

Community Assessment for Public Health Emergency Response (CASPER)

Nine to Eleven months following Hurricane Helene

Context



On September 27, 2025, Hurricane Helene moved northward bringing catastrophic damage to western North Carolina



Mitchell and Yancey counties were severely affected

11 deaths in Yancey County and 3 in Mitchell

Severe damage to roads, bridges, buildings and infrastructure

Ongoing Aftermath

- **Residents and community agencies rallied to repair damages. Recovery would be a long-term process**
- **To learn about resident's status after the storm, SEARCH (Sustaining Essential and Rural Community Healthcare) partnered with the University of Delaware to conduct a CASPER survey in Mitchell and Yancey Counties**

What is a CASPER study ?

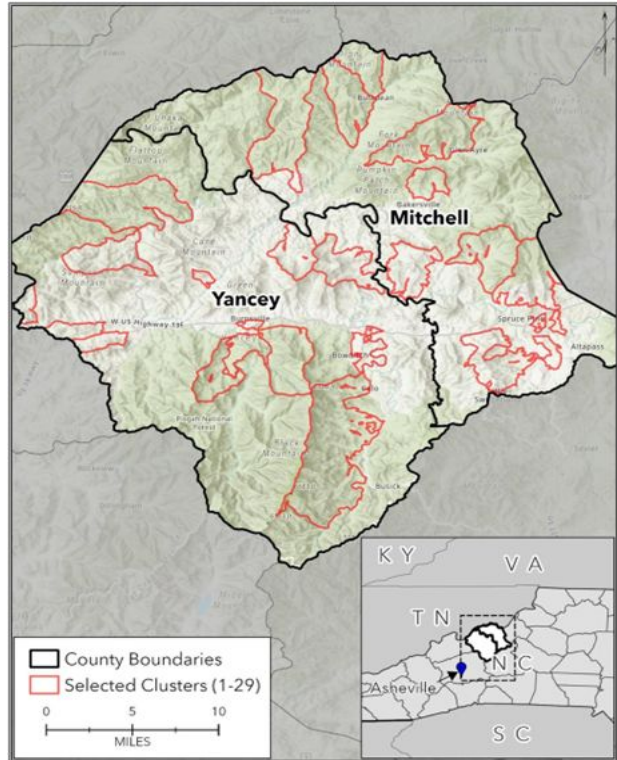
- **A rapid needs assessment tool developed by the CDC**
- **Gathers household-level information for decision-making**
- **Provides accurate and timely information**
- **Uses a cross sectional epidemiologic design**

Mitchell-Yancey Casper Survey

- **A 29-question survey adapted from a CASPER that was conducted in Buncombe County**
- **Interviews were completed between June 28 and August 17, 2025, for 183 (randomly selected) households in Mitchell and Yancey Counties**
- **Most Interviews were conducted by local volunteers**

Selected census blocks used in each county

Thirty clusters in Mitchell and Yancey Counties were selected with probability proportionate to population across the two counties.



Purpose of the study

- **Understand Community needs about a year after Hurricane Helene.**
- **Provide information about ongoing recovery needs and inform long-term recovery and resilience planning.**
- **Provide statistically valid data for ongoing fundraising purposes for Helene recovery**

