A Report on the Impact of the COVID-19 Pandemic on the Health and Social Welfare in the County of Kaua'i, Hawai'i

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Abstract

The Hawai'i Emergency Management Agency Community Care Outreach Unit (CCO) conducted a survey to gauge the impact of coronavirus disease 2019 (COVID-19) on the health and social welfare of individuals and their families across the state of Hawai'i. A mixed-methods framework was utilized for survey distribution. This article presents a descriptive analysis of the data to provide a basic overview of the impact of COVID-19 in Kaua'i County (KC), as assessed in August/September 2020.

A total of 420 participants in KC responded to the statewide survey. Approximately one-third reported that they or their family members experienced reduced work hours or lost their job because of COVID-19. Many reported difficulties paying for many types of living essentials and expected these difficulties to increase in the near future. Prevalent challenges for the fall school semester included access to funds for school supplies and face-coverings. About one-third reported feeling nervous more than half the time or nearly every day in the past 2 weeks, and one-fourth reported feeling worried more than half the time or nearly every day in the past 2 weeks. The majority perceived the severity of COVID-19 to be moderate/very high and most had at least a moderate level of knowledge about risks for contracting severe COVID-19. Less than half said they would know how to provide care for someone in their family with COVID-19. Half of the respondents in KC reported maintaining social distancing usually/all of the time, the majority reported wearing a face-covering usually/always when needed.

The results provide a baseline for understanding the impact, needs, and threats to the health and social welfare of households and their families in KC as a result of COVID-19. Local stakeholders can utilize this information for developing priorities, strategies, and programs to address the pandemic where needed and also to assess progress in areas of need.

Abbreviations

CCO Unit = Community Care Outreach Unit
CDC = Centers for Disease Control and Prevention
CHC = community health centers
COVID-19 = coronavirus disease 2019
ED = Emergency Department
HI-EMA = Hawai'i Emergency Management Agency
ICS = incident command system
KC = Kaua'i County
NH = Native Hawaiian
PHQ-4 = Patient Health Questionnaire-4
PI = Pacific Islander

Introduction

At the time of this publication the COVID-19 pandemic 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 ongoing pandemic. As of July 12, 2021, the state of Hawai'i has recorded 38 544 cases of coronavirus disease 2019 (COVID-19).[1] Kaua'i County (KC), which makes up the entire island of Kaua'i, has recorded 424 cases, approximately 1.11% of the state's COVID-19 cases. This number of cases is low compared to KC's proportion of the state population, which is approximately 5.1%.[2] The lower numbers of COVID-19 cases in Kaua'i may be a reflection of the strict rules enforced by the KC for incoming visitors and residents, as compared to the rules enforced elsewhere in the state. For instance, when the state introduced the pre-travel COVID-19 testing program on October 15, 2020, which allowed a test-out of quarantine option, KC stopped participating after a few weeks and continued a mandatory quarantine for all incoming non-essential travelers to the county. KC COVID-19 cases reached a peak 7-day moving daily average of 3 on November 25, 2020, and again on January 10, 2021. KC's 7-day moving daily average new cases was 1 when the survey began, fell to 0 on August 18, 2020, and remained at 0 for the duration of the survey period. The number of new cases began to rise again during the summer of 2021; during the week of July 10, 2021, the 7 day average of new cases was 4.6.

During March 2020, the state activated the Hawai'i Emergency Management Agency's (HI-EMA) Incident Management Team to manage the response to COVID-19. The HI-EMA then activated the Community Care Outreach Unit (CCO Unit) with a stated mission to monitor the impact of COVID-19 on the health and social welfare of the citizens of Hawai'i and make recommendations to address issues identified. To fulfill this mission, the CCO Unit worked with its community partners to develop, distribute, and analyze a survey that aimed to assess the impact of COVID-19 and identify strategies to provide needed support. 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. The findings for the state as a whole are reported elsewhere.[3] This report provides findings that are specific to KC.

Methods

The CCO Unit worked closely with its community partners to develop the assessment tool, articulate a participant recruitment and distribution methodology, and analyze the results. The group

then used a community-based action programming methodology to identify key challenges and potential solutions for populations in each county as well as recognized vulnerable groups.

