICS) structure to manage the state’s pandemic response. Within the ICS Medical Operations Section, a Community Care and Outreach Unit (CCO Unit) under the Coordinated Medical Services Branch was established. The continued mission of the CCO Unit is to monitor the health and social welfare capacity, needs, and threats to members of the community due to the COVID-19 pandemic in Hawai‘i, and work with community members to recommend mitigation strategies. CCO Unit community partners included leaders from the NH, PI, and Filipino communities and organizations that support those who are houseless, aging, and in rural communities.

NHs comprise 21% of the population in the state of Hawai‘i. Prior to the pandemic NHs experienced higher rates of houselessness, incarceration, lower educational attainment, public assistance, and lower socio-economic status.<sup>2</sup> NHs also have higher rates of chronic diseases, higher incidence of domestic violence and substance use, and a shorter life span.<sup>3,4</sup>

These health disparities are attributed to the historical trauma and social determinants of health such as discrimination, housing, unemployment, stress, and connection to land. An example of a social determinant of health that puts NHs and PIs at a greater risk of exposure to COVID-19 is their over representation in businesses and industries that are considered essential; these areas include service-related, health care, military, and security.<sup>2</sup> Often health data for NH groups are collated and reported as aggregated data with PIs (as NH and other PI groups). Recognizing the severe disparities between groups in the state, the

CCO Unit focused on gaining a better understanding of how the COVID-19 pandemic has impacted specific groups, separating NH and PI as distinct groups. The findings in this report are for individuals identifying as NH. Results are drawn from a larger survey (N = 7927), the Impact of COVID-19 on Individuals Health and Social Welfare, that was distributed across the state of Hawai‘i to assess the impact of COVID-19.<sup>5</sup> Assessment data was collected from individuals across the state during a period of 3 weeks (August 12-September 5, 2020). During this time the COVID-19 pandemic in the state was at its peak and public officials and citizens were all very concerned for the health and safety for citizens of the state.

## Methods

Data from the community were collected through a 35-question cross-sectional survey, that was developed through the joint effort of the CCO Unit, community partners, and state leaders. The survey collected demographic and household information (annual income, employment change); health service and access to information (chronic disease status, source of health care); pandemic-related challenges (income and housing stability, success at applying for benefits); and beliefs, knowledge, actions, and resources regarding COVID-19. The Patient Health Questionnaire (PHQ-4),<sup>6</sup> which is a validated anxiety and depression screening tool, was used to assess mental health. A score was computed by assigning points for the level of each emotion (nervous/anxious on edge; not able to stop/control worrying; little interest/pleasure; feel down/depressed). The stronger the negative emotion, the higher the score.

The CCO Unit and community partners developed a mixed-methods framework for survey distribution and participant recruitment, which included targeted outreach to vulnerable populations. The survey was distributed in both paper and electronic formats across all Hawai‘i counties for 24 days (August 12 - September 5, 2020). Distribution strategies included online platforms (social media, websites), paper surveys (in-person collection, return postage mailers), and the snowball technique. The survey was advertised on media outlets, and survey shepherds assisted others in completing the survey (online or in-person).

Descriptive analysis of the NH data is presented here to give a basic overview of the status of the COVID-19 burden on NHs in the state of Hawai‘i.

## Result

### Demographics

A total of 1108 respondents (14.3% of all respondents) reported most closely identifying with NH heritage: 852 (77.5%) female, 202 (18.4%) male, and 46 (4.2%) other gender. The following are the percentages of all respondents from each of Hawaii’s 4 counties who most closely identified with NH race/ethnicity:

18.3% in Hawai‘i (n=172), 12.6% in Honolulu (n=750), 15.2% in Kaua‘i (n=64), and 20.4% in Maui (n=119). Of those who reported most closely identifying with NH heritage, 75.9% reported identifying with more than 1 race/ethnicity group.

About one-third of NH respondents were young adults (18-34 years of age), more than 40% were middle aged (35-54), and nearly a quarter were older (55+ years) (Table 1).

