



MAUI WILDFIRES PUBLIC HEALTH RAPID NEEDS ASSESSMENT **PRELIMINARY REPORT**



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MAUI WILDFIRES PUBLIC HEALTH RNA

KEY FINDINGS OCT 2023



The Hawai'i State Department of Health (DOH) conducted a household-level rapid needs assessment (RNA) in early October. DOH surveyors spoke to 228 randomly selected households to assess wildfire impacts on physical and mental health and to identify greatest needs at this time. Seventy-six percent of households contacted agreed to participate and a total of 94 referrals for behavioral health, medical care, health insurance, dental care, and case management services were completed.

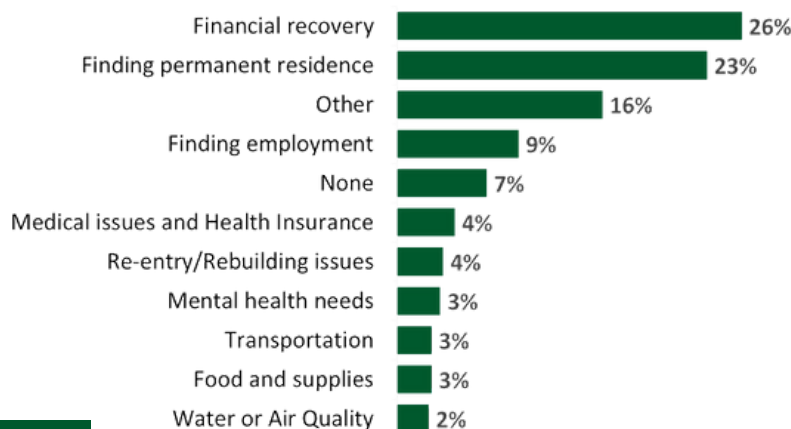
HOUSEHOLDS' GREATEST NEEDS

26% of households considered financial recovery to be their greatest need

23% of households reported finding permanent residence to be their greatest need

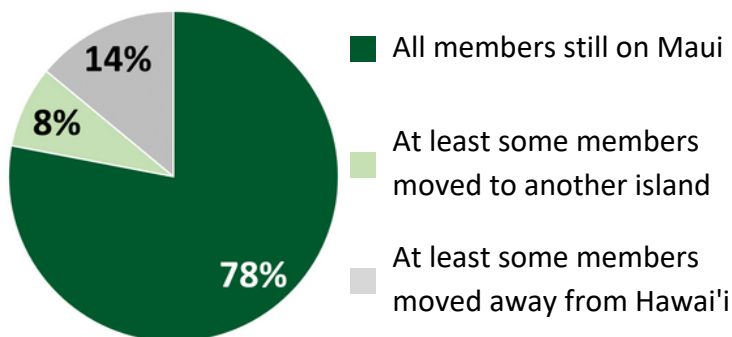
64% of households reported experiencing barriers when signing up to receive disaster assistance

Greatest Needs Identified by Households



HOUSING LOCATION

How Many Household Members Are Still on Maui?



Type of Housing

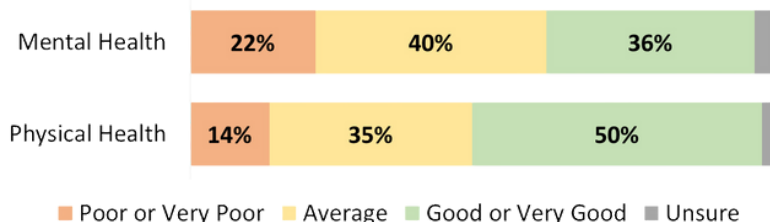
2 months after the fires, **56%** of households are in temporary housing such as non-congregate shelters (hotels) or doubled up with family/friends. This does not include those in short-term rentals such as Airbnb.



MENTAL AND PHYSICAL HEALTH

22% of households rated their own **mental health** as poor or very poor

Household's Mental and Physical Health Ratings



80% of households know where to access mental and behavioral health support services



82% of households feel they can access medical care



INTRODUCTION

Background

On August 8, 2023 wildfires ripped through parts of upcountry and West Maui damaging entire communities and destroying thousands of structures. Kula and Lahaina sustained significant damages. In Lahaina, many were forced to flee the deadly flames by abandoning their cars and jumping into the ocean for safety. Despite these desperate efforts, at least 98 lives were lost during the state's worst natural disaster in history.¹

By the morning of August 9, 2023, the historic town of Lahaina was unrecognizable and forever changed, with over 2,200 structures destroyed and over five billion dollars in estimated damages.²

The State of Hawai'i Department of Health (DOH) is tasked with the overall public health response to disasters in the state and has district offices on each of the neighbor islands.

The Maui District Health Office has been at the forefront of the Hawai'i DOH response and recovery efforts, with support from the Oahu departmental operations center (DOH DOC).

Ongoing public health challenges include healthcare access, behavioral health support, and environmental hazards. Residents continue to learn how to navigate the changed healthcare landscape, live in non-congregate shelters (hotels) spread around the island, apply for disaster relief, and learn to cope with this horrific tragedy.

In order to better understand the continued needs of Lahaina residents at this point in the response, the Hawai'i DOH conducted a public health rapid needs assessment (RNA) in early October.

RNAs include a variety of methodologies used to assess the impacts to and needs of a population affected by a disaster. Typically these assessments involve the random selection of individuals or households so that data gathered is representative, while reducing the survey burden on the impacted population. The data gathered is used to direct resources and planning efforts.

Objectives

The Maui wildfires RNA conducted in early October was focused on the Lahaina area, which saw the heaviest impact of the disaster. The Maui RNA addressed the following objectives:

- 1) Collect demographic information on households in order to inform summaries of impacted populations
- 2) Assess current physical health and wellbeing as well as access to medical care
- 3) Assess current mental health and wellbeing as well as access to behavioral health support services
- 4) Assess immediate resource needs
- 5) Assess barriers to receiving care and/or assistance
- 6) Refer residents to needed services



METHODS

2023 RNA Sampling Methodology

The sampling frame for this assessment consisted of applicants for federal assistance whose damaged property had an address in the critical needs assistance area for the Lahaina wildfires. The list of 9664 applicants was provided by federal partners to the Hawai'i DOH. Duplicates (19) were removed from the list to give all households equal probability of selection. Duplicates were defined as any row containing a duplicate first and last name along with a duplicate damaged address and/or phone number. The final sampling frame consisted of 9645 applicants. Using random number generation, 565 applicants were selected. This target sample size was calculated using Cochran's (1977) sample size formula (see Appendix F). We sampled applicants at a targeted 4% margin of error with a minimum acceptable sample size of 148 (associated with an 8% margin of error). For the purposes of this survey, we defined "household" as all of the individuals who lived in a household prior to the wildfires.

Questionnaire

The 2023 Maui RNA questionnaire was developed by the Hawai'i DOH with review and feedback from multiple response partners. The forms were not translated into other languages, but interview team members were instructed on how to request interpreter services from the operations team.

Training and Survey Teams

Hawai'i DOH staff from Maui, Kauai, and Oahu comprised the interview team. All twelve interviewers were required to attend training prior to the start of the assessment. All interview team members were provided with an interview tip sheet that reminded them of survey protocol and how to ensure standardization. Interview team leads were available throughout the hours of operation to tackle any issues that arose.

Community Outreach

On October 6th, 2023, the Hawai'i DOH issued a press release to notify the community that a needs assessment would be conducted between October 9th and October 11th, 2023. Additionally, an email was sent to all 565 selected households for whom a contact email was provided. A representative from the Maui District Health Office also participated in an interview with local television news to provide additional public notification.

Assessment Implementation

Interviews were conducted from Maui via phone October 9-11. Interviewers were assigned a list of selected households, provided an informed consent script, a tracking sheet, referral forms, extra paper-based questionnaire forms, a copy of the press release describing the objectives of the assessment, and a tablet to electronically collect data. To be eligible to participate, respondents had to provide verbal consent, be 18 years of age or over, and have occupied a pre-disaster property located in a designated area for critical needs assistance from the Lahaina wildfires.

Interviewers were asked to call the primary phone numbers provided and leave a voicemail and text message if unanswered. Three attempts were made at different times of the day. Alternate phone numbers, if provided, were attempted a single time with a voicemail and text message if unanswered. All attempts were noted on the tracking form to determine response rates.

Data Entry and Analysis

Responses were collected electronically by interviewers via tablets using the EpiCollect5 v5.1.5 application (2023 Centre for Genomic Pathogen Surveillance, Oxford, UK). Entries were uploaded at the end of each day upon return to the operations center. All responses were voluntary and kept confidential, and no personally identifiable information was collected. The data cleaning and analysis were done using SAS 9.4 (SAS Institute Inc., Cary, NC, USA). All results with frequencies below 10 (excluding 0) were suppressed per Hawai'i DOH governance policy of small numbers.

RESULTS

Survey teams attempted to contact 565 households, spoke with a respondent at 308 households, and ultimately completed a total of 228 interviews. In order to be eligible to complete the survey, households had to have at least one member residing in the affected area before the wildfires. Eight contacted households were deemed ineligible because they own a property in the affected area but were not living on Maui at the time of the wildfires. Response rates are shown in Table 1.

Table 1. Response rates

Response Rates		%
Completion Rate	Represents percent of target # of surveys collected	40.4%
	(228 completed surveys / 565 target surveys)	
Cooperation Rate	Measure of the willingness of the community to participate	76.0%
	(228 completed surveys / 300 total contacted eligible households)	

Interpretor services were available to teams upon request. This service was used for multiple languages to ensure households were able to complete the survey in their primary language.