The survey contained 35 questions, which collected information about demographics, household profiles, health and well-being, family finances, social welfare, personal beliefs, and behaviors regarding COVID-19, and questions about emotions.[3] The survey was distributed August 12, 2020, through September 5, 2020 using a mixed-methods framework that relied on a convenience sample of residents in each county, with special outreach to recognized vulnerable populations. Recruitment strategies included snowball sampling via website and social media advertisements, word-of-mouth, and paper surveys along with return postage mailers. Please see A Report on the Impact of the COVID-19 Pandemic on the Health and Social Welfare in the State of Hawai'i for more details regarding the survey tool.[3] Survey data were collected from residents in each county and analyzed for the state as a whole as well as by county and vulnerable groups in the state. These results are provided elsewhere.[3] Descriptive analysis of the KC data is presented here to give a basic overview of the impact of COVID-19 disease o the health and social welfare of the citizens of KC.

Results

Demographics

In KC, a total of 420 participants (77% female, 18.9% male, and 4.1% who identify as non-binary) responded to the survey. The KC participants represent 5.3% of the total statewide survey participants, which is proportionate to the overall population of KC in the state (5.1%).[2] Each respondent provided a zip code of residence; Figure 1 illustrates the distribution of responses across the KC zip codes.

Of the 420 respondents in KC who answered the questions about which race/ethnicity they identify with, 34.3% reported identifying with more than 1 race/ethnic group. Native Hawaiian (NH), Filipino, and Japanese were the most predominant groups. When asked which 1 group they most closely identified with, the order of frequency remained the same for the top 4: White (48.2%), NH (15.7%), Filipino (11.7%), and Japanese (10.8%). See Table 1 for KC participant demographic data with statewide percentages for comparison.

Digital Connectivity

The vast majority of respondents from KC reported having internet access in the home or work settings (99.0%), while 1% reported having no internet access at all. The vast majority (98.1%) also reported having access to a working cell phone.

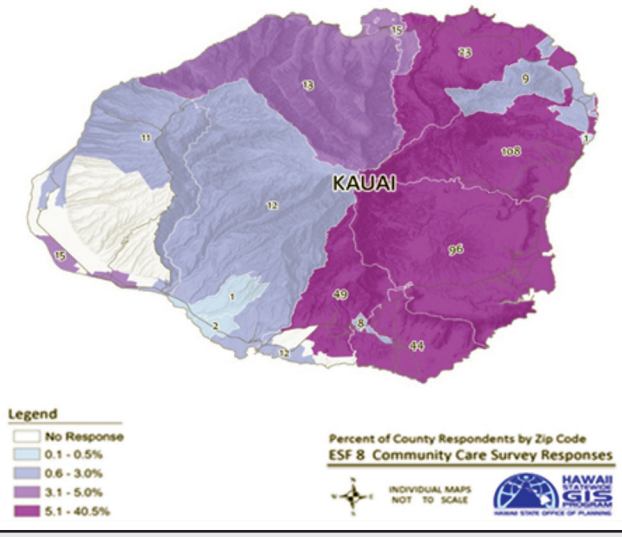

Figure 1. Kaua'i County Survey Response by Zip Code

Table 1. Characteristics of Kaua'i County Respondents (N=420) Compared to All Respondents in Hawai'i (N=7927)

	Kaua'i County Respondents		Statewide Respondents[a]
	n[b]	%[c]	%
Gender			
Male	79	18.9	25.4
Female	322	77.0	69.3
Non-binary[d]	17	4.1	5.3
Age			
18-24	32	7.7	14.8
25-34	49	11.8	16.6
35-44	97	23.4	20.1
45-54	85	20.5	17.6
55-64	85	20.5	16.8
65+	66	15.9	13.8
Race/Ethnicity			
Caucasian	197	48.2	34.8
Native Hawaiian	64	15.7	14.3
Filipino	48	11.7	11.6
Japanese	44	10.8	19.4
Hispanic	22	5.4	2.8
Chinese	6	1.5	5.7
Pacific Islander	6	1.5	3.4
African American	2	0.5	0.8
Other Asian	1	0.2	3.8
Other	19	4.7	3.5

[a] All respondents in Hawai'i.[3]
[b] Totals may not equal to 420 due to unanswered/missing data.
[c] Percentages may not equal 100% due to unanswered/missing data.
[d] Non-binary refers to the self-reported sexual identity of the survey respondent.

