EAST HAWAIʻI ISLAND 2025
CASPER Report

AUTHORS:
Shavon Fenton | Hawaiʻi District Health Office
Marie Perez, MPH | Hawaiʻi District Health Office
Grayson N. Kallas, MPH | Kauaʻi District Health Office
Lauren T. Guest, MPH | Kauaʻi District Health Office
Ashley S. Tseng, PhD, MPH | Hawaiʻi State Department of Health

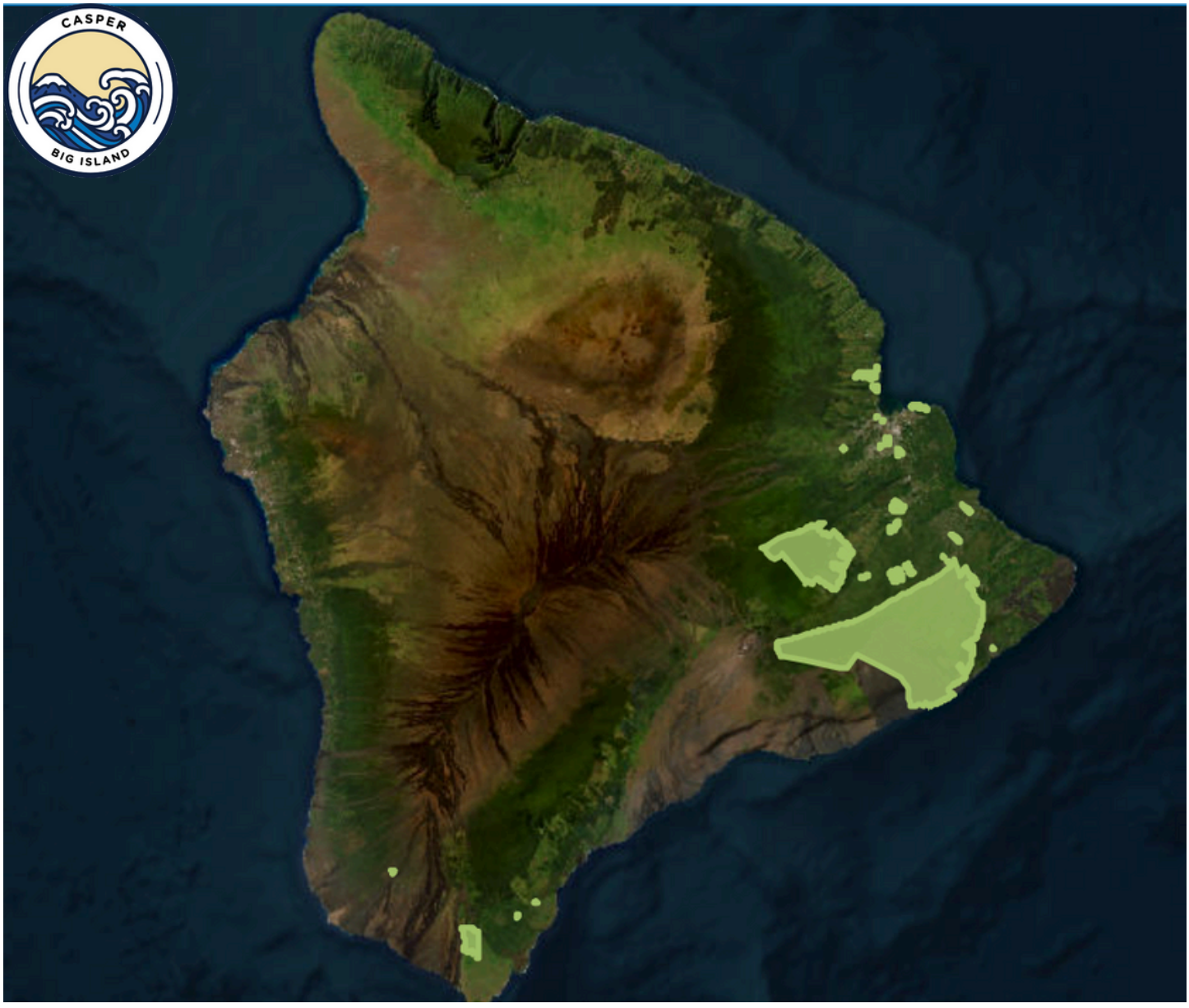


TABLE OF CONTENTS

INTRODUCTION

Background

A community assessment for public health emergency response (CASPER) survey was conducted on the Eastern side of Hawai‘i Island (or Big Island) in May 2025 by the Hawai‘i State Department of Health's (HDOH) Hawai‘i District Health Office in partnership with Hawai‘i County and community organizations. CASPER is a validated two-stage cluster sampling methodology developed by the Centers for Disease Control and Prevention (CDC) to rapidly obtain information about the health and resource needs of a community.[1] Information obtained is generalizable to the entire sampling frame, providing population-based estimates. This methodology is designed to be inexpensive, quick, and scalable, making it ideal for use in disaster settings. CASPERs can also be used to establish baseline preparedness levels and build capacity to conduct post-disaster CASPERs. This was the first CASPER needs assessment survey conducted on Hawai‘i Island with support provided by the Kaua‘i District Health Office, which has conducted CASPERs annually from 2017-2024 (excluding 2021). Through these efforts, 37 new HDOH staff and community volunteers were trained in this rapid health needs assessment methodology.

Objectives

Developed in consultation with county emergency preparedness stakeholders during the survey concept and development phrase, the 2025 East Hawai‘i Island CASPER included an assessment of:

1. Emergency and evacuation plans
2. Emergency supplies
3. Infectious disease awareness and concerns
4. General life on Hawai‘i Island

METHODS

2025 Hawai‘i Island CASPER Sampling

CASPER is a two-stage cluster sampling methodology. The first stage, cluster selection, begins with the determination of a sampling frame, or the area from which the sample is selected and to which the data is generalized. Once the sampling frame is determined, thirty census blocks (termed “clusters”) are randomly selected. The probability of a census block being selected is proportional to the number of housing units located within it.

The second stage of sampling, household selection, is typically completed by survey teams in the field. This stage involves systematic selection of seven households per cluster. Homes are selected by dividing the total number of housing units in each cluster by seven to determine a sequence number (“n”). Survey teams then attempt to interview every “nth” house, with an ultimate target of 210 surveys.

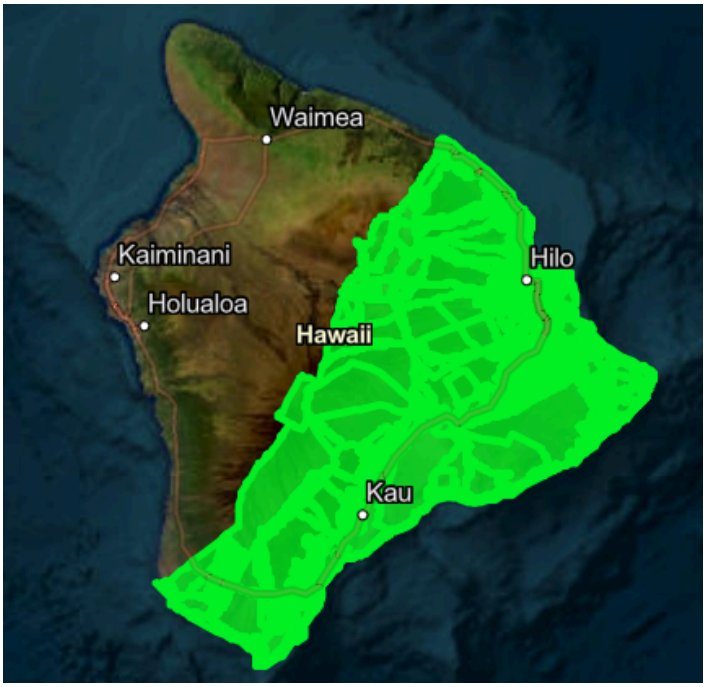


Figure 1. Satellite imagery of all census blocks eligible for selection in the sampling frame for the East Hawai‘i Island CASPER.

Cluster and Household Selection

The sampling frame for this assessment consisted of occupied housing units on the Eastern half of Hawai‘i Island (Figure 1). The Eastern half of Hawai‘i Island was prioritized for the survey due to increased vulnerability to various natural disaster hazards. The 2020 census block data was used to select 30 clusters via random number generation.[2] The Eastern half of Hawai‘i Island has a total of 2,742 census blocks and 42,215 occupied housing units (Figure 1). The most recent American Community Survey data (ACS 2023) estimates a population of ~114,800 living in these census blocks. As a major tourist destination, many housing units are not occupied by residents and are classified as "vacant" in census data. To better capture data representative of Hawai‘i Island residents, cluster selection used occupied housing units rather than total housing units to reduce the likelihood of selecting clusters with primarily short-term vacation rentals, which aren't eligible for survey completion.

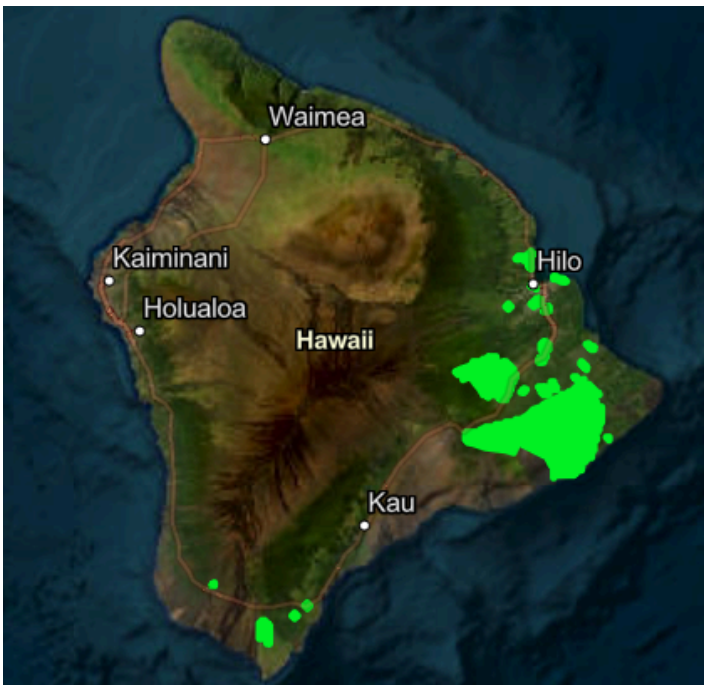


Figure 2. Satellite imagery of census blocks randomly selected for 2025 survey participation.

Census data, including census block GIS shape files, total population, total housing units, and occupied housing units (all per census block) were downloaded via the U.S. Census webpage. Using a random number generator between one and 42,215 (the total occupied households on the Eastern half of Hawai‘i island), 30 households were selected, and their corresponding census blocks were chosen as survey clusters. Selected cluster shapefiles were layered over satellite images using ArcGIS (Figure 2).

To save survey teams time in the field, survey planners utilized satellite imagery and County of Hawai‘i Real Property Tax Office map data[3] to pre-select households for participation. Starting points were chosen using random number generation after assigning numbers to households in a given cluster. Researchers used these points, along with Hawai‘i County tax parcel shapefiles, to enumerate housing units within each cluster. Counting sequences were calculated by dividing the number of census-block specific occupied housing units by seven (referred to as “n”).

