

HAWAII STATE DEPARTMENT OF HEALTH

KAUAI COUNTY 2019 CASPER  
**PRELIMINARY REPORT**



**PREPARED AND PRESENTED BY**

LAUREN GUEST, MPH | KAUAI DISTRICT HEALTH OFFICE  
KELSEY RONDINI | ROLLINS SCHOOL OF PUBLIC HEALTH, EMORY UNIVERSITY

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# ASSESSING EMERGENCY PREPAREDNESS IN KAUAI COUNTY

## AN INTRODUCTION TO KAUAI'S 2019 CASPER

A community assessment for public health emergency response (CASPER) was conducted on Kauai in July 2019 by the Hawaii State Department of Health's Kauai District Health Office. 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 that is generalizable to the entire sampling frame (population-based estimates).

The objectives of Kauai's 2019 CASPER included assessing emergency preparedness, community health needs, emergency communication methods, and knowledge and attitudes surrounding current public health issues. This is the third CASPER to be conducted on Kauai, providing important data on changes in community needs and preparedness levels. Through this effort, over sixty-four DOH staff, partners, and vetted community volunteers have been trained to conduct rapid health needs assessments.

## METHODS

The sampling frame for this assessment was occupied households on the island of Kauai. 2010 census block data were used to select 30 clusters via random number generation. GIS census block shapefiles, satellite images, and Kauai county tax data were used to enumerate and systematically select homes in each cluster. All efforts were made to consider households with ohana units in household selection processes.

The survey included questions that addressed basic household information, health status, emergency supplies, evacuation plans, communication preferences, measles outbreak awareness, and immunization perceptions. Survey teams were comprised of Department of Health staff with support from the Kauai Emergency Management Agency, American Red Cross, and Kauai Medical Reserve Corps.

Between July 11-13, twenty-six survey teams conducted door-to-door surveys in the thirty randomly selected clusters. Within each cluster, seven households were systematically selected for participation with an ultimate target of 210 completed surveys (30 clusters x 7 surveys per cluster). Survey participants were provided drawstring backpacks, emergency radios, waterproof bags for storage of important documents and educational materials on emergency preparedness, tsunamis, hurricanes, flood and hurricane insurance, immunizations, and infectious diseases.

## RESULTS

Survey data were collected electronically via tablets using the EpiCollect 5 application. Entries were uploaded upon return to the operations center. Once synced, data was analyzed using Epi Info 7 software.

Survey teams attempted to contact 333 households, spoke with a resident at 237 households, and ultimately completed 186 interviews, producing the following rates:

**Completion rate: 88.6%**

*represents how close we came to collecting the target 210 interviews (completed interviews/ 210)*

**Cooperation rate: 78.5%**

*represents the willingness of the community to participate (completed interviews/ contacted households)*

**Contact rate: 55.9%**

*represents the proportion of households where contact was attempted and interview completed (completed interviews/ attempted households)*

During analysis, each survey was assigned a weight to account for the likelihood of a household to have been selected for participation. Every percentage included in this report is weighted to ensure representativeness of the entire island. Survey results are grouped by subject matter and summarized on the following pages.

# BASIC HOUSEHOLD INFORMATION

| QUESTION  | OWN (%) | RENT (%) | DON'T KNOW (%) | OTHER (%) |
|---|---------|----------|----------------|-----------|
| Does your household own or rent this residence? | 70.44   | 26.74    | 0.95           | 1.87      |

| QUESTION                              | YES (%) | NO (%) | DON'T KNOW (%) | REFUSED (%) |
|---------------------------------------|---------|--------|----------------|-------------|
| Is anyone in your household pregnant? | 1.43    | 97.42  | 0.48           | 0.67        |

|  |      |       |   |   |
|--|------|-------|---|---|
| Is there an adult in your household that does not speak English? | 1.99 | 98.01 | 0 | 0 |
|--|------|-------|---|---|

Other languages reported included **Filipino** and **Ilocano**.