Household Profile

Forty-five percent (45.3%) of KC respondents who answered the annual family income question reported a family income of $75 000 or less. The median annual household income in Hawai‘i is $83 102.[5] Fifty-two (12.4%) respondents chose not to answer this question. A majority (71.6%) reported that their family income decreased due to COVID-19, and half (51.1%) reported the decrease was moderate or large.

Approximately one-third of KC respondents reported that they or household members experienced reduced work hours (32.1%) or lost their job (32.6%) due to COVID-19. A little over a quarter (26.9%) reported no change in work hours, while 8.4% reported an increase in work hours (Table 2).

The vast majority of respondents in KC reported having others living in their home (86.9%) as opposed to living alone (with a mean number of other people living in the home of 2.9). A little over one-third (35.0%) reported having at least 1 elder $\geq$ 65 years (mean 1.3 number of elders in household) and 40.9% of households reported having 1 or more children younger than 18 in their household (mean number of children in household 1.8).

Chronic Disease Burden

More than one-half of KC respondents (57.9%) reported that at least 1 person who lived in the household had at least 1 chronic disease. The rates of asthma, diabetes, obesity, mental health conditions, and heart disease were higher compared to statewide respondents. Table 3 summarizes the rates of these conditions.

Usual Source of Health Care

The majority of KC respondents (75.7%) reported that they went to a family doctor's office for health care, while others went to hospital-based clinics (15.9%) and community health centers (11.2%). Nine percent (9.6%) 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).

Mental Health

The survey tool included the 4 questions from the Patient Health Questionnaire-4 (PHQ-4**)** to assess the presence of feelings/emotions related to mental health (emotion level).[6] More than half of respondents (57.8%) 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 (34.2%) reported feeling nervous more than half or nearly every day in the past 2 weeks, and one-fourth (26.2%) reported feeling worried more than half or nearly every day in the past 2 weeks. These findings were consistent with respondents in all counties across the state.

A mental health score was computed via assigning points for the level of each emotion; 28.7% of respondents from KC had a moderate or severe negative mental health score. This is comparable to respondents statewide (Table 5).

Table 2. Estimated Income and Impact on Employment and Work Hours Among Kaua‘i County Respondents (N=420) Compared to All Respondents in Hawai‘i (N=7927) After COVID-19

	Kaua‘i County Respondents		Statewide[a]
	n[b]	%[c]	%
Income range			
Less than $40 000	93	22.2	17.2
$41,000 - $75 000	97	23.2	20.7
$76 000 - $125 000	112	26.7	26.3
$126 000+	65	15.5	22.1
Choose not to answer	52	12.4	13.7
Impact on employment or work hours			
No effect	112	26.9	37.0
Increased work hours	35	8.4	11.2
Reduced work hours	134	32.1	32.2
Lost job	136	32.6	19.6
Impact on income			
No	119	28.4	39.9
Yes, a little	86	20.5	24.4
Yes, a moderate amount	86	20.5	18.1
Yes, a large amount	128	30.6	17.6

[a] All respondents in Hawai‘i.[3]
[b] Totals may not equal to 420 due to unanswered/missing data.
[c] Percentages may not equal 100% due to unanswered/missing data.