One of the primary objectives of the Maui RNA was to link affected households to available services. Of the 228 participating households, 63 requested at least one referral. A total of 94 referrals were made for the following needs: behavioral health services, medical services, health insurance, urgent and routine dental services, financial assistance, case management services, and food and transportation assistance.

Survey results are grouped by subject and summarized in data figures and tables on the following pages. The confidence interval measures the precision of the data and is represented by a horizontal black bar in the following figures.

Basic Household Information

The mean and median household size was 3.4 (95% CI [3.1, 3.8]) and 2.1 (95% CI [1.7, 2.4]) persons, respectively. Figure 1 shows the distribution of household size.

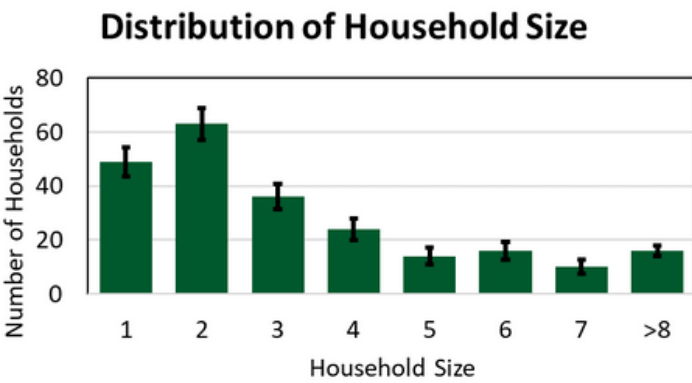


Figure 1. Distribution of total number of household members (n=228).

Given the vulnerability of certain age groups during disasters, surveyors asked about the ages of household members. Seven percent of households had at least one child under two years old, and 27% of households had at least one adult aged 65 or over (Figure 2).

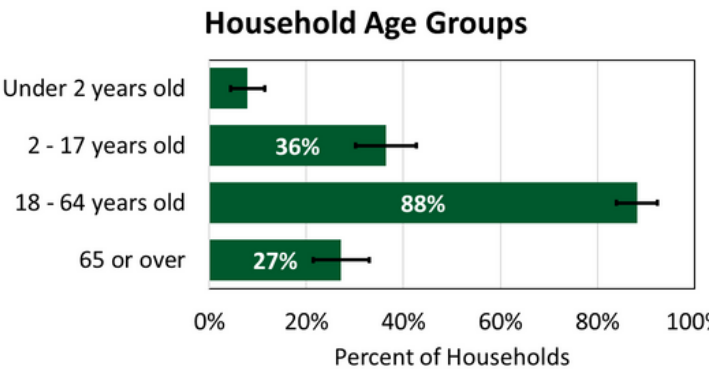


Figure 2. Percent of households with at least one household member in each age group (n=228).

Among households completing the survey, 58% identified as primarily one race. The remaining 40% identified as multiracial (Figure 3a).

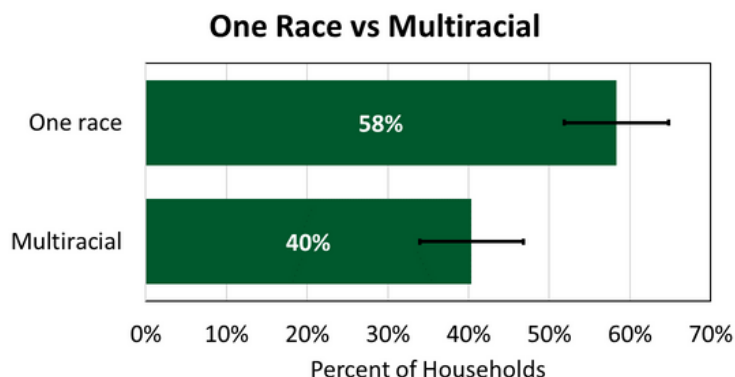


Figure 3a. Percent of households that identified as one race versus multiracial (n=228).

For the purposes of this survey, given Hawaii's diverse racial and ethnic context, race and ethnicity were considered together in a choose-all-that-apply variable, referred to hereafter as race. Among those who identified as primarily one race, White (56%), Filipino (19%), Hispanic/Latino (8%), and Native Hawaiian (5%) were the races most commonly reported. Among those who identified as multiracial, the most commonly reported included: White (70%), Filipino (51%), Native Hawaiian (44%), Hispanic/Latino (29%), Japanese (20%), and Chinese (14%). Importantly, 32% of all households identified as at least partly Filipino, 21% identified as at least partly Native Hawaiian, and 17% identified as at least partly Hispanic/Latino (Figures 3b).

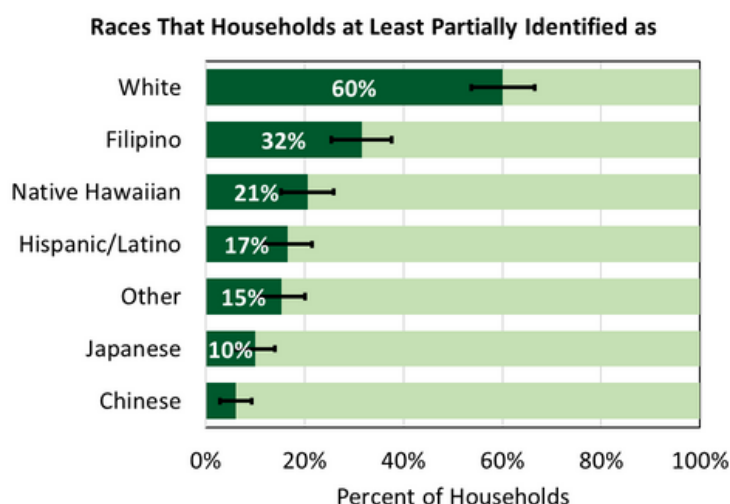


Figure 3b. Percent of households that identified as at least partly the following races (n=228).

Next, households were asked to identify their primary language. Affected households reported English as their primary language (87%) followed by Ilocano (6%), Spanish, Tagalog, Cantonese, Vietnamese, Korean, Thai, and Tongan (combined into "other" in Figure 4 per DOH governance policy of small numbers).

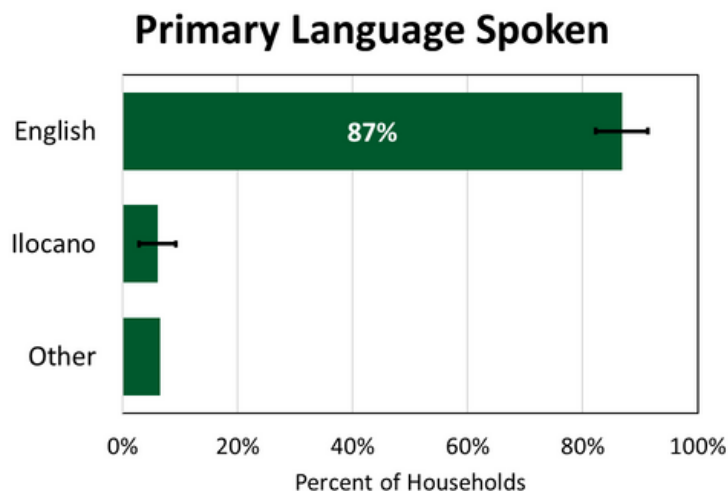


Figure 4. Languages spoken by households (n=228).

Most households reported that prior to the wildfires, they owned (37%) or rented (54%) their home. After the wildfires, only 12% reported that they still lived in their owned home. As of October 11th, the majority (36%) were staying in a non-congregate shelter (hotel), while 28% were in a rental, and 22% were doubled up with family or friends (Figure 5).

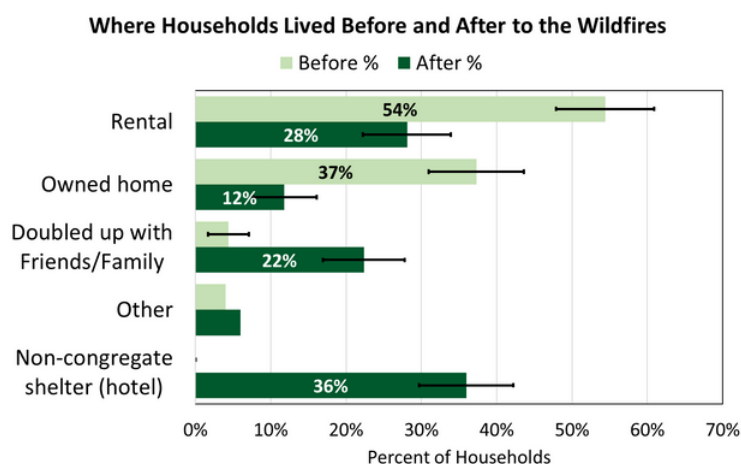
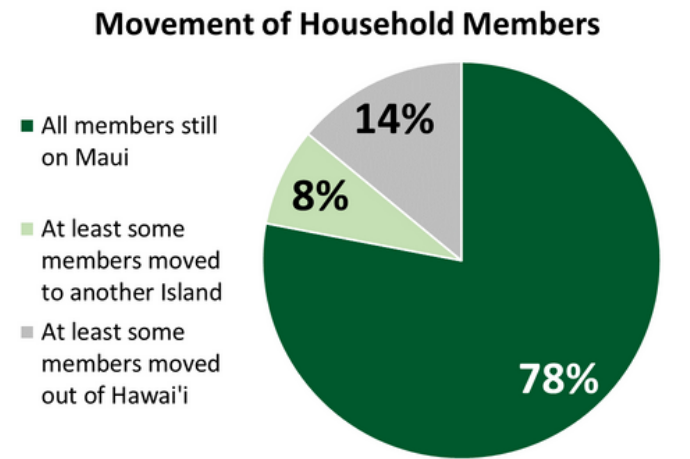


Figure 5. Where households lived prior to the wildfires compared to where they live now (n=228). Where households lived after was a select all that apply question. Ten households selected more than one housing location.