|  |       |       |      |   |
|--|-------|-------|------|---|
| In the past 5 years, has anyone in your household taken training in first aid, CPR, or community emergency response team (CERT)? | 51.08 | 44.09 | 4.84 | 0 |
|--|-------|-------|------|---|

| ASSISTANCE NEEDS  | PERCENT (%) HOUSEHOLDS |
|---|------------------------|
| Does anyone in your household require assistance during an emergency? | 15.47                  |
| <i>Type of assistance reported:</i>                                   |                        |
| ADA accessible accommodations   | 6.31                   |
| Refrigeration for essential medication                                | 5.80                   |
| Electricity for a medical device                                      | 5.52                   |
| Caregiving assistance for a disability or illness                     | 5.47                   |
| Paratransit service   | 2.74                   |
| Hospital/ home care bed   | 2.54                   |

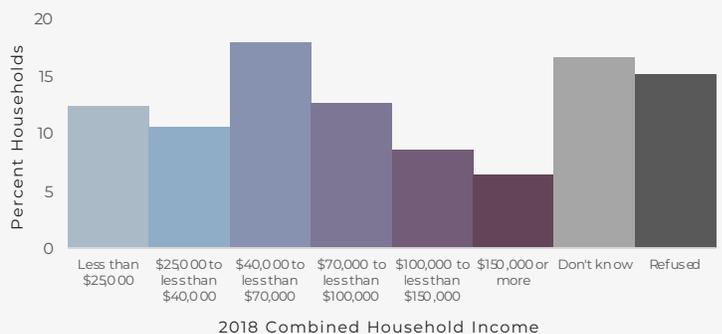
15.47% of surveyed households had member(s) requiring **at least one** type of special assistance listed above.

52.88% of those households felt **very prepared** to care for member(s) who needed assistance.

## HOUSEHOLD COMPOSITION

The average household size was **3 persons per household**.

5.39% of households reported **at least one child under 2 years old** and 41.32% of households reported **at least one adult over 65 years old** living at their residence.



22.91% of households indicated they made **less than \$40,000** in 2018.

# EMERGENCY PLANS AND SUPPLIES

| EMERGENCY PLANS   | YES (%) | EMERGENCY SUPPLIES   | YES (%) |
|---|---------|--|---------|
| <i>Does your household have the following emergency plans?</i>                          |         | <i>Does your household have the following emergency supplies?</i>                |         |
| Communication plan (such as a list of numbers, designated out-of-town contact)          | 62.11   | Emergency supply kit (including water, food, flashlights, extra batteries, etc.) | 79.44   |
| Designated meeting place immediately outside your home or close by in your neighborhood | 47.99   | A first aid kit  | 86.90   |
| Copies of important documents in a safe location (e.g. water proof container)           | 68.62   | An emergency generator   | 34.29   |
|   |         | Smoke detector(s)  | 88.86   |
|   |         | A fire extinguisher  | 70.05   |
|   |         | An emergency radio   | 57.24   |

| WATER STORAGE   | YES (%) | NON-PERISHABLE FOOD  | YES (%) |
|---|---------|--|---------|
| <i>Does your household currently have enough water stored for the next:</i> |         | <i>Does your household currently have enough non-perishable food for the next:</i> |         |
| 3 days  | 75.98   | 3 days   | 90.35   |
| 7 days  | 48.32   | 7 days   | 73.65   |
| 14 days   | 27.89   | 14 days  | 44.33   |

| WATER CAPACITY  | YES (%) | PRESCRIPTION MEDICATION  | YES (%) |
|---|---------|--|---------|
| <i>If not currently stored, does your household have the capacity to store enough water for the next:</i> |         | Do you or any of your household members require daily prescription medication? |         |
| 3 days  | 87.75   |  | 60.79   |
| 7 days  | 77.69   | <i>If yes, does your household have supply for:</i>                            |         |
| 14 days   | 63.27   | 7 days   | 93.53   |
|   |         | 14 days  | 80.20   |

18.00% of households reported having the recommended 14-day supply of both food and water.