Table 3. Chronic Disease Burden Among Kaua‘i County Respondents (N=420) Compared to All Respondents in Hawai‘i (N=7927)

	Kaua‘i County Respondents		Statewide[a]
	n	%	%
Chronic disease			
Diabetes	58	13.8	19.1
Heart disease	55	13.1	12.5
Asthma	133	31.7	25.5
Lung disease	14	3.3	3.25
Kidney disease	16	3.8	3.8
Mental health illness	62	14.8	15.0
Obesity	86	20.5	18.8
Cancer	15	3.6	5.3

[a] All respondents in Hawai‘i.[3]

Table 4. Usual Source of Health Care Among Kaua'i County Respondents (N=420) Compared to All Respondents in Hawai'i (N=7927)

	Kaua'i County Respondents		Statewide[a]
	n	%	%
Usual source of health care			
Family doctor office	318	75.7	70.9
Community Health Center	47	11.2	12.4
Hospital based clinic	67	16.0	17.6
Emergency Department	25	6.0	4.0
Have no usual source of health care	15	3.6	4.4
Other	26	6.2	4.8

[a] All respondents in Hawai'i.[3]

Table 5. Mental Health Scores Among Kaua'i County Respondents (N=420)

	n[a]	%[b]	Statewide[a]
PHQ-4 Score			
Normal (0-2)	175	42.2	45.5
Mild (3-5)	121	29.2	27.6
Moderate (6-8)	72	17.4	15.5
Severe (9-12)	47	11.4	11.5

[a] Totals may not equal to 420 due to unanswered/missing data.
[b] Percentages may not equal 100% due to unanswered/missing data.

Housing

Survey participants were asked where they currently lived and where they expected to be living in 3 months' time. At the time of the survey, 58.6% of KC respondents owned their place of residence, and 35.6% of respondents rented living space. However, fewer expected to be living in the same place in 3 months (46.7% and 33.4%, respectively). The percentage who reported they were houseless now (1.4%) remained the same when projecting where they expected to be living in 3 months (Table 6).

Daily Essentials

In every category of essentials of living, the percentage of families in KC that expected to have increased problems paying for essentials nearly doubled in nearly every category. Food, rent/mortgage, auto expenses, utility bills, cell/internet costs, and health care were the most prominent essential issues where people expected to not have enough money to pay for by December of 2020 (Table 7).

Challenges with School

About one-half of KC respondents (47.3%; n=197) expected to have someone in the household in school in fall 2020. Expected challenges centered around: lack of funds to purchase school supplies (10.5%; n=44) lack of face-covering (3.58%; n=15); and language barrier (0.48%; n=2). These types of challenges were noted by respondents from other counties in the state as well.

Language Spoken Mostly in the Home, and Translation Needs

The majority of KC respondents (96.6%; n=395) reported that English was the language most spoken in the home. Unmet translation needs were reported by 8 respondents (4.3%), most were for health (n=4) social services (n=3), and educational services (n=4).

Use of Statewide Assistance Hotline Number (211)[7]

Only 4.8% (n=20) of KC respondents reported that they ever called 211 for social service assistance. Of these 20 individuals, 55% (n=11) reported that they received the assistance that they requested, 30% (n=6) reported they did not receive the assistance that they requested and 30% (n=6) reported that they were directed to an internet site.

Attempt at Applying for Assistance Benefits

Respondents were asked about success with any application for assistance benefits in the areas of finance, food, or health services. The large majority were able to complete the application. Those who experienced challenges were more likely to not be able to navigate the form or did not have the required documents. Table 8 illustrates experiences with these applications.

Personal Beliefs, Knowledge, and Activities Regarding COVID-19 Prevention

The majority of KC respondents considered COVID-19 to be quite serious, with 77.3% considering the disease either highly or very highly serious.

There was a moderate level of knowledge about COVID-19 among KC respondents. About two-thirds (61.7%) knew those aged 65 years and older and those with a chronic disease are most at risk for severe disease, and 71.3% reported the ability to recognize if a family member with COVID-19 needed to go to the hospital. About three-fourths (74.4%) reported knowing where to go for COVID-19 testing, however, only 40.1% reported they would know how to provide care for someone in their family with COVID-19.

About half of KC respondents (49.3%) reported that they practice social distancing usually or all of the time. Sixty-two percent (62%) reported they wear a face-covering usually or all of the time. The majority (90.2%) reported that their family members wash their hands the "same" or "more often" since the start of COVID-19. Three-fourths (74.3%) reported that they have a working thermometer at home.