While this survey design did not systematically capture movement to a new rental, anecdotally, the majority of these households were in new rental units, and many households reported having moved multiple times since the wildfires.

The majority of households (78%) reported that they did not have any household members that have left Maui since the wildfires. Eight percent of households have at least some members who have moved to another island, and 14% have at least some members who have left the state (Figure 6).



Figures 6. Percent of households with members who have stayed on Maui (n=228).

In order to better understand where affected residents were seeking information, households were asked to identify their most trusted information source. Households identified social media (32%), word of mouth (28%) and news/radio (23%) as their most trusted source of information related to the Maui wildfire response and recovery efforts. Only 6% of households identified government as their most trusted source of information related to this event (Figure 7).

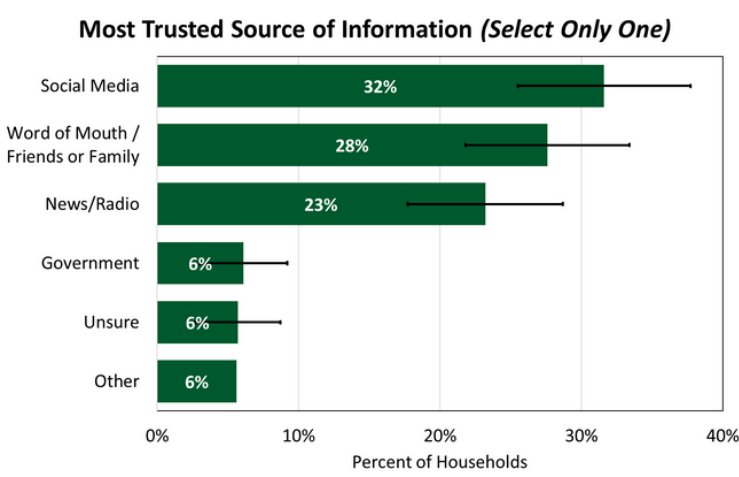


Figure 7. Households most trusted source of information related to the Maui wildfires (n=228).

Health Status

Physical Health

Next, households were asked several questions in order to understand their current physical health and well being. While the majority (82%) of households reported that they can adequately access medical care, 12% reported they cannot, and 6% were unsure (Figure 8). Among households that did not feel they could adequately access medical care, the most common reasons included: lack of health insurance, distance from services, and difficulty accessing care after leaving the island/state.

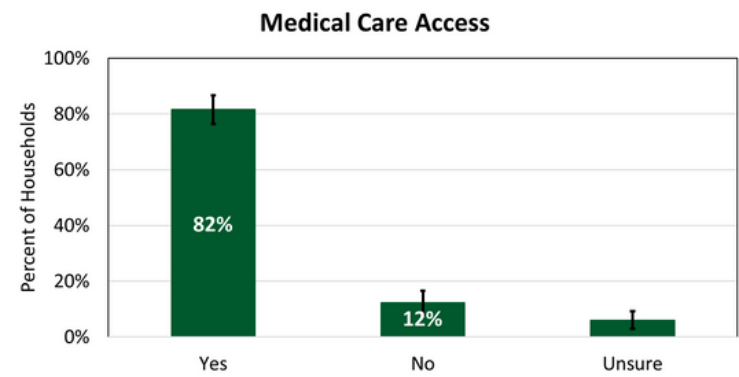


Figure 8. Percent of households that feel they can adequately access medical care (n=228).

Seventeen percent of households reported that they have at least some members who do not currently have health insurance. An additional 8% of households reported being unsure whether all of their household members had health insurance (Figure 9).

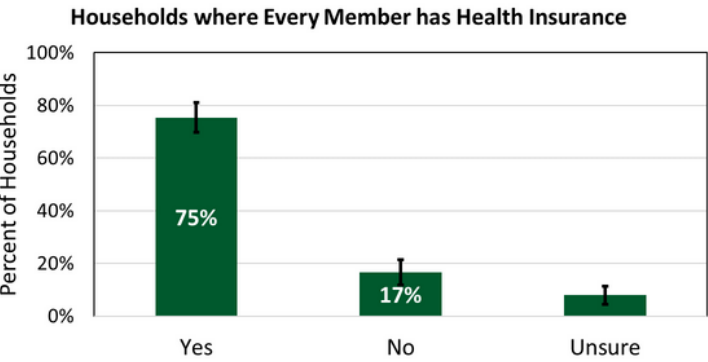


Figure 9. Percent of households where every member has health insurance (n=228).

Next, we asked if households had experienced any worsening health conditions since the wildfires. Forty-one percent of households indicated yes (Figure 10).

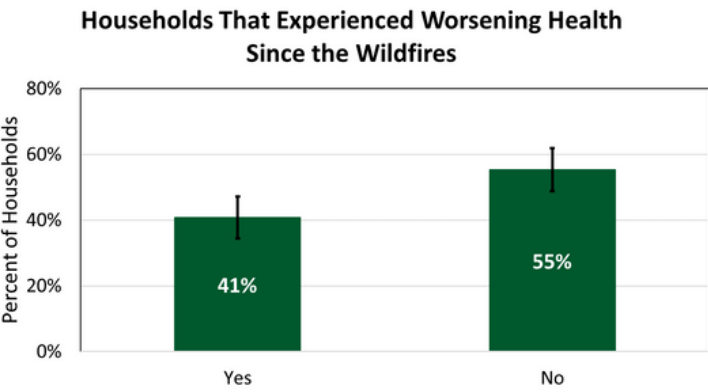


Figure 10. Percent of households that have at least one member experiencing a worsening of health since the wildfires (n=228).

When asked to explain how their household’s health has worsened since the wildfires, many households reported a combination of increased anxiety, stress, and insomnia resulting in a decline in their physical health. The other most common reasons cited included respiratory issues related to smoke inhalation and feeling unwell due to dietary changes or decline in physical activity (Figure 11).

Some of these issues may have been pre-existing and others may represent new health problems. Please note that 41% refers to households who have at least one household member who has experienced a decline in health, not that all members necessarily have.

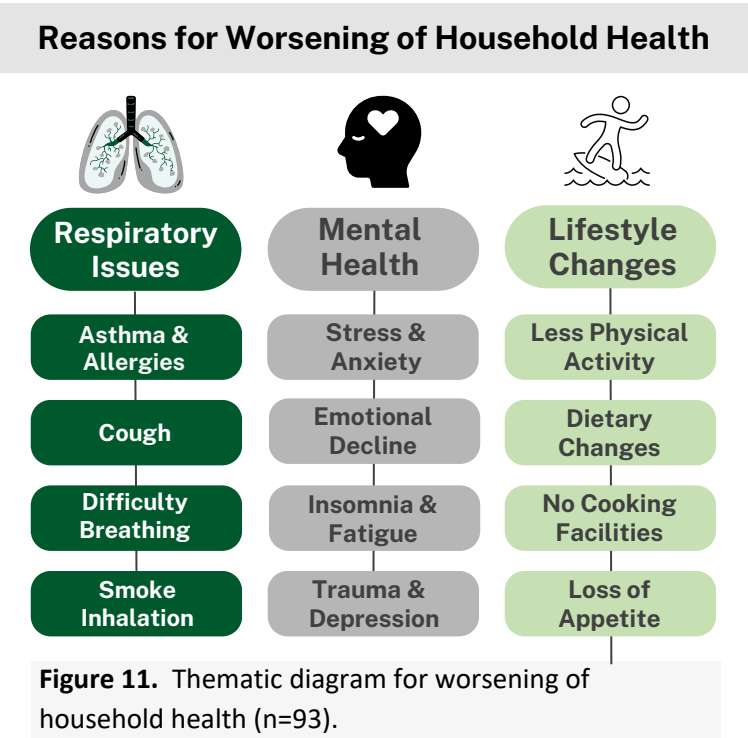


Figure 11. Thematic diagram for worsening of household health (n=93).

The last health-related question asked households to rate their current physical health and well-being. Half (50%) of households reported their current physical health and well-being as good or very good. However, 14% rated it as poor or very poor (Figure 12).

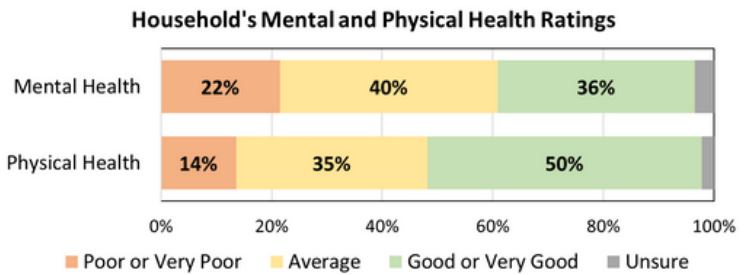


Figure 12. How households rate their physical health and mental health (n=228).

Mental Health

After assessing physical health and wellbeing, households were asked about their current mental health and wellbeing.

When asked to rate their household's current mental health and wellbeing, 40% reported average and 22% reported poor or very poor. When comparing how households rank their physical health as opposed to their mental health, more households reported poor or very poor mental health than physical health (Figure 12).