Survey planners continued through each cluster in a serpentine manner until seven participant households and seven potential replacement households were selected. Survey teams were provided with maps of each cluster, seven primary households and at least seven potential replacement households to use if conditions for replacement were met. This methodology saved time in the field, ensured adherence to systematic household selection process, and improved efforts to include additional dwelling units (known as ‘ohana units) that are typically hidden from street view and often missed during field enumeration processes.

Questionnaire

The 2025 East Hawai‘i Island CASPER questionnaire was developed by an interdisciplinary epidemiology team comprised of Big Island, O‘ahu, and Kaua‘i team members. Additional feedback was provided by the Hawai‘i District Health Officer, Public Health Preparedness Planner, and the Hawai‘i County Civil Defense Agency. The following domains were incorporated into the questionnaire with stakeholder input: knowledge of local hazards and household evacuation plans; basic emergency supplies; shelter perceptions and intended use; trusted information sources and partners; infectious diseases; and general health and well-being. Forms were not translated into other languages, but survey teams were instructed on how to request interpreter services. To streamline data collection, surveys were collected in the field on tablets using the EpiCollect5 application, while households could follow along on a paper copy of the survey (Appendix B).

The survey was reviewed by the HDOH Institutional Review Board with a non-human subject research determination for public health practice.

Training and Survey Teams

Since this was the first CASPER survey on Hawai‘i Island, HDOH staff from Kaua‘i and O‘ahu with prior CASPER experience were asked to lead each field survey team. Each field survey team also consisted of a local HDOH staff member and a local volunteer agency representative. Three different community volunteer agencies supported survey teams, including: Community Emergency Response Team (CERT), Hawai‘i Animal Kuleana Alliance (HAKA), and the Men of Pa‘a.

All survey team members attended training prior to survey deployment or just-in-time training when picking up their survey team supplies.

Teams were briefed on common safety and security issues as well as provided with a copy of the safety plan addressing likely hazards and an interview tip sheet for quick reference in the field (Appendix H).

Survey Implementation

From May 12-15, anywhere from six to nine survey teams deployed each day to conduct door-to-door surveys in the 30 randomly selected clusters. Teams were given a detailed map and list of the systematically selected households, extra paper-based questionnaires (Appendix B), a copy of the press release describing the survey’s objectives (Appendix C), a verbal informed consent

script (Appendix D), a cluster-specific tracking sheet (Appendix F), referral forms (Appendix G), an electronic data collection reference sheet (Appendix I), and a tablet to collect electronic data (Figure 3). Copies of all documents were available for household distribution upon request and are provided in Appendices B-I. To be eligible to participate in the anonymous survey, respondents had to provide verbal consent, reside on the island at least six months per year, and be 18 years of age or over.

Figure 3. Survey team supplies.

Survey teams visited selected properties and offered those who were interested in participating the choice to complete the anonymous survey in a physically-distanced outdoor interview or over the phone.

When selected households were not at home, survey teams left letters with instructions to call the survey team back to conduct their interview via phone, coordinate a good time for an in-person interview, or to decline to participate (Appendix E).

Participating households were provided waterproof bags for storage of important documents, COVID-19 tests, mini first aid kits, emergency whistles, and educational materials on: tsunami safety, emergency preparedness, emergency alert registration, emergency plans, CERT, HAKA, and Vibrant Hawai‘i (Appendix J). Participating households were asked if they had needs that the Hawai‘i District Health Office could help with and referrals were made for those that requested them. Households that declined to participate in the survey still received the waterproof bags for important document storage and all educational materials.

Data Entry and Analysis

Survey data were collected electronically via tablets using the EpiCollect5 application. Entries were uploaded upon return to the operations center. The data cleaning and analysis were done using R (version 4.3.2; R Core Team, 2023) with the srvyr package.

During analysis, each completed interview was assigned a weight based on the number of surveys completed in the corresponding cluster. Weighting each interview ensures the data is representative of the entire sampling frame, and results can be generalized to East Hawai‘i Island.

$$\text{Weight} = \frac{\text{Total \# of HHs in sampling frame}}{\text{(\# of HHs surveyed in cluster)} \times \text{(\# of clusters selected)}}$$

RESULTS

Prior to survey implementation, CASPER survey planners consulted with the Hawai‘i County Civil Defense Agency and local law enforcement on safety and security concerns. One cluster was identified as presenting too many safety concerns with available mitigation strategies; no survey teams were deployed to this area. In the 29 visited clusters, survey teams attempted to contact 354 households, spoke with a resident at 208 households, and ultimately completed a total of 169 interviews. Response rates are shown in Table 1.

Interpreter services were available to teams by request. In 2025, this service was not requested by any selected households. Eight total referral forms were completed during the 2025 East Hawai‘i Island CASPER to link residents to a requested service.

Survey results are grouped by subject and summarized in data figures and tables on the following pages. Weighted analysis with 95% confidence intervals (CI) are provided for cells with ≥5 observations in accordance with CDC CASPER results guidance.

The CI offers a range based on sample data within which we are reasonably confident that the true population parameter lies, given the confidence level (95%). The range of the CI provides an indication of the precision of the estimate. A narrower interval suggests a more precise estimate of the population parameter, while a wider interval suggests less precision. CIs are shown as error bars in the figures.

Basic Household Information

The first section of the survey assessed basic household information. The mean and median household size was 2.6 (95% CI [2.3, 2.8]) and 2.0 (95% CI [2.0, 3.0]), respectively. Given the vulnerability of certain ages in a disaster, surveyors asked households about the ages of household members.

Forty-six percent of households had at least one member 65 years or older, and 28% of households had at least one member 17 years or younger (Figure 4).

Table 1. Calculated response rates for East Hawai‘i Island CASPER

Completion Rate	Represents percent of target # of surveys collected	Completed Surveys (169) ÷ Target Surveys (210)	**80.5%**
Cooperation Rate	Represents the willingness of the community to participate	Completed Surveys (169) ÷ Total Contacted (208)	**81.3%**
Contact Rate	Represents the proportion of households where contact was attempted and interview was completed	Completed Surveys (169) ÷ Total Attempted (354)	**47.7%**

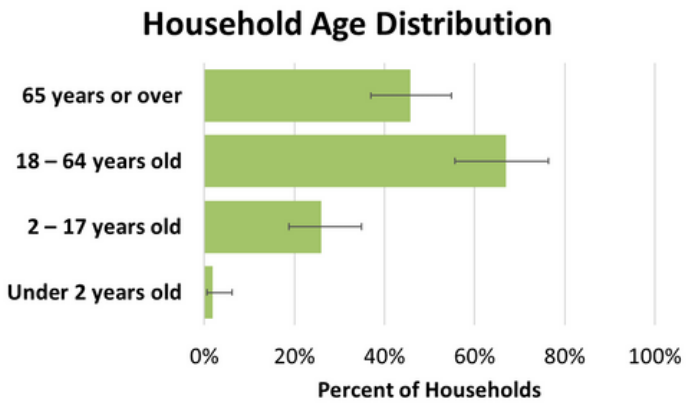


Figure 4. Percent of East Hawai'i Island households that have member(s) in each age group. Categories are not mutually exclusive and total may exceed 100%.

Next, surveyors asked households if they owned or rented their residence. The majority of households in East Hawai'i Island were owner-occupied (76%; Figure 5).

Figure 5. Percent of East Hawai'i Island households that own versus rent their residence.

Surveyors asked about the primary language spoken in each household. Ninety-four percent of households identified English as their primary language. The remaining six percent identified Ilocano, Spanish, Khmer, Korean, Tagalog, and Visayan.

Accessibility & Evacuation Planning

The 2025 CASPER captured the accessibility and evacuation planning needs as well as the preparedness level of East Hawai'i Island households.

Evacuation planning needs were assessed based on reported physical and mental health conditions and household self-assessment of need for evacuation assistance in case of a disaster.

Household member conditions of concern included: chronic diseases requiring medication, physical or developmental disabilities, and mental health conditions. Forty-three percent of households had at least one household member with one of these conditions, with the remaining 56% of households reporting no conditions of concern (Figure 6).

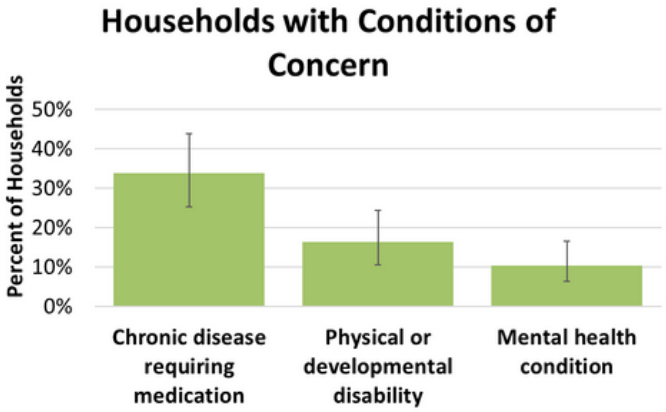


Figure 6. Percent of East Hawai'i Island households with a chronic disease requiring medication, a physical or developmental disability, or a mental health condition.

The majority of households (88%) said that they would not need assistance to evacuate in case of a disaster, with an additional 6% of households reporting they were unsure.

Among households who reported they would require assistance to evacuate (6%), only 14% were aware of agencies or organizations, such as resilience hubs, that can assist during a disaster.

East Hawai'i Island households were asked about existing emergency plans including a communication

plan, designated meeting place, and secured copies of important documents (Figure 7).

Examples of communication plans included a list of phone numbers and a designated out-of-town contact. A designated meeting place was distinguished as being one immediately outside of their home and/or close by in their neighborhood. Examples of secure copies of important documents included placement in a waterproof bag and/or a fireproof safe.

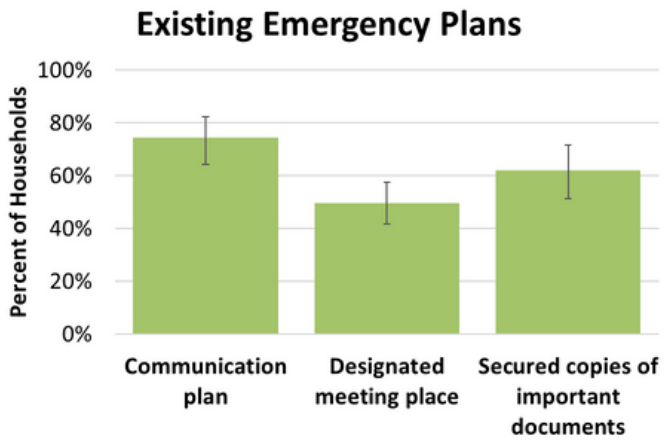


Figure 7. Percent of East Hawai'i Island households with existing emergency plans including a communication plan, a designated meeting place, and secured copies of important documents.

Seventy-four percent of households reported having a communication plan in place, 50% reported having a designated meeting place, and 62% of households reported having copies of important documents secured in a safe location.

Next, households were asked about their shelter plans for each category of hurricane. Hurricane categories were based on the Saffir-Simpson hurricane wind scale which has a total of five categories. The categories were defined as follows: Category 1 (74-95 miles per hour [mph]), Category 2 (96-110 mph), Category 3 (111-129 mph), Category 4 (130-156 mph), and Category 5 (157 mph or higher).

Survey results showed that 74% of households would choose to shelter in place at home for a Category 1 storm. This percentage decreased as the category of storm increased, with only 20% choosing to shelter in place at home for a Category 5 storm (Figure 8). Reported "Other" responses for evacuation shelters included leaving island, church, hotel, mauka, and other residence.