Table 6. Housing Situation Today and Likely in 3 Months Among Kaua'i County Respondents (N=420) Compared to All Respondents in Hawai'i (N=7927)

Housing arrangement	Kaua'i County Respondents		Statewide[a]	
	TODAY where do you live?	Where are you most likely to live in 3 MONTHS?	TODAY where do you live?	Where are you most likely to live in 3 MONTHS?
	n[b] (%)[c]	n[b] (%)[c]	n (%)	n (%)
A home, condo, or apartment that you OWN.	246 (58.6)	196 (46.7)	4588 (58.2)	3803 (48.2)
A home, condo, or apartment that you RENT.	149 (35.6)	140 (33.4)	3005 (38.1)	2578 (32.8)
Houseless, live with others that you know, in their home or apartment.	13 (3.1)	13 (3.1)	272 (3.5)	317 (4.0)
Houseless, live in a public shelter.	1 (0.2)	1 (0.3)	22 (0.3)	32 (0.4)
Houseless, live in a tent, car, or outside.	5 (1.2)	5 (1.2)	13 (0.2)	70 (0.9)

[a] All respondents in Hawai'i.[3] [b] Totals may not equal to 420 due to unanswered/missing data. [c] 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 Kaua'i County Respondents (N=420) Compared to All Respondents in Hawai'i (N=7927)

	Kaua'i County Respondents		Statewide[a]	
	Today n (%)	In 3 months n (%)	Today n (%)	In 3 months n (%)
Essential				
Food	65 (15.5)	123 (29.4)	979 (12.5)	1821 (23.1)
Rent or mortgage	62 (14.8)	148 (35.3)	1142 (14.5)	2222 (28.2)
Auto expenses (e.g., gas, insurance, car payments)	71 (17.0)	140 (33.4)	1099 (14.0)	1942 (24.7)
Medicines	40 (9.55)	80 (19.1)	657 (8.4)	1206 (15.4)
Utility bills (e.g., electric, water, cable, internet)	63 (15.0)	128 (30.6)	1090 (13.9)	1839 (23.4)
Cell phone, internet, cable bill	68 (16.2)	136 (32.5)	1055 (13.4)	1741 (22.1)
Childcare/ elder care	24 (5.7)	39 (9.3)	416 (5.3)	720 (9.2)
Healthcare	49 (11.7)	102 (24.3)	816 (10.4)	1437 (18.3)
Public transportation	12 (2.9)	25 (6.0)	312 (4.0)	536 (6.8)
Other debts	78 (18.6)	122 (29.1)	1244 (15.8)	1966 (25.0)

[a] All respondents in Hawai'i.[3]

Table 8. Summary of Outcomes When Applying for Assistance Among Kaua'i County Respondents (N=583)

Type of Assistance[a]	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][b]				
	Yes	No	No internet access	Could not figure out how to navigate the form	Did not have all the documents	Did 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	51 (89.5)	6 (10.5)	2 (33.3)	4 (66.67)	5 (83.33)	0 (0)	4 (66.67)
Rental assistance	28 (96.6)	1 (3.45)	1 (100)	1 (100)	1 (100)	0 (0)	2 (100)
Food	63 (91.3)	6 (8.7)	1 (16.67)	3 (50)	2 (33.33)	0 (0)	1 (16.67)
Health insurance	67 (93.1)	5 (6.9)	1 (20.0)	1 (20.0)	1 (20.0)	0 (0)	0 (0)
Healthcare benefits (Quest or WIC)	73 (97.4)	2 (2.7)	1 (50.0)	1 (50.0)	0 (0)	0 (0)	1 (50)

Abbreviation: WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.
[a] Type of assistance applied for in Hawai'i between August 12, 2020, and September 5, 2020.
[b] Some participants reported being able to complete the application but later reported barriers that prevent them from completing the application.

As shown in Table 9, 52.3% of the respondents reported a lack of space in their home for isolation, and 20.3% reported they would not have enough cleaning supplies if a family member became ill with COVID-19. Only slightly more than half (52.3%) reported that if they got COVID-19, there would be a family member available to care for them.