### Household Profile

Most NH participants reported living with others in their home (93.7%) as opposed to living alone (mean number of others in the home = 3.6), 29.6% reported having at least 1 elder ≥ 65 years (mean 1.4) living in their household, 52.8% reported having 1 or more persons younger than 18 living in their household (mean 2.1).

Among NH respondents who answered the annual family income question, 43.7% reported a family income of \$75 000 or less. The median annual household income for the state of Hawai‘i is \$83 102, reported by the US Census Bureau.<sup>7</sup> Most NH respondents (64.1%) reported that the family income decreased due to COVID-19, and 41.1% reported the decrease was moderate or large.

Approximately half of NH respondents reported that they or family members experienced reduced work hours (36.6%) or lost their job (21.4%) because of COVID-19. A little less than one-third (32.0%) reported no change in work hours, and 9.9% reported an increase in work hours (Table 2).

	Native Hawaiian Respondents		Statewide <sup>d</sup>
	n <sup>b</sup>	% <sup>c</sup>	%
<b>Gender</b>			
Female	681	75.9	69.3
Male	191	21.3	25.4
Non-binary <sup>a</sup>	25	2.8	5.3
<b>Age</b>			
18-24	160	14.7	14.8
25-34	188	17.2	16.6
35-44	268	24.6	20.1
45-54	212	19.4	17.6
55-64	183	16.8	16.8
65+	77	7.0	13.8

<sup>a</sup> Non-binary refers to the self-reported sexual identity of the survey respondent.

<sup>b</sup> Totals may not equal to 1108 due to unanswered/missing data.

<sup>c</sup> Percentages may not equal 100% due to unanswered/missing data.

<sup>d</sup> All respondents in Hawai‘i.<sup>5</sup>

Table 2. Comparison of the Estimated Income and Impact on Employment and Work Hours Among Native Hawaiians (N=1108) Compared to All Respondents in Hawai'i (N=7927)			
	Native Hawaiian Respondents		Statewide <sup>a</sup>
	n <sup>b</sup>	% <sup>c</sup>	%
<b>Income Range</b>			
Less than \$40,000	234	21.1	17.2
\$41,000 - \$75,000	251	22.7	20.7
\$76,000-\$125,000	277	25.0	26.3
\$126,000+	201	18.2	22.1
Choose not to answer	144	13.0	13.7
<b>Impact On Household Income</b>			
No	387	35.0	39.9
Yes, a little	263	23.8	24.4
Yes, a moderate amount	225	20.4	18.1
Yes, a large amount	230	20.8	17.6
<b>Employment or Work Hour Changes After COVID-19</b>			
No effect	354	32.0	37.0
Increased work hours	110	10.0	11.2
Reduced work hours	405	36.6	32.2
Lost job	237	21.4	19.6

<sup>a</sup> All respondents in Hawai'i.<sup>5</sup>

<sup>b</sup> Totals may not equal to 1108 due to unanswered/missing data.

<sup>c</sup> Percentages may not equal 100% due to unanswered/missing data.

## Digital Connectivity

The vast majority (98.9%) of NH respondents reported having internet access in the home or work, while 1.1% reported no internet access at all. The vast majority (99.1%) also reported having access to a working cell phone.

## Chronic Disease Burden

More than two-thirds (68.6%) reported that at least 1 person in the household had at least 1 chronic disease. The health of the NH population is poorer compared to the rest of the state. Rates of asthma, diabetes, obesity, and heart disease are higher compared to the rest of the state (Table 3).<sup>3</sup>

## Usual Source of Health Care

The majority of NH respondents (71.4%) reported that they went to a family doctor's office for health care, followed by a community health center (16.6%) and hospital-based clinic (16.5%). Nine percent (9.3%) reported that they either used the emergency department (ED) as their usual source of health care or had no usual source of health care (Table 4).