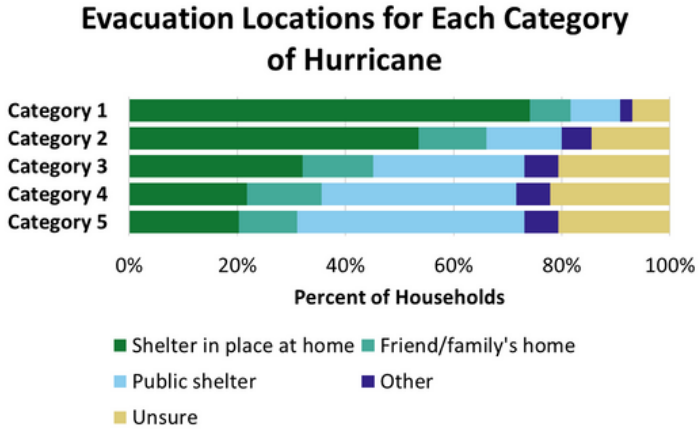


Figure 8. Percent of East Hawai'i Island households that would shelter in place, shelter with friends or family, seek public shelter, other, or are unsure for each category of hurricane.

The opposite trend was observed for those planning to evacuate to a public shelter. Only 9% of households said they would evacuate to a public shelter for a Category 1 storm compared to 42% of households for a Category 5 storm (Figure 9).

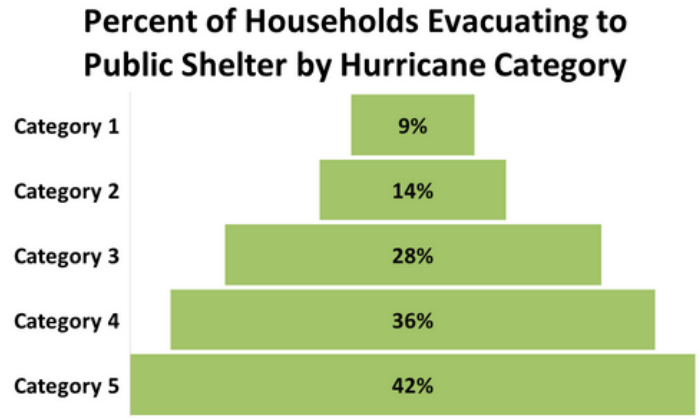


Figure 9. Percent of East Hawai'i Island households that would evacuate to a public shelter by each category of hurricane.

East Hawai'i Island households were also evaluated for their knowledge of tsunami evacuation zones. Households were asked if they were located in a tsunami evacuation zone. Seventy-six percent of households said no, 13% of households said that

they were unsure, and 10% of households said yes Figure 10). Surveyors did not assess whether or not households were correct in their assessment, so the focus here is on the percentage of households that are unsure whether they are located in a tsunami evacuation zone. Post-survey handouts given to participating households included a map of tsunami evacuation zones in East Hawai'i to help households understand tsunami evacuation zones in their area.

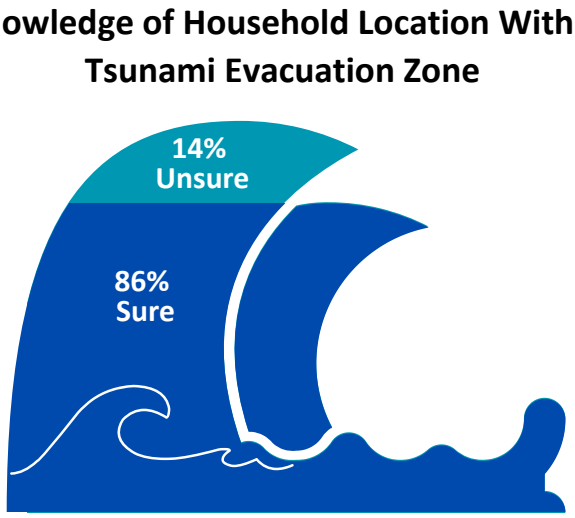


Figure 10. Percent of East Hawai'i Island households who know whether or not they are located in a tsunami evacuation zone.

Households were also assessed regarding barriers that might prevent them from evacuating when advised to do so. Thirty-four percent of households shared that they did not have any barriers. Of those with no barriers, 95% said they would evacuate if advised to do so and five percent said that they would choose not to evacuate.

Among households that identified a potential barrier to evacuation, the most commonly reported included concern about leaving pets (12%) and concern about leaving property vacant (12%). This was followed by disaster-related obstructions (10%) such as trees or traffic congestion blocking their evacuation route, lack of transportation (7%), uncertainty about where to go (4%), and health/mobility issues (3%). Remaining households were unsure what main barrier might prevent them from evacuating when advised to do so (9%) or reported an "other" barrier not defined by answer choices (4%; Figure 11).

Reported "other" responses include limited evacuation routes and concern about leaving people behind.

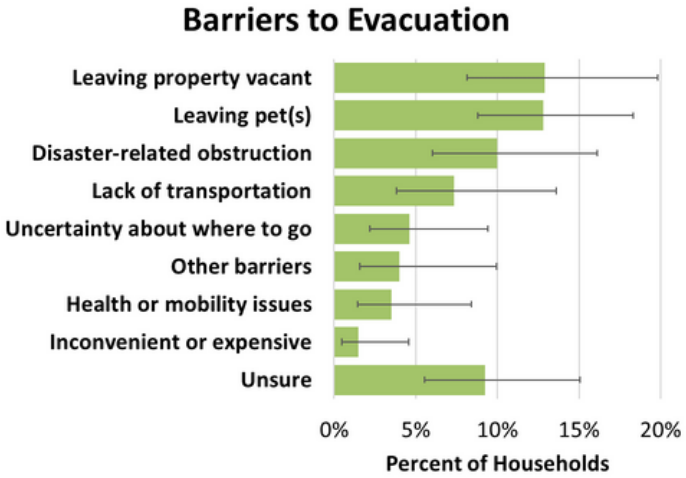


Figure 11. Evacuation barriers identified by East Hawai'i Island households when advised to do so.

Households were asked about their main source of information regarding disasters or emergency events. Thirty-three percent of households' main source of information was radio or TV followed by social media (25%), government website or alerts (23%), and community, friends, or family (15%). Remaining households identified an "other" source of information (1%), were unsure of their primary source (1%), or receive their information from newspapers or magazines (0.5%; Figure 12).

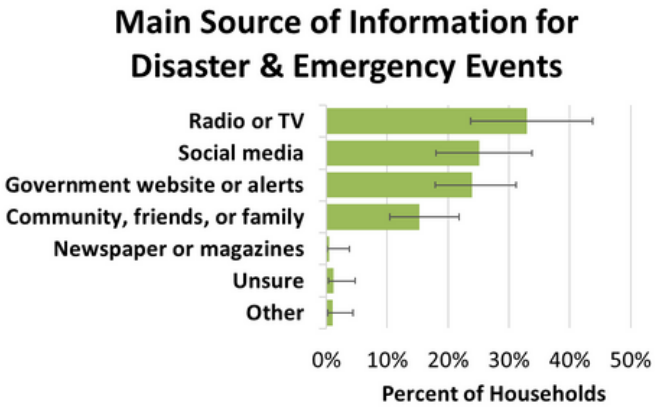


Figure 12. East Hawai'i Island households' self-reported primary source of information for disaster and emergency events.

Households were also asked whether they had signed up to receive weather or other disaster-related alerts. Sixty-five percent of participants said yes, 32% of participants said no, and the remaining one percent were unsure.

Emergency Supplies

To assess household preparedness and identify resource gaps, participants were asked a series of questions about emergency supplies. The State of Hawai'i recommends that all households maintain a 14-day supply of non-perishable food, water, and prescription medication. While 75% of households were aware of the state's recommendation (Figure 13), only 36% reported having enough food and water to last at least 14 days.

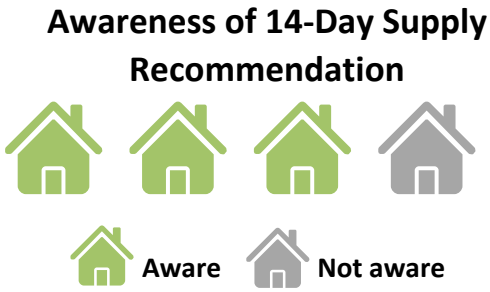


Figure 13. Proportion of East Hawai'i Island households that are aware the State of Hawai'i recommends a 14-day supply of food, water, and prescription medication.

Ninety-two percent of East Hawai'i Island households had enough non-perishable food for three days, 82% for seven days, and 61% for 14 days. Assuming one gallon per person per day, 82% of households had enough water stored for three days, 63% for seven days, and 46% for 14 days (Figure 14).

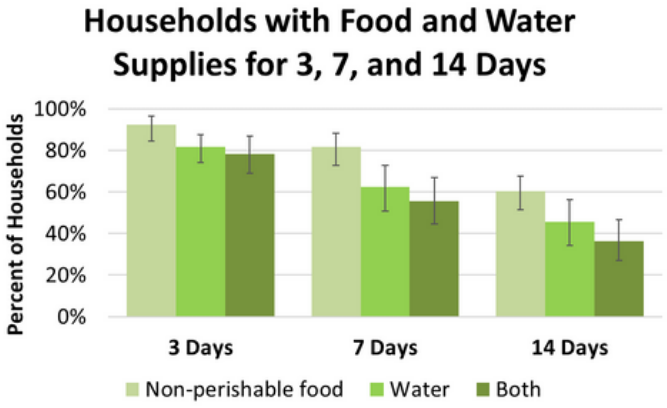


Figure 14. Percent of East Hawai'i Island households with enough non-perishable food and water stored for 3, 7, and 14 days.

Fifty-eight percent of households surveyed had at least one household member that required daily prescription medication. Of those, the majority (85%) reported having a 14-day supply of medication in the event of an emergency (Figure 15).

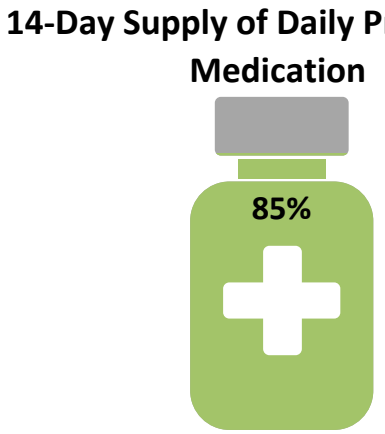


Figure 15. Percent of East Hawai'i Island households requiring daily prescription medication with a 14-day supply available.

East Hawai'i Island households were also asked if they had operational fire safety devices such as a fire extinguisher and smoke detectors. The majority of households responded they had a working fire extinguisher (61%) and smoke detectors (72%) respectively (Figure 16).

Figure 16. Percent of East Hawai'i Island households with a working fire extinguisher and working smoke detectors.

Infectious Diseases

The 2025 CASPER assessed East Hawai'i Island households' awareness of and preventative measures taken towards infectious diseases such as measles and dengue. With the recent measles outbreaks on the US mainland and cases in the State of Hawai'i, households were asked about their awareness of recent cases in the state. Sixty-nine percent of households said they are aware of the recent measles cases in the State of Hawai'i (Figure 17).