Survey Findings

Date: / /	Cluster Number:	Interview Number:	Team Name:
Demographic Information			
Q1. Type of structure <input type="checkbox"/> Single family <input type="checkbox"/> Multiple unit <input type="checkbox"/> Mobile home <input type="checkbox"/> Other _____			
Q2. Including yourself, how many people live in your HH? ____ Q3. Including yourself, how many people living in your HH are Less than 2 years old? ____ 2-17 years? ____ 18-64 years? ____ 65+ years? ____ <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q4. Do you or any members of your household identify as Hispanic or Latino? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Communications			
Q8. What is your household's main source of information about a disaster or emergency event? (Check ONE) <input type="checkbox"/> Newspaper <input type="checkbox"/> TV <input type="checkbox"/> Radio <input type="checkbox"/> Internet/Online News <input type="checkbox"/> Friends/Family/Word of Mouth <input type="checkbox"/> Social media <input type="checkbox"/> Text message/Cell phone alert <input type="checkbox"/> Church/Place of worship <input type="checkbox"/> Other, _____ <input type="checkbox"/> None <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q9. Is your household aware of the following materials, mention website/campaign, etc. you and your family for a natural disaster event? <input type="checkbox"/> Yes (go to 9a) <input type="checkbox"/> No <input type="checkbox"/> DK			
Q9a. If YES, was the information received via: <input type="checkbox"/> TV <input type="checkbox"/> Radio <input type="checkbox"/> Internet <input type="checkbox"/> Newspaper <input type="checkbox"/> Friends/Family <input type="checkbox"/> Other			
Physical and Behavioral Health			
Q10. Do you or does anyone in your household have any of the following? (Check all that apply) <input type="checkbox"/> Impaired hearing <input type="checkbox"/> Impaired vision <input type="checkbox"/> Developmental/cognitive disability <input type="checkbox"/> Difficulty understanding written material <input type="checkbox"/> None of the above			
Q11. Have you or a member of your household ever been told by a healthcare professional that he/she has: Asthma/COPD/Emphysema <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Diabetes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Developmental disability <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Hypertension/heart disease <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Immunosuppressed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Physical disability <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Psychosocial/mental illness <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q12. How often in the past 12 months would you pay your HH rent/mortgage? <input type="checkbox"/> Always <input type="checkbox"/> Usually <input type="checkbox"/> Sometimes <input type="checkbox"/> Rarely <input type="checkbox"/> Never <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q13. How often in the past 12 months would you pay your HH for nutritious meals? <input type="checkbox"/> Always <input type="checkbox"/> Usually <input type="checkbox"/> Sometimes <input type="checkbox"/> Rarely <input type="checkbox"/> Never <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q14. Do you or does any member of your household have: Daily medication (other than vitamins): <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Dialysis <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Home health care <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Oxygen supply <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Wheelchair/cane/walker <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Other type of special care <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q15. In the past 5 years, have you or anyone in your household training in first aid, CPR, or CERT? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Now, I am going to ask some questions about preparedness for [hurricanes, tornadoes] and other emergencies.			
Q16. Does your household have any of the following emergency plans? Emergency communication plan such as a list of numbers and designated out-of-town contact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Designated meeting place immediately outside your home or close by in your neighborhood <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Designated meeting place outside of your neighborhood in case you cannot return home <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Copies of important documents in a safe location (e.g., water proof container) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref Multiple routes away from your home in case evacuation is necessary <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q17. Has your household prepared an Emergency Supply Kit with supplies like water, food, flashlights, and extra in a designated place in your home? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q18. Has your HH prepared a first aid kit with emergency supplies to take if your HH had to leave quickly? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			
Q21. Does each person in your HH who takes medication currently have a 7-day supply? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/> Ref			

Household Information

Home Ownership

82% were home owners

15 % were renters

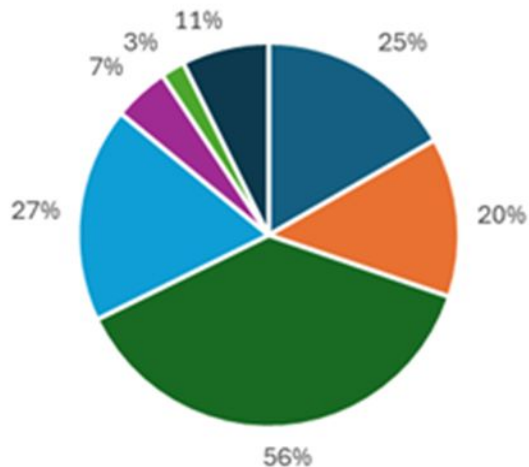
Household Size

43% included 2 or fewer people

12% more than 5 people

- 14% of households had someone displaced by the storm who was still living in their home
- 7% reported a household member had lost a job because of storm and had still not found work