Next, households were asked whether they had sought mental or behavioral health support services before or after the wildfires. Eighteen percent reported having members who had sought mental or behavioral health support services prior to the wildfires. This increased to 28% of households since the wildfires (Figure 13).

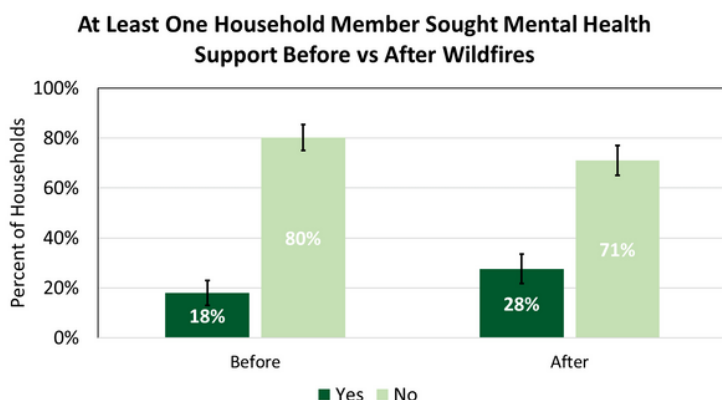


Figure 13. Percent of households that have sought mental or behavioral health support services before compared to after the fires (n=228).

The majority (80%) of households reported that they know where to seek mental or behavioral health support services if they want them. However, the remaining 20% did not know where to seek these services or were unsure (Figure 14).

Sixty-eight percent of affected households reported that all or some of their household members have had difficulty sleeping since the wildfires (Figure 15).

Additionally, 72% of households indicated that all or some of their members had experienced feeling nervous, anxious, or depressed in the past two weeks. (Figure 16).

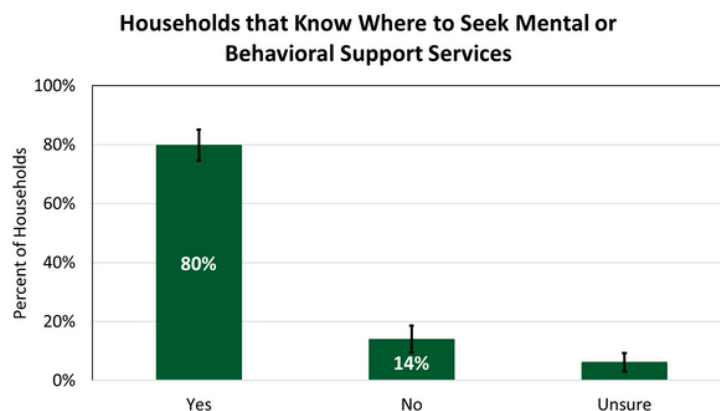


Figure 14. Percent of households that know where to seek mental or behavioral health support services (n=228).

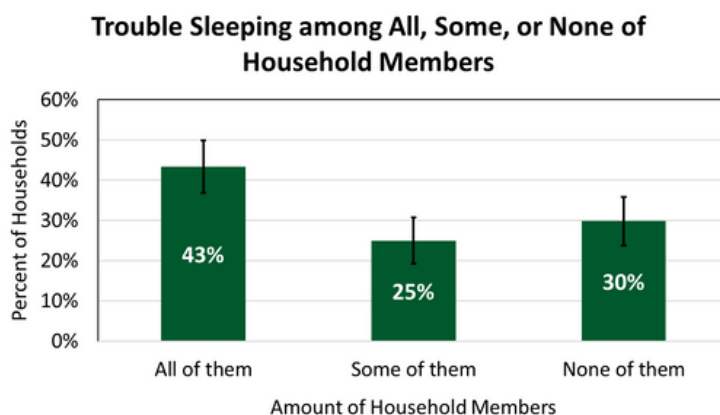


Figure 15. Percent of households that have had trouble sleeping (n=228).

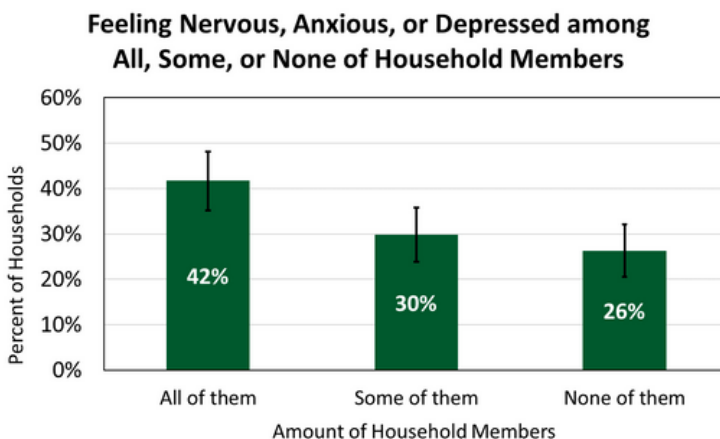


Figure 16. Percent of households with a member that has felt nervous, anxious, or depressed in the last two weeks (n=228).

Needs

In order to understand resource and service needs, households were asked about their greatest needs at this time. When combined, the greatest needs identified by households included: financial recovery (26%), finding permanent residence (24%), finding employment (9%), medical issues/health insurance (4%), re-entry/rebuilding issues (4%), and mental health needs (3%). See Figure 17. While financial recovery was the most commonly reported need, most households listed finding permanent residence before financial recovery.

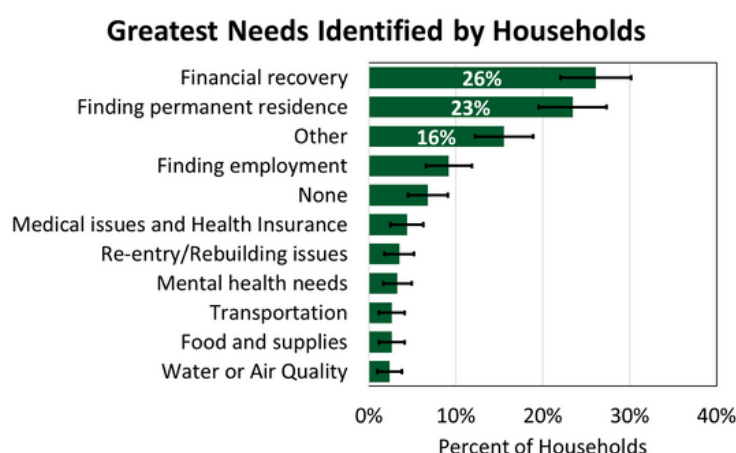


Figure 17. Percent of households that identified their greatest need (n= 228).

In order to better understand what assistance mechanisms households have applied to and the barriers they experienced, households were asked to identify each assistance type they applied for, whether they were approved/pending or denied, and then to discuss any barriers they experienced.

The majority of households successfully applied to a combination of assistance programs from the public and private sector (Figure 18), with the most common being FEMA, American Red Cross, and People's Fund of Maui. On average, households applied to 4.2 different assistance programs and the majority were approved/pending at the time of the survey.

Half of households were denied at least one of the assistance types they signed up for, with the average number of denials per household at 1.6 (Figure 19).

The most commonly denied resources were Small Business Administration (33%), FEMA (31%), United Way (27%), People's Fund of Maui (21%), Unemployment Insurance (18%) and SNAP (17%).

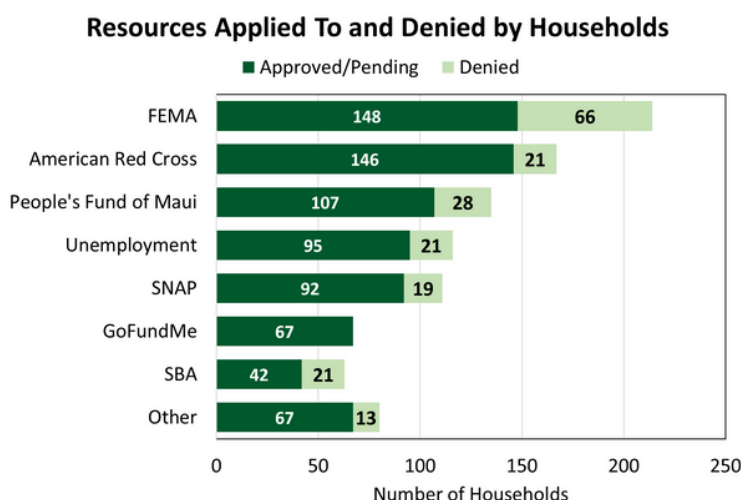


Figure 18. Number of households that have signed up for each community resource type and number that were approved/pending versus denied (n=228).

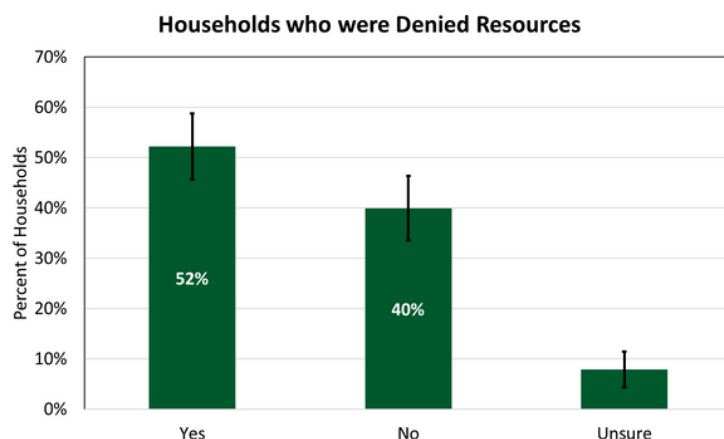


Figure 19. Percent of households that have been denied a resource (n=228).