Table 3. Chronic Disease Burden Among Native Hawaiian Respondents (N=1108) Compared to All Respondents in Hawai'i (N=7927)			
	Native Hawaiian Respondents		Statewide <sup>a</sup>
	n	%	n
<b>Chronic disease</b>			
Diabetes	319	29.2	19.0
Heart disease	181	16.6	12.5
Asthma	411	37.8	25.5
Lung disease	40	3.7	3.3
Kidney disease	44	4.1	3.8
Mental health illness	191	17.6	15.0
Obesity	338	31.0	18.8
Cancer	70	6.5	5.2

<sup>a</sup> All respondents in Hawai'i.<sup>5</sup>

Table 4. Usual Source of Health Care Among Native Hawaiian Respondents (N=1108) Compared to All Respondents in Hawai'i (N=7927)			
	Native Hawaiian Respondents		Statewide <sup>a</sup>
	n	%	n
<b>Usual Source of care</b>			
Family doctor office	783	71.4	70.9
Community Health Center/or Community	182	16.7	12.4
Hospital based clinic	179	16.5	17.6
Emergency Department	72	6.6	4.0
Have no usual source of healthcare	30	2.8	4.3
Other	53	4.9	4.8

<sup>a</sup> All respondents in Hawai'i.<sup>5</sup>

## Mental Health

The survey tool included 4 questions from the PHQ-4 to assess anxiety and depression (emotion level).<sup>6</sup> About half of all NH respondents reported being bothered by feelings of being nervous, worried, having little pleasure, or feeling down at least several days over the past 2 weeks. About one-third (33%) reported feeling nervous more than half or nearly every day in the past 2 weeks, and one-fourth (25%) reported feeling worried more than half or nearly every day in the past 2 weeks. A personal emotion score was computed via assigning points for the level of each emotion. About one-fourth had a moderate or severe negative score. Slightly more NH reported a severe level of negative emotions during this time. However, overall, the mental health impact on the NH community seems to be similar to that of the state (Table 5).

## Housing

Consistent with the rest of the state, fewer NH people who currently own or rent a home or condo expected to be living in the same place in 3 months. Furthermore, a higher percentage of NH respondents are currently houseless compared to the state as a whole, and a greater percentage of NHs expected to be houseless in 3 months. A greater percentage of NHs had lower expectations of living in the same residence one owned in 3 months compared to the state as a whole (Table 6).

## Daily Essentials

NHs experienced less stable financial security compared to other respondents from the state as a whole. The percentage of NH families that will have difficulty paying for essentials

is projected to increase in each category in 3 months. NHs experienced more difficulty paying for all essentials compared to the rest of the state (Table 7).

Table 5. Mental Health Scores Compared To All Respondents in Hawai'i (N=1108)

	Native Hawaiian Respondents		Statewide <sup>a</sup>
	n <sup>b</sup>	% <sup>c</sup>	n
<b>PHQ-4 Score</b>			
Normal (0-2)	466	42.3	45.5
Mild (3-5)	309	28.0	27.6
Moderate (6-8)	177	16.1	15.5
Severe (9-12)	150	13.6	11.5

<sup>a</sup> All respondents in Hawai'i.<sup>5</sup>

<sup>b</sup> Totals may not equal to 1108 due to unanswered/missing data.

<sup>c</sup> Percentages may not equal 100% due to unanswered/missing data.

Table 6. Housing Situation Today and Likely In Three Months Among Native Hawaiian Respondents (N=1108) Compared To Hawai'i Respondents (N=7927)

Housing Situation	Native Hawaiian Respondents		Statewide <sup>a</sup>	
	TODAY Where Do You Live	Where Are You Most Likely To Live In 3 MONTHS?	HI TODAY where do you live	TODAY Where Do You Live
	n <sup>b</sup> (%) <sup>c</sup>	n <sup>b</sup> (%) <sup>c</sup>	%	n (%)
A home, condo, or apartment that you OWN.	601 (54.8)	471 (42.5)	58.2	48.2
A home, condo, or apartment that you RENT.	429 (39.1)	362 (33.2)	38.1	32.8
Houseless, live with others that you know, in their home or apartment.	70 (6.5)	79 (7.3)	3.5	4.0
Houseless, live in a public shelter.	3 (0.3)	7 (0.7)	0.3	0.4
Houseless, live in a tent, car, or outside.	4 (0.4)	13 (1.2)	0.2	0.9

<sup>a</sup> All respondents in Hawai'i.<sup>5</sup> <sup>b</sup> Totals may not equal to 1108 due to unanswered/missing data. <sup>c</sup> Percentages may not equal 100% due to unanswered/missing data.