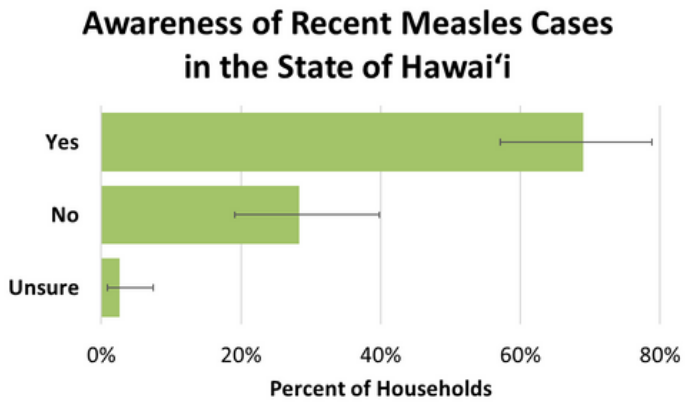


Figure 17. Percent of East Hawai'i Island households that are aware of the recent measles cases in the State of Hawai'i.

When asked to rate the importance of staying up to date on recommended vaccines on a scale of 1 to 5, where 1 represents not at all important and 5 represents very important, nearly half (49%) of East Hawai'i Island households reported that it is very important (Figure 18). On average, the household rating of the importance of vaccines was 3.6 (95% CI [3.2, 4.0]), with a median of 5.0.

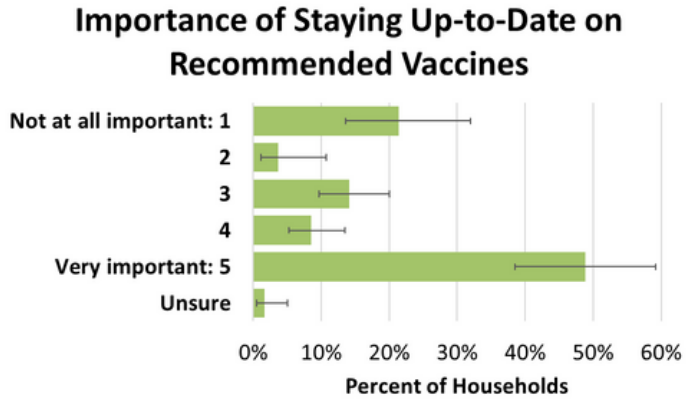


Figure 18. How important East Hawai'i Island households think it is to stay up-to-date on recommended vaccines.

Households were then asked about their use of N,N-diethyl-meta-toluamide (DEET)-containing insect repellent. The majority of East Hawai'i Island households (70%) said they do not use DEET-containing insect repellent to prevent mosquito bites (Figure 19).

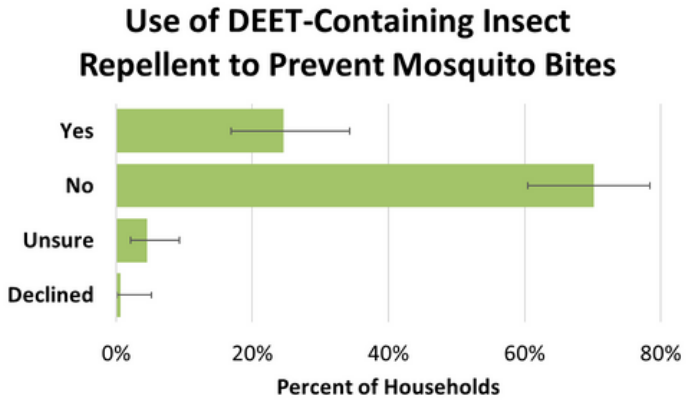


Figure 19. Percent of East Hawai'i Island households who use DEET-containing insect repellent to prevent mosquito bites.

The HDOH Vector Control Branch recommends that households take measures to reduce mosquito breeding habitats around their home, such as getting rid of standing water at least once per week.[4]

Thirty-eight percent of households said they take measures to prevent mosquitoes from breeding on their property, such as getting rid of standing water, every one to seven days (Figure 20). The majority, however, do not perform these measures at the recommended frequency or were unsure. Almost a third of households (30%) indicated they never perform these measures.

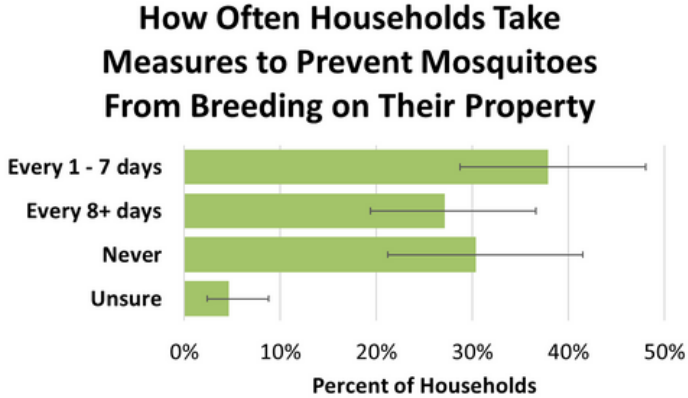


Figure 20. How often East Hawai'i Island households take measures to prevent mosquitoes from breeding on their property.

General Life on Big Island

The last section of the 2025 CASPER survey assessed quality of life for East Hawai‘i Island households.

To broadly assess barriers to healthy eating, they were asked to identify concerns about securing nutritious meals for their household (Figure 21). Most (61%) expressed at least some concern about securing nutritious meals, with 44% being very concerned. The results of this survey question may be impacted by data quality limitations due to potential confusion on the importance of nutritious meals versus ability to secure nutritious meals.

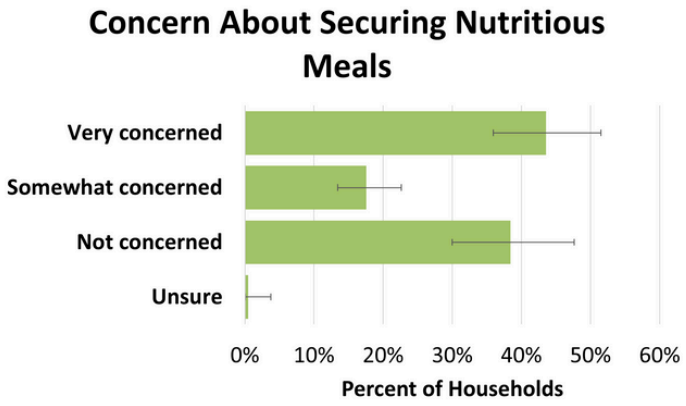


Figure 21. Percent of East Hawai‘i Island households concerned about securing nutritious meals.

Households were then asked to rank their physical and mental health and well-being on a scale of one to five, with one being very poor and five being very good (Figure 22).

Most households (76%) ranked their physical health and well-being as “good” or “very good” with a mean and median of 4.1 (95% CI [4.0, 4.3]) and 4.0 (95% CI [4.0, 5.0]), respectively. Twenty percent of households ranked their physical health and well-being a three, or “fair.”

Similarly, 84% of households ranked their mental health and well-being as “good” or “very good” with a mean and median of 4.4 (95% CI [4.3, 4.6]) and 5.0, respectively. Twelve percent of households ranked their mental health and well-being as a three, or “fair.”

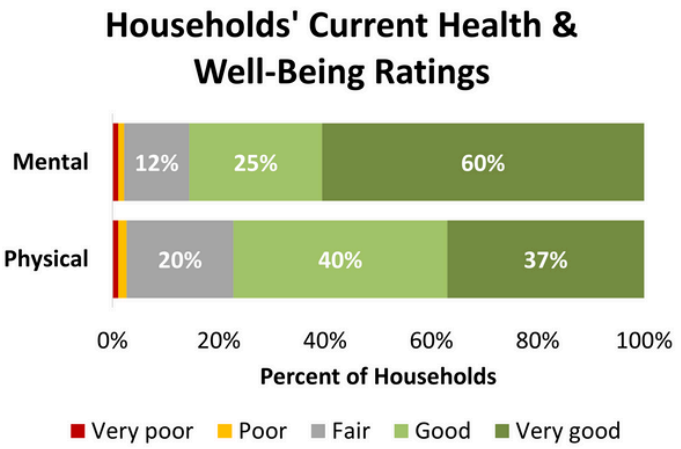


Figure 22. Percent of East Hawai‘i Island households with household rating of mental and physical health, respectively, on a scale of one to five, with one being very poor and five being very good.

When asked if the household had heard about the CASPER survey prior to the field teams interviewing them, only 12% of East Hawai‘i Island households reported they had previously heard about the survey (Figure 23).

Figure 23. Proportion of East Hawai‘i Island households who heard about the CASPER survey prior to the team interviewing them.

Finally, households were asked whether they had any concerns or needs that HDOH could assist them with at that time. Five percent of households requested HDOH assistance resulting in eight completed referrals.

DISCUSSION

The first CASPER survey in Hawai‘i Island was designed to better understand public health emergency preparedness among Eastern island residents and identify knowledge and resource gaps. It resulted in the training of 37 additional HDOH staff and partner agency volunteers on how to use this survey methodology to collect representative data while minimizing the number of surveys required. The development of this capability in non-emergency times will enable the Hawai‘i District Health Office and partner agencies to utilize the relationships and skills built through this effort to efficiently implement coordinated rapid health needs assessments in response to future disasters. It also represents a critical step in expanding this data for action capability across the State of Hawai‘i.

Further, the data collected through this effort can be used to inform local and state planning efforts related to emergency preparedness, response, and recovery. Often, data collected on community health and well-being post-disaster do not have pre-disaster baseline data agencies can use for comparison purposes, adding significant challenges to the interpretation of post-disaster data. The inaugural Hawai‘i Island CASPER addressed this issue by collecting important baseline information on knowledge, attitudes, and practices as well as overall health and well-being that can be compared to data collected during future disaster-related CASPERs on Hawai‘i Island. Recommendations based on the collected data are detailed in the following section from an HDOH perspective. Hawai‘i Island conclusions and any strategic actions would need to be a county-level led and consultative process.

Recommendations

1. One out of every seven household respondents in East Hawai‘i Island (14%) are unsure whether they are in a tsunami evacuation zone. Most households (88%) indicated that they do not require assistance to evacuate during an emergency. However, among the 6% of households who indicated they do require assistance, all except for one were unaware of local resources, such as resilience hubs, available to assist with evacuation.

Both data points highlight important opportunities for additional outreach and education. Participating households were provided with tsunami evacuation maps for their area as well as informational materials on services provided by Vibrant Hawai‘i, CERT, and HAKA. This will help to expand community awareness of these resources but should be augmented by additional outreach and education efforts by governmental, non-profit, and private sector agencies. If resources are available, paid radio/TV media campaigns could help close this knowledge gap while addressing the needs of our community members most vulnerable to disaster-related impacts. Focused case management engagement by community-based organizations with households reporting a need for evacuation assistance is likely to provide impactful linkage to life-saving community resources and tailored household planning.

2. East Hawai‘i Island households indicated that they are more likely to seek public shelter as the hurricane category increases. At a category 5 hurricane level, 42% of East Hawai‘i Island households indicated they

plan to evacuate to a public shelter and an additional 21% were unsure where they would go.

Public emergency shelters or hurricane refuge areas in the State of Hawai'i serve as a last resort, offering some protection for those without safer options; most public shelters are not built to withstand major hurricanes. Further, the available shelter capacity would not accommodate the number of residents intending to seek shelter during a major hurricane. Additional planning with Emergency Support Function (ESF)-6 mass care partners is needed to determine how to accommodate the volume of residents who plan to evacuate to public shelters during major hurricane events. Statewide education efforts should emphasize sheltering-in-place versus evacuating to public shelters for those who can safely do so. This ensures that limited public emergency shelter space is allocated to those who need it most. Awareness campaigns and funding support for models such as community resilience hubs could help to reduce reliance on public shelters while fostering community resilience and preparedness. Civil planning can consider prioritizing future public emergency shelter rated to withstand major hurricane impacts in locations with the most housing construction vulnerability.