| QUESTION   | VERY (%) | SOMEWHAT (%) | NOT (%) |
|--|----------|--------------|---------|
| How important does your household think it is to have emergency supplies on hand for disaster preparation? | 80.70    | 17.87        | 1.43    |

| EVACUATION BARRIERS  | PERCENT (%) HOUSEHOLDS | EMERGENCY KIT BARRIERS  | PERCENT (%) HOUSEHOLDS |
|--|------------------------|---|------------------------|
| <i>What main barrier might prevent your household from evacuating when asked to do so?</i> |                        | <i>What main barrier does your household face in assembling an emergency kit?</i> |                        |
| No barrier (would evacuate)  | 48.38                  | No barrier (has kit assembled)  | 41.41                  |
| No barrier (wouldn't evacuate)   | 9.96                   | No barrier (hasn't gotten around to it)   | 24.83                  |
| Concern about leaving pet(s)   | 13.84                  | Cost of assembling kit  | 7.70                   |
| Concern about leaving property vacant  | 8.29                   | Lack of storage space for kit   | 7.17                   |
| Uncertainty about where to go  | 7.43                   | Lack of knowledge regarding what is needed in a kit                               | 5.69                   |
| Health or mobility issues  | 2.58                   | Lack of time to shop for/ assemble kit  | 4.95                   |
| Inconvenient or expensive  | 1.62                   | Other   | 0.48                   |
| Lack of transportation   | 1.15                   | Don't know  | 7.78                   |
| Other  | 2.48                   |   |                        |
| Don't know   | 4.28                   |   |                        |

| HURRICANE SHELTER  | SHELTER IN PLACE (%) | FRIEND/ FAMILY HOME (%) | PUBLIC SHELTER (%) | OTHER* (%) | DON'T KNOW (%) |
|--|----------------------|-------------------------|--------------------|------------|----------------|
| <i>If Kauai was threatened by a hurricane, where would your household seek shelter for each category of storm?</i>   |                      |                         |                    |            |                |
| Category 1   | 74.65                | 9.69                    | 9.69               | 3.69       | 2.29           |
| Category 2   | 63.80                | 12.95                   | 15.09              | 4.91       | 3.24           |
| Category 3   | 47.95                | 17.76                   | 22.16              | 4.72       | 7.41           |
| Category 4   | 40.26                | 16.80                   | 30.80              | 5.28       | 6.85           |
| Category 5   | 32.21                | 16.37                   | 37.18              | 5.76       | 8.48           |
| *Other shelter locations reported included a household member's workplace, an adjacent building, a concrete structure, a local military base, a warehouse store, and a local hospital. |                      |                         |                    |            |                |

| QUESTION   | YES (%)            | NO (%) | DON'T KNOW (%) | REFUSED (%) |
|--|--------------------|--------|----------------|-------------|
| Is your household located in a tsunami evacuation zone?  | 21.03              | 72.53  | 6.43           | 0           |
| <i>Households located in a tsunami evacuation zone reported the following evacuation locations:</i>                                | Higher ground      | 58.34% | Workplace      | 2.65%       |
|  | Public shelter     | 15.43% | Local hospital | 2.27%       |
|  | Stay home          | 9.98%  | Don't know     | 2.27%       |
|  | Friend/family home | 9.07%  |                |             |
| Does your household have flood insurance?  | 30.77              | 43.13  | 26.10          | 0           |
| Does your household have hurricane/ high wind insurance?   | 65.33              | 34.67  | 22.01          | 0           |
| Does your household store cash for emergencies, when ATMs and credit card systems may not be operational?                          | 61.99              | 32.43  | 3.91           | 1.67        |
| Does your household have access to a reliable vehicle that can transport your household, pet(s), and supplies up to 20 miles away? | 94.96              | 5.04   | 0              | 0           |
| Does your household have pet(s)?   | 64.31              | 35.69  | 0              | 0           |
| <i>If yes, does your household have supplies for your pet(s) in your emergency kit?</i>  | 79.30              | 19.66  | 1.04           | 0           |

In the event of an emergency evacuation, **80.42%** of households with pets indicated they would **take pets with them**, **2.52%** would **not evacuate**, and **9.72%** would **leave them behind**.