Table 7. Current and Expected Future Difficulties with Having Enough Money To Pay for Essentials Among the Native Hawaiian Respondents (N=1108) Compared to All Respondents in Hawai'i (N=7927)

	Native Hawaiian Respondents		Statewide <sup>a</sup>	
	Today n (%)	In 3 months n (%)	Today n (%)	In 3 months n (%)
<b>Essentials</b>				
Food	223 (20.4)	374 (34.2)	12.5	23.1
Rent or mortgage	242 (22.1)	411 (37.6)	14.5	28.2
Auto expenses (e.g., gas, insurance, car payments)	262 (23.9)	400 (36.6)	14.0	24.7
Medicines	134 (12.3)	234 (21.5)	8.4	15.4
Utility bills (e.g., electric, water, cable, internet)	274 (25.0)	396 (36.2)	13.9	23.4
Cell phone, internet, cable bill	250 (22.8)	377 (34.5)	13.4	22.1
Childcare/ elder care	108 (9.9)	156 (14.4)	5.3	9.2
Healthcare	147 (13.5)	240 (22.0)	10.4	18.3
Public transportation	60 (5.5)	101 (9.3)	4.0	6.8
Other debts	281 (25.8)	373 (34.2)	15.9	25.0

<sup>a</sup> All respondents in Hawai'i.<sup>5</sup>

## Challenges with School

More than one-half of NH respondents expect to have at least 1 person in their household in school in the fall of 2020. Expected challenges centered around a lack of funds to purchase school supplies (n=207; 19.0%), lack of face coverings (n=80; 7.4%), and language barriers (n=9; 1.0%).

## Language Spoken in the Home and Translational Needs

The majority of NH respondents (n=1037; 95.2%) reported that English is the primary language that is spoken in the home. Translation needs that were not met were reported by 15 respondents and included translation for health (n=7), social (n=9), and educational services (n=7).

## Use of statewide assistance hotline number (211)

Only 8.1% (n=94) of NH respondents reported calling 211 for social service assistance. Of these, 40.4% (n=36) reported receiving the assistance they requested, 32.6% (n=29) reported they did not receive the assistance they requested, and 32.6% (n=29) reported they were only directed to a website.

## Attempt at Applying for Benefits

Respondents were asked about their success in applying for benefits in the areas of finance, food, or health services. Among NH respondents, financial, rental, and food assistance applications were the most difficult. Difficulties included not understanding how to navigate the forms, not having the required documents, and being unable to receive assistance via telephone (Table 8).

## Personal Beliefs and Activities Regarding COVID-19 Prevention

The majority of NH respondents (85.0%) consider the severity of COVID-19 to be high to very high (Table 9).

Among NH respondents, the majority (72.1%) know where to go for testing. About half of NH respondents (53.2%) can correctly identify high-risk groups for severe COVID-19 disease, and 33.0% know how to provide medical care at home for someone with COVID-19 (Table 9).

Among NH respondents, 60.8% reported practicing social distancing all or most of the time, 79.0% reported wearing a face covering most of the time, 90.1% reported that their family members wash their hands the same or more often after the start of COVID-19, and 73.3% reported having a working thermometer at home (Table 9).

Resource barriers experienced by NHs caring for a family member with COVID-19 included lack of adequate space in the home for isolation (63.4%), lack of cleaning supplies (40.9%), and lack of availability of family care givers (48.1%) (Table 9).