3. The majority (77%) of East Hawai'i Island households are aware of the state recommendation for all households to maintain a 14-day supply of food and water. Almost half of households (46%) have enough water stored and even more (61%) have enough non-perishable food. Just over one-third of households (36%) reported that they meet the recommendation for both food and water.

Similar to findings from previous statewide research conducted by the University of Hawai'i, East Hawai'i Island residents appear more likely to meet the state recommendation to maintain a 14-day supply of food and water than other islands.[5] A potential contributing factor may be the high percentage of households in Hawai'i Island using catchment water systems who, therefore, have built-in water storage capacity that mitigates their vulnerability to disaster-related impacts to water infrastructure. However, there is still significant opportunity to increase the resiliency of Hawai'i Island households to disasters through outreach and education that: 1) emphasizes the importance of maintaining the recommended 14 days' worth of supplies, including a means to chemically disinfect catchment water should power be unavailable for pumping and treatment, 2) messages realistic expectations for local, state, and federal disaster response timelines given our unique geography and just-in-time supply chain operations, and 3) provides solutions and support for services such as community resilience hubs for families whose barriers to household preparedness are too significant to overcome.

4. Only 25% of households reported that they use DEET-containing insect repellent to prevent mosquito bites. Additionally, the majority of East Hawai'i Island households (58%) do not follow HDOH guidance to take action to prevent mosquito breeding on their property, such as dumping standing water, at least once per week. Almost a third of households (30%) reported that they never take actions to prevent mosquito breeding on their property.

Mosquito-borne disease transmission has been on the rise globally. This has been evident in the State of Hawai'i with a significant increase in the number of travel-related mosquito-borne disease cases reported by HDOH. While these viruses are currently not considered endemic in the State, the mosquitoes that transmit them are established here. Every travel-related case imported to the State of Hawai'i represents a risk for such viruses entering our local mosquito population; due to consistent widespread mosquito activity, introduction of and subsequent sustained virus transmission in local mosquito populations may occur before diagnostic testing can confirm their presence. Robust community engagement that helps to reduce human-mosquito interactions is currently our best defense. Additional and ongoing outreach and education is needed to ensure that our residents and visitors are taking appropriate precautions to prevent the introduction

of mosquito-borne diseases as well as to reduce mosquito breeding activity. Expanding mosquito prevention training opportunities to community partners should be considered to integrate evidence-based measures into various forms of community engagement.

5. Most East Hawai‘i Island households (69%) are aware of recent measles cases in the State of Hawai‘i and think it is important or very important to stay up to date on recommended vaccines (57%). However, 21% of households indicated that they think it is not at all important to stay up to date on recommended vaccines.

The pandemic significantly impacted public perception of vaccines in the United States. Since we don’t have baseline data to compare it to, it is hard to say whether there has been an increase in the percentage of East Hawai‘i Island households who don’t think it’s important to stay up to date on recommended vaccines. Current survey data do suggest a polarization of opinion as seen elsewhere in the country. Due to the high volume of visitors from around the world, the State of Hawai‘i is at daily risk of the introduction of vaccine preventable diseases—especially as our childhood vaccination coverage rates decline. Vaccine refusals and delays put our community at risk for greater morbidity and mortality in future disease outbreaks. Household perceptions of vaccine importance is a key indicator to track in future CASPER assessments. HDOH recommends residents discuss vaccines with their trusted healthcare provider. The Vaccine Education Center hosted by the Children’s Hospital of Philadelphia publishes a variety of useful and factual education materials for the public.[6]

6. The inaugural Hawai‘i Island CASPER built significant capacity to conduct rapid health needs assessments within the local Hawai‘i District Health Office staff as well as within partner agencies such as CERT, HAKA, and the Men of Pa‘a.

In order to maintain and further build this capability on Hawai‘i Island, CASPERs should be conducted at least every two to three years.

Frequency should be guided by feasibility, county stakeholder interest, and critically, the utility and impact of survey data for public health emergency preparedness. Planning is currently underway for the potential implementation of a West Hawai‘i Island CASPER in 2026. This would allow for a comparison of the emergency preparedness level and knowledge/resource gaps between East and West Hawai‘i Island. In the event that survey planners and partner agencies would prefer to have data representative of the entire island rather than each side, respectively, a CASPER using all of Hawai‘i Island as the sampling frame could be conducted in the future. In order to mitigate the geographical challenges associated with this, survey planners could run operations centers in both Hilo and Kona, deploying field teams to the selected clusters as geographically appropriate.

Limitations

CASPER methodology is based on the systematic selection of households within 30 randomly selected census blocks. For the purposes of the 2025 East Hawai‘i Island CASPER, 2020 U.S. Census Bureau data was used as the most recent data available. Hawai‘i Island has experienced some growth since the 2020 census was conducted. Changes to the overall number, composition, and geographic location of occupied housing units is not reflected in the data used for census block and household selection processes.

Additionally, survey teams had to replace some systematically-selected households after three attempts with no answer, household refusal, household inaccessibility, or household ineligibility (i.e., not a Hawai‘i Island resident). One cluster was not visited by survey teams since it was identified as a security risk. The completion of zero surveys from this cluster as well as low survey completion rates from a few other clusters may have impacted the representativeness of the data to the sampling frame.

Standard door-to-door surveying was conducted on weekdays during standard business hours. This may present sampling bias in unintentionally skewing towards certain demographics, such as unemployed or retired households. Nevertheless, steps were taken to minimize such bias, such as an alternative method to conduct the survey via phone call-back for a household's convenience (i.e., weekend or business hours), as well as revisiting a household on different days and times (i.e., morning versus afternoon).

CASPER surveys are administered by HDOH representatives and collect self-reported data. There may be some degree of response bias (i.e., social desirability) in which households may answer with what they perceive HDOH would like to hear. As such, the data may be skewed from true emergency preparedness measures or actions. To mitigate this concern, survey teams stressed confidentiality in responses and were trained in administering surveys with respect and empathy.

Data from the CASPER survey is cross-sectional and represents a snapshot in time, which should be considered when accounting for how household needs, awareness, or conditions may change over time.

Certain high-risk groups, particularly houseless individuals and those living in congregate settings such as long-term care and correctional facilities, are excluded by CASPER’s census block and household selection method. These individuals tend to have greater resource needs and potentially different barriers than those living in residential settings better captured by census block data. Emergency planners should take this into account when using this data to inform planning efforts and emergency response operations.

REFERENCES

1. Centers for Disease Control and Prevention. (n.d.). CASPER methodology overview. Retrieved from https://www.cdc.gov/casper/php/overview/index.html
2. U.S. Census Bureau. (n.d.). American FactFinder - Community Facts: Hawai'i County, HI. Retrieved from https://data.census.gov/profile/Hawaii_County,_Hawaii?g=050XX00US15001
3. County of Hawai'i Real Property Tax Office. Property Record Search. Retrieved from https://www.hawaiipropertytax.com/search.html
4. Vector Control Branch - Hawai'i State Department of Health. Mosquito Program. Retrieved from https://health.hawaii.gov/vcb/mosquitoes/
5. Zougris, K., Miles, A. Assessing Households' Emergency Preparedness in Hawai'i. Hawai'i Emergency Management Agency (HIEMA). Retrieved from https://transforminghawaiifoodsystem.org/wp-content/uploads/2024/04/FINAL-REPORT_Assessing-Household-Emergency-Preparedness_KZ_AB-2.pdf
6. Children's Hospital of Philadelphia. Vaccine Education Center. Retrieved from https://www.chop.edu/vaccine-education-center

ACKNOWLEDGEMENTS

Thanks to our survey teams for your hard work to make CASPER possible.

Mahalo nui loa!

Thank you to the HDOH 2025 Big Island CASPER survey planning team:

- Cyanne Becker, MPA
- Daniel Nguyen, PhD, MSPH
- Eric Honda
- John Kolman, DBA
- Kevin Clarke, MD, FAAP

We would like to express our appreciation for the HDOH field team members:

- Ah-Lan Coloma
- Alvin Viernes
- Blanca Gil Lopez, MPH
- Christopher Jacobsen
- Cory Shiraishi
- Deb Crawford
- Deniss Plascencia
- Franklin Makaimoku
- Geronimo Lluberas Huertas
- Heather Howard
- Helani Scholtz
- Jamie Humphrey, MPH
- Janice Burnside
- Jennifer Keliikuli, MPH
- Kevin Laeda
- Kyani Umeda-Jumalon
- Laurie Lyons-Makaimoku
- Leanne Kihara
- Logan Takasaki
- Madison Morita, MPH
- Maka Chow
- Motusaga Finau
- Pua Kaohelaulii
- Randi Tatsuno, RN
- Skyler Kodani
- Steven Okoji
- Syndi Halualani-Texeira
- Tyler Gibo
- Zarina Hasegawa

We would especially like to thank the following community partners who made the first CASPER survey on Big Island possible:

- Hawai'i County Civil Defense Agency
- Community Emergency Response Team
  - Dennis McCartin
  - John McBride
  - JR Paikuli
  - Julia Lindbergh
  - Kekoa Paikuli
  - Patricia Steffen
  - Richard Anderson
  - Shane Mendiola
  - Sharon McCartin
  - Tracey Cain
- Hawai'i Animal Kuleana Alliance
  - Geronimo Lluberas Huertas
  - Laurie Lyons-Makaimoku
  - Syndi Halualani-Texeira
- Men of Pa'a
  - Iopa Maunakea
  - Kapoli Maunakea
  - Charles Pericho
  - Carlos Bellotto
- Vibrant Hawai'i

APPENDIX A: DATA TABLES

DEMOGRAPHICS

Table 1. Basic household information section of the 2025 Big Island CASPER (n=169)

Response	Frequency	Estimated HH	Percent	Lower CI	Upper CI
Percentage of households with at least one member in each age group					
Under 2 years old	3	-	-	-	-
2 – 17 years old	45	10601	26.0%	18.7%	34.8%
18 – 64 years old	118	27306	66.9%	55.7%	76.5%
65 years or over	75	18675	45.8%	36.9%	54.9%
Does your household own or rent this residence?					
Own	126	31008	76.0%	66.0%	83.7%
Rent	41	8862	21.7%	14.1%	32.0%
Other	2	-	-	-	-
What is the primary language spoken in your household?					
English	159	38446	94.2%	86.2%	97.7%
Ilocano	4	-	-	-	-
Spanish	2	-	-	-	-
Khmer	1	-	-	-	-
Korean	1	-	-	-	-
Tagalog	1	-	-	-	-
Visayan	1	-	-	-	-

Table 2. Accessibility and evacuation plans section of the 2025 Big Island CASPER (n=169)

