Building Community Networks in Rural Counties: A Case Study in Pamlico County, NC Adey Harris, Advika Kumar, Nick Haddad, and Rujia Xie **Student Research Training (SRT) Program**

Introduction

Pamlico County (PC) is a rural county in eastern NC that faces several population-level vulnerabilities: (1) a high prevalence of chronic conditions¹, (2) an elderly population of 29.8%², (3) no public transportation infrastructure, (4) no hospitals or urgent care centers within 20 miles of the county, (5) environmental and hurricane-related risks.

Research Questions

- 1. What are the existing gaps in health coverage in Pamlico County?
- 2. How can Hope Clinic mobilize resources to develop an outreach-based care model?
- 3. What natural disaster-related health and home environment risks exist among PCDRC beneficiaries?

Community Partners

The Pamlico County Health Department (PCHD) offers clinical services and public health education and promotion to county residents.



Hope Clinic is a non-profit free and aritable clinic that serves ~300 uninsured patients from Pamlico, Beaufort, Craven, and Carteret Counties.

The Pamlico County Disaster Recovery **Coalition (PCDRC)** serves homeowners by repairing damages resulting from natural disasters (hurricanes) but is moving towards preparedness interventions.

Methods

Healthcare Gap Analysis (PCHD)

- Interviews with providers and staff (n = 15) at local clinics
- 2. Literature reviews on urgent care and rural health (n = 47)
- 3. HRSA Uniform Data System (2020) and American Community Survey (ACS) (5-yr estimates, 2020)

Needs Assessment and Mapping (Hope Clinic)

- 1. Structured patient (n = 20) and staff (n = 7) interviews
- 2. Mapping of patient risk clusters and demographics using ArcGIS Pro and Google Maps

Risk and Vulnerability Assessment (PCDRC)

- Literature review of existing disaster assessment tools
- Development and piloting of a new RVA instrument
- Interviews with previously assisted homes (n = 66)
- Mapping surveyed households by Fire District and by RVA Vulnerability Index using ArcGIS Pro

Findings and Results

Healthcare Gap Analysis (PCHD)

• 0 options for after-hours or weekend care. • 3.8 primary care physicians (PCP) per 10,000 people (N.C average of 8 PCP/10,000) and **0 specialists.**³

Coverage Estimates



Proposed Outreach Model (Hope Clinic)









Total Estimated	
Patients Served	3,919

Total population (selected 10741 ZCTAs* – 2020 ACS)

% Receiving Care in PC 36.5% *Zip code tabulation areas (ZCTAs) – generalized representations of USPS Zip Codes

Figure 1: 7 Patient Clusters (outlined) and Outreach Sites (pinned) Identified Through Mapping Exercise

1. Outreach Clusters

7 clusters, each with 1 outreach service site, were identified based on mapping existing patients and supportive organizations.

Proposed Outreach Model cont'd

2. Mobile Clinic Pilot Mobile clinic pilot in village of Oriental at local church in Fall 2022 to bring care closer to patients. Plan for 6 more locations to be initiated by Spring 2022.

Key Household Risk and Vulnerabilities



Figure 2: Surveyed households mapped by Follow-Up Priority (see key) and Fire District (black outline)

Disaster Preparedness Strategies and Actions

Community Outreach

- Distribute preparedness resources
- CODE-RED enrollment
- Essential Medications List
- Education sessions
- Strengthen resources through **partnerships** across organizations



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² U.S. Census Bureau QuickFacts: Pamlico County, North Carolina. https://nchealthworkforce.unc.edu/interactive/supply/



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3. Community Health Workers (CHWs)

Novel use of CHWs to refer patients for care/services, conduct health screenings, and provide patient follow-up and education. Will contribute to mobile clinic initiation.

Figure 3: Key RVA Responses

Targeted Household Outreach • **Repair damages** in homes indicated as "High Need" and address environmental risk factors Individualized support to develop

- medication lists, evacuation plans, and emergency supply kits
- Flag households with critical needs (medical devices, mobility difficulties) and **link** with fire department for prioritizing during emergencies

Acknowledgements

References