Health Insurance

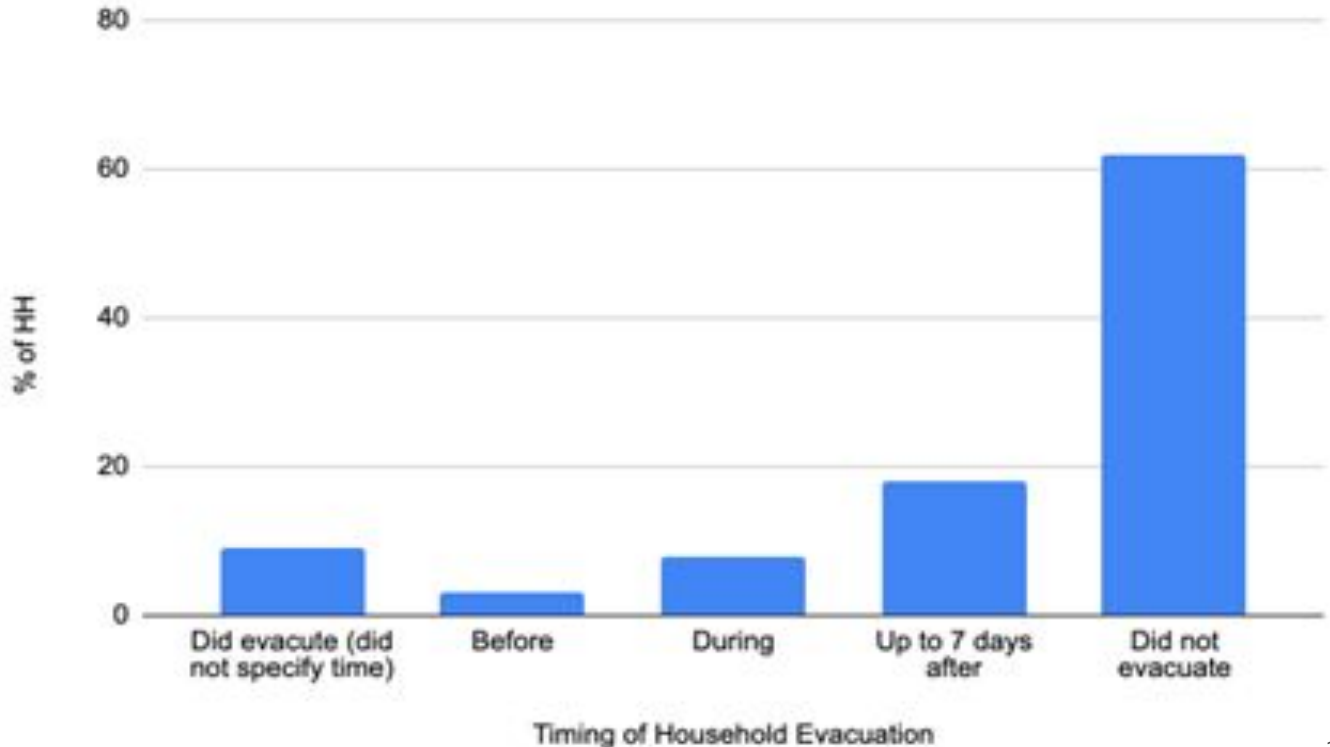


- Insurance through a current or former employer or union
- Insurance purchased directly from an insurance company
- Medicare, for people 65+ or people with certain disabilities
- Medicaid, medical assistance, or any kind of government assistance plan for those with low incomes or a disability
- VA, TRICARE, or Military Healthcare
- Any other type of insurance or health coverage plan
- At least one member without insurance

Health Insurance

- More than half of all households (56%) had someone covered by Medicare
- 27% had at least one member covered by Medicaid
- Most others were covered by employer or union provided health insurance (25%)
- 20% purchased insurance directly

Household Evacuation Timing



Reasons for Not Evacuating

- 40% did not perceive need to evacuate
- 23% impassable roads
- 5% worried about protecting property
- 4% did not receive an evacuation notice
- 3% had no alternative place to go

Damage to Homes in Mitchell and Yancey Counties

- **3,795 homes damaged**

- 38 % reported minimal damage
- 15 % reported moderate damage
- 14% reported severe damage

