

# Much Needed Medicine: A Qualitative Study of Hawai'i Resident Views During COVID-19

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## Abstract

*The precarious financial status of the majority of Hawai'i residents coupled with the state's heavy reliance on tourism suggests that residents are particularly vulnerable to increased economic hardship resulting from the COVID-19 pandemic, which temporarily shut down the tourism industry and continues to erect barriers for resuming operations. Understanding how Hawai'i residents prioritize access to health care, food economics, care of 'āina, and culturally informed community in light of the current and future economic situation can inform policy actions that will support public health. To that end, this paper analyzes: (1) Hawai'i residents' views on health, specifically food security and healthcare, and their priorities for the future of these areas; (2) the differences between Native Hawaiian and non-Native Hawaiian views and priorities; and (3) the differences in views and priorities between families with higher and lower levels of economic stability. The authors close with policy recommendations that can be seen as medicine, or ways to heal Hawai'i, as the state shifts towards a more equitable and sustainable future.*

## Keywords

*economic stability, social determinants of health, Native Hawaiian health, health policy*

## Abbreviations

*ALICE = asset limited, income constrained-employed  
NHOPI = Native Hawaiian and Other Pacific Islanders  
SDOH = social determinants of health*

## Highlights

- *Hawai'i residents agree that Hawai'i's economy must become more sustainable*
- *Economic stability plays a role in health, including chronic care management*
- *There is broad support for increased local food production and food security*
- *The 'āina has begun to heal, allowing residents to imagine a sustainable future*
- *Many desire to expand the definition of healthcare to include alternative practices*

## Introduction

The Hawai'i State Department of Health Office of Disease Prevention and Health Promotion describes economic stability as one of the key social determinants of health (SDOH). SDOH are the conditions, such as where people are born, live, and work, that impact the health status of individuals and the

community. Economic stability includes the underlying factors of employment, employment-based health insurance, poverty, housing instability, and food insecurity, each of which impacts one's health and ability to manage chronic conditions. Poverty, for example, is associated with a greater risk of both chronic infectious and degenerative diseases.<sup>1,2</sup> Similarly, adults with food insecurity have a higher prevalence of chronic disease,<sup>3</sup> which in turn impacts their future economic stability. In this paper, survey respondents' aspirations in the area of public health as a mechanism to guide policy actions supporting economic stability are explored.

Kaholokua, et al. noted that Native Hawaiians and Other Pacific Islanders (NHOPI) have been harder hit by the COVID-19 pandemic than other Hawai'i communities and opined that long-term recovery plans must include policy changes that address SDOH, including economic stability.<sup>4</sup> One 2019 study found that 31% of Hawai'i residents were financially healthy, 54% of households could not make ends meet or were living paycheck-to-paycheck, and 20% had difficulty paying their mortgage or rent. Furthermore, 36% of Hawai'i residents had volatile incomes varying monthly.<sup>5</sup> Moreover, from 2007 to 2018, the percentage of Asset Limited, Income Constrained Employed (ALICE) Hawai'i residents increased from 22% to 33%.<sup>6</sup>

The precarious financial status of the majority of Hawai'i residents coupled with the state's heavy reliance on tourism suggests that residents are particularly vulnerable to increased economic hardship resulting from the COVID-19 pandemic, which temporarily shut down the tourism industry and continues to erect barriers for resuming operations. Understanding how Hawai'i residents prioritize access to health care, food economics, care of 'āina (land), and culturally informed community in light of the current and future economic situation can inform policy actions that will support public health. To that end, this paper analyzes: (1) Hawai'i residents' views on health, specifically food security and healthcare, and their priorities for the future of these areas; (2) the differences between Native Hawaiian and non-Native Hawaiian views and priorities; and (3) the differences in views and priorities between families with higher and lower levels of economic stability. The authors close with policy recommendations that can be seen as medicine, or ways to heal Hawai'i, as the state shifts towards a more equitable and sustainable future.

