

A COVID-19 DHEC-UofSC Public Health Initiative









Program Rationale

- 2020 UNESCO report indicated that pandemics will increase in frequency and severity due to continued bioloss¹.
- Early pandemic stages can exceed public health laboratory and contact tracing capacity, yielding the need for rapidly-deployable and accessible diagnostics.
- Unintentional, yet inherent, disparities exist with current pandemic testing infrastructure.



Program Objectives

- Advancing the health <u>of all South Carolinians</u> by engaging in dynamic conversations with minority, marginalized, and rural populations, and assessing the acceptability-utility of at-home testing for enhanced pandemic public health response among these residents.
 - Execute focus groups with historically underrepresented populations to elevate their perspectives, concerns, and needs to public health leadership for tailored COVID-19 pandemic response.
 - Determine diagnostic utility and capacity for DHEC to promote at-home COVID-19 testing using comparative at-home vs. 'gold standard' molecular diagnostics using statistical accuracy analyses of local, representative state residents.



Program Activities Linked to Funding Goals

- 1.Expand existing and/or develop new mitigation and prevention resources and services to reduce COVID-19 related disparities among populations at higher risk and that are underserved.
 - -Leveraged 12 new minority community partnerships to recruit participants for current program
- 2.Increase/improve data collection and reporting for populations experiencing a disproportionate burden of COVID-19 infection, severe illness, and death to guide the response to the COVID-19 pandemic.
 - -Demonstrated the ability to evaluate self-testing modalities as alternative to public health lab testing programs.



Program Activities Linked to Funding Goals

- 3. Build, leverage, and expand infrastructure support for COVID-19 prevention and control among populations that are at higher risk and underserved.
 - -Successfully recruited program participants that were 75% minority, 50% low SES
 - -Demonstrated the utility and buy-in of self-testing for hard-to-reach populations
- 4. Mobilize partners and collaborators to advance health equity and address social determinants of health as they relate to COVID-19 health disparities among populations at higher risk and that are underserved.
 - -Worked with non-traditional community partners to gain community trust and participation
 - -Non-federal Native American tribes
 - -Black owned businesses



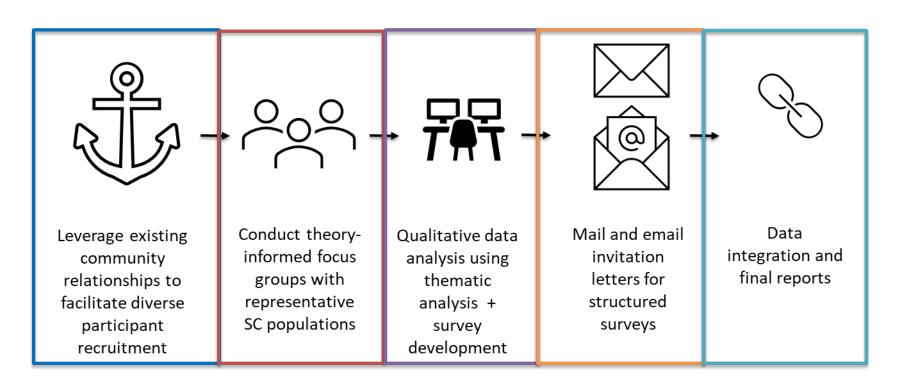
Program Organization





Qualitative Interview Workflow

Execute focus groups with historically underrepresented populations to elevate their perspectives, concerns, and needs to public health leadership for tailored COVID-19 pandemic response.





Qualitative Interview Development

- Gaining trust of minority populations through community partnerships
 - USC Civil Rights Organization
 - SC Office of Rural Health
 - USC Lancaster's Native American studies
 - Sought buy-in through minority-serving businesses, churches, & local organizations
- Sought community feedback of structured interviews through Patient Engagement Studio
- Achieved IRB approval: Protocol #114822. A mixed methods exploration of factors affecting SARS-CoV-2 at-home testing uptake in South Carolina



Qualitative Interview Sections

- Opening questions to gain interviewee confidence
- Six COVID-19 testing sections with structured probes
 - ✓ At-home testing
 - ✓ Source of at-home testing
 - ✓ Testing results behavior
 - ✓ Results upload
 - ✓ Other health self-test options



Qualitative Interview Findings

- All focus groups have been <u>completed!</u>
- 154 interviews have been completed with a high representation among minorities
 - 66% female
 - 41% Black, 25% White, 14% Hispanic, 13% Native American, and 7% Asian
 - 57% had less than a college education and 38% reported <\$50K household income
- Focus Group Manuscripts/Reports in Preparation: ongoing development
 - -COVID-19's effect on Native Americans
 - -Asian Populations, COVID-19 & Stigma
 - -African American Populations, COVID-19 & Stigma
 - -Community, Crime, & Lacking Social Connectivity
 - -Mistrust of at-home testing and solutions