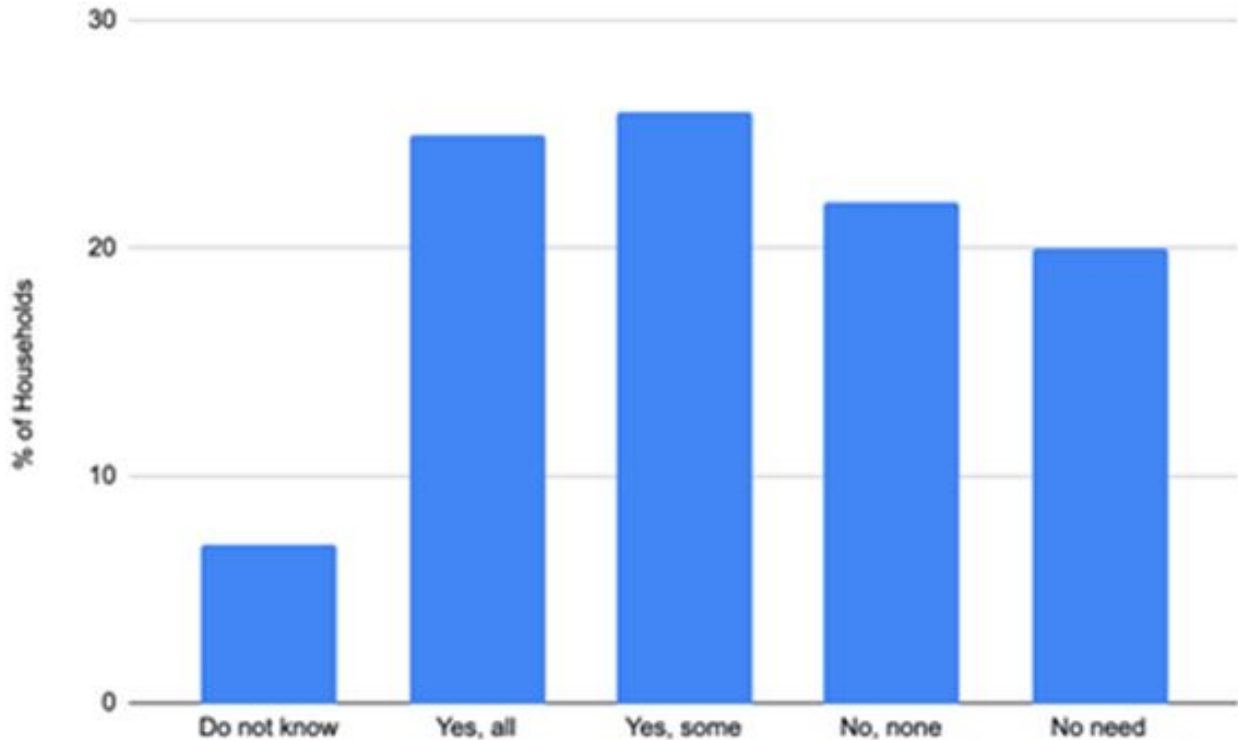
Approximately 29% (1,100 homes) had moderate to severe damage.

Repair and Recovery – Approximately One Year Later

- 23% of homes still not repaired to their original state prior to storm
- 19% of homes somewhat repaired
- 20% of homes fully repaired

These numbers do not include those homes that still have unremoved debris still on the ground. Currently, approximately 48% of homes still have some unresolved debris removal issues.