## Methods

To understand the implications of the pandemic for Hawai'i residents and their visions for Hawai'i's post-pandemic economy, several Native Hawaiian organizations conducted an online survey based on a convenience sample.<sup>7</sup> The survey asked respondents their race/ethnicity by having them checking all boxes that apply before asking 28 questions on the effect of COVID-19 on them and their families. The questions covered ten domains (see Appendix) and asked respondents to rank areas of impact as well as future desires. While most questions requested a 6-point Likert scale, each domain provided space for free text responses, which are the focus of this article. The survey was disseminated through a variety of methods, including peer-to-peer, social media channels, and other online venues. The data represent 2278 Hawai'i residents who completed the survey in June 2020. (See Table 1 for respondent demographics.)

We used a mixed methods approach to identify patterns in the data. Two researchers independently applied an inductive coding scheme to open-ended responses to analyze the answers of respondents. Divergences were discussed and resolved before conducting a thematic analysis where 4 emergent themes were identified and agreed upon. Responses related to connections between health and economic stability were grouped into thematic areas. Responses to close-ended items were summarized using descriptive statistics. The strength of association between variables by respondent financial situation was calculated using Cramer's V statistic. Patterns in the close-ended responses were evaluated in relation to emergent themes, creating a cohesive discussion of each theme.

## Results

When asked about financial status prior to the pandemic, 63% of respondents, 73% of Native Hawaiians and 49% of non-Native Hawaiians, reported that they had income and savings to cover their expenses for 2 months or less (See Table 2). Respondents with savings sufficient to cover 3 or more months of expenses were classified as financially stable, and other respondents as financially vulnerable.

Respondents commented on what factors would impact their future economic stability. As seen in Figure 1, analysis of these free text responses revealed 4 main themes and several sub-themes: (1) healthcare access, (2) food economics, (3) 'āina care, and (4) culturally informed community.

### Theme 1: Health Care Access

Physical health is a top priority among respondents for themselves and their 'ohana (family), particularly among those who are more financially vulnerable (Cramer's  $v=.12$ ). As such, healthcare access emerged as a shared theme among respon-

dents in influencing their future economic stability. Full tables of the measures of association using Cramer's V are presented in Appendix A.

While there was parity between Native and non-Native Hawaiians related to the theme of health care access, Native Hawaiians were twice as likely to provide comments related to insurance coverage (e.g., restrictions on claims and provider choice) and cost of medical care. Conversely, non-Hawaiians were more than twice as likely to identify quality of care and facilities as an area of concern. Respondents living on Hawaiian islands other than O'ahu, in particular, commented that traveling to

	Total	Native Hawaiian	Non-Native Hawaiian	No Response
Respondents	2278	1230	1000	48
Respondents who provided comments to open-ended questions	1209	657	529	23

Financial Situation	Native Hawaiian	Non-Native Hawaiian	Total
<b>Vulnerable</b>	73	49	63
Not able to make ends meet	4	1	3
Living paycheck-to-paycheck	29	17	24
Savings for 1 to 2 months of expenses	40	31	36
<b>Stable</b>	28	50	38
Savings for 3 to 12 months of expenses	17	31	23
Savings for more than 12 months of expenses	11	19	15

Themes	Sub-themes
Theme 1: Healthcare Access	Access to providers Quality of care and infrastructure Preventative care Universal healthcare Alternative medicine
Theme 2: Food Economics	Cost of food Food independence Self-grown foods
Theme 3: 'Āina Care	Environmental stewardship Sustainable tourism 'Āina use restrictions
Theme 4: Culturally Informed Community	Connecting with family Spirituality Building community Flexibility with time Cultural connection

Figure 1. Emergent Themes and Sub-Themes

O‘ahu for specialist appointments was a barrier to accessing health care. One respondent noted, “We would love to see better medical care here on island.” Another noted that “Serious medical issues can become a problem on an island with one hospital and few specialists.”

