

## **Building Regional Infrastructure for Mitigating the Impact of COVID-19 within Racial/Ethnic Minority, Socially Vulnerable, and Rural Communities**

Elizabeth City State University (ECSU) is the only public university in the northeastern region of North Carolina and serves primarily 21 counties of which most are designated as Tier 1 counties. During the COVID-19 pandemic, many of these counties have been adversely affected. In particular, Bertie, Halifax, and Northampton have experienced per-capita coronavirus rates higher than some urban centers. In fact, Bertie County has the second highest per-capita burden of coronavirus among rural counties in the state.

### **Statement of the Problem**

Emerging data suggest that racial and ethnic minority populations bear a disproportionate burden of illness and death from COVID-19. As of last month, African-Americans accounted for 29.5% of confirmed COVID-19 cases despite making up 13.4% of the U.S. population. A recent Centers for Disease Control and Prevention (CDC) analysis found that 33% of hospitalized patients with lab-confirmed COVID-19 were African-Americans compared to 18% in the community, suggesting an overrepresentation of blacks among hospitalized patients.

Several factors contribute to the disproportionate burden of public health crises on certain populations. Racial and ethnic minorities are at greater risk for exposure to and adverse outcomes from COVID-19 due to these social determinants of health and living and working conditions. Such conditions limit their ability to comply with public health measures to prevent infection like physical distancing, handwashing, and quarantine measures. Other exposure risks for racial and ethnic minority populations include a greater likelihood of being employed in the essential workforce (e.g., service industry, agriculture) and lack of paid sick leave. A greater prevalence of underlying health conditions also put racial and ethnic minorities at higher risk for severe illness and death from COVID-19.

Persistent disparities in access to healthcare pose challenges for racial and ethnic minority, rural, and socially vulnerable populations for receiving COVID-19 services. These vulnerable groups also live in areas that are further from medical facilities or where medical facilities are under-resourced. Existing disparities in vaccination rates could mean racial and ethnic minorities may experience continued susceptibility to COVID-19, even after a vaccine is available.

### **Proposed Strategy to Address COVID-19 Challenges**

#### Overall Goal

The overarching goal of the proposed project is to enhance capacity and infrastructure to support COVID-19 response, recovery, and resilience for racial and ethnic minority, socially vulnerable, and rural communities in northeastern North Carolina (NENC).

#### Implementation Design

The proposed initiative will support establishing: (i) ECSU as the regional site for COVID-19 testing and (ii) ECSU as the hub for drone delivery, transporting essentials to the most vulnerable population in the region.

### *(i) Regional Site for COVID-19 Testing*

The site will be equipped with the capability for diagnostic testing of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The site will also develop campaign activities to support increased awareness and adoption of public health practices (e.g., physical distancing, COVID-19 testing, vaccination, etc.) among vulnerable subgroups in the selected communities. ECSU will work with community-based organizations (CBOs) in coordinating strategic dissemination and delivery of information through a variety of formats including electronic, print, audio, etc. and through communications channels including websites, social media, public service announcements (PSAs), print and radio media, ethnic media, fact sheets, infographics, newsletters, grassroots channels, events, etc.

ECSU will also collaborate with these community organizations to host free COVID-19 mobile and popup testing clinics across the region. ECSU recognizes the importance of increasing access to testing in communities across the region, which is especially critical in rural and underserved communities where residents may have limited access to healthcare. The mobile testing clinics will help bring testing, potentially vaccines, and essential supplies to these communities so that residents can get tested for free and continue to take the steps they need to help stop the spread of COVID-19. The screening and specimen collections will be free for residents and will be part of ECSU's role as a regional site to increase testing in underserved and rural communities across the state. The project webpage will provide real-time information to help one locate where testing is scheduled in their community.

### *(ii) Drone Delivery of Need Resources*

To complement testing efforts, ECSU will expand its existing drone fleet to include long-range, high endurance delivery drones to transport personal protective equipment (PPE), and other essentials including food and medicines. ECSU's delivery drones can also be used to deliver healthcare gears and coronavirus test samples to clinics, and in future to carry time-critical supplies such as blood and organs. ECSU with expertise in Aviation and Unmanned Aircraft Systems (UAS) is uniquely positioned to lead the use of drones for emergency supplies delivery in the region. With the onset of COVID-19 worldwide, and in particular, the United States, aerial delivery of much needed medical supplies, PPE, testing kits, and potentially vaccines, have been pushed to the forefront of priorities within this health crisis.

## **Summary**

The proposed initiative at ECSU is expected to result in: (i) improved reach of COVID-19-related public health messaging to racial and ethnic minorities, rural and socially vulnerable populations; (ii) decreased disparities in COVID-19 testing and vaccination rates among racial and ethnic minority populations in highly impacted geographic areas; and (iii) enhanced capacity and infrastructure to support response, recovery, and resilience for racial and ethnic minority, rural and socially vulnerable populations. ECSU strongly believes that the proposed investment will have a long-lasting impact on the region in mitigating the impact of COVID-19 and improving community resiliency. ECSU plans to continue working with the CBOs and various county health departments across the region in providing COVID-19 related services beyond the project period.

## Estimated Budget

Cost breakdown to support building regional infrastructure for mitigating the impact of COVID-19 within racial/ethnic minority, socially vulnerable, and rural communities are as shown in Table 1.

Table 1: Cost breakdown for ECSU's COVID-19 Response Initiative

<b>Category</b>	<b>Requested Funds</b>
<b>Personnel</b>	
Project Coordinator	\$30,000
Staff Nurse	\$30,000
Technical Staff (2) @\$12,000/staff	\$24,000
Student assistants (20) @\$1,000/student	\$20,000
<b>Subtotal Personnel</b>	<b>\$104,000</b>
<b>Equipment</b>	
ID NOW or similar COVID Testing Instrument for rapid testing	\$200,000
Long range/endurance medical/supplies delivery drones (2-3)	\$470,000
High Speed computers (4)	\$10,000
<b>Subtotal Equipment</b>	<b>\$680,000</b>
<b>Materials and Supplies</b>	
Testing supplies	\$80,000
PPEs	\$36,000
All weather PODS/Pop-up tents/Booths	\$4,000
<b>Subtotal Materials and Supplies</b>	<b>\$120,000</b>
<b>Miscellaneous</b>	
Website/Social Media	\$6,000
Dissemination/Publications/Print	\$4,000
Digital content and campaign development	\$24,000
Human specimen disposal service cost	\$8,000
Fuel cost	\$2,000
<b>Subtotal Miscellaneous</b>	<b>\$44,000</b>
<b>Contractual/Consulting Services</b>	
Outfit ECSU existing cargo van and a rental van/trailer to serve as mobile units	\$30,000
Delivery Drone set up and training	\$12,000
Rental/Lease of additional Van or Trailer	\$10,000
<b>Subtotal Contractual/Consulting Services</b>	<b>\$52,000</b>
<b>Total Funds Requested</b>	<b>\$1,000,000</b>