Removal of Debris and Waste from Property

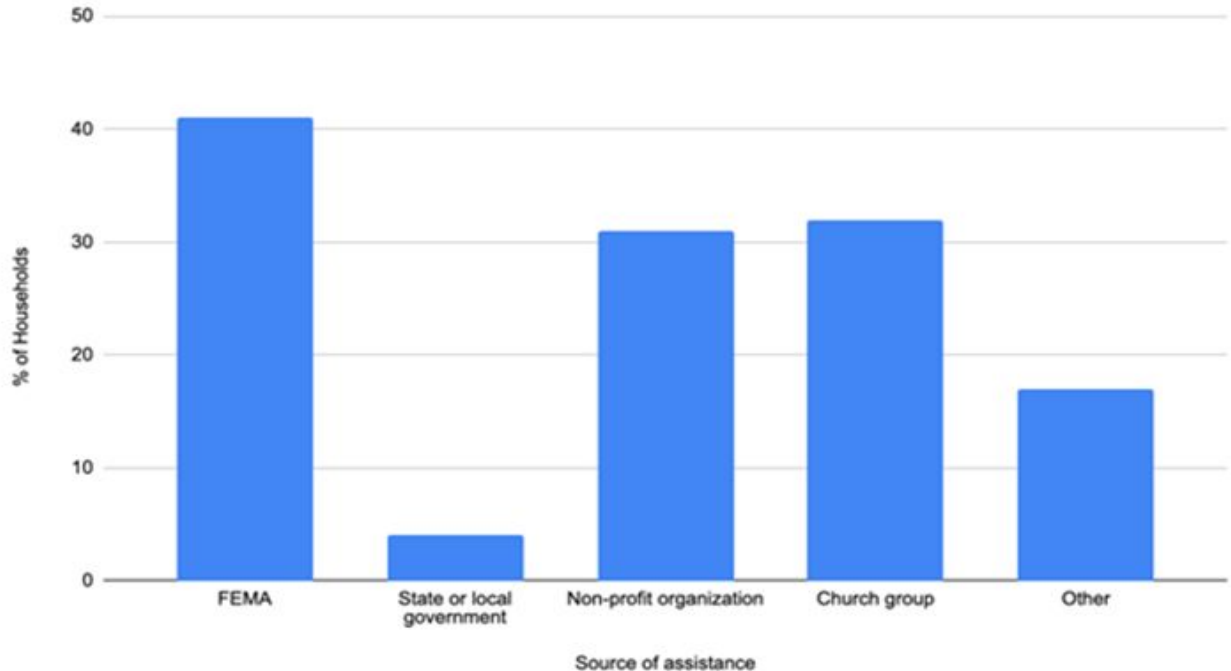


Perception of Safe Housing

Do you and members of your Household feel your home is currently safe to live in?

Yes	No
90%	8%

Sources of Recovery Assistance for Households



Observed Environmental Impacts

More than one third (34%) of households were aware of environmental hazards near their residence. These include contaminated soil, water and air.

Septic System Issues

- 78% households on septic
 - 7 % reported septic flooding
 - 21% unsure or preferred not to answer question
 - 6% had soggy yard, even without rainwater
 - 5% had sewage overflowing from pump tanks or unusual odors
 - 5% sewage backing up into sinks, toilets, tubs

Water

Does Your Household Feel Your Source of Tap Water is Safe?

Safe	61%
Unsafe	16%
Not sure	11%

Water Sources Pre- and Post-Helene

Source	Prior to Storm	After Storm
Private or shared well	59%	57%
Municipal water	11%	8%
Cistern	1%	1%
Spring water	17%	14%
Bottled water as primary source	10%	14%

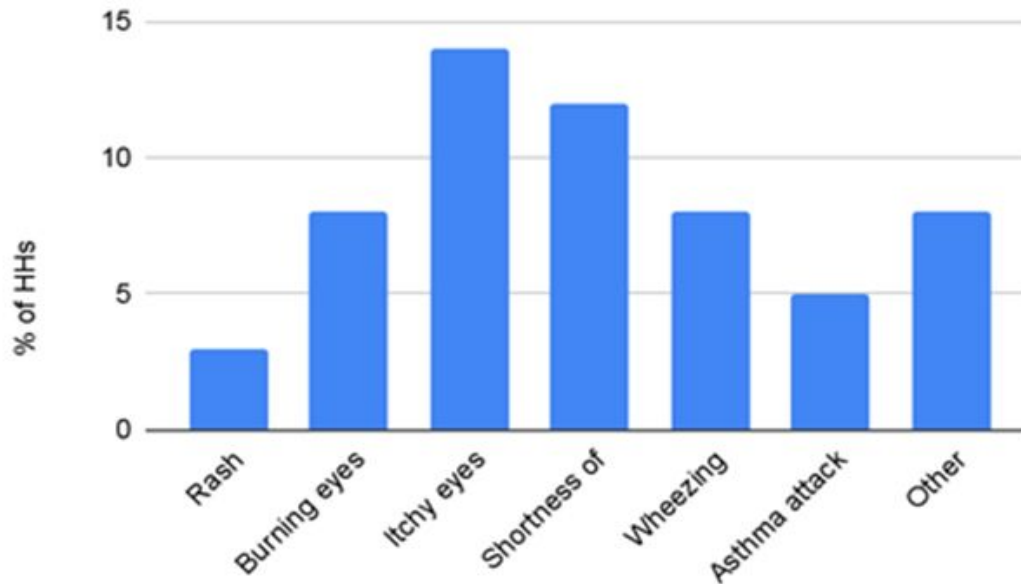
Mold and Musty Odors

- Slightly less than 22% of households reported having seen mold or smelled a musty odor since the storm
- 14% of households reported that their home still had the mold or musty odor at the time of the survey

Barriers that Prevented Removal of Mold or Musty Odors

- Money and costs were the largest barrier cited (8%)
- Time was also a barrier (4%)
- Lack of knowledge (3%)
- Lack of physical capabilities (3%)
- Other barriers to removing the mold or smell (8%)

Symptoms of exposure to mold or indoor air pollutants



New or Worsening Conditions Identified in Household Members by Healthcare Professionals

- Asthma (4%)
- Emphysema (4%)
- New or Worsening COPD (4%)
- Hypertension (4%)
- Heart Disease (3%)
- Food allergies (2%)
- New or worsening environmental allergies (9%)