In addition to the cost and quality of care, nearly one-third of respondents identified improvements in preventative care as a priority. Respondents associated economic benefits with preventative care, stating “preventative rather than reactive” was preferred, and “More prevention efforts. It helps keep healthcare costs down.” One respondent stated, “[When] we change health (diet and lifestyle) and spend quality time in community, family and friends, mental and spiritual health happens.”

Respondents also identified “alternative” medicine as an area for improvement, reporting that both access to services and insurance coverage were key issues. Native Hawaiians were 4 times more likely to identify alternative medicine as a factor related to physical health, with 1 respondent stating “access to alternative health options such as *lomi* (massage) and *ho‘oponopono* (dispute resolution).” Other respondents added *lā‘au lapa‘au* (herbal healing), *‘aha kane* (male group often focused on health and wellness), and visits with naturopaths, chiropractors, and doulas as desired alternative services.

Finally, support coalesced around the sub-theme of universal healthcare, with nearly 13% of respondents, equally dispersed among Hawaiians and non-Native Hawaiians, independently reporting they wanted universal healthcare. For example, 1 respondent wrote, “Everyone should have free access to healthcare. Period.”

## Theme 2: Food Economics

Respondents who were more financially vulnerable were more likely to identify COVID-19 as having a negative impact on their access to food (Cramer’s  $V = .12$ ). The cost of food was a sub-theme in respondents’ priorities for the future. Fifty-four percent of Native Hawaiians identified cost of food as a factor in their economic stability, compared to 41% of non-Native Hawaiians. Notably, several respondents expressed pleasure at being able to connect with *mahi‘ai* (farmers) during the pandemic because food impacts health. One stated, “COVID has brought farmer[s] in direct contact with family’s this must continue.” Another respondent connected the cost of food and farming, noting, “The cost of food is [ridiculous] and the quality is poor. So much food here spoils in days after purchasing. Local [farmers] and ranchers need to have more direct access to the consumer.”

Increasing local food production and reducing dependence on outside resources were equally identified by Native and non-Native Hawaiians as priority areas. Many suggested supporting local farmers through increased access to land and subsidies

as well as general support for buying local fresh produce. One respondent said that “healthy food is related to land access, and climate, and willingness for people to labor towards production of quality food sources.” Another respondent explained that Hawai‘i needed to “Make farming & local agriculture a priority; diversify Hawaii economy & promote *mahi‘ai* and local ag.”

Along similar lines, a third sub-theme relating a desire to grow one’s own food emerged. This theme was most affiliated with mental health, food, and finances. Several respondents started their own gardens during the pandemic, with 1 noting that “Growing more food in our garden helps.” Another suggested that “More programs geared toward helping families live sustainably by growing own food” would be beneficial. Native Hawaiians were more than 3 times more likely to identify self-grown food as an area for improvement. Respondents, thus, agreed with the idea that food economics is tied to economic stability in Hawai‘i.

## Theme 3: ‘Āina (Land) Care

The third theme of caring for the ‘āina included 3 major sub-themes: environmental stewardship, sustainable tourism, and ‘āina use restrictions. While Native Hawaiians more often identified environmental stewardship, non-Hawaiians more often to identified sustainable tourism as necessary for a strong economy. “We must take care of our ‘āina or we will always be dependent on others who don’t always have our best interest at heart,” encapsulates some of the comments around environmental stewardship. Other comments discussed a wide range of issues, including beach litter, recycling, sunblock damaging the coral, feral pigs, overgrowth, and increasing conservation land. Multiple respondents noted the benefits to the ‘āina due to tourism shutting down and limited social gatherings, with 1 stating, “The *aina* [sic] is happy right now.”

