Improving Health Equity and Vaccination on Virginia's Eastern Shore













The Virginia CommuniVax Team

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Executive Summary

CommuniVax established a national research coalition in September 2020 composed of 5 local research teams: Alabama, California, Idaho, Maryland, and Virginia, focused on African American/Black and Latinx communities, and coordinated by a central "hub" that is housed at the Johns Hopkins Center for Health Security and guided by a national expert working group. The Virginia team, whose CommuniVax involvement began in late spring 2020, includes Eastern Virginia Medical School, Norfolk State University, Hampton University, and Virginia Commonwealth University. The Virginia team has a Hampton Roads component and an Eastern Shore component.

This report highlights findings from qualitative research on COVID-19 vaccination in low-income Eastern Shore of Virginia communities conducted in late spring and early summer of 2021. It relies on 31 individual interviews, 3 focus group discussions, and ongoing efforts to address vaccine uptake and strengthen the Eastern Shore of Virginia's collective health agency, with special emphasis on the African American/Black population. These efforts include those of the Virginia research team, Eastern Shore Healthy Communities, and the frontline organizations who have worked tirelessly to increase vaccination rates.

A key finding from this report is that the response to COVID-19 vaccination was mixed in the low-income communities of Virginia's Eastern Shore. The same factors that motivated some were met with skepticism by others; for example, some got the vaccine to feel safe from getting COVID-19, but for others the vaccine was not a sure form of prevention and not worth the risk. Another key finding is that improving vaccine equity requires engaging with the whole community to address various social determinants of health—including racism, poverty, transportation, education, housing, food insecurity, and trauma. For many community members, these issues are more immediate than a COVID-19 vaccine. The third key finding is that stronger, more equitable healthcare depends on a steady, sustainable, public health infrastructure. A strengthened health department with dedicated and consistent funding will enable the Eastern Shore Health District to convene key leaders of community- and faith-based organizations in planning efforts. Working together with these partners will strengthen public health crisis.

In this report we recommend humanizing vaccine information and delivery with peerled efforts. Engaging individually with community members who have chosen not to vaccinate and engaging with community- and faith-based organizations will help build new strategies. These partners can offer insight into hard-to-uncover community issues due to their trusted status in communities. They can identify concerns, offer new approaches, and identify locations for vaccination in familiar and trusted places.

We also recommend strengthening the public health infrastructure for community impact. For optimal impact on community health, the Eastern Shore of Virginia Health District workforce should be sustainably resourced, demographically representative, and skilled at authentic community engagement.

Introduction

This report is part of a national CommuniVax initiative focused on improving the prevention response to COVID-19, especially in communities of color that have been hardest hit by the pandemic. It serves as a supplement to the CommuniVax national report, *Carrying Equity in COVID-19 Vaccination Forward: Guidance Informed by Communities of Color*.¹

Since April 2021, the Virginia CommuniVax team has been listening to the concerns of the African American/Black populations in Virginia's Eastern Shore (ESVA) community to identify measures that would enable underserved groups to increase their personal collective agency and improve their own health during the current pandemic and in the future. This report is a call to action and offers recommendations and specific actions that can be implemented by public health officials, government officials, healthcare professionals, academic institutions, community-based organizations (CBOs), faithbased organization (FBOs), and those who conduct community health and education.

Problem

Socially disadvantaged groups and people of color have experienced disproportionate impacts from the COVID-19 pandemic. While improved COVID-19 vaccine uptake within this population would reduce the impact of the virus, deeply held biases and other barriers prevent vaccine acceptance.

Not unlike many communities across the nation, the pandemic hit rural ESVA hard. Between March 19, 2020, the date of the first confirmed COVID-19-related case, and April 23, 2020, multiple outbreaks at nursing facilities and the local poultry processing plants triggered a state and national response to protect low-income workers, many of whom are people of color. Teams from the US Centers for Disease Control and Prevention (CDC) teams and the National Guard intervened to assist with contact tracing and mitigation efforts.