One third of households reported that they did not experience any barriers when signing up to receive disaster assistance. The remaining households indicated the following barriers: eligibility criteria / incorrectly denied (18%), challenges navigating the process (15%), decision(s) pending/long wait times (14%), documentation challenges (7%), technical difficulties (5%), and accessibility issues (5%). See Figure 20.

Barriers Households Experienced When Signing Up to Receive Assistance

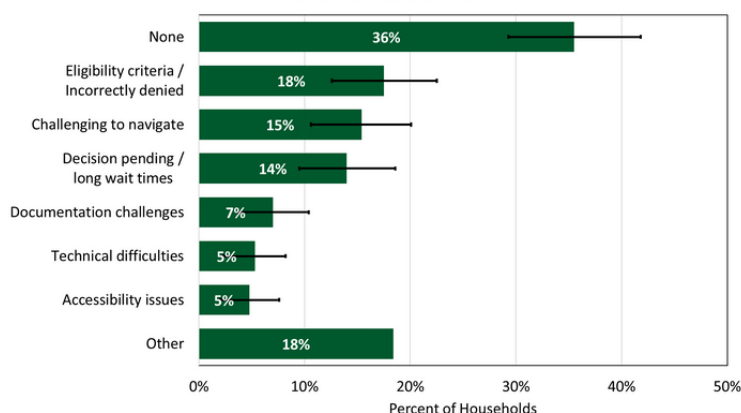


Figure 20. The barriers households experienced, if any, when signing up to receive disaster assistance (n=228).

Next, households were asked if they had any additional needs or concerns that had not already been discussed with the surveyor.

Nineteen percent of households said yes and identified the following concerns: issues related to the loss of a business, keeping West Maui closed to tourism,

government accountability and transparency, future fire prevention, long-term housing concerns, wanting to re-open West Maui to ensure business or livelihood recovery, better control over resource distribution, documentation recovery, additional needs of elderly adults and children, pet accommodations, rebuilding, dispersment of community, and the overall safety of West Maui (Figure 21).

Finally, households were asked whether they wanted someone from the Hawai'i DOH to follow up with them on any needs they identified over the course of the survey.

Twenty-seven percent of households requested to have someone from the health department contact them about unmet needs. This resulted in 94 referrals related to behavioral health services, medical care, health insurance access, language assistance, and overall case management help to navigate the various resource request processes.

Household Concerns Not Discussed / Addressed



Figure 21. Word cloud of household concerns that were not discussed during the survey (n=44).

DISCUSSION

The data collected in the Maui RNA is intended to be a quick assessment of how households are faring two months after the wildfires. Further, it is intended to identify key concerns or issues to be explored further during recovery service planning.

Additionally, the Maui RNA provided a critical opportunity for the community affected by the wildfires to inform government and other response partners of their current needs and barriers to receiving services in their own words.

Households identified considerable challenges in acquiring stable housing, sufficient employment, health insurance, and various types of financial assistance. Key findings based on the data presented in this report follow.

Key Findings

1. The affected community was highly engaged with the Department of Health. Among eligible households that we were able to reach, 76% completed the survey and voiced appreciation for Hawai'i DOH checking in on them along with a strong desire to have the results shared.
2. Race, ethnicity, language, and age are well-established socioeconomic factors that can lead to increased vulnerability during a disaster.⁵ Lahaina is an incredibly diverse community comprised of many households that potentially face increased vulnerability.
 - Thirty-two percent of households identified as at least partly Filipino, 21% identified as at least partly Native Hawaiian, and 17% identified as at least partly Hispanic/Latino
 - Over one-third of households include children or adolescents and 27% include adults age 65 years or older
 - While 87% of households reported English as the primary spoken language, Ilocano, Spanish, Tagalog and several^{3,4} other languages were also reported
3. The survey indicates that the impacted community's self-reported home ownership prior to the wildfire disaster (37%) is well below the state (59.2%) and national average (65.9%).
4. Most households have been displaced due to the wildfires. The most frequently reported living situations include: non-congregate hotel shelters (36%), rental housing (28%) and doubling up with friends or family (22%).
5. The majority reported all household members have stayed locally on Maui (78%). Eight percent of households have at least some members who have moved to another island and 14% have at least some members have moved to the mainland.
6. Social media, word of mouth, and news or radio were identified as the most trusted source of information related to the Maui wildfire response and recovery. Only 6% of households identified government as their most trusted source of information related to this event.
7. While the majority of households reported feeling able to adequately access medical care (82%), there was clear ongoing demand and need for healthcare and service navigation assistance. This was a well-utilized service and resulted in many referrals.
8. Survey respondents self-reporting a decline in the health status of household members since the wildfire disaster was common (41%) with respiratory and mental health (stress, anxiety, insomnia) issues of leading concern. Fourteen percent of households rated their physical health as poor or very poor.

9. Impaired sleep is very common with 68% reporting all or some household members experiencing difficulty sleeping. Seventy eight percent of households reported that all or some of their members experienced feeling nervous, anxious, or depressed in the past two weeks.

10. Community members are increasingly using mental health support services and the majority (80%) reported that they know where to seek those services; continued work is needed to close this gap. Additionally, the data indicate that a significant percentage of households are experiencing some level of behavioral health needs but have not sought services.

11. Most households did not identify any current needs in the area of physical resource donations such as clothing, food, and water. Instead, they identified the need for financial recovery, finding permanent residence, and finding employment. Each of these needs identified by residents are well established social determinants of health and well-being.

12. The majority of households successfully applied to a combination of assistance programs from the public and private sector. On average, households applied to 4.2 assistance programs and the majority were approved/pending at the time of the survey. Half of households reported they were denied by at least one of the assistance types they signed up for, with the average number denied per household at 1.6.

13. Households reported the following barriers to signing up for disaster assistance:

- Eligibility criteria / incorrectly denied
- Challenging application processes
- Pending decisions / long wait times
- Documentation challenges
- Technical difficulties / accessibility issues

14. Twenty-seven percent of households requested to have Hawai'i DOH follow-up with them about unmet needs. This resulted in a total of 94 behavioral health, medical, and case management referrals and provided an important opportunity for DOH to provide direct assistance.

Moving Forward

The intent of the preliminary report is to disseminate key findings in a timely manner. DOH is in the process of creating a final report that will include recommendations on how DOH and other response partners can work together to address the issues identified here.

The goal is that these recommendations be continually shaped by the Lahaina community through the Maui recovery effort.

Limitations

The list of verified applicants for federal assistance has important limitations. Only U.S. citizens, non-citizen nationals, or qualified aliens may be eligible for assistance. There are several categories of aliens lawfully present in the U.S. who are not eligible for assistance. These include, but are not limited to: temporary tourist visa holders, foreign students, temporary work visa holders, and habitual residents such as citizens of the Federated States of Micronesia and the Republic of the Marshall Islands.

Lahaina is a very diverse community with a significant number of COFA citizens and temporary work visa holders. These communities were likely to have greater resource needs and to have experienced different barriers to receiving services. Representative sampling of COFA communities can be complex and difficult to incorporate into the timeframe of a rapid needs assessment. However, this remains a critical information gap that will be important to address through other survey methods.

Allowing for these limitations, this was determined to be the most comprehensive sampling frame of those verified to have been impacted by the Lahaina wildfires that was feasible to implement in a timely manner.

This assessment was focused on the Lahaina area and may not be representative of all areas impacted by the wildfires.

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Images were accessed through the Kauai District Health Office's Canva subscriptions service.



APPENDIX A: DATA TABLES

Table 2. Basic household information of the Maui Wildfire RNA (n = 228)

Response	Frequency	Percent	95% Confidence Limits	
Percentage of households with at least one member in each age group...				
Under 2 years old	18	7.9	4.4	11.4
2 - 17 years old	83	36.4	30.1	42.7
18 - 64 years old	201	88.2	83.9	92.4
Over 64 years old	62	27.2	21.4	33.0
Does your household identify as one race or multiracial?				
One race	133	58.3	51.9	64.8
Multiracial	92	40.4	33.9	46.8
Unsure	<10	-	-	-
Refused	<10	-	-	-
Total	228	100		
(If one race) What race does your household members identify with? (SELECT ONLY ONE)				
White (Non-Hispanic)	73	55.7	47.1	64.3
Filipino	25	19.1	12.3	25.9
Hispanic/Latino	11	8.4	3.6	13.2
Native Hawaiian	<10	-	-	-
Japanese	<10	-	-	-
Vietnamese	<10	-	-	-
Black	<10	-	-	-
Tongan	<10	-	-	-
Chinese	<10	-	-	-
Korean	<10	-	-	-
Thai	<10	-	-	-
Total	133	100		

Response	Frequency	Percent	95% Confidence Limits	
(If multiracial or unsure) <i>What races do your household members identify with?</i> (SELECT ALL THAT APPLY)*				
White (Non-Hispanic)	64	69.6	60.0	79.1
Filipino	47	51.1	40.7	61.5
Native Hawaiian	40	43.5	33.2	53.8
Hispanic/Latino	27	29.3	19.9	38.8
Japanese	18	19.6	11.3	27.8
Chinese	13	14.1	6.9	21.4
Tongan	<10	-	-	-
Portuguese	<10	-	-	-
Samoan	<10	-	-	-
Korean	<10	-	-	-
Micronesian	<10	-	-	-
Other	<10	-	-	-
Refused	<10	-	-	-
Total	230*			

What language is primarily spoken in your household?