## DISASTER COMMUNICATION METHODS

### WHAT IS YOUR HOUSEHOLD'S MAIN SOURCE OF INFORMATION REGARDING

| EMERGENCY EVENTS                  |       | HEALTH ISSUES                   |       |
|-----------------------------------|-------|---------------------------------|-------|
| Television                        | 33.72 | Doctor, nurse, or clinic        | 63.73 |
| Internet                          | 13.06 | Internet                        | 18.61 |
| Local radio                       | 11.24 | Family or friends               | 6.39  |
| Mobile application                | 10.91 | Local hospital                  | 3.01  |
| Automated call (e.g. reverse 911) | 10.27 | Health department               | 1.91  |
| Social media                      | 8.70  | Church or other community group | 0     |
| Word of mouth (coconut wireless)  | 8.39  | Local school                    | 0     |
| Other                             | 3.24  | Other                           | 4.45  |
| Don't know                        | 0.48  | Don't know                      | 1.89  |

| QUESTION   | YES (%) | NO (%) | DON'T KNOW (%) | REFUSED (%) |
|--|---------|--------|----------------|-------------|
| <i>In 2017, Hawaii Emergency Management Agency increased the recommended amount of emergency supplies for Hawaii residents from 7 to 14 days' worth.</i> |         |        |                |             |
| Is your household aware of this recommendation?  | 47.57   | 48.55  | 3.40           | 0.48        |
| Has anyone in your household signed up to receive weather and other disaster-related alerts?   | 70.16   | 29.84  | 5.64           | 0           |
| Is your household familiar with the Kauai Emergency Management Agency's website where you can access materials to better prepare for emergencies?        | 49.30   | 46.71  | 3.99           | 0           |

## MEASLES AWARENESS AND PERCEPTIONS

| QUESTION   | YES (%) | NO (%) | DON'T KNOW (%) | REFUSED (%) |
|--|---------|--------|----------------|-------------|
| Has your household heard about the ongoing measles outbreak on the mainland? | 80.92   | 17.94  | 1.15           | 0           |

| QUESTION  | VERY (%) | SOMEWHAT (%) | NOT (%) | DON'T KNOW (%) |
|---|----------|--------------|---------|----------------|
| How concerned is your household that the measles outbreak may impact Kauai?               | 25.17    | 33.63        | 34.73   | 6.47           |
| How important does your household think it is to stay up to date on recommended vaccines? | 73.41    | 19.10        | 5.23    | 2.26           |

## KAUAI 2019 CASPER

# CONCLUDING REMARKS

The 2019 Kauai CASPER collected important information about the island's residents, health statuses, and preparedness levels, which will inform state and county emergency response plans and enable the Department of Health to best meet community needs post-disaster.

Mobilizing survey teams requires extensive planning, resources, and training. This year, Kauai's District Health Office trained DOH staff from neighbor islands, thereby increasing CASPER capacity state-wide. Preliminary recommendations are provided below; further recommendations will be provided in the Kauai 2019 CASPER final report upon publication at [www.health.hawaii.gov/kauai](http://www.health.hawaii.gov/kauai).

### PRELIMINARY RECOMMENDATIONS

1. Two years after its release, 48.55% of households remain unfamiliar with the state recommendation to maintain a 14-day supply of food and water, with only 18% of households meeting this recommendation.

*A statewide campaign should be conducted to increase awareness and find practical solutions to barriers identified by households. Further, counties should consider developing public/private partnerships to establish community supply caches.*

2. 15.47% of households have at least one member requiring additional assistance during an emergency, such as ADA accommodations or electricity for a medical device.

*Specific preparedness guidance should be developed for this population. Further planning is necessary to ensure the needs of these residents can be met post-disaster.*

3. The percentage of Kauai households indicating they would seek out a public shelter increases with each category of storm. For a Category 5 hurricane, 37.18% of households plan to evacuate to a public shelter. This far exceeds the county's shelter capacity.

*Additional planning is needed with ESF-6 mass care partners to determine how to accommodate residents who evacuate to a public shelter during a major hurricane event.*

4. Of households located in a tsunami evacuation zone, nearly 10% indicated they would shelter in place and 15.43% would evacuate to a public shelter. This is problematic, since all residents located in these zones are advised to evacuate and evacuation shelters are not opened during tsunami events.

*An educational campaign should be implemented to raise awareness surrounding tsunami evacuation zones and evacuation plans.*