Overall Household Preparedness for COVID-19

To assess overall household preparedness for COVID-19, scores were computed by assigning points for each level of preparedness within each factor: attitude/belief, knowledge, behaviors, and resources. Results revealed a high level of positive attitude/belief regarding the seriousness of COVID-19 and compliance with preventive behaviors, a moderate level of knowledge about the disease, a lower level of knowledge about how to care for someone with COVID-19, and a low to moderate level of availability of resources (Table 10).

Best Source of Accurate Information

While many sources of information were reported to be used, the majority of respondents in KC reported that they used the Centers for Disease Control and Prevention (CDC) website (42.9%), followed by the Hawai‘i State Department of Health website (22.9%), community leader/organization (8.9%), television news (6.0%), and other sources (18.8%) for reliable information.

Burden of Challenges by Specific Group

Table 11 provides a snapshot of the challenges that respondents in KC reported. In general, Pacific Islander (PI) and NH residents reported experiencing more challenges compared to other groups for COVID-19 preparedness and response and impact. Filipinos, NH, and PI reported a higher percentage of chronic disease burden and have more challenges with going back to school, compared to other groups.

Table 9. Factors for COVID-19 Preparedness and Response Among Kaua‘i County Respondents (N=420)

	Kaua‘i County Respondents		Statewide[a]
	n[b]	%	%
Attitude Question			
Perceived Severity of COVID-19			
Not serious	13	3.1	1.7
Low level	19	4.6	3.7
Moderate level	63	15.1	12.4
High level	124	29.7	29.9
Very high level	199	47.6	52.4
Knowledge Questions			
Know vulnerable populations (elderly and chronic disease)	259	61.7	66.3
Know where to go for COVID-19 testing	316	75.4	64.8
Know how to provide medical care for someone at home with COVID-19	167	40.1	38.7
Able to recognize when a family member with COVID-19 would need to go to the hospital	293	71.3	69.4
Behaviors Questions			
Usually or Always practice social distancing by staying at least 6 feet away from others when not at home	206	49.3	96.1
Usually or Always wear a face-covering when outside of your home	263	62.8	97.1
Family members wash hands the same frequency or More frequently since COVID-19	378	90.2	99.8
Have a thermometer that works at home	310	74.3	75.8
Resources Questions			
Problems would face if someone in the household has COVID-19			
Lack of space for isolation	219	52.3	55.6
NO face mask	15	3.6	2.4
NO hand sanitizer	22	5.3	5.7
Not enough cleaning supplies	85	20.3	31.2
Have someone be available to care for you if you got COVID-19	218	52.3	53.8

[a] All respondents in Hawai‘i.[3]
[b] Totals may not equal to 420 due to unanswered/missing data.

Table 10. Overall Household Preparedness for COVID-19 Among Kaua'i County Respondents (N=420)		
	n[a]	%[b]
Attitude - Perceived Severity of COVID-19 (total 1 question)		
Low (none-low)	32	7.66
Moderate (mod)	63	15.07
High level (high-very high)	323	77.27
Knowledge (total 4 questions)		
Low level of knowledge (0-2)	207	49.29
Moderate level of knowledge (3)	119	28.33
High level of knowledge (4)	94	22.38
Behaviors – compliance with measures (total 4 questions)		
Low level of compliance (0-1)	55	13.13
Moderate level of compliance (2-3)	237	56.56
High level of compliance (4)	127	30.31
Resources Needed (total 6 questions)		
None (0)	104	24.76
Low level of needs (1)	139	33.1
Moderate level of needs (2-3)	152	36.19
High level of needs (4-6)	25	5.95

[a] Totals may not equal to 420 due to unanswered/missing data.
[b] Percentages may not equal 100% due to unanswered/missing data.