Qualitative Interview Findings

- Three themes emerged regarding COVID-19 testing among vulnerable groups
- 1. Test access issues were major limitations—desire for convenient testing
- 2. Lack of test confidence when completing by themselves
 - Directions were too difficult to understand
 - Robust community knowledge of false positives/false negatives—people want 2 tests
- 3. "White Coat"-There is more trust in testing results with a healthcare staff present
 - Less trust in health department messaging, more trust in healthcare providers
 - People felt more comfortable if they could ask questions regarding their self test
- Overwhelming majority want at-home testing options
 - Preferred at-home test to standing in line/having to drive to clinic
 - Liked the convenience of rapid result vs. waiting days for test result
 - At-home tests alleviated the language barrier



Qualitative Interview Findings

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"Ain't about the money, ain't about the haircut": Experiences of servant leadership in black-owned barbershops and beauty salons during the COVID-19 pandemic



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ABSTRACT

The COVID-19 pandemic had a disproportionate, negative effect on Black Americans. Black-owned barbershops/ beauty salons are traditionally trusted, yet little is known regarding how these "virtue locales" were affected by the pandemic. This theory-guided, qualitative descriptive study explored owners' experiences in addressing their clients' and community well-being during the first pandemic year, revealing four emergent themes: 1) "blessings" and cultural expectations informed a moral imperative to become servant leaders, 2) long-standing relationships resulted in opportunities to engage on topics of physical and mental health, 3) Barbershop/beauty salon-based COVID-19 information and resources led to individual and community empowerment, and 4) Barbershops and beauty salons were "virtue locales", or physical manifestations of social responsibility and psychological safety during the pandemic. These results support that these locations are trusted spaces where health issues can be discussed, and that their owners are willing and trusted community leaders that can be leveraged to implement culturally appropriate health interventions.



Qualitative Interview Findings: Role of Black-owned businesses and COVID-19 public health outreach

- "Blessings" and cultural expectations informed a moral imperative to become servant leaders
- Long standing relationships resulted in opportunities to engage on topics of physical and mental health
- Barbershop/beauty salon based COVID-19 information and resources led to individual and community empowerment
- Barbershops and beauty salons are 'virtue locales', or physical manifestations of social responsibility and psychological safety during the pandemic





Qualitative Interview Findings: <u>Native American</u> <u>Pandemic Experiences</u>

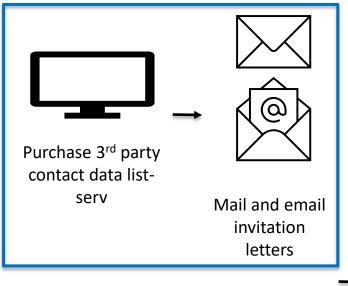
- Only qualitative study focused on experiences of NA's east of the Mississippi
 - Informed by the Native Resilience Model and Indigenous Standpoint Theory
 - 24 participants representing five South Carolina tribal groups
- "Let's just finish the Indians off": Distrust rooted in historical and current NA experiences
- "I am not going to be the one to make my grandchild sick": COVID-19 mitigation behaviors
- "We have been misled": Making sense of conflicting public health information
- "We put the plan in place": Advocacy and action on behalf of NA community health