## Overall Household Preparedness for COVID-19

Using the percentages of responses to the attitude, knowledge, behavior, and resource questions, a household preparedness for COVID-19 score was computed. Among NH respondents, there is a strong sense of the seriousness of the COVID-19 pandemic, a low level of knowledge about the disease and its prevention, a moderate level of compliance with prevention efforts, and a very high need for supportive resources. Table 10 provides a summary of the degree of NH respondents' household status for prevention, preparedness, and response for COVID-19.

## Best Source of Accurate Information

While respondents reported using many sources of information, to find reliable information about COVID-19, the majority of NH respondents used the Centers for Disease Control and Prevention (CDC) website (49.1%), followed by the Hawai'i Department of Health website (20.3%), television news, local leaders or organizations (3.7%), and other sources (13.8%).

## Discussion

### Household profile

NH households are often multigenerational, dependent on multiple incomes, and during the COVID-19 pandemic, housing is unstable due to limited financial resources. Additionally, NH respondents reported living in larger families compared to other groups. Compared to the general population, a higher percentage of NHs have lower household incomes, and many experienced a moderate to large loss of family income during COVID-19. This loss of income results in fewer resources for the household. Additional challenges faced by NH respondents include stability of a place of residence. Consistent with the rest of the state respondents, fewer NH people who currently own or rent a home or condominium expect to be living in the same place in 3 months. Compared to statewide data, a higher percentage of NH people are currently houseless or expect to be houseless. There is a greater percentage drop in expectations of remaining in the same residence one owns in 3 months compared to statewide respondents. Compared to other racial/ethnic groups in Hawai'i, a greater percentage of NH respondents were houseless prior to the start of the COVID-19 pandemic. As such, NHs housing status remains uncertain.

### Chronic Disease Burden

Health and wellness of NHs are critical during this time of COVID-19. Asthma, diabetes, obesity, and heart disease are found at a higher prevalence among NH respondents compared to all Hawai'i residents.<sup>2</sup> This high burden of chronic disease renders NHs at greater risk for progression to severe cases of COVID-19.<sup>2</sup> Furthermore, NH respondents reported a higher negative emotion level (13.6%) compared to overall state respondents (11.5%). Access to health care services is a concern

Type of Assistance <sup>a</sup>	If YES, applied for assistance, were you able to complete the application?		If you could not complete the application: Reason(s) [Check all that apply]				
	Yes	No	No internet access	Could not figure out how to navigate the form	Did not have all the documents	Do not understand questions in English	Tried to call on phone but could not get through
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Prequalification for financial hardship relief	142 (82.1)	31 (17.9)	5 (16.1)	12 (38.7)	11 (35.5)	2 (6.5)	15 (48.4)
Rental assistance	64 (78.1)	18 (22.0)	5 (27.8)	4 (22.2)	8 (44.4)	1 (5.6)	5 (27.78)
Food stamps	183 (88.8)	23 (11.2)	3 (13.0)	8 (34.8)	7 (30.4)	1 (4.4)	7 (30.43)
Health insurance	160 (95.2)	8 (4.8)	3 (37.5)	3 (37.5)	1 (12.5)	0 (0)	3 (37.5)
Health care benefits (e.g., Quest or WIC)	173 (94.0)	11 (6.0)	3 (27.3)	4 (36.4)	4 (36.4)	1 (9.1)	4 (36.4)

Abbreviation: WIC, Special Supplemental Nutrition Program for Women, Infants, and Children.

<sup>a</sup> Type of assistance applied for in Hawai'i between August 12, 2020, and September 5, 2020.