English	198	86.8	82.4	91.3
Ilocano	14	6.1	3.0	9.3
Spanish	<10	-	-	-
Tagalog	<10	-	-	-
Cantonese	<10	-	-	-
Vietnamese	<10	-	-	-
Korean	<10	-	-	-
Thai	<10	-	-	-
Tongan	<10	-	-	-
Total	228	100		

Where was your household living prior to the Maui wildfires? (SELECT ONLY ONE)

Rental	124	54.4	47.9	60.9
Owned home	85	37.3	31.0	43.6
Friend or Family Home	10	4.4	1.7	7.1
Unsheltered	<10	-	-	-
Group home or other official shelter facilities	<10	-	-	-
Assisted Living	<10	-	-	-
Total	228	100		

Response	Frequency	Percent	95% Confidence Limits	
<i>Where is your household living now?</i> (SELECT ALL THAT APPLY)*				
Non-congregate shelter (Hotel)	82	36.0	29.7	42.2
Rental	64	28.1	22.2	33.9
Friend or Family Home	51	22.4	16.9	27.8
Owned home	27	11.8	7.6	16.1
Airbnb	<10	-	-	-
Group home or other official shelter facilities	<10	-	-	-
Unsheltered	<10	-	-	-
Assisted Living	0	-	-	-
Total	238*			
<i>Have any of your household members moved away from Maui since the wildfires?</i>				
All of them	21	9.2	5.4	13.0
Some of them	29	12.7	8.4	17.1
None of them	178	78.1	72.7	83.5
Unsure	0	-	-	-
Refused	0	-	-	-
Total	228	100.0		
<i>(If all or some) Did those members leave the state of Hawai'i?</i>				
Yes	32	64.0	50.2	77.8
No	18	36.0	22.2	49.8
Unsure	0	-	-	-
Refused	0	-	-	-
Total	50	100.0		
<i>What is your household's most trusted source of information about the Maui wildfire response and recovery efforts?</i>				
Social Media	72	31.6	25.5	37.7
Word of Mouth / Friends or Family	63	27.6	21.8	33.5
News/Radio	53	23.2	17.7	28.8
Government	14	6.1	3.0	9.3
Unsure	13	5.7	2.7	8.7
None	<10	-	-	-
Church or other charitable organization	<10	-	-	-
Other	<10	-	-	-
Refused	<10	-	-	-
Total	228	100		

Table 3. Household Health Questions of the Maui Wildfire RNA (n = 228)

Response	Frequency	Percent	95% Confidence Limits	
If needed, does your household feel it can adequately access medical care?				
Yes	186	81.6	76.5	86.6
No	28	12.3	8.0	16.6
Unsure	14	6.1	3.0	9.3
Refused	0	-	-	-
Total	228	100		
Does everyone in your household currently have health insurance?				
Yes	172	75.4	69.8	81.1
No	38	16.7	11.8	21.5
Unsure	18	7.9	4.4	11.4
Refused	0	-	-	-
Total	228	100		
How would you rate your household’s current physical health and wellbeing?				
Very Poor	<10	-	-	-
Poor	30	13.2	8.7	17.6
Average	79	34.6	28.4	40.9
Good	83	36.4	30.1	42.7
Very Good	30	13.2	8.7	17.6
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100		
Since the Maui wildfires, has your household experienced worsening health conditions?				
Yes	93	40.8	34.4	47.2
No	126	55.3	48.8	61.8
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100		
Prior to the Maui wildfires, have any of your household members sought mental or behavioral health support services?				
Yes	41	18.0	13.0	23.0
No	183	80.3	75.1	85.5
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100		

Response	Frequency	Percent	95% Confidence Limits	
Since the Maui wildfires, have any of your household members sought mental or behavioral health support services?				
Yes	63	27.6	21.8	33.5
No	162	71.1	65.1	77.0
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100		
Does your household know where to seek mental or behavioral health support services if you want them?				
Yes	182	79.8	74.6	85.1
No	32	14.0	9.5	18.6
Unsure	14	6.1	3.0	9.3
Refused	0	-	-	-
Total	228	100		
How would you rate your household’s current mental health and wellbeing?				
Very Poor	<10	-	-	-
Poor	44	19.3	14.1	24.5
Average	90	39.5	33.1	45.9
Good	61	26.8	21.0	32.5
Very Good	20	8.8	5.1	12.5
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100		
Since the Maui wildfires, have any of your household members had difficulty sleeping?				
All of them	99	43.4	36.9	49.9
Some of them	57	25.0	19.3	30.7
None of them	68	29.8	23.8	35.8
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100		
Over the last two weeks, have any of your household members experienced feeling nervous, anxious, or depressed?				
All of them	95	41.7	35.2	48.1
Some of them	68	29.8	23.8	35.8
None of them	60	26.3	20.6	32.1
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100		

Table 4. Household Needs Questions of the Maui Wildfire RNA (n = 228)

Response	Frequency	Percent	95% Confidence Limits	
What is your household's greatest need at this time?				
Finding permanent residence	83	36.4	30.1	42.7
Financial recovery	70	30.7	24.7	36.7
Finding employment	17	7.5	4.0	10.9
Re-entry/Rebuilding issues	<10	-	-	-
Medical issues and Health Insurance	<10	-	-	-
None	<10	-	-	-
Mental health needs	<10	-	-	-
Moving forward	<10	-	-	-
Securing documentation	<10	-	-	-
Placing child in school	<10	-	-	-
Water or Air Quality	<10	-	-	-
Community	<10	-	-	-
Food	<10	-	-	-
Infrastructure and permitting	<10	-	-	-
Non-medical insurance	<10	-	-	-
Transportation	<10	-	-	-
Trust	<10	-	-	-
Unsure	<10	-	-	-
Information	<10	-	-	-
Prescription refills	<10	-	-	-
Total	228	100		

Response	Frequency	Percent	95% Confidence Limits	
What is your household's next greatest need at this time?				
Financial recovery	49	21.5	16.1	26.9
Finding employment	25	11.0	6.9	15.1
None	25	11.0	6.9	15.1
Finding permanent residence	24	10.5	6.5	14.5
Medical issues and Health Insurance	13	5.7	2.7	8.7
Food and supplies	10	4.4	1.7	7.1
Mental health needs	10	4.4	1.7	7.1
Transportation	10	4.4	1.7	7.1
Re-entry/Rebuilding issues	<10	-	-	-
Water or Air Quality	<10	-	-	-
Infrastructure and permitting	<10	-	-	-
Placing child in school	<10	-	-	-
Community	<10	-	-	-
Decision on assistance application	<10	-	-	-
Moving forward	<10	-	-	-
Information	<10	-	-	-
Securing documentation	<10	-	-	-
Trust	<10	-	-	-
Unsure	<10	-	-	-
Non-medical insurance	<10	-	-	-
Accountability	<10	-	-	-
Honoring a lost family member	<10	-	-	-
Pet accommodations	<10	-	-	-
Physical activity	<10	-	-	-
Stability	<10	-	-	-
Total	228	100		

Response	Frequency	Percent	95% Confidence Limits	
What are the households greatest needs at this time? (First and second combined)				
Financial recovery	119	26.1	22.1	30.1
Finding permanent residence	107	23.5	19.6	27.4
Finding employment	42	9.2	6.5	11.9
None	31	6.8	4.5	9.1
Medical issues and Health Insurance	20	4.4	2.5	6.3
Re-entry/Rebuilding issues	16	3.5	1.8	5.2
Mental health needs	15	3.3	1.6	4.9
Food and supplies	12	2.6	1.2	4.1
Transportation	12	2.6	1.2	4.1
Water or Air Quality	11	2.4	1.0	3.8
Infrastructure and permitting	<10	-	-	-
Moving forward	<10	-	-	-
Placing child in school	<10	-	-	-
Securing documentation	<10	-	-	-
Community	<10	-	-	-
Decision on assistance application	<10	-	-	-
Trust	<10	-	-	-
Unsure	<10	-	-	-
Information	<10	-	-	-
Non-medical insurance	<10	-	-	-
Accountability	<10	-	-	-
Honoring a lost family member	<10	-	-	-
Pet accommodations	<10	-	-	-
Physical activity	<10	-	-	-
Prescription refills	<10	-	-	-
Stability	<10	-	-	-
Total	456	100		

<i>What are the households greatest needs at this time? (First and second combined with suppressed <10)</i>				
Financial recovery	119	26.1	22.1	30.1
Finding permanent residence	107	23.5	19.6	27.4
Other	71	15.6	12.2	18.9
Finding employment	42	9.2	6.5	11.9
None	31	6.8	4.5	9.1
Medical issues and Health Insurance	20	4.4	2.5	6.3
Re-entry/Rebuilding issues	16	3.5	1.8	5.2
Mental health needs	15	3.3	1.6	4.9
Food and supplies	12	2.6	1.2	4.1
Transportation	12	2.6	1.2	4.1
Water or Air Quality	11	2.4	1.0	3.8
Total	456	100		

Response	Frequency	Percent	95% Confidence Limits	
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*Since the Maui wildfires, what community resources has your household tried to sign up for? (SELECT ALL THAT APPLY)**

FEMA	214	93.9	90.7	97.0
American Red Cross	167	73.2	67.5	79.0
People's Fund of Maui	135	59.2	52.8	65.6
Unemployment	116	50.9	44.3	57.4
SNAP	111	48.7	42.1	55.2
GoFundMe	67	29.4	23.4	35.3
SBA	63	27.6	21.8	33.5
Other	55	24.1	18.5	29.7
United Way	15	6.6	3.3	9.8
Church and charitable organization	10	4.4	1.7	7.1
None	<10	-	-	-
Unsure	<10	-	-	-
Total	958*			

Has your household been denied any of those resources?