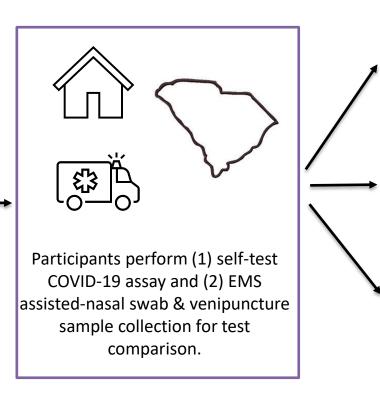
Qualitative Interview Summary



Diagnostic Evaluation Testing Workflow





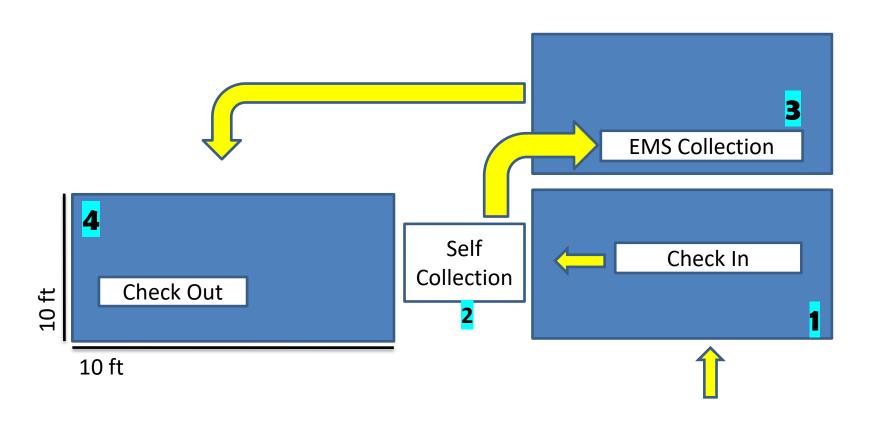




Jasmine: Lab Hybrid



Self-test Evaluation Sampling Layout





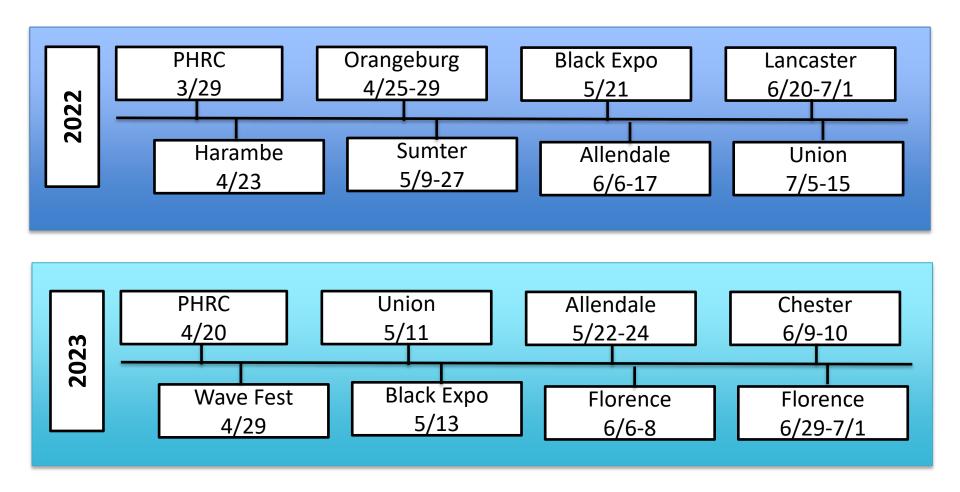
Self-test Evaluation Sampling Photos





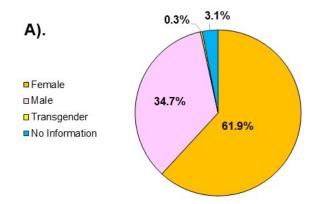


Self-test Evaluation Data Collection





Self-test Evaluation: Sample Demographics





Self-test Evaluation: Estimated Proportion and Prevalence

	Proportion (Number)	(95% CI)			
dPCR (gold standard)	0.033 (22)	(0.017, 0.041)			
Total Self-testing Group	0.025 (18)	(0.015, 0.040)			
	Seroprevalence (Number)				
	(Number)	(95% CI)			
IgG (gold standard)	(Number) 0.798 (489)	(95% CI) (0.763, 0.828)			
IgG (gold standard) self-testing IgG group total					
	0.798 (489)	(0.763, 0.828)			
	0.798 (489)	(0.763, 0.828)			



Self-test Evaluation: Testing Group Performance

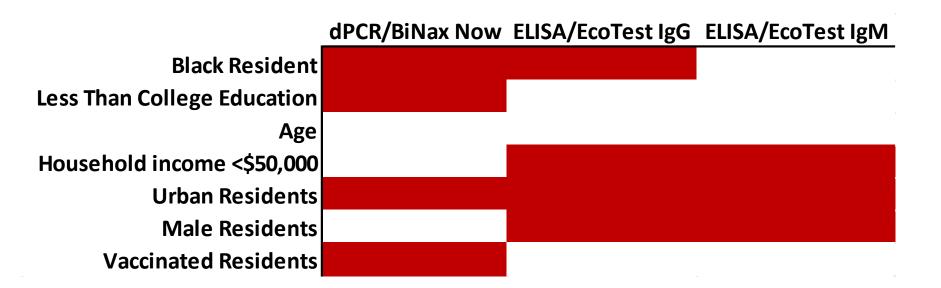
Test Group S	Sensitivity	Specificity	PPV	NPV
Carolina Wren	60.1%	99.0%	45.5%	99.4%
Palmetto	57.8%	95.5%	16.0%	99.4%
	ш			
Carolina Wren	83.7%	90.6%	99.0%	32.6%
Palmetto	57.8%	92.5%	98.9%	16.1%
Carolina Wren	57.0%	96.8%	43.2%	97.9%
Palmetto	62.2%	92.7%	28.2%	98.2%
	Carolina Wren Palmetto Carolina Wren Palmetto Carolina Wren Carolina Wren	Carolina Wren 60.1% Palmetto 57.8% Carolina Wren 83.7% Palmetto 57.8% Carolina Wren 57.0%	Carolina Wren 60.1% 99.0% Palmetto 57.8% 95.5% Carolina Wren 83.7% 90.6% Palmetto 57.8% 92.5% Carolina Wren 57.0% 96.8%	Carolina Wren 60.1% 99.0% 45.5% Palmetto 57.8% 95.5% 16.0% Carolina Wren 83.7% 90.6% 99.0% Palmetto 57.8% 92.5% 98.9% Carolina Wren 57.0% 96.8% 43.2%

Carolina Wren → Assisted Group
Palmetto → Unassisted Group

*both groups provided manufacturer's instructions



Self-test Evaluation Accuracy





Self-testing Evaluation Summary



Future Plans for NCE

- Finalize focus group publications
- Additional self-testing evaluation events planned in 2023
- Immunologic evaluation of long COVID and testing accuracy
- Exploring additional funding for self-testing & community health worker telemedicine intervention among minorities with other health conditions





Thank you!

Questions?

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