	Native Hawaiian Respondents		Statewide <sup>a</sup>	
	n <sup>b</sup>	% <sup>c</sup>	n	%
<b>Attitude Question</b>				
Perceived Severity of COVID-19				
Not serious	11	1.0	133	1.7
Low level	35	3.2	296	3.7
Moderate level	120	10.9	977	12.4
High level	288	26.0	2362	29.9
Very high level	652	59.0	4146	52.4
<b>Knowledge Questions</b>				
Know vulnerable populations (elderly and chronic disease)	589	53.2	5259	66.3
Know where to go for COVID-19 testing	797	72.1	5126	64.8
Know how to provide medical care for someone at home with COVID-19	364	33.0	3061	38.7
Able to recognize when a family member with COVID-19 would need to go to the hospital	735	66.5	5466	69.4
<b>Behaviors Questions</b>				
Usually or Always practice social distancing by staying at least 6 feet away from others when not at home	672	60.9	7598	96.1
Usually or Always wear a face-covering when outside of your home	874	79.0	7685	97.1
Family members wash hands the same frequency or More frequently since COVID-19	996	90.1	7889	99.8
Have a thermometer that works at home	814	73.7	5997	75.8
<b>Resources Questions</b>				
Problems would face if someone lives with had COVID-19				
Lack of space for isolation	700	63.4	4388	55.6
NO face mask	35	3.2	193	2.5
NO hand sanitizer	89	8.2	449	5.7
Not enough cleaning supplies	448	40.9	2458	31.2
Have someone be available to care for you if you got COVID-19	539	48.9	4249	53.8

<sup>a</sup> All respondents in Hawai'i. <sup>b</sup> Totals may not equal to 1108 due to unanswered/missing data. <sup>c</sup> Percentages may not equal 100% due to unanswered/missing data.

Table 10. Overall Household Preparedness for COVID-19 Among Native Hawaiian Respondents (N=1108) Compared to All Respondents in Hawai'i (N=7927)

	Native Hawaiian Respondents		Statewide <sup>a</sup>	
Attitude - Perceived Severity of COVID-19 (total 1 question)	n <sup>b</sup>	% <sup>c</sup>	n	%
Low (none-low)	46	4.2	429	5.4
Moderate (mod)	120	10.9	977	12.4
High level (high-very high)	940	85.0	6508	82.2
Knowledge (total 4 questions)	n	%	n	%
Low level of knowledge (0-2)	621	56.1	1944	24.5
Moderate level of knowledge (3)	320	28.9	4391	55.4
High level of knowledge (4)	167	15.1	1592	20.1
Behaviors – compliance with measures (total 4 questions)	n <sup>b</sup>	% <sup>c</sup>	n	%
Low level of compliance (0-1)	85	7.7	28	.35
Moderate level of compliance (2-3)	581	52.5	2220	28.0
High level of compliance (4)	440	39.8	5669	71.6
Resources Needed (total 6 questions)	n	%	n	%
None (0)	182	16.4	1783	22.5
Low level of needs (1)	311	28.1	2479	31.3
Mod level of needs (2-3)	496	44.8	3093	39.0
High level of needs (4-6)	119	10.7	570	7.2

<sup>a</sup> All respondents in Hawai'i. <sup>b</sup> Totals may not equal to 1108 due to unanswered/missing data. <sup>c</sup> Percentages may not equal 100% due to unanswered/missing data.

among NHs. A greater percentage of NHs reported the use of community health centers and EDs compared to the rest of the state, which highlights the importance of community care for NHs.

### Challenges

NH respondents' challenges include housing stability, ability to pay for essentials, affording school supplies, and applying for benefits. Addressing these challenges requires access to supports and resources such as the use of statewide assistance 211 hotline number and ability to navigate benefit websites.

### Personal Beliefs and Activities Regarding COVID-19 Prevention

NH respondents understand the impact COVID-19 has on a person. NHs believe COVID-19 is a serious illness, have a low to moderate level of knowledge about COVID-19, and practice recommended preventative measures such as wearing face masks, maintaining social/physical distancing, and frequent handwashing. NHs identified that care for a family member within their home would be challenging. The challenges include space for isolation and lack of cleaning supplies. NHs sought COVID-19 information from the CDC website, state Department of Health, and other reliable sources.