Table 11. Challenges for Special Groups Among Kaua'i County Respondents (N=420)						
	Caucasian	**Filipino**	**Asian**	**Native Hawaiian**	**Pacific Islander**	**Other**
	n (%)	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Connectivity						
NO access to internet	1 (0.5)	0 (0)	0 (0)	2 (3.1)	1 (16.7)	0 (0)
NO working cell phone	4 (2.0)	0 (0)	0 (0)	2 (3.1)	1 (16.7)	1 (2.3)
Household chronic disease						
Household has 1 or more people living with chronic disease	96 (48.7)	32 (66.7)	30 (58.8)	47 (73.4)	4 (66.7)	26 (60.5)
Challenges going back to school						
Language barrier	0 (0)	2 (4.17)	0 (0)	0 (0)	0 (0)	0 (0)
Lack of face-covering	3 (1.5)	4 (8.3)	1 (2.0)	4 (6.3)	1 (16.7)	2 (4.7)
Lack of funds to buy school supplies	11 (5.6)	7 (14.6)	2 (4.0)	14 (21.9)	3 (50.0)	6 (14.0)
Other – computer, internet	37 (18.8)	10 (20.8)	11 (22.0)	21 (32.8)	4 (66.7)	13 (30.2)
Emotional Stress Level						
Normal	81 (41.8)	25 (52.1)	29 (56.9)	23 (35.9)	2 (33.3)	12 (28.6)
Mild	52 (26.8)	12 (25.0)	10 (19.6)	23 (35.9)	3 (50.0)	17 (40.5)
Moderate	39 (20.1)	6 (12.5)	10 (19.6)	9 (14.1)	0 (0)	6 (14.3)
Severe	22 (11.34)	5 (10.4)	2 (3.9)	9 (14.1)	1 (16.7)	7 (16.7)

Discussion

Demographics and Household Profile

With the exception of gender, respondents in KC closely approximated the demographic distribution for the county as a whole. Compared to the statewide respondents, KC had lower household incomes in general, more households where the income decreased because of COVID-19, and higher percentages of reduced work hours or lost jobs. Tourism is a key industry in KC, and as a consequence of the higher restrictions on incoming travelers, the economy may have experienced a more severe negative impact because of COVID-19 compared to the rest of the state. Many hotels and travel industry businesses suffered greatly as visitor arrivals to KC by air dropped by 72.3% in the third quarter of 2020 as compared to 2019.[7] Additionally, unemployment in KC markedly increased to 18.3% in the third quarter 2020, from 2.7% in the same time period in 2019.[7]

The vast majority of the KC respondents reported having internet access and a working cell phone. However, of the participants who reported no internet or no working cell phone, NH and PI reported the highest percentages. Despite the small numbers, this further demonstrates that technological inequities exist where underserved populations are more susceptible to the digital divide.

Living Expenses

When asked if they expected to be in the same housing situation in 3 months, the percentage of participants that reported living in the same home or condominium that they owned or rented dropped by 14% in KC. The assessment team projected that this number would increase when the order under Section 261 of the Public Health Service Act to halt any evictions is allowed to expire.[8]

In KC, many respondents reported having problems paying for essentials now and expected the problems to increase in 3 months. Approximately one-third of the KC participants expected to have difficulty paying for food, rent/mortgage, auto expenses, utility bills, and cell/internet costs by December 2020. More than 40% of the KC participants reported that they will have problems paying for health care and medicines. These problems will be further exacerbated by the fact that many specialty resources and facilities are only available on the island of O‘ahu, hence KC patients may encounter additional costs of interisland travel and restrictions in order to access health care.

Community members suggested that in order to help alleviate costs, the state should consider offering stipends or cash/debit cards for those who applied for unemployment benefits to pay for essential health and wellness needs, childcare costs, elderly parent care costs, and transportation to and from health care providers.

Health and Well-Being

Compared to statewide, a slightly higher percentage of KC respondents reported having someone in the household with asthma and obesity, and a slightly lower percentage reported having someone in the household with diabetes. In general, PI and NH respondents in KC experienced more challenges compared to other groups for COVID-19 preparedness, response, and impact. In addition, NH, PI, and Filipinos reported anticipating more challenges with going back to school.

An ongoing concern for the KC population is the ability to obtain timely health care. In particular, residents on islands other than O‘ahu frequently need financial and logistical support when they require a higher level of care and need to travel to Honolulu. However due to COVID-19, additional possible access barriers include changes in work schedules, lack of health insurance due to reduced work hours, no primary care physician, work and care-giving obligations, government restrictions on travel, and reductions in transportation options.