Sustainable tourism was 1 of the sub-themes that those who are financially vulnerable were more likely to identify as part of a strong, sustainable economy (Cramer’s  $V = .16$ ). “Less tourism,” “Limit tourism,” “Caps on tourism,” “reducing tourism,” and similar phrases appeared throughout the write-in comments alongside stated benefits such as “The beaches are clean and clear of debris,” “trails growing, coral changing colors, and more marine life in our ocean,” and “less rental cars on the road.” Some comments seemed to acknowledge that changing the economic model around tourism may pose challenges, such as “Tourism is a drug. We can’t get off it.” However, over 89% of comments focused on the damage that the current tourism model has on the ‘āina.

The last sub-theme identified was ‘āina use restrictions, which aligns with sustainable tourism and environmental stewardship. Respondents specifically identified the need to limit the use of natural resources in order to promote their maintenance: “Reinstate the *Kapu* [(prohibition)] system that will allow for natural

regeneration of our resources” and “Limit access to some areas at different times to allow revival.” One respondent declared, “The ocean and land needs time to heal. Tourists were killing the islands. Loving it to death.” Environmental health and tourism were commonly connected by respondents.

#### Theme 4: Culturally Informed Community

Although not explicitly highlighted in the quantitative analysis (because the structure of the close-ended items did not support this analysis), the intersection of culture and building community appeared throughout the free text responses. Spirituality, access to community, and a desire to connect with Hawaiian culture and activities, especially activities that took advantage of the natural environment, were common. In this theme, Native Hawaiians were almost 3 times more likely than non-Hawaiians to comment on support systems. Comments around social support connected to health and wellbeing included a desire to connect with extended family members, engage in social activities, attend church, or engage with their community.

Connecting with family was an important sub-theme, with 1 respondent noting, “More time with family is important. We need to slow down and spend quality time with our families.” Another suggested that “More programs for ‘ohana to learn and practice [culture] together” would be beneficial. The connection between family and culture was reiterated by another respondent who stated that “Cultural practices [are] important to keep our families together.” Respondents also identified a desire for cultural education by stating that “Opportunities to participate in cultural practices to get more connected as a community” and “opportunities for novices to join/learn” were priorities.

Respondents described a lack of control over time as an area for improvement. One Native Hawaiian respondent stated, “Most people . . . are not engaged in cultural practices because they are working too hard to survive that they do not have time to do this.” This concern was not limited to Native Hawaiians. One non-Native Hawaiian respondent also noted that the “Pandemic is reminding every resident here that a calmer, quieter and less frantic lifestyle is so much healthier and calming.”

Native Hawaiians were 4.5 times more likely to comment on building or strengthening community. One respondent expressed a desire for a “*Pu‘uhonua* (place of refuge) for each community! Safe spaces where *kanaka* (humans) can gather, learn, engage, interact, support and sustain each other, our ‘Āina and our *lāhui* (nation). Modern day *ahupua‘a* (land division) space for all communities!” Although the desire to grow community connections was more commonly reported among Native Hawaiians, non-Native Hawaiians also expressed a desire to build community, including 1 respondent who suggested, “We need better community centers, that also function as resiliency hubs.”

## Discussion

Although we expected differences between Native Hawaiians and non-Native Hawaiians with regard to priorities for economic stability, there was broad agreement between the 2 groups, especially in the area of caring for the ‘āina and increasing sustainability, which was discussed in Theme 3. Respondents noted the impacts tourism had on the overuse of the ‘āina. The broad agreement on this theme may be because of the unique importance of ‘āina in island living.