### Recommendations

In sum, NHs are among the most vulnerable groups in the state of Hawai'i, and are at greater risk for COVID-19. The current findings indicate that the impact of COVID-19 is disproportionately affecting NH households in areas of income and housing stability, chronic disease prevalence, emotional wellness, and COVID-19 prevention. The following recommendations to HI-EMA are based on the findings of the Impact of COVID-19 on Individuals Health and Social Welfare. The recommendations have been made by members of the NH sub-team of the NH and PI Hawai'i COVID-19 Response, Recovery, and Resiliency (R3) Team. These recommendations are based on the collective understanding of the survey results, and the significant inequities of the social determinants of health that impact the health status of NHs.

### Short-term Recommendations

#### Dissemination of Report Findings

1. Presentation to Governor and Mayors' offices
2. Presentation to Legislature
3. Press release to media outlets
4. Presentation to NH serving organizations (e.g., Office of Hawaiian Affairs)

### *COVID-related Initiatives*

1. Fund federally-qualified community health centers and NH health care systems to enhance outreach efforts in testing and community-based contact tracing, and enable isolation and quarantine.
2. Continue awareness and information campaigns that target NHs and include social media to target NH youth and young adults.
3. Fund NH serving organizations, including the Native Hawaiian Health Care Systems, to plan and establish COVID-19 vaccine awareness and targeted administration focused on vaccine equity, and community-based distribution efforts that build trust, community, and celebration of science and solution.
4. Ensure NH proportional representation on DOH contact tracing teams.
5. Fund, develop, and promote culturally-based and community-based mental health activities and strategies to address pandemic-fatigue, anxiety, depression, suicide, substance abuse, and interpersonal violence.
6. Facilitate the use of public libraries and school-based libraries for public internet access.
7. Fund and facilitate community-based job fairs in NH communities using available facilities such as public-school campuses and sports fields.

### *Data Governance*

1. Advocate for more accurate data collection, transparent data management, and disaggregated reporting across state departments and health institutions.
2. Increase access to both positive and negative COVID-19 test results to determine equitable access to and utilization of available testing for NHs.
3. Promote the use of the US Office of Management and Budget (OMB) Data Review and Collection Long Form as standard categories across state departments.
4. Promote communication and transparency between collaborators in partnerships with health institutions to build trust for managing sensitive patient data, including increasing access to population reference data.
5. Promote and engage in solution-oriented discussions regarding the challenges of counting small populations (e.g. confidentiality, vaccinations, etc.).

### *Community Collaboration*

1. Collectively align goals and strategies across multiple stakeholders and institutions.
2. Collectively establish shared values to guide the work and partner relationships.
3. Identify stakeholders across multiple institutions.

4. Post-pandemic: Government agencies must continue to engage the NH community with a particular emphasis on inclusion to address health inequities and ensure representation at all levels of decision-making and resource allocation.

### *Policy Development*

1. Create data sharing policies between state agencies to improve access to these data for timely and disaggregated analyses to help inform policies and programs aimed at improving NH health.
2. Propose state legislation to address social and cultural determinants of health in Hawai‘i including housing, a living wage, and educational attainment:
  - a. Provide immediate rental and mortgage support and subsidies to avoid eviction.
  - b. Establish a livable wage by 2022.
  - c. Support paid family leave efforts with a culturally relevant definition of family.
  - d. Develop a state-plan to include pre-kindergarten in all public elementary schools.
  - e. Establish a directory of NH professionals and community leaders with an understanding of NH culture for governor-appointed leadership positions to better incorporate culturally relevant perspectives into statewide initiatives.
3. Propose programs and legislative action that will address barriers to health care access.
4. Propose activities that will support community organizations promoting their health on their terms:
  - a. Establish a NH Public Policy Advisory Council.
  - b. Develop a state plan to reimburse and implement culturally appropriate health services, traditional practices, and culturally relevant health programs for NHs.
  - c. Address Medicaid benefits to support NH communities (e.g adult dental benefits, pregnancy support).