Local Background

As of September 2021, the local 52-bed Riverside Shore Memorial Hospital is reeling with COVID-19 patients. A little more than 80% of COVID-19-related admissions over the past month were unvaccinated or partially unvaccinated patients. As the 10-bed intensive care unit nears capacity, a pause in elective surgeries is possible. Current Delta variant case numbers are mimicking the January 2021 COVID-19 peak.²

ESVA is a 70-mile long peninsula that forms the lower half of the Delmarva Peninsula, and is connected to Virginia's mainland by the 20-mile long Chesapeake Bay Bridge-Tunnel. Two counties, Accomack (population 33,413) and Northampton (population 12,282) make up the Eastern Shore Health District; African American or Black residents comprise 27.3% of the total ESVA population and Hispanic or Latino residents comprise 9.8%.³ Government is the largest employer and occupational opportunities range from entertainment and retail to high-tech professions at NASA Wallops Island. The population is marked by low wealth, with 18.0% at or below the federal poverty level³

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and another 30.0 % are "ALICE," the United Way acronym for Asset Limited, Income Constrained, Employed.4

On March 12, 2020, Governor Ralph Northam declared a state of emergency. Within a week, the first COVID-19 case on the Eastern Shore was confirmed and the region experienced its first COVID-19 death on April 8, 2020. As a result of the state of emergency, schools were closed and nonessential businesses sent employees home to isolate. Businesses classified as essential, such as healthcare organizations and food manufacturers, remained open. By April 23, 2020, the Eastern Shore Post reported hot spots at the 2 local poultry processing plants, Perdue and Tyson Foods. The paper also confirmed outbreaks in 3 nursing facilities.⁵

Positive COVID-19 cases grew exponentially at the poultry processing plants and Governor Northam got personally involved to ensure employees were getting the care they needed. The CDC sent a team of epidemiologists, contract tracers, and language specialists fluent in Haitian Creole to assess, test, and mitigate the situation. The governor, an ESVA native, acknowledged that these workers were low income and from communities of color, placing them at higher risk.⁶

Black Voters Matter Fund, a national nonprofit organization that advocates for voter engagement, held a virtual community health briefing on May 12, 2020, for African American/Black ESVA workers. Dr. Camara Jones, epidemiologist and medical anthropologist, spoke to the group and said:

If opportunity were equally distributed across the planet, or at least in this country, and if exposure to risk were evenly distributed across the planet, or at least in this country, there should have been no way that we could divide up the population and see any one group getting more of this virus and dying more often from it. But the fact that we saw this virus coming to zone in on Black and Brown people, where we are getting infected at least twice as much as White people, and we are dying at least 3 times as often—that shows that opportunity and exposure are not equally distributed in this country, and it's really just pulling the sheets off of racism.⁷

Dr. Jones explained that African American/Black individuals are not more genetically disposed to the virus but they have greater exposure because many work on the front lines at essential businesses, like the poultry plants. She urged the audience to take specific preventive actions.⁶ At the time, vaccines were still 7 months away.

COVID-19 Disease Burden

The Eastern Shore Health District includes Northampton and Accomack counties. The recent number of cases, hospitalizations, and deaths are represented in Table 1.

Table 1. Incidence of COVID-19 Cases, Hospitalizations, and Deaths by County and Eastern Shore Health District

	Accomack n (%)	Northampton n (%)	District n (%)	Virginia n (%)	United States n (%)
Population	33,413	12,282	45,695	8,631,393	331,449,281
Total Cases	3,568 (10.68)	998 (8.13)	4,566 (9.99)	827,197 (9.58)	41,593,179 (12.54)
Total	273 (0.82)	94 (0.77)	367 (0.80)	34,414 (0.40)	2,920,532 (8.81)
Hospitalizations					
Total Deaths	63 (0.18)	38 (0.31)	101 (0.22)	12,242 (0.14)	666,440 (0.20)