In 2019, the Department of Labor and Industrial Relations found that the average weekly wage for an employee in “accommodations and food” was \$689 compared to \$1 507 per week for “professional and technical services.”<sup>8</sup> The low-earning power of Hawai‘i residents in the tourism industry can impact their abilities to save for the future, including emergencies. The majority of the respondents (63%) were in the vulnerable category, which helps explain increased concern around reforming the industry. Despite 38% of survey respondents having 3-12 months of expenses saved, as the pandemic continues, those in the “stable” group may become vulnerable as their resources are depleted. With more than 35% of Native Hawaiians working in tourism, a majority in low-wage positions, they represent a significant part of this industry.<sup>9</sup>

In addition to conflicting ideas about tourism’s future, Native Hawaiian respondents’ conceptions of *ola* (health) appear to be misaligned with Western concepts of health. Traditionally, *ma‘i* (sickness) occurs when there is a disruption in *pono* (balance), requiring a rebalancing of body, spirit, and environment to restore *ola*. Similarly, Chinese traditional medicines attempt to correct one’s *qi* (vital energy) when one is ill. Many respondents expressed a desire for insurance to cover alternative medicine including chiropractors, acupuncture, *lomilomi*, *lā‘au lapau*, and *ho‘oponopono*. Given the diversity of sociohistorical conceptions around health in Hawai‘i’s population, the desire to expand health care beyond traditional western treatments (as seen in theme 1) aligns with these diverse cultural constructs and may increase patient engagement in managing chronic disease.

Similarly, themes 2 and 3 showcased respondents’ strong desire for improvements around food through increased food production and ‘āina restoration. According to Hawai‘i Appleseed Center for Law and Economic Justice, food costs are 61% higher in Hawai‘i than the rest of the US, and Hawai‘i imports more than 90% of its food.<sup>10</sup> However, pre-contact population estimates indicate that more than 1 million Hawaiians lived in the archipelago, demonstrating the abundance of our ‘āina. Respondents connected the high cost of food to importing food from outside of Hawai‘i and the lack of sufficient agricultural land. Respondents were also surprised by the amount of local

fresh produce that was funneled towards tourism pre-pandemic, but now is available for direct purchase. It is clear that there is support among respondents for exploring ways to increase local sustainable production of food to increase food security and improve population health through cheaper healthy options.

Finally, the Hawaiian culture revolves around ‘ohana and friends, as articulated in theme 4, which provided a significant support structure for respondents. ‘Ohana and friends were seen as the medicine for pandemic isolation. In addition, respondents referenced ‘ohana when commenting on health care, education, housing, food, and the ‘āina. This suggests that ‘ohana serves as a backbone connecting these issues and may be a motivating factor in respondents’ desired future.

### Limitations

Analysis of the comments provided insight into the respondents’ deeply held beliefs; however, following up with focus groups would have been beneficial in order to better understand respondents’ comments and to gain perspective on the quantitative data. For example, when developing the themes, responses related to food independence and ‘āina protection overlapped. This may be because the respondents identified that the production of food requires healthy ‘āina; however, most comments did not explicitly make that connection. Focus groups would have allowed the research team to further develop the interconnection between these 2 concepts and better target policy recommendations. Additionally, while more than 2 200 respondents completed the survey, a random sample may have been preferable for generalizability.

### Practical Implications

Given that Hawai‘i finds itself at a crossroads as the pandemic and our economy enter a new phase, it may be time for a shift in policy to support a more equitable and sustainable future. Based upon the responses of this survey, there is broad support for shifting the future economy of Hawai‘i. Furthermore, because free text responses represent individuals who strongly believe in an issue, these themes identify potential areas where constituent support is robust.<sup>11</sup> Thus, some policy recommendations to support economic stability which will, in turn, support the management of chronic disease and health are: (1) mandate health insurance companies to cover alternative medicine, especially traditional Hawaiian practices such as *lomilomi*, *lā‘au lapau*, and *ho‘oponopono*; (2) provide tax incentives to households who grow their own food and expand community gardens throughout the island; (3) support local agriculture for local consumption; (4) increase the number of community centers across the islands to support cultural learning and increased resiliency; and finally, (5) create an independent body to explore ways to limit or end the overuse of natural resources (through moratoriums or other means) alongside a larger effort to reduce negative impacts from the tourism industry.

### Conflict of Interest

None of the authors identify a conflict of interest.