Response	Frequency	Estimated HH	Percent	Lower CI	Upper CI
Does any member in your household have a:					
Chronic disease requiring medication?					
Yes	54	13817	33.9%	25.2%	43.8%
No	111	25919	63.5%	53.0%	72.9%
Unsure	3	-	-	-	-
Declined	1	-	-	-	-
Physical or developmental disability?					
Yes	28	6644	16.3%	10.5%	24.3%
No	139	33682	82.5%	74.7%	88.3%
Unsure	1	-	-	-	-
Declined	1	-	-	-	-
Mental health condition?					
Yes	17	4248	10.4%	6.4%	16.5%
No	150	36124	88.5%	82.7%	92.5%
Declined	2	-	-	-	-
Does your household require assistance to evacuate in case of a disaster?					
Yes	10	2412	5.9%	3.0%	11.4%
No	149	35866	87.9%	81.5%	92.3%
Unsure	10	2530	6.2%	3.2%	11.5%
If yes, are you aware of the agencies or organizations such as resilience hubs that are available to assist in evacuation?					
Yes	1	-	-	-	-
No	9	2060	85.4%	30.5%	98.7%
Does your household have the following emergency plans?					
Communication plan (such as a list of phone numbers and a designated out-of-town contact)					
Yes	127	30331	74.3%	64.2%	82.4%
No	34	7954	19.5%	12.8%	28.5%
Unsure	8	2523	6.2%	2.8%	13.0%
Designated meeting place immediately outside your home or close by in your neighborhood					
Yes	81	20287	49.7%	41.8%	57.6%
No	79	18109	44.4%	36.4%	52.6%
Unsure	9	2412	5.9%	2.8%	12.2%
Copies of important documents secure from being destroyed in a disaster/emergency (e.g., waterproof bag, fireproof safe)					
Yes	106	25322	62.1%	51.4%	71.7%
No	60	14882	36.5%	26.8%	47.4%
Unsure	2	-	-	-	-
Declined	1	-	-	-	-

If Hawaii Island was threatened by a hurricane where would your household seek shelter for each category of storm?					
Category 1					
Shelter in place at home	123	30247	74.1%	64.4%	81.9%
Friend/family's home	14	3079	7.5%	3.9%	14.2%
Public shelter	17	3746	9.2%	5.2%	15.7%
Other	2	-	-	-	-
Unsure	13	2831	6.9%	4.2%	11.2%
Category 2					
Shelter in place at home	89	21828	53.5%	43.2%	63.5%
Friend/family's home	24	5123	12.6%	7.0%	21.5%
Public shelter	25	5672	13.9%	8.7%	21.4%
Other	5	2292	5.6%	1.5%	19.3%
Unsure	26	5893	14.4%	9.8%	20.8%
Category 3					
Shelter in place at home	53	13090	32.1%	24.2%	41.2%
Friend/family's home	24	5307	13.0%	8.0%	20.5%
Public shelter	50	11411	28.0%	20.8%	36.5%
Other	6	2573	6.3%	1.9%	19.1%
Unsure	36	8426	20.6%	15.5%	27.0%
Category 4					
Shelter in place at home	36	8889	21.8%	16.2%	28.7%
Friend/family's home	24	5622	13.8%	8.5%	21.7%
Public shelter	63	14695	36.0%	28.1%	44.8%
Other	6	2573	6.3%	1.9%	19.1%
Unsure	40	9029	22.1%	16.4%	29.1%
Category 5					
Shelter in place at home	34	8289	20.3%	15.0%	26.9%
Friend/family's home	20	4399	10.8%	5.9%	18.9%
Public shelter	72	17121	42.0%	33.8%	50.6%
Other	6	2573	6.3%	1.9%	19.1%
Unsure	37	8426	20.6%	15.0%	27.7%
Is your household located in a tsunami evacuation zone?					
Yes	20	4134	10.1%	3.8%	24.1%
No	125	31112	76.2%	64.2%	85.2%
Unsure	24	5562	13.6%	8.9%	20.4%

What main barrier might prevent your household from evacuating for a disaster when advised to do so? (select one best answer)					
Concern about leaving pet(s)	22	5237	12.8%	8.8%	18.3%
Concern about leaving property vacant	20	5260	12.9%	8.1%	19.8%
Disaster-related Obstruction	15	4081	10.0%	6.0%	16.1%
Health or mobility issues	6	1437	3.5%	1.4%	8.4%
Inconvenient or expensive	3	-	-	-	-
Lack of transportation	14	2999	7.3%	3.8%	13.6%
No barriers - household will evacuate	54	13274	32.5%	24.2%	42.2%
No barriers - household would choose not to evacuate	3	-	-	-	-
Other	7	1635	4.0%	1.6%	9.9%
Uncertainty about where to go	9	1876	4.6%	2.2%	9.4%
Unsure	16	3769	9.2%	5.5%	15.1%
What is your household's main source of information regarding disasters or emergency events? (select one best answer)					
Community, friends, or family	24	6248	15.3%	10.5%	21.9%
Government website or alerts	41	9760	23.9%	17.9%	31.2%
Newspaper or magazines	1	-	-	-	-
Other	2	-	-	-	-
Radio or TV	59	13448	33.0%	23.7%	43.8%
Social media	40	10246	25.1%	18.0%	33.9%
Unsure	2	-	-	-	-
Have you or anyone in your household signed up to receive weather and other disaster-related alerts?					
Yes	111	26766	65.6%	56.1%	73.9%
No	55	13405	32.8%	24.4%	42.6%
Unsure	3	-	-	-	-

Table 3. Emergency supply section of the 2025 Big Island CASPER (n=169)

Response	Frequency	Estimated HH	Percent	Lower CI	Upper CI
Is your household aware that the State of Hawaii recommends a 14-day supply of food, water, and prescription medication?					
Yes	131	31390	76.9%	68.0%	84.0%
No	34	8500	20.8%	14.0%	29.8%
Unsure	4	-	-	-	-
Does your household have enough water stored for 3 days? (1 gal / person / day)					
Yes	135	33320	81.7%	72.5%	88.2%
No	34	7488	18.3%	11.8%	27.5%
Unsure	0	-	-	-	-
If yes, does your household have enough water stored for 7 days?					
Yes	103	25513	62.5%	50.8%	72.9%
No	61	14289	35.0%	25.0%	46.6%
Unsure	5	1005	2.5%	0.9%	6.8%
If yes, does your household have enough water stored for 14 days?					
Yes	73	18588	45.6%	34.6%	57.0%
No	83	19379	47.5%	36.2%	59.1%
Unsure	13	2841	7.0%	4.1%	11.6%
Does your household have enough non-perishable food stored for 3 days?					
Yes	156	37725	92.4%	84.3%	96.5%
No	13	3082	7.6%	3.5%	15.7%
Unsure	0	-	-	-	-
If yes, does your household have enough non-perishable food stored for 7 days?					
Yes	136	33387	81.8%	74.1%	87.6%
No	25	5746	14.1%	8.5%	22.4%
Unsure	8	1675	4.1%	2.0%	8.3%
If yes, does your household have enough non-perishable food stored for 14 days?					
Yes	97	24686	60.5%	51.2%	69.1%
No	54	12289	30.1%	22.0%	39.7%
Unsure	18	3833	9.4%	6.0%	14.5%
Percentage of households that meet the 14-day recommendation of both food and water					
Yes	59	14839	36.4%	27.1%	46.7%
No	110	25969	63.6%	53.3%	72.9%

Does anyone in your household require daily prescription medication?					
Yes	92	23480	57.5%	47.2%	67.2%
No	76	17127	42.0%	32.6%	52.0%
Unsure	1	-	-	-	-
If yes, does your household have a 7-day supply of meds for all who need it?					
Yes	89	22877	96.6%	88.7%	99.0%
No	1	-	-	-	-
Unsure	3	-	-	-	-
If yes, does your household have a 14-day supply of meds for all who need it?					
Yes	80	20233	85%	75%	92%
No	6	1588	7%	2%	17%
Unsure	7	1859	8%	4%	16%
Does your household have a working fire extinguisher?					
Yes	103	24780	60.7%	51.0%	69.7%
No	55	13636	33.4%	25.4%	42.5%
Unsure	11	2392	5.9%	3.1%	10.8%
Does your household have working smoke detectors?					
Yes	124	29410	72.1%	61.3%	80.8%
No	42	10728	26.3%	18.0%	36.7%
Unsure	3	-	-	-	-

Table 4. Infectious diseases section of the 2025 Big Island CASPER (n=169)

Response	Frequency	Estimated HH	Percent	Lower CI	Upper CI
Does your household use DEET-containing insect repellent to prevent mosquito bites?					
Yes	36	10024	24.6%	16.9%	34.3%
No	123	28659	70.2%	60.5%	78.4%
Unsure	9	1843	4.5%	2.1%	9.3%
Declined	1	-	-	-	-
How often does your HH take measures to prevent mosquitoes from breeding on your property, such as getting rid of standing water?					
Every 1 - 7 days	58	15462	37.9%	28.7%	48.0%
Every 8+ days	46	11070	27.1%	19.4%	36.6%
Never	56	12400	30.4%	21.2%	41.5%
Unsure	9	1876	4.6%	2.4%	8.8%
Is your household aware of the recent measles cases in the State of Hawaii?					
Yes	123	28170	69.0%	57.1%	78.9%
No	41	11566	28.3%	19.1%	39.8%
Unsure	5	1072	2.6%	0.9%	7.5%
On a scale of 1-5, with 1 being not at all important and 5 being very important, how important does your household think it is to stay up to date on recommended vaccines?					
1	29	8718	21.4%	13.6%	32.0%
2	4	-	-	-	-
3	27	5759	14.1%	9.7%	20.0%
4	15	3464	8.5%	5.2%	13.5%
5	88	19918	48.8%	38.6%	59.2%
Unsure	3	-	-	-	-
Declined	3	-	-	-	-

Table 5. General life on Big Island section of the 2025 Big Island CASPER (n=169)

Response	Frequency	Estimated HH	Percent	Lower CI	Upper CI
How concerned is your household about securing nutritious meals?					
Very concerned	78	17767	43.5%	35.9%	51.5%
Somewhat concerned	32	7163	17.6%	13.4%	22.6%
Not concerned	58	15677	38.4%	30.0%	47.6%
Unsure	1	-	-	-	-
On a scale of 1-5, with 1 being very poor and 5 being very good, how would you rate your household's current *physical* health and well-being?					
1	2	-	-	-	-
2	3	-	-	-	-
3	35	8105	19.9%	14.7%	26.3%
4	66	16226	39.8%	30.9%	49.4%
5	62	14936	36.6%	28.5%	45.6%
Unsure	1	-	-	-	-
On a scale of 1-5, with 1 being very poor and 5 being very good, how would you rate your household's current *mental* health and well-being?					
1	2	-	-	-	-
2	2	-	-	-	-
3	21	4935	12.1%	7.9%	18.1%
4	43	10021	24.6%	19.3%	30.7%
5	98	24344	59.7%	51.8%	67.0%
Unsure	3	-	-	-	-
Did your household hear about this survey prior to us talking to you today?					
Yes	18	5042	12.4%	6.2%	23.0%
No	148	35129	86.1%	75.8%	92.4%
Unsure	3	-	-	-	-
Does your household have any concerns or needs that the Department of Health can assist you with at this time?					
Yes	6	1843	4.5%	1.8%	10.7%
No	163	38965	95.5%	89.3%	98.2%

APPENDIX B: QUESTIONNAIRE

To be completed by team BEFORE the interview

Date (MM/DD/YY):	Cluster Number:	Survey Number:

First, we would like to ask about basic household information

Q1. Including yourself, how many people live in your HH? _____

Including yourself, how many people are :

Less than 2 years old	
2 - 17 years old	
18 - 64 years old	
65 or over	

Q2. Does your HH own or rent this residence?