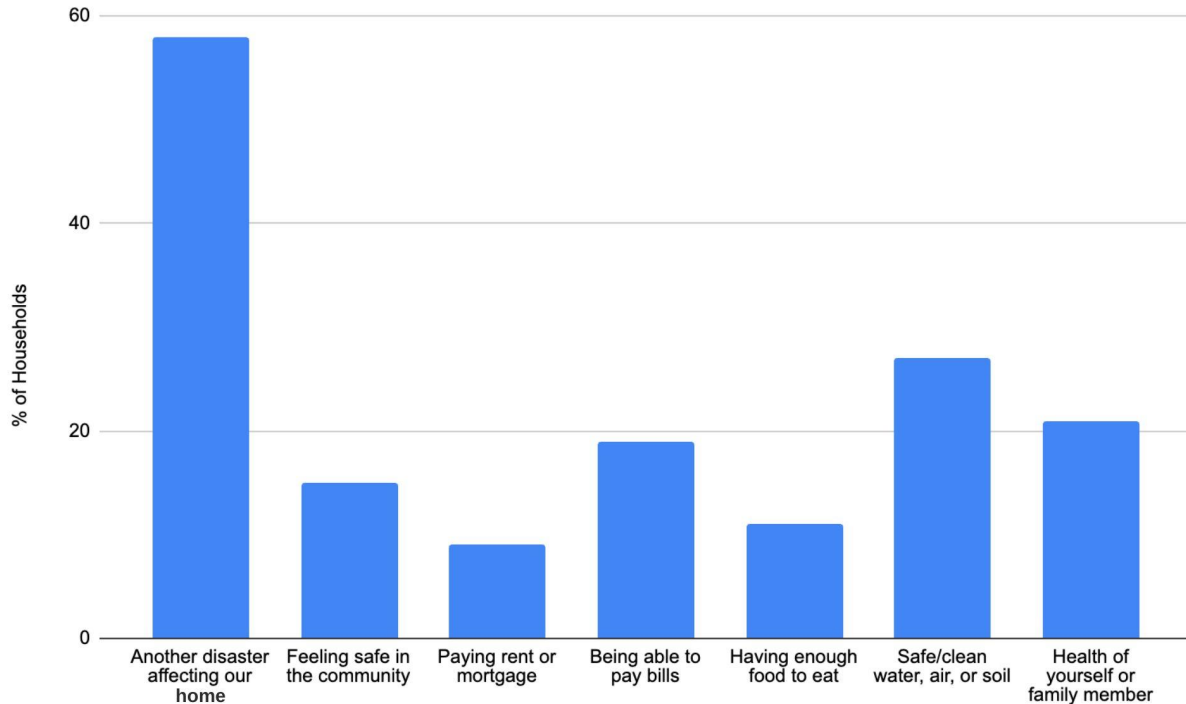
Access to Healthcare after Helene

- 56% received care from their usual source
- 8% used pop-up clinics established by fire departments, first responders, volunteer organizations
- 15% had difficulties receiving necessary medical care

Reasons for Difficulties in Getting Healthcare

- Lack of transportation (5%)
- Money and costs (3%)
- Usual clinic closed or provider unavailable (3%)
- Insurance (2%)
- Disruption of home health services (2%)
- Lack of cell phones and internet access (1%)
- Other problems (7%)