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**Appendix A**

Table A.1. Financially Vulnerable and Financially Stable Respondents' Reporting a Negative Impact of COVID-19 on Dimensions of their Lives			
Dimensions	Vulnerable (%)	Stable (%)	Effect Size (Cramer's V)
Finances (change in income, expenses, etc.)	37.5	17.6	.14
Housing (ability to pay rent or mortgage, adequate housing for stay-at-home orders, etc.)	22.1	7.8	.16
Education (ability to go to school, learn, etc.)	38.7	13.3	.20
Caregiving (access to childcare, ability to care for kūpuna, etc.)	30.6	12.6	.13
Physical health (access to medical care, exercise, contraction of COVID-19, etc.)	35.0	19.3	.05
Mental/Spiritual Health (feeling positive, depressed or lonely, participation in spiritual activities etc.)	41.3	22.9	.06
Food (access to affordable, healthy foods, etc.)	25.7	11.2	.12
Cultural practices (hunting, fishing, practice hula, mele, etc.)	30.9	15.1	.07
Social support (ability to gather with community or family, etc.)	52.0	31.5	.00
'Āina (experiencing a healthy land, ocean, natural environment, etc)	27.4	15.8	.02

Note: an effect size of .10 or higher is considered a small effect, .30 and higher is considered a medium effect, and .50 and higher is considered a large effect.

Table A.2. Financially Vulnerable and Financially Stable Respondents Identifying Each Dimension as among their Top 5 Priorities for their 'Ohana			
Percent of Respondents Identifying Each Dimension as among their Top 5 Priorities for their 'Ohana, by Financial Situation			
Dimensions	Vulnerable	Stable	Effect Size (Cramer's V)
Finances (income, cost of living, access to loans or credit, etc.)	48.6	24.7	.14
Housing (access to quality, affordable housing, etc.)	37.8	18.6	.11
Education (access to quality public schools, affordable college institutions, etc.)	30.6	15.3	.08
Caregiving (access to quality, affordable childcare, ability to care for kūpuna, etc.)	13.3	8.3	.00
Physical health (ability to seek medical care, exercise, etc.)	28.6	22.1	.12
Mental/Spiritual Health (ability to engage in spiritual activities etc.)	17.6	9.7	.03
Food (access to affordable, healthy foods, etc.)	40.2	23.2	.03
Cultural practices (hunting, fishing, practice hula, mele, etc.)	15.7	7.0	.08
Social support (ability to gather with community or family, etc.)	22.0	17.2	.10
'Āina (experiencing a healthy land, ocean, natural environment, etc.)	33.9	22.1	.04

Note: an effect size of .10 or higher is considered a small effect, .30 and higher is considered a medium effect, and .50 and higher is considered a large effect.

Table A.3. Financially Vulnerable and Financially Stable Respondents Identifying Each Dimension as among their Top 5 Priorities for their Hawai'i's Future Economy

Dimensions	Vulnerable	Stable	Effect Size (Cramer's V)
Diversified economy	41.0	27.0	.05
Contemporary, mainstream tourism	3.2	3.6	.08
Sustainable tourism	11.4	12.1	.16
Local food production/ agriculture	41.3	23.0	.06
Military development/ investment	1.9	1.8	.04
Livable wages	36.7	17.1	.14
Healthcare that is affordable and accessible	22.4	13.4	.01
Foods that are affordable and healthy	17.7	7.7	.09
Housing that is affordable and accessible	35.6	18.4	.09
Business-friendly taxes and regulations	8.5	8.3	.11
Strong social safety nets	10.0	4.3	.07
Highly competitive and technologically skilled workforce	10.3	9.8	.11
Healthy, thriving land and ocean ecosystems	27.2	16.2	.01
Land development for commercial use	1.2	1.0	.02

Note: an effect size of .10 or higher is considered a small effect, .30 and higher is considered a medium effect, and .50 and higher is considered a large effect.