Yes	119	52.2	45.7	58.7
No	91	39.9	33.5	46.3
Unsure	18	7.9	4.4	11.4
Refused	0	-	-	-
Total	228			

*(If yes) Which resources were denied? (SELECT ALL THAT APPLY)**

FEMA	66	30.8	24.6	37.1
People's Fund of Maui	28	20.7	13.8	27.7
American Red Cross	21	12.6	7.5	17.7
Unemployment	21	18.1	11.0	25.2
SBA	21	33.3	21.4	45.3
SNAP	19	17.1	10.0	24.2
Other	<10	-	-	-
United Way	<10	-	-	-
Church and charitable organization	<10	-	-	-
GoFundMe	0	-	-	-
Total	189*			

Response	Frequency	Percent	95% Confidence Limits	
What barriers, if any, did your household experience when signing up to receive disaster assistance? (SELECT ALL THAT APPLY)				
None	81	35.5	29.3	41.8
Eligibility criteria / Incorrectly denied	40	17.5	12.6	22.5
Challenging to navigate	35	15.4	10.6	20.1
Decision pending / long wait times	32	14.0	9.5	18.6
Documentation challenges	16	7.0	3.7	10.4
Other	16	7.0	3.7	10.4
Technical difficulties	12	5.3	2.3	8.2
Accessibility issues	11	4.8	2.0	7.6
Missed deadline / funds exhausted or insufficient	<10	-	-	-
Language barrier	<10	-	-	-
Inexperienced assistance workers	<10	-	-	-
Overwhelmed	<10	-	-	-
Total	269*			

Does your household have any concerns or needs that we have not already discussed?

Yes	44	19.3	14.1	24.5
No	173	75.9	70.3	81.5
Unsure	11	4.8	2.0	7.6
Refused	0	-	-	-
Total	228	100.0		

Would you like to have someone from the health department contact you about any unmet needs at this time?

Yes	62	27.2	21.4	33.0
No	162	71.1	65.1	77.0
Unsure	<10	-	-	-
Refused	0	-	-	-
Total	228	100.0		

APPENDIX B



FINAL VERSION

Rapid Needs Assessment for Maui Wildfires

*Household = Original household displaced by the wildfires

1. Including yourself, how many people live in your household?
[#]

2. Including yourself, how many of those people are:

Less than 2 years old: [#]

2 - 17 years old: [#]

18 - 64 years old: [#]

65 or over: [#]

3. Does your household identify as one race or multiracial?

☐ One Race ☐ Multiracial ☐ Unsure ☐ Refused

3b. (If one race) What race does your household primarily identify with? (SELECT ONLY ONE)

☐ Chinese ☐ Filipino ☐ Hispanic/Latino ☐ Japanese
☐ Korean ☐ Micronesian ☐ Native Hawaiian ☐ Non-Hispanic White
☐ Samoan ☐ Tongan ☐ Other _____ ☐ Unsure
☐ Refused

3c. (If multiracial or unsure) What races do your household members identify with? (SELECT ALL THAT APPLY)

☐ Chinese ☐ Filipino ☐ Hispanic/Latino ☐ Japanese
☐ Korean ☐ Micronesian ☐ Native Hawaiian ☐ Non-Hispanic White
☐ Samoan ☐ Tongan ☐ Other _____ ☐ Unsure
☐ Refused

4. What language is primarily spoken in your household?

☐ English ☐ Cantonese ☐ Chamorro ☐ Chuukese
☐ Ilocano ☐ Japanese ☐ Khmer ☐ Korean
☐ Kosraean ☐ Lao ☐ Mandarin ☐ Marshallese
☐ 'Ōlelo Hawai'i ☐ Pohnpeian ☐ Portuguese ☐ Samoan
☐ Spanish ☐ Tagalog ☐ Thai ☐ Tongan
☐ Vietnamese ☐ Visayan (Cebuano) ☐ Yapese ☐ Other _____
☐ Unsure ☐ Refused

5. Where was your household living prior to the Maui wildfires?

☐ Owned home ☐ Rental ☐ Friend or Family Home ☐ Long Term Care Facility
☐ Assisted Living ☐ Unsheltered ☐ Group home or other official shelter facilities
☐ Other _____ ☐ Unsure ☐ Refused



FINAL VERSION

5b. (If unsheltered) Can you please specify?

- ☐ Cut Mt. ☐ Kanaha (Naska) ☐ Holomua Rd (Kauai) ☐ Olowalu
☐ Kahului Harbor ☐ Front Street ☐ Unsure ☐ Other _____

6. Where is your household living now (SELECT ALL THAT APPLY)?

- ☐ Non-congregate shelter (hotel) ☐ Airbnb ☐ Owned home ☐ Rental
☐ Friend or Family Home ☐ Long term Care Facility ☐ Assisted Living ☐ Unsheltered
☐ Group home or other official shelter facilities ☐ Other _____ ☐ Unsure
☐ Refused

7. Have any of your household members moved away from Maui since the wildfires?

- ☐ All of them ☐ Some of them ☐ None of them ☐ Unsure ☐ Refused

7b. (If all or some) Did those members leave the state of Hawaii?

- ☐ Yes ☐ No ☐ Unsure ☐ Refused

8. What is your household's most trusted source of information about the Maui wildfire response and recovery efforts?

- ☐ News/Radio ☐ Church or other charitable organization ☐ Government
☐ Social Media ☐ Word of mouth, family/friends ☐ None
☐ Other _____ ☐ Unsure ☐ Refused

9. If needed, does your household feel it can adequately access medical care?

- ☐ Yes ☐ No _____ ☐ Unsure ☐ Refused

10. Does everyone in your household currently have health insurance?

- ☐ Yes ☐ No ☐ Unsure ☐ Refused

11. How would you rate your household's current physical health and wellbeing?

- ☐ Very Poor ☐ Poor ☐ Average ☐ Good ☐ Very Good
☐ Unsure ☐ Refused

12. Since the Maui wildfires, has your household experienced worsening health conditions?

- ☐ Yes _____ ☐ No ☐ Unsure ☐ Refused

13. Prior to the Maui wildfires, have any of your household members sought mental or behavioral health support services?

- ☐ Yes ☐ No ☐ Unsure ☐ Refused

14. Since the Maui wildfires, have any of your household members sought mental or behavioral health support services?

- ☐ Yes ☐ No ☐ Unsure ☐ Refused

15. Does your household know where to seek mental or behavioral health support services if you want them?

- ☐ Yes ☐ No ☐ Unsure ☐ Refused



FINAL VERSION

16. How would you rate your household's current mental health and wellbeing?
- ☐ Very Poor ☐ Poor ☐ Average ☐ Good ☐ Very Good
- ☐ Unsure ☐ Refused
17. Since the Maui wildfires, have any of your household members had difficulty sleeping?
- ☐ All of them ☐ Some of them ☐ None of them ☐ Unsure ☐ Refused
18. Over the last two weeks, have any of your household members experienced feeling nervous, anxious, or depressed?
- ☐ All of them ☐ Some of them ☐ None of them ☐ Unsure ☐ Refused
19. What is your household's greatest need at this time? (Please choose only one)
- [text]
20. What is your household's next greatest need at this time? (Please choose only one)
- [text]
21. Since the Maui wildfires, what community resources has your household tried to sign up for (SELECT ALL THAT APPLY)?
- ☐ FEMA ☐ American Red Cross ☐ Unemployment ☐ GoFund Me
- ☐ People's Fund of Maui ☐ SBA ☐ SNAP ☐ Other _____
- ☐ None ☐ Unsure ☐ Refused
22. Has your household been denied any of those resources?
- ☐ Yes ☐ No ☐ Unsure ☐ Refused
- 22b. If yes, which resources were denied? (SELECT ALL THAT APPLY)
- ☐ FEMA ☐ American Red Cross ☐ Unemployment ☐ GoFund Me
- ☐ People's Fund of Maui ☐ SBA ☐ SNAP ☐ Other _____
- ☐ Unsure ☐ Refused
23. What barriers, if any, did your household experience when signing up to receive government assistance? (if none, enter "none")
- [text]
24. Does your household have any concerns or needs that we have not already discussed?
- ☐ Yes _____ ☐ No ☐ Unsure ☐ Refused
25. Would you like to have someone from the health department contact you about any unmet needs at this time (such as healthcare access, behavioral health support, and case management services)?
- ☐ Yes ☐ No ☐ Unsure ☐ Refused
- (if yes fill out referral form)

APPENDIX C



DEPARTMENT OF HEALTH KA 'OIHANA OLAKINO

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR
KA LUNA HO'OKELE

FOR IMMEDIATE RELEASE
October 6, 2023

23-120

Department of Health to conduct Maui needs assessment survey

HONOLULU – The Hawai'i Department of Health (DOH) will conduct a needs assessment survey for residents affected by the wildfires. The DOH survey will assess ongoing priorities identified by the community and barriers to accessing healthcare and other essential services.

"It's critical that efforts by the Department of Health and our partners are driven by needs identified by Maui communities, and this assessment will help us to better understand existing gaps and barriers to care," said State Epidemiologist Dr. Sarah Kemble. "The information collected will be used to direct state and federal resources to meet the immediate and medium-term needs of Maui residents as well as to link participating households to any additional services they might need and have not been able to access. We appreciate the community's participation in this assessment."