### **Medium-term Recommendations**

1. Propose initiatives that will increase preventive services available in NH communities, particularly for addressing underlying chronic diseases like diabetes, heart disease, and obesity.
2. Raise awareness and propose programs to advance health equity:
  - a. Develop a state plan to incorporate the United Nations Declaration of Rights of Indigenous Peoples.
  - b. Develop a state plan for school-based health centers.
  - c. Develop a state plan to include community health workers as licensed health care professionals.
3. Propose cost-effective improvements to the environments where NHs live, learn, work, and play.

4. Guide the use of existing collaborations, systems, and partnerships to leverage resources and maximize outcomes for NH.

### Long-term Recommendations

*Implement initiatives to advance health equity:*

1. Increase effective and accessible preventative health services for NHs by addressing the employment, education, racial wealth gap, food insecurity, housing, health care, criminal justice, and legal issues that are in effect not just during states of emergency.
2. Establish school-based health centers accessible to NHs.
3. Include pre-kindergarten in all public elementary schools.
4. Recruit and retain NHs to the health care workforce.
  - a. Establish educational scholarship programs for NHs to obtain necessary degrees, licensures, and certifications to enter the health care workforce.
5. Implement a state-plan to support NH-serving organizations to facilitate culturally appropriate health services, traditional practices, and culturally relevant health programs for NHs.
6. Create one-stop access points for NHs for services related to improvement to social determinants of health with a particular focus on cultural connection.
7. Support data that are collected, analyzed, and disseminated in ways to support services for NHs.

### Limitations

A convenience-sampling frame was used; all responders were self-selected and there is no way to determine an actual response rate. Therefore, the report results must be viewed within the context of potential self-selection bias. In addition, while the survey was available in both paper form and online, the vast majority of respondents participated online. Thus, there is a chance that those with no access to the internet and hidden groups, such as the houseless, may not be adequately represented in the sample. In addition, all data were self-reported and not verified. However, there are consistent trends in responses across respondents from all of Hawai'i counties, which lends credence to the findings. To mitigate some of these concerns, the community partners reviewed and corroborated the results.

### Conflict of Interest

None of the authors identify a conflict of interest.

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#### References

1. Hawai'i COVID-19 Data. State of Hawai'i – Department of Health Disease Outbreak Control Division | COVID-19 website. Available from: <https://health.hawaii.gov/coronavirusdisease2019/what-you-should-know/current-situation-in-hawaii>. Updated February 10. Accessed February 10, 2021.
2. Kaholokula JK, Samoa RA, Miyamoto RES, Palafox N, Daniels S-A. COVID-19 Special column: COVID-19 hits Native Hawaiian and Pacific Islander communities the hardest. *Hawai'i Journal of Health & Social Welfare*. 2020;79(5):144-146.
3. Office of Hawaiian Affairs. Native Hawaiian Databook 2019. <http://www.ohadatabook.com/DB2019.html>. Accessed February 10, 2021
4. County population facts for the state of Hawai'i: July 1, 2010 through July 1, 2019. Department of Business, Economic Development & Tourism Census website. Available from: <https://census.hawaii.gov/home/data-products/>. Published March 26, 2020. Accessed January 2, 2021.
5. Qureshi K, Buenconsejo-Lum LE, Palafox NA, et al. A report on the impact of the COVID-19 pandemic on the health and social welfare in the state of Hawai'i. In press. *Hawai'i J Health Soc Welf*.
6. Kroenke K, Spitzer RL, Williams JB, Löwe B. An ultra-brief screening scale for anxiety and depression: the PHQ-4. *Psychosomatics*. 2009;50(6):613-621. doi:10.1176/appi.psy.50.6.613
7. Census data highlights. Department of Business, Economic Development & Tourism Census website. Available from: [https://census.hawaii.gov/wp-content/uploads/2020/10/acs2019\\_1-yr\\_DBEDT-highlights.pdf](https://census.hawaii.gov/wp-content/uploads/2020/10/acs2019_1-yr_DBEDT-highlights.pdf). Published September 17, 2020. Accessed January 2, 2021