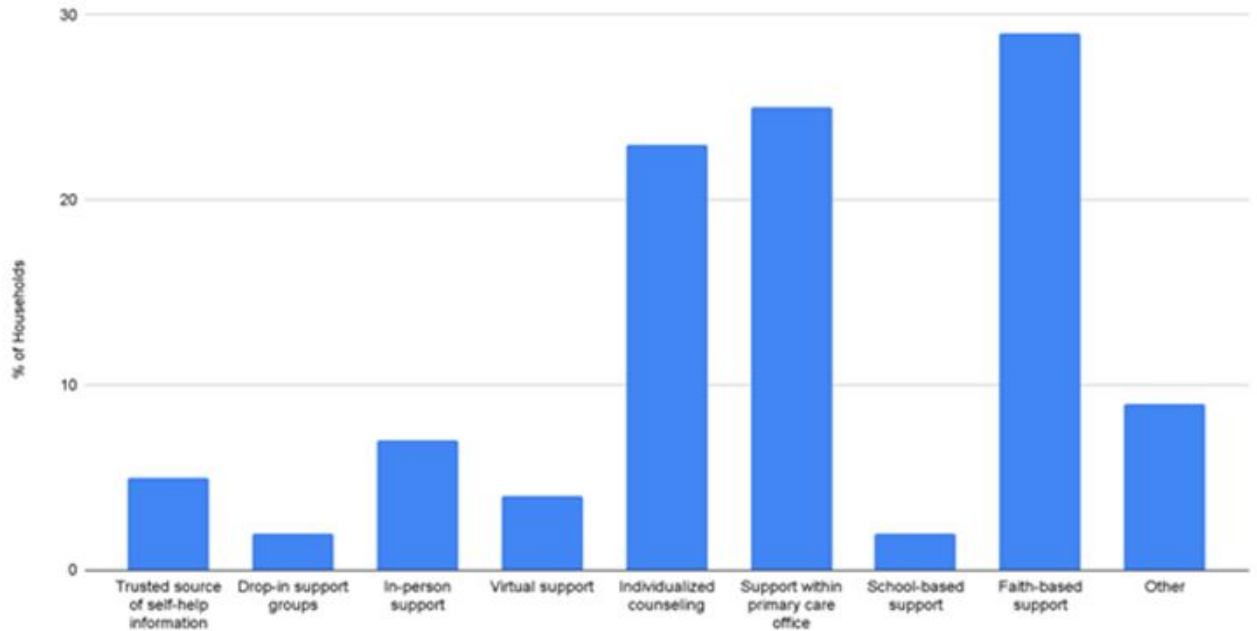
Areas of Concern Amongst Households After Hurricane Helene



Mental Health Status Since the Hurricane

- 17% of households had members that needed help, but did not receive help for behavioral health concerns
- 15% received help from various sources

Preferred Source of Mental Health Support





Conclusions and Recommendations

- **This Mitchell- Yancey CASPER validates current information as well as areas where efforts have been focused. We are making progress on many issues. There are several ways this CASPER report can be useful.**
 - **Support of grant applications**
 - **Develop better response strategies**
 - **Community education**
 - **Target efforts on issues such as mental health or respiratory diseases**

Key Findings

- Emergency response and recovery resources
 - Extended collapse of communications hindered rescue efforts and evacuation decisions
 - Substantial assistance from FEMA and non-profits
- Housing: 3800 homes damaged
 - 29% either severely or moderately damaged
 - 14% of Households have someone still living in the home who was displaced during the storm

Key Findings

- Environmental
 - Mold or musty odors common
 - Increased symptoms of respiratory diseases
 - Water and Septic Issues
- New or worsening mental health symptoms
 - Stresses concerning another disaster, displacement, finances
 - Referral to appropriate care remains difficult
 - Preferred support providers were faith-based

Key Findings

- Employment and economic impacts
 - About 30% experienced impacts on jobs
 - 75% of insurance is through federal funding
 - 1300 NC reports of damage to private roads & bridges
- Barriers to accessing care
 - Insurance
 - Transportation
 - Limited services in medical specialties
 - Stigma

Recommendations – Communications and Emergency Preparedness

- **Written disaster response plans – Messaging, reporting structures, evacuation routes, obtaining food and water**
- **Funding and installation of proper communication equipment**
- **Public education of warning systems and disaster response**

Recommendations - Housing

- Continue collaborative efforts developed in LTRGs to support housing restoration
- Obtain additional help and grants
- Educate public about LTRGs
- Conduct community listening sessions to better understand what is needed to achieve pre-Helene status.

Recommendations – Healthcare Access

- **Expand collaborative relationships among healthcare providers, health departments, and nonprofits**
- **Develop and expand telehealth and mobile health**
- **Improve access to specialty care locally**
- **Better assist under and uninsured individuals**
- **Improve health education**

Study collaborators

- **Jennifer Horney and collaborators at the Center for Disaster Research, University of Delaware**
 - Principal Investigator, study design, participation in survey development, data processing and statistical analysis
- **Spatial Data Analysis, Matt Simon**
 - Development of random sample of households
- **Household interviews**
 - Managed by SEARCH board members
 - Volunteers from the community, Blue Ridge Regional Hospital, and Pisgah Legal Services

Acknowledgments

SEARCH would like to acknowledge and thank the AMY Wellness Foundation, Blue Cross Blue Shield, and an anonymous Mitchell County donor for their financial support which made this project possible.