DOH staff will call a random selection of Maui residents impacted by the wildfires from October 9 to October 11. The survey, which will involve asking questions over the phone, takes less than 10 minutes to complete and is entirely voluntary. DOH staff will be able to assist in completing the survey in Ilocano, Tagalog, Marshallese, Spanish, and Hawaiian languages. DOH staff will also have access to interpreters to complete the survey in additional languages. Selected households will be asked about their resource needs, access to medical and behavioral health support services, current physical health and well-being, and any barriers they have experienced in applying for and receiving the services they need. All survey responses will be confidential, and no personally identifiable information will be collected.

Through the selection of a random sample, DOH can collect data that is representative of the impacted population in a minimally intrusive manner. This survey will provide important information to direct the continued work of DOH and other emergency response partners.

Additional information on resources available to the Maui community is available at <https://health.hawaii.gov/mauiwildfires/>.

1

APPENDIX D

JOSH GREEN, M.D.
GOVERNOR OF HAWAII
KEKOA'ANA O KA MO'OLELO O KA HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HIKOHELE

JANET M. BERREMAN, M.D., M.P.H., F.A.A.P.
DISTRICT HEALTH OFFICER

In reply, please refer to:
File:

Maui Wildfires Rapid Needs Assessment Informed Consent Script

Hello, may I please speak to _____? Hi, this is _____ with the Department of Health. We are doing a short survey to assess your family's needs following the Maui wildfires. Your household was randomly selected to participate, and the survey will take less than 10 minutes. All answers will be confidential. You may refuse to answer any question. Do you have a few minutes to complete the survey?

[WAIT FOR RESPONDENT TO CLEARLY ANSWER YES OR NO].

[IF YES] Thank you so much. (Begin survey)

[IF NO] Thank you very much for your time. Are there any services or needs we can help with?

[IF YES] What needs can we help with? (Complete Referral form).

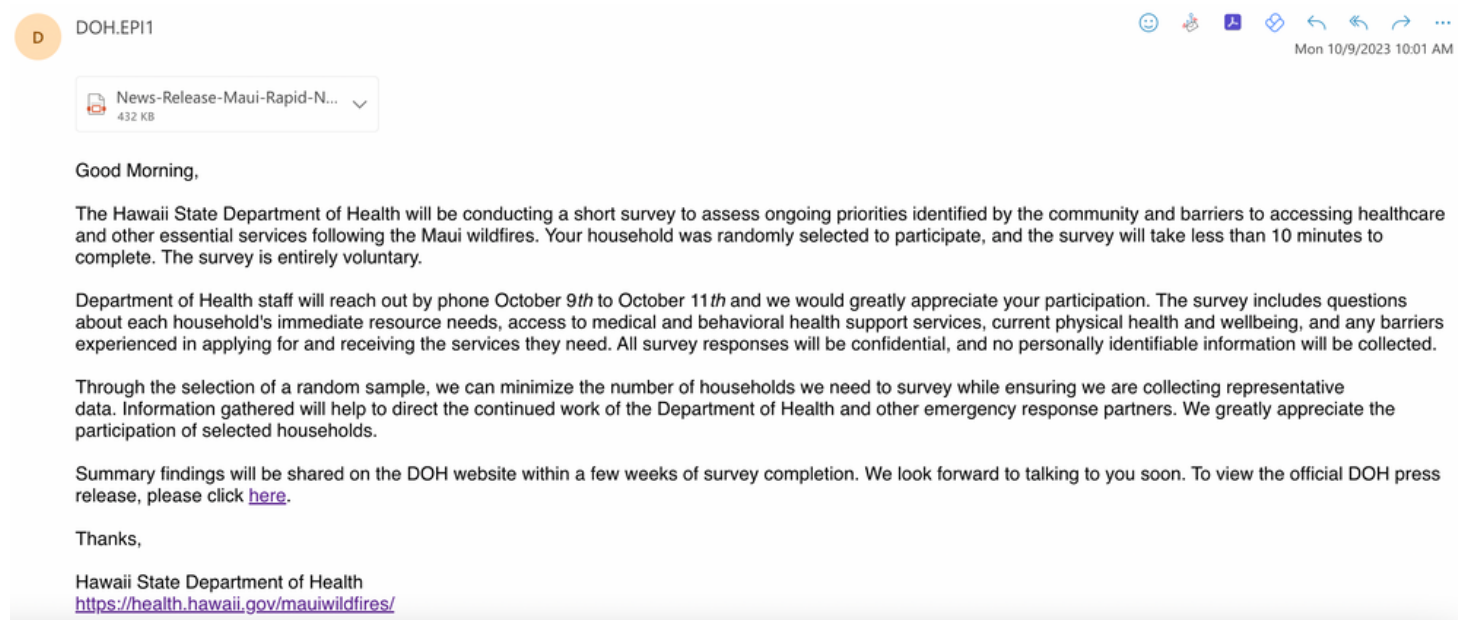
[IF NO] Ok, thank you very much. Goodbye.

If no answer, please leave a voicemail:

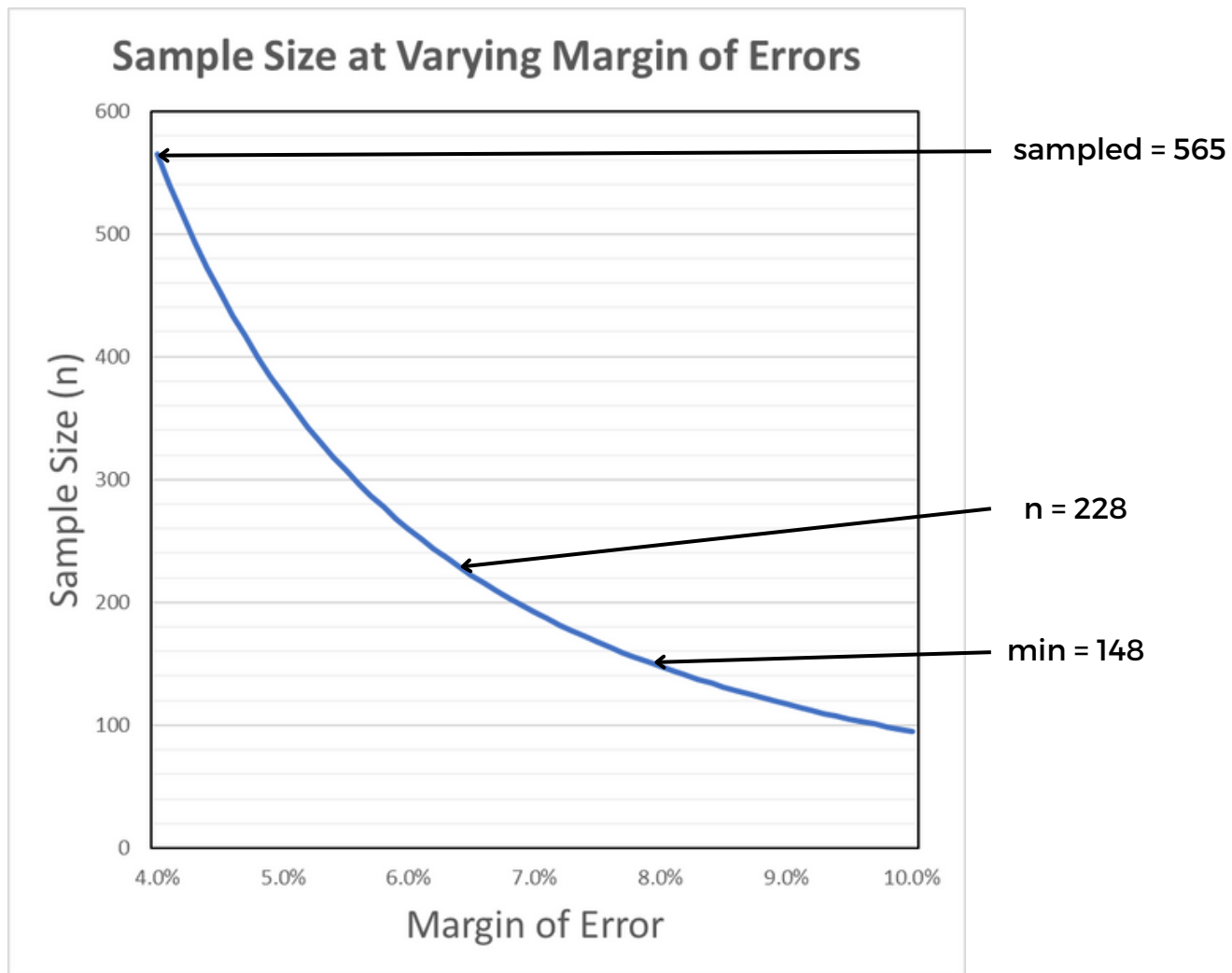
Hello, this is _____ with the Department of Health. We are doing a short survey to assess your family's needs following the Maui wildfires. Your household was randomly selected to participate, and the survey will take less than 10 minutes. All answers will be confidential. Please call me back at _____ to let us know if you wish to participate.

If they would like confirmation that you are calling from the Hawaii State Department of Health, you can direct them to the DOH press release or have them call **Lauren Guest**, Deputy District Health Officer at **808- 241-3495**.

APPENDIX E



APPENDIX F



$$sample\ size = \frac{\frac{Z^2 p(1-p)}{e^2}}{1 + \frac{Z^2 p(1-p)}{e^2 N}}$$

N = population size

Z = z-score (95%)

e = margin of error

p = standard deviation