- Own
- Rent
- Other _____
- Unsure
- Declined

Q3. What is the primary language spoken in your HH?

- English
- Other _____
- Unsure
- Declined

Next, we would like to ask you about your household's accessibility and evacuation plans

Q4. Does any member of your HH have a:

a) Chronic disease requiring medication

- Yes • No • Unsure • Declined

b) Physical or developmental disability

- Yes • No • Unsure • Declined

c) Mental health condition

- Yes • No • Unsure • Declined

Q5. Does your HH require assistance to evacuate in case of a disaster?

- Yes • No • Unsure • Declined

a) If yes, please describe: _____

b) If yes, are you aware of the agencies or organizations such as resilience hubs that are available to assist in evacuation?

- Yes • No • Unsure • Declined

Q6. Does your HH have the following emergency plans?

a) Communication plan (such as a list of phone numbers and a designated out-of-town contact)

- Yes • No • Unsure • Declined

b) Designated meeting place immediately outside your home or close by in your neighborhood

- Yes • No • Unsure • Declined

c) Copies of important documents secure from being destroyed in a disaster/emergency (e.g., waterproof bag, fireproof safe)

- Yes • No • Unsure • Declined

Q7. If Hawai'i Island was threatened by a hurricane where would your HH seek shelter for each category of storm?

Hurricane Category	Shelter in place (at home)	Friend/family's home	Public shelter	Other	Unsure	Declined
1 (74 - 95 mph)						
2 (96 - 110 mph)						
3 (111 - 129 mph)						
4 (130 - 156 mph)						
5 (157+ mph)						

Q8. Is your HH located in a tsunami evacuation zone?

- Yes • No • Unsure • Declined

Q9. What main barrier might prevent your HH from evacuating for a disaster when advised to do so? (select one best answer)

- Concern about leaving property vacant
- Lack of transportation
- Uncertainty about where to go
- Health or mobility issues
- Concern about leaving pet(s)
- Incovenient or expensive
- Other _____
- No barriers - HH will evacuate
- No barriers - HH would choose not to evacuate
- Unsure
- Declined

Q10. What is your HH's main source of information regarding disasters or emergency events? (select one best answer)

- Government website
- Community, friends, or family
- Social media
- Newspaper or magazines
- Radio or TV
- Other: _____
- Unsure
- Declined

Q11. Have you or anyone in your HH signed up to receive weather and other disaster-related alerts?

- Yes • No • Unsure • Declined

Next, we would like to ask you about your household's emergency supplies

Q12. Is your HH aware that the State of Hawai'i recommends a 14-day supply of food, water, and prescription medication?
- Yes • No • Unsure • Declined

Q13. Does your HH have enough water stored for 3 days? (1 gal / person / day) • Yes • No • Unsure • Declined

a) If yes, does your HH have enough water stored for 7 days? • Yes • No • Unsure • Declined

b) If yes, does your HH have enough water stored for 14 days? • Yes • No • Unsure • Declined

Q14. Does your HH have enough non-perishable food stored for 3 days? • Yes • No • Unsure • Declined

a) If yes, does your HH have enough non-perishable food stored for 7 days? • Yes • No • Unsure • Declined

b) If yes, does your HH have enough non-perishable food stored for 14 days? • Yes • No • Unsure • Declined

Q15. Does anyone in your HH require daily prescription medication? • Yes • No • Unsure • Declined

a) If yes, does your HH have a 7-day supply of meds for all who need it? • Yes • No • Unsure • Declined

b) If yes, does your HH have a 14-day supply of meds for all who need it? • Yes • No • Unsure • Declined

Q16. Does your HH have a working fire extinguisher?
- Yes • No • Unsure • Declined

Q17. Does your HH have working smoke detectors?
- Yes • No • Unsure • Declined

Next, we would like to ask you questions related to infectious diseases

Q18. Does your HH use DEET-containing insect repellent to prevent mosquito bites?
- Yes • No • Unsure • Declined

Q19. How often does your HH take measures to prevent mosquitoes from breeding on your property, such as getting rid of standing water?
- Weekly
- Monthly
- Other _____
- Never
- Unsure
- Declined

Q20. Is your HH aware of the recent measles cases in the State of Hawai'i?
- Yes • No • Unsure • Declined

Q21. On a scale of 1-5, with 1 being not at all important and 5 being very important, how important does your HH think it is to stay up to date on recommended vaccines? • 1 • 2 • 3 • 4 • 5 • Unsure • Declined

Lastly, we would like to ask you some general questions about life on Hawai'i Island

Q22. How concerned is your HH about securing nutritious meals?
- Very concerned
- Somewhat concerned
- Not concerned
- Unsure
- Declined

Q23. On a scale of 1-5, with 1 being very poor and 5 being very good, how would you rate your HH's current **physical** health and well-being?
- 1 • 2 • 3 • 4 • 5 • Unsure • Declined

Q24. On a scale of 1-5, with 1 being very poor and 5 being very good, how would you rate your HH's current **mental** health and well-being?
- 1 • 2 • 3 • 4 • 5 • Unsure • Declined

Q25. Did your HH hear about this survey prior to us talking to you today?
- Yes • No • Unsure • Declined

Q26. Does your HH have any concerns or needs that the Department of Health can assist you with at this time?
- Yes • No • Unsure • Declined

Has this form been entered into EpiCollect? • Yes • No

APPENDIX C: STATE OF HAWAIʻI PRESS RELEASE

STATE OF HAWAIʻI
KA MOKU ʻĀINA O HAWAIʻI

DEPARTMENT OF HEALTH
KA ʻOIHANA OLAKINO

JOSH GREEN, M.D.
GOVERNOR
KE KIAʻĀINA

KENNETH S. FINK, M.D., MGA, MPH
DIRECTOR
KA LUNA HOʻOKELE

HAWAIʻI DHO TO CONDUCT CASPER SURVEY TO ASSESS COMMUNITY PUBLIC HEALTH EMERGENCY PREPAREDNESS

FOR IMMEDIATE RELEASE
May 2, 2025 25-047

HILO, Hawaiʻi – The Hawaiʻi Department of Health (DOH) Hawaiʻi District Health Office (HDHO) will conduct a Community Assessment for Public Health Emergency Response (CASPER) survey to assess the emergency preparedness level of eastern Hawaiʻi County households in Hilo (North and South), Puna and Kaʻū districts from May 12-16.

The project is an interagency collaboration between HDHO, Hawaiʻi County and community organizations to coordinate and conduct the CASPER study for Hawaiʻi Island. These partners include: Hawaiʻi County Civil Defense Agency, Hawaiʻi County Community Emergency Response Team (CERT) teams, Citizen Corps, Hawaiʻi Animal Kuleana Alliance (HAKA), Men of Paʻa and Vibrant Hawaiʻi.

"This will be the first launch of the CASPER survey in Hawaiʻi County to assess household public health emergency preparedness and evacuation plans, as well as help us to understand household awareness and concerns. CASPER surveys have been used for years on Kauaʻi,

elevating the community's voice in emergency preparedness. We are excited to partner with Hawai'i County stakeholders to conduct one here," said Dr. John Kolman, district health officer, HDHO. "The information we learn will enable the Hawai'i District Health Office and the county to better meet our community's needs before, during and after a disaster. CASPER surveys also serve as a valuable training opportunity for our staff and partners. This year we will focus on eastern Hawai'i County and hope to apply lessons learned in conducting another survey on the western side of the island in the future."

Survey teams will go door-to-door to 30 randomly selected census blocks. Seven houses within each block will be systematically selected and surveyed for a total of 210 attempted household-level surveys. Teams are comprised of DOH staff and local county partner organizations.

The survey is estimated to take about 10 minutes. Selected households will be asked about their emergency and evacuation plans; familiarity with local resources; and any concerns regarding disaster preparedness. All survey responses will be voluntary and confidential, so names or addresses will not be collected.

Team members will wear vests identifying themselves as part of the DOH survey team and will carry identification cards. Selected households will be offered the opportunity to complete the survey over the phone, if preferred.

The CASPER survey methodology was developed by the Centers for Disease Control and Prevention (CDC) to rapidly assess the health and other resource needs of a community after a disaster. "We greatly appreciate the participation of eastern Hawai'i County residents and our community partners in this survey effort," Kolman said. "Mahalo for generously sharing your time and responses with our survey teams."

###

Media Contacts:
Kristen Wong
Information Specialist
Hawai'i State Department of Health
Mobile: 808-953-9616
Email: kristen.wong@doh.hawaii.gov

John Kolman
District Health Officer
Hawai'i State Department of Health
Office: 808-974-6002
Email: john.kolman@doh.hawaii.gov

APPENDIX D: INFORMED CONSENT SCRIPT

JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

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

JOHN P. KOLMAN, DBA
DISTRICT HEALTH OFFICER

STATE OF HAWAI'I
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
HAWAII DISTRICT HEALTH OFFICE
75 AUPANI STREET, Rm 201
HILO, HAWAII 96720

In reply, please refer to:
File:

Community Assessment for Public Health Emergency Response

Hello, we are _____ and _____ with the Department of Health. Hurricane season begins June 1st so we are doing a short survey to assess household emergency preparedness. Your house was randomly selected to participate, and the survey will take about 10 minutes. It is completely anonymous — we will not collect your name or address. Do you have a few minutes to complete the survey?

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

*[IF **NO**, THANK THEM FOR THEIR TIME.]* Thank you very much for your time. Here is some information you might find useful.

[*IF **YES**, CONTINUE.]* Thank you so much.

[Note: *If HH prefers to complete survey **OVER THE PHONE**, GIVE THEM A PAPER COPY OF THE SURVEY & YOUR TEAM'S ASSIGNED PHONE NUMBER—RETURN TO THE CAR AND AWAIT THEIR CALL]*

*If they would like confirmation that you were sent by the Hawaii State Department of Health, please call **Betsy Maler, (808) 974 -6006***

APPENDIX E: LETTER TO SELECTED HOUSEHOLDS

JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

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

JOHN P. KOLMAN, DBA
DISTRICT HEALTH OFFICER

STATE OF HAWAI'I
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
HAWAII DISTRICT HEALTH OFFICE
75 AUPANI STREET, Rm 201
HILO, HAWAII 96720

In reply, please refer to:
File:

Community Assessment for Public Health Emergency Response (CASPER) Survey

Aloha Hawaii Island Resident,

June 1st is the first official day of hurricane season. The Hawaii District Health Office is conducting a survey from May 12-16 to assess the emergency preparedness of east Hawaii Island residents. Your household is one of 210 randomly selected to participate. The survey will take about 10 minutes of your time. It is completely voluntary and anonymous — we will not collect your name or address.

We stopped by while you were out of the house, but we really need your participation. The information gathered will help us to improve our outreach efforts and future disaster responses.

You can complete the survey over the phone or in an outdoor interview.

Please call _____and provide the following identification # ___-__ in order to:

1) complete your interview,
2) schedule a time for the survey team to stop by again, or
3) let us know that you do not wish to participate

If we do not hear back from you, we will stop by again to see if we can reach you. If you don't receive this letter prior to May 16th, there is no need to call us back as the survey will already be completed.

Thank you for your consideration,

John Kolman

John P. Kolman, DBA
District Health Officer

If you have questions regarding this survey, please call Betsy Maler, (808) 974 -6006

Community Assessment for Public Health Emergency Response (CASPER) Tracking Form

County: Cluster # (1-30): _____ Survey Team members: _____ Date of Interview: / /

Instructions: Use one tracking form per cluster. Check where appropriate, but try to choose only one best option for each of the three categories.