Sources: US Census Bureau. 2020 Decennial Census^{8,9}; Virginia Department of Health COVID-19 Cases and Testing Dashboards¹⁰; CDC COVID Data Tracker.¹¹

The health district has a slightly higher case rate per 100,000 people than the state, but it is lower than the rate for the United States overall. Similarly, the district's hospitalization rate is higher than the state but lower than the national rate. Death rates are high compared with statewide and nationwide rates. ESVA people of color have suffered disproportionately with COVID-19 as seen in Table 2. People of color are 2 to 3 times more likely to be diagnosed with COVID-19, hospitalized, and die as a result, with the notable exception of Hispanic/Latino populations.

Table 2. Ratio of African American/Black and Hispanic/Latino Eastern Shore Residents COVID-19 Cases, Hospitalizations, and Deaths to White Residents

	African American/Black	Hispanic/Latino	White
Cases	2.23	2.27	1.0
Hospitalizations	3.09	1.57	1.0
Deaths	2.60	0.55	1.0

Source: Virginia Department of Health, COVID-19 public use dataset by race.¹²

The Eastern Shore Health District has achieved a 61.4% full vaccination rate for the total population, whereas the full vaccination rate for African American/Black residents is 14.9% and Hispanic/Latino residents is 15.0% (Table 3).

Table 3. Vaccination Percentages in Eastern Shore of Virginia

	Accomack County	Northampton	Virginia	United States
		County		
Total fully vaccinated	17,456	2,164	631,871	181,382,976
% of total population	52.24%	61.47%	39.30%	54.6%

Source: Virginia Department of Health COVID-19 Cases and Testing Dashboards¹⁰

Approach

The Virginia CommuniVax team conducted a rapid ethnographic assessment of the ESVA community to better understand personal pandemic experiences, feelings about taking the COVID-19 vaccine, barriers to vaccination, and feelings about the vaccine's role in the community's recovery through 31 interviews and 3 focus groups.

The team conducted 31 semistructured interviews with ESVA residents from May 14 through July 6, 2021. The interviews were conducted by telephone or online, using Zoom video teleconferencing software. In addition, the team has conducted 3 focus groups with participants and community stakeholders from the Eastern Shore as of August 20, 2021. One focus group was conducted with 4 residents from the region, another was conducted with 4 representatives of area community organizations, and the third focus group was conducted with 4 area vaccination campaign planners. Focus groups were conducted via Zoom. Participants used Zoom's dial-in function to emulate a conference call.

The average age of the 31 interviewees was 56.8, with a range between 30 and 79. Interviewees were 77% (n = 24) African American/Black, 19% (n = 6) White, and 3% (n = 1) non-White Hispanic/Latino. Women constituted 61% (n = 19) of the sample. All but one indicated living in a rural area; the remaining interviewee reported living in a suburban setting. The majority (71%) had been vaccinated. Of the 6 unvaccinated interviewees, none indicated that they planned on getting a vaccine.

Recruitment was conducted using flyers, re-contact based on participation in previous studies, and referral from other participants. All participants were offered a \$20 incentive for participation. Interviews and focus group discussions were recorded by 2 machines to provide redundancy (ie, with 2 audio recorders for phone interviews or 1 audio recorder and 1 video recording if Zoom was used). Recordings were professionally transcribed and coded using a codebook provided by the national working group and analyzed to find themes that would inform future recommendations.

The research protocol was approved by the Eastern Virginia Medical School Institutional Review Board (21-03-FB-0046). For privacy, we removed all names of participating community members from the findings and altered any details that might provide identifying information.