In order to address these concerns, recommendations include: (1) mandate employers to offer paid leave to employees for their medical appointments and subsidize employers for those costs; and (2) facilitate access to telehealth services for those without internet access or other technological barriers such as expansion of community broadband access and/or community clinic telehealth access points.

Personal Beliefs, Knowledge, and Activities Regarding COVID-19 Prevention

Overall, among survey respondents, there was a good level of knowledge about the severity of COVID-19. However, of concern for the KC participants is less than half of the KC participants reported knowing how to provide care for a family member if they get sick with COVID-19. This is further exacerbated by the lack of space for social isolation as reported by more than half of the KC participants. Additionally, only half of the KC respondents reported that they practice social distancing all of the time; about one-third of the participants reported not wearing a face-covering all of the time. These actions may emanate from a false sense of security perpetuated by the extensive travel restrictions and low daily average of COVID-19 cases in KC. However, KC is still at risk, as COVID-19 has been shown to be unpredictable in its spread and mutations of the virus itself. For the KC, health care access is already a concern in a population with high rates of chronic disease. Strained financial resources due to the pandemic may put this population at further risk for poor health outcomes.

Education on the prevention and care for those who have become ill is important in keeping the KC population safe. The majority of respondents in the KC reported using the CDC website for gathering reliable information on COVID-19, followed by the

Hawai‘i State Department of Health website. To facilitate more access to culturally tailored information, public messaging that is targeted toward different groups must be crafted and delivered through relevant methods for the different ethnic groups. Individuals need specific instructions and the required tools to care for those who become ill and also reduce the spread of COVID-19. For example, The Kauai District Health Office's multi-lingual/multi-cultural community outreach team implemented a program to provide COVID-19 outreach and education to PI, NH, and Filipino communities. These types of programs must continue as the COVID-19 pandemic unfolds and efforts now also focus on vaccination for COVID-19.

Limitations

This cross-sectional survey utilized a convenience sample. The survey was only available in English. Most respondents participated via the online version of the survey. There is a chance that those with no access to the internet and hidden groups, such as the houseless or undocumented persons, may not be adequately represented in the sample. In addition, all data were self-reported and respondents replied for some questions on behalf of their household. However, this survey provides timely and useful information during the COVID-19 pandemic, and the findings from KC are quite similar to the other counties in the state, which lends credence to the findings. Finally, the community partners reviewed and corroborated the results.

Conclusion

The purpose of the assessment was to identify the impact of COVID-19 on the health and social welfare of the individuals in Hawai‘i and identify strategies to mitigate the adverse outcomes. In the early stages of the pandemic, the Hawai‘i State Department of Health conducted a community assessment for public health emergency response (CASPER) in April 2020 to assess the impact on Kaua‘i households.[9] In that assessment, similar to the current study, results found that there is high concern regarding the spread of COVID-19, and approximately one-third of respondents expressed concern regarding the ability to pay future rent/mortgage and utilities. What differs in the CCO Unit's survey, which was conducted approximately 4 months later, was the loss of jobs or income because of COVID-19. In the CASPER survey, 42.5% of those surveyed responded no one in the household had lost their job or income, whereas in the CCO Unit survey, 71.6 4% reported a negative impact of COVID-19 on household income. This demonstrates that despite having a low rate of COVID-19 cases in its population, KC shows evidence of significant impacts on the social welfare among its residents. Thus, results of the CCO Unit's survey can be used to focus programming where needed, such as eviction protection, assistance with rent/mortgage payments, jobs programs, food distribution programs, public health education about prevention of COVID-19, and housing for those who do become infected. At the time of this publication, the state of Hawai‘i is actively engaged in all of these types of COVID-19 mitigation programs. In addition, strategies to increase uptake of the COVID-19 vaccine across the KC population is essential.

This report was distributed widely to constituent groups, policy makers, and organizations that serve the health and social needs of the state's citizens in order to inform decisions regarding allocation of resources to mitigate the effects of COVID-19 on the population. Specific recommendations are reported elsewhere for NH, Filipino and PI groups.

Conflict of Interest

None of the authors identify a conflict of interest.

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