Household Number		1	2	3	4	5	6	7	8	9	10	11	12
Survey Number (from questionnaire)													
Access													
House inaccessible		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Answer													
Appears vacant		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
No answer after (indicate time)	First visit	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____
	Second Visit	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____
	Third visit	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____
Interview													
Interview Completed		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Refused to participate		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ineligible to participate		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Partial interview completed (indicate return time)		☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____
"Come back later" (indicate return time)		☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____
Translator needed (specify language)		☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____	☐ ____

***REMINDER:** You should not pass this vertical yellow line representing 7 selected (and interviewed) houses unless you replaced a household.

Houses are only eligible for replacement if:

1) House is inaccessible (vicious dogs, damage to property, etc.)
2) House appears vacant (nobody lives here anymore)
3) Household refuses to participate
4) No one is home after three attempts made at different times of the day
5) Household is not eligible to participate (e.g. tourist—to be eligible, they should live here at least 6 months of the year)

CASPER Referral Form

2025 Confidential Referral Form

Date: ____ /_____ /2025 Time: __:__
Interviewer's Name: _____

Contact Information for the individual needing the referral:
Name: _____
Phone Number: _____
E-mail: _____

Referral Type (Check all that apply)

☐ Behavioral Health ☐ Medical/Dental ☐ Case Management ☐ Other

Summary of Needs (please provide as much information as possible so the appropriate referral can be made):

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

This section to be completed by the CASPER Operations Section

Referred to:
_____

Hawaii CASPER Interview Tips

BEFORE THE INTERVIEW

- Practice with your partner
- Dress appropriately: comfortable clothing; closed-toed shoes; vest & ID
- Assign roles (e.g. driving, navigating, interviewing, etc.)

DURING THE INTERVIEW

- Introduce yourself
- Show empathy and respect
- Remind respondents that their responses are confidential and participation voluntary

ENDING THE INTERVIEW

- Look over the entire questionnaire for completeness
- Thank the respondent and provide **educational materials**
- Complete referral form when necessary

DOS AND DON'TS OF STANDARDIZATION

- DO ask the questions in the **same order** with the **exact wording**
- DO read the entire question
- DO record answers verbatim
- If respondent needs clarification, **repeat the question first**. If he/she still needs clarification, make sure that you are not changing the nature of the question.
- DON'T rephrase questions
- DON'T pre-fill answers
- DON'T try to finish the respondent's sentences

TRACKING FORM

- Used for tracking **every** household sampled (this means every house you attempt an interview at)
- Each cluster collected on a separate tracking form
- Allows for calculation of response rates - it is **very important** that it is correct and complete
- If necessary, write information to identify households to return to or any notes that you may need to take (e.g., why the household is inaccessible) on the back of the form

SYSTEMATIC SAMPLING OF HOUSEHOLDS

- Begin surveying at random starting point in cluster
- If specific interview addresses are not provided, select the nearest house and begin counting
- When you reach your first nth house (calculated by dividing households in cluster by 7), attempt an interview
- Complete tracking form **at every nth house** to indicate if interview was successful or if another attempt/ replacement is needed
- Continue in serpentine manner, stopping at every nth house
- **Apartments/Condos/High Rises:** Count each apartment and condo units as individual houses
- **Commercial Buildings/Hotels:** Do not count commercial buildings or hotels when counting every nth house - these are not eligible for CASPER participation
- **Replacement:** Households can only be replaced if they meet one or more of the following categories:
  1) inaccessible,
  2) vacant,
  3) household refuses, or
  4) three attempts have been made with no answer

Call OPS with questions related to sampling or replacement.

SURVEY TIPS

- Navigate to HH address and knock
- If answered, read informed consent
- If no answer, leave letter with the cluster number, HH number, and appropriate phone number to call
- Mark tracking sheet!

SURVEY TIPS
All Forms

- Begin survey following verbal consent
  - If household not accessible or refuses, note on tracking sheet (if refusal, provide important document bag to household)
- Note which survey number corresponds to which household on tracking sheet
- If helpful, present survey (on tablet or paper) to households to read along with survey team
- Indicate any issues on tracking form for review

SURVEY TIPS
Electronic Survey Forms

- Ensure tablets are charged before departure
  - Tablet passcode: 101010
  - Electronic application: EpiCollect 5
- Save each survey entry following completion
- Upload data upon return to command center each day

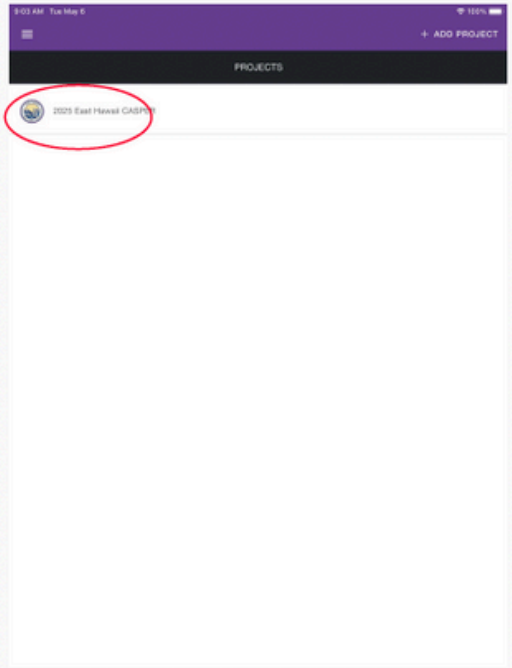
Questions or concerns? Contact OPS:

CASPER Electronic Data Collection Reference Sheet

Tablet Passcode:

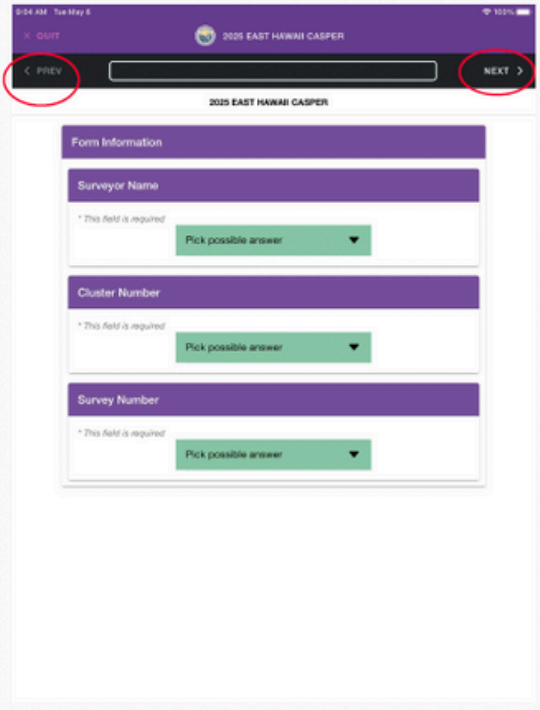
1 Open the Epi Collect application.

2 Select project titled "2025 East Hawaii CASPER."



3 To complete a new survey form, select "+ Add entry."

4 Begin the survey. Select "Next >" to move on and "< Prev" to go back.

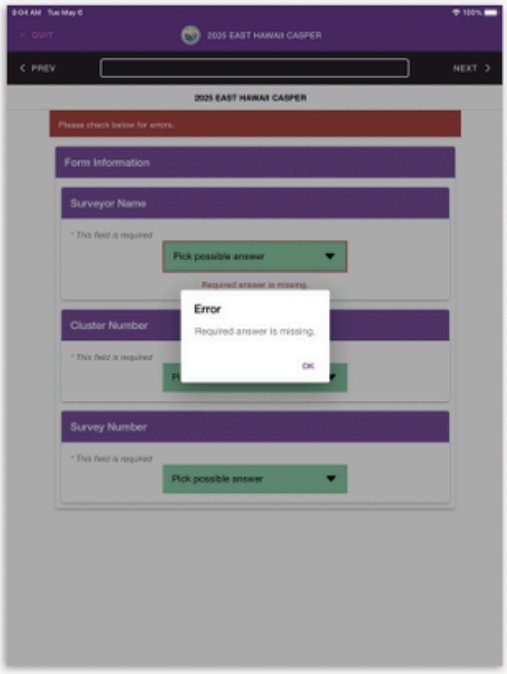


CASPER Electronic Data Collection Reference Sheet

Tablet Passcode:

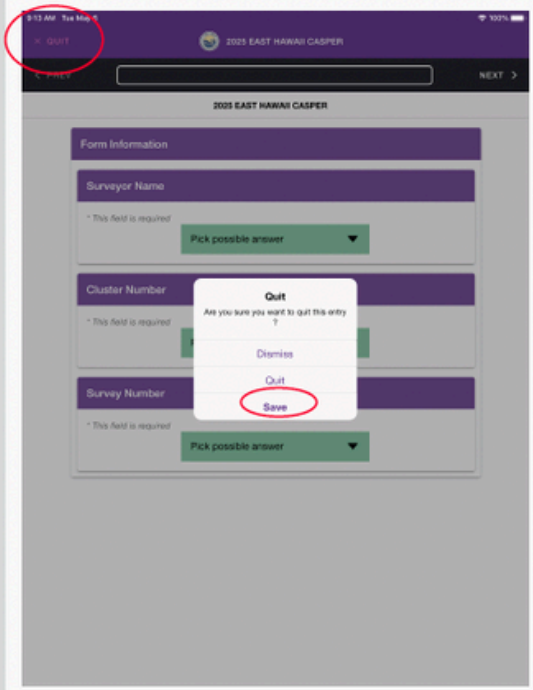
Missing Fields

The system will prompt you if required questions are left blank.

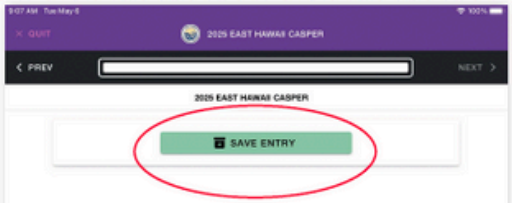


Survey Tip

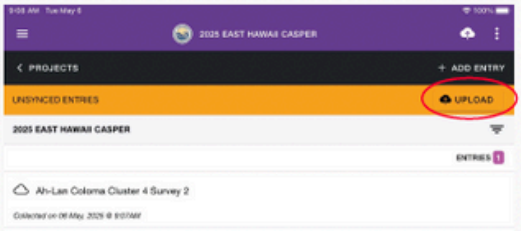
To save and return later (if survey is interrupted), click "Quit" and "Save."



5 When the questionnaire is complete, click "Save entry."



6 To upload data (upon return to OPS), click "Upload now."



APPENDIX J: MATERIALS PROVIDED TO HOUSEHOLDS

The following items were included in a waterproof bag for storage of important documents:

- Educational materials:
  - COVID Test
  - Miniature first aid kit
  - Emergency whistle
  - Hawai‘i County Civil Defense Agency Emergency Alert Registration Flier
  - Earthquake and Tsunami Safety Flier
  - Emergency Preparedness Starts with You Flier
  - Community Emergency Response Team Flier
  - HDOH Take 10 Brochure
  - HDOH Fight the Bite Flier
  - HDOH Plan to Be Ready Hawai‘i Family Guide to Health Emergencies
  - Tsunami evacuation maps
  - HAKA Disaster & Emergency Rescue Flier
  - Project 360 ‘Ohana Emergency Plan
  - Fight the Bite