Local Observations

From the beginning, ESVA vaccine uptake was robust. The first vaccines were given in late December 2020 and 2 months later the data were encouraging. On February 26, 2021, Eastern Shore Healthy Communities District Chief Jon Richardson reported to Northampton County Supervisors that 18% of Eastern Shore residents had received the COVID-19 vaccine—a rate that was nearly on par with Alaska's vaccine uptake rate, which at the time led the nation. When asked how many people of color on the Eastern Shore had been vaccinated, Richardson replied that the number was lower than they wanted it to be and told the supervisors that increasing it would take some time. ¹³

Six (19%) of the 31 ESVA interviewees chose not to receive a COVID-19 vaccine. Nearly all participants found the pandemic unsettling and many saw the vaccine as a way out of isolation and fear. Findings from the interviews offer insights to long-term needed change and suggest some short-term community interventions.

Eastern Virginia Medical School personnel have been engaged with the ESVA community for years in multiple ways, including directing an ESVA community health and wellbeing coalition since 2009. Since the pandemic began, the coalition has held 85 meetings focused on issues directly related to COVID-19 as well as factors indirectly related, including diversity, trauma, poverty, aging, prenatal care, food insecurity, and resiliency. Observations gained from those meetings further inform this research.

The Eastern Shore is a tight-knit community. Vaccines were offered at all medical visits with Eastern Shore Rural Health, the local primary care resource. They were offered at both Eastern Shore Health District locations, the hospital, Walmart, all Rite Aid and all Walgreen pharmacies, mass vaccination clinics at local schools, community celebrations, door-to-door in higher-risk neighborhoods, and churches. The State Office of Health Equity held weekly virtual meetings with statewide equity leaders and visited the Eastern Shore to advise health department officials on equity strategies. United Methodist ministers held weekly calls with parishioners on matters of faith and health and encouraged everyone to post a picture of themselves on social media getting their vaccine to encourage others. The United Methodist Church has the largest church presence on the Eastern Shore. Many other denominations are represented and engaged in immunization promotion. Promotional materials were offered in English, Spanish, and Haitian Creole, the predominant languages spoken in the area. The health agencies used translators. The hospital, health department, primary care, and mental health systems were in constant contact with each other—functioning as unrelated corporate health entities but acting as a system. Eastern Shore Community Services Board, the mental healthcare provider, has a fleet of cars and vans for patient transportation to any medical appointments for individuals dually covered by Medicaid and Medicare.

In alignment with the goals of the national CommuniVax initiative, we report here on themes and insights from the interviews and focus groups to inform guidance and recommendations on encouraging vaccination, strengthening agency over personal health, and eliminating barriers.

Mixed Community Response to COVID-19 Vaccination

Community responses to the pandemic and vaccination uptake were wide-ranging and diverse. Documenting the motivations behind decision making on vaccination provides context and insights to inform future efforts. The same factors that motivated some were met with skepticism by others. For example, some got the vaccine to feel safe from getting COVID-19, whereas for others the vaccine was not a sure form of prevention and therefore not worth the risk. The vaccine helped some to feel like they were protecting their family and community, but others feared it was not safe for them or their families. Despite the rough start to vaccination efforts, getting vaccinated in a convenient place became easier over time. Information on where and how to get a vaccine was everywhere. One voice among the interviewees stood out to address a topic that needs further local research. This sentiment, expressed by a young woman, describes the most formidable hurdle in the race to move the needle on vaccination of people of color:

I feel like I know more people who don't want to get it, and that's why they don't get it, because they don't want it, versus they want it and don't have a way of getting it done.

Factors Behind Vaccine Hesitancy

Three types of vaccine hesitancy were observed: fear, skepticism, and religious beliefs. We note first that a decision to vaccinate does not eliminate hesitancy and may reinforce it. The vaccine reaction of some may also unfavorably influence the vaccine choice of others who say they are waiting and watching the reactions of their friends and families.

Both vaccinated and unvaccinated participants expressed hesitations. When one hesitant person was asked, "Now that you've gotten your vaccine, do you feel the same way still or do you feel, like, you warmed up to the idea?" The person replied, "I feel more confident. I feel more protected, although I still have doubts about the vaccine."

Many vaccine recipients experienced a range of reactions to the vaccine. One person who had a history of COVID-19 got vaccinated, and a week later she developed symptoms of fever, lethargy, and no appetite. She lamented: "I had fevers of 101.7 ... the Motrin didn't do anything, the fear and the symptoms that I had, but it was just like I had COVID." When asked if, in the end, she was glad to get the shot, she replied: "Glad I took the shot?... Definitely not." She did not receive her second dose of the vaccine.

Fear

Participants expressed the following fears related to vaccination: fear of a potential reaction, fear that the vaccine was not properly tested, and a fear of needles.

Fear of potential reaction

Participants expressed fear that the vaccine might actually give them COVID-19, or trigger an allergic reaction, kidney failure, blood clots, lung and heart failure, or death. Those who had already been infected by the virus feared the vaccine would give them the virus again.

Fear the vaccine was not tested properly

Although many commented on the fear that the vaccine was not properly tested, one specific fear was due to the disproportionately high rates of chronic diseases and a history of medical maltreatment among African American/Black people. Their hesitancy to vaccinate is based on evidence. One participant's voice stood out on this topic. They feared the vaccine had been "pushed out too quickly ... without the proper testing and research that needed to be done" without "a fair representation of, uh, everybody ... across the population." This participant's comments reflected worries that testing was not done on an adequate variety of people with a variety of conditions: "not so much racial, but more people who are, people ... with who have, um, multiple health problems ... um, uh, people with diabetes and heart issues and even other issues that are not so easily recognizable, like lupus."

Fear of needles

Members of the African American/Black community also have a history of their expressions of fear and pain being ignored or minimized. A systematic review concluded that the fear of needles is real and interferes with higher-risk groups getting needed treatment. One unvaccinated participant said, I guess I should tell you that, honestly, I'm a person who does not like needles ... at all ... I don't like them. I avoid them as much as possible. Another said, I don't like shots, period, in my arms. One indicated that they would take a pill for immunization. Both felt that eventually they may get vaccinated, in part because one of them needs to be vaccinated to receive needed medical treatment.

Skepticism

Many participants were skeptical about the length of vaccine testing, the lack of approval by the Food and Drug Administration and complications not being adequately reported, but 1 participant in particular voiced multiple specific concerns. This participant believed "it is incorrect to say that getting the shot protects you fully against the virus because it's still possible to get it" and "there are modalities of treatment that actually work, but they are not being recognized," like vitamin D. The participant also said, "I don't think one size fits all," illustrated by a story about a Gloucester woman with numerous comorbidities who the participant believed probably should not have gotten the vaccine. The participant read in a Gloucester newspaper that the woman "acted funny … goes to the hospital, she gets 2 injections for anaphylactic shock, and a little while later she's dead." The participant, who is sensitive to medications, cited concerns about polyethylene glycol (PEG), which the CDC warns is one of the main allergic worries for Pfizer and Moderna. "Folks are unaware of the ingredients, the PEG is actually antifreeze, and that's why 70% of people are allergic to it, and it will kill your dog or cat."

Religious beliefs

Many participants expressed a fatalism about getting COVID-19 related to their religious beliefs. For example, a participant said:

I don't want to feel as if I'm okay now; now that I have a vaccine in me. No, I want to be okay without it, and depend on the fact that God is going to be able to take care of me, even, even if I do not have COVID, or catch COVID. You know, He's not gonna let anything happen to me that He's not ready for.

A related hesitation was the belief that the vaccine was associated with abortion. The same participant said: "The only ingredient that I've heard of is that what they use for aborting children is the same thing that they use in the vaccine. So, we don't believe in aborting children."

Vaccine Registration and Rollout

The experience of making an appointment for vaccination was challenging initially but became nearly effortless during the summer of 2020. One person reported that they called Eastern Shore Rural Health and received an appointment right away, another received their vaccine while having dialysis, and another received a call directly from the health department and scheduled the appointment right away. These experiences represent the majority of voices from the interviews.

Others' experiences were not as efficient, however. Early on during the vaccine rollout, vaccine delivery was slow, appointment systems were flooded, and personnel were learning as they went. A 67-year-old vaccine seeker described a difficult experience getting vaccinated. In February 2021, while attending 2 medical appointments with his primary care provider, he was offered a COVID-19 vaccine but failed to qualify for it—he was an educator, but they were only vaccinating kindergarten through grade 12 (K-12) employees and he did not work in K-12. The next time he tried, he was too young because they were only vaccinating people ages 75 years and older. Later, he called to make an appointment and was scheduled for May, 4 months away. He then heard that the hospital was offering appointments so he scheduled an appointment with them. His employer mentioned that the health department was offering vaccinations, so he also called them and they emailed him with available dates. He told them he had 2 other appointments already, and they said that was okay, so he selected his date and a week later he received his vaccine. When asked if this process could be improved, he said:

I do. You know ... I'm hearing the news and they're pushing; you need to get vaccinated; you need to do this ... and they were making a big deal that people of color were not doing it and ... the problem was not so much ... I have a little bit of technology knowledge so it's not hard for me to go online and do things like that but for other people my age and older or even younger that have no skills at that... that was probably impossible. It wasn't that I didn't want to ... it was that you couldn't get in.

The initial vaccine rollout was slow, with public health and medical providers reliant on state and federal vaccine supplies and guidance for priority audiences. Community

outreach and education is not new to Eastern Shore Rural Health System, the major ESVA primary care provider, but every day brought a new lesson. A medical provider shared this experience:

I think the most stressful time during all this was in the very beginning when we were just getting a little trickle of vaccines—you know, 150 or 200 per week—and having to decide who gets those vaccines. You know ... the CDC initially had a lot of information about, you know, targeting communities of color, and actually [we were] going in and doing specific outreach programs with communities of color. That kinda backfired in our area. And actually, I heard multiple times from people saying that, um, you know, when we were offering the vaccine, they'd say, "Is this the White vaccine or the Black vaccine?" Because there was actually the rumor that kinda went around that Black communities were being targeted for testing, and it was only after the testing happened that it was going to be released to everybody else. So, so we, we kinda went with an age-based initially and, you know, served the whole community, but ... I, I really think that some missteps early in the course of things really kinda soured it for a lotta people.

A Community-Engaged Response Must Address the Social Determinants of Health

Racism, poverty, transportation, education, housing and bills, food insecurity, trauma, and digital access are social determinants of health that were widely reported among respondents and almost accepted as fate. These issues preceded the pandemic and will remain afterward. For many people of color, there are more immediate concerns than a COVID-19 vaccine. Addressing the social determinants of health will require engaging with the whole community including government, medical and public health leaders, CBOs and FBOs, and impacted community members. Eastern Shore Healthy Communities is already present as a coalition engaging residents in the conversation and steps to remediate current problems. The community engagement itself will be an important outcome. The question is whether the needed change will come fast enough for community members who are the most vulnerable to the consequences of COVID-19.

Racism

All health organizations have engaged in some diversity training and the hope is that these efforts are ongoing. For now, this is aspirational. Several FBOs and CBOs, such as Eastern Shore Healthy Communities, have developed work groups to engage in community dialogue, build trust, and create "brave spaces." In more conservative areas, the topics of race, culture, and sexual preference are not deeply and honestly discussed. Without that dialogue of genuine trust and intention, members of the community will continue to be skeptical of vaccines and other lifesaving measures.

In 2019 Governor Ralph Northam established a 9-member commission to examine racial inequity in Virginia law in response to a scandal involving a racist photo of a person in blackface and another person in Ku Klux Klan robes on the governor's medical

yearbook page.¹⁵ This scandal created a controversy that nearly forced the governor out of office. He pledged to focus the remainder of his term on addressing Virginia's long history of racism and racial inequities.

Poverty

Half of the ESVA's population is low wealth, as defined by US federal government and United Way measures. Poverty is noted, accepted, and almost normalized on the Eastern Shore. Eastern Shore Healthy Communities held a 3-day forum and workshop in the spring of 2020 to discuss the issue and effective and sustainable ways to address it. A councilman from the town of Cape Charles in Northampton County recently joined in a Poverty Work Group meeting because his town is beginning discussions on the issue. At last, community leaders are coming together over this vital barrier to health that weighs families down and limits opportunity. Poverty is a root cause of and relates to every social determinant of health.

Transportation

It is not possible to discuss transportation without touching on low-wealth individuals and their need to get to jobs and medical appointments, go grocery shopping, or visit a pharmacy. The ESVA mass transit system is limited. If a mother without a car wanted to take her children for a medical visit, she would have to live near the main highway and plan to take the whole day doing it. We heard from many Eastern Shore residents who were dissatisfied with transit. Addressing the issue of transportation addresses the overall health of the community.

Education

Children and youth suffered during the pandemic. "The numbers of children who have been recommended for retention is like triple almost what it had been during a normal year," one grandmother told us. "Because a lot of children, they essentially do not have the homes they live in, they do not have access to the internet or even someone who can sit down with them... They don't have household structure." We were told:

I don't think the school system did as well as they could have to figure out the 2020-2021 school year. You know, I get that 2019-2020 was thrust upon them with no advance warning. They had, they obviously had plenty of time to deal with 2020-2021, not that it's easy to solve... and made worse in a poor, rural community where access to things, like the internet, is difficult if not impossible for some.

Effective community engagement across races and cultures provides an opportunity to enhance and strengthen our education system and build relationships along the way.

Food Insecurity

Accomack and Northampton counties have experienced significant food insecurity (71% and 65% of adults, respectively). ¹⁶ The school districts in both counties qualify for the Community Eligibility Provision, or free breakfasts and lunches for all students. Many county residents take full advantage of other programs—like the federal Supplemental

Nutrition Assistance Program (SNAP)¹⁷ and special Supplemental Nutrition Program for Women, Infants, and Children (WIC)¹⁸ as well as local food banks and pantries—to supplement their food budgets. The COVID-19 pandemic has created a health and economic crisis in these communities, exacerbating already unacceptable levels of hunger and poverty and causing families to face unemployment and food insecurity at alarming rates.

Housing and Bills

Efforts to increase affordable housing creates opportunity for those living in poverty. Clean affordable housing, free of mold and pests, has been known to reduce asthma exacerbations. Housing was a key topic of conversation among participants. Unfortunately, there is not enough quality housing stock in the region.

Those interviewed during our research said that stimulus checks and CARES Act unemployment funding¹⁹ put them ahead and helped them pay off some bills. When supplemental income stops, however, many Eastern Shore residents will find it difficult to make ends meet. COVID-19 vaccines are put on the back burner when other, more immediate issues need to be addressed.

Trauma

Discussing trauma and resilience increases sensitivity to conditions that create low wealth. Having trauma-informed individuals and organizations contributes to community resilience.

Digital Access

In 2021, broadband should be as ubiquitous as electricity, yet during the pandemic many Eastern Shore school children huddled in cars near libraries, schools, or at neighbors' houses to access the internet. An article in *The Lancet* acknowledged that the pandemic revealed a new determinant of health: digital exclusion. ²⁰ Telehealth, vaccine appointment scheduling, and socializing during a pandemic require not only digital access but also computer devices and the ability to use them.

Health Equity Requires Strong Public Health Infrastructure

A strengthened health department with dedicated and consistent core funding allocated for training, staffing, planning, and budgeting will enable the Eastern Shore Health District to convene key community leaders to plan for the future together. Working with CBOs and FBOs to reach more deeply into the community will strengthen public health efforts, address social determinants, and prepare the region for the next health crisis.

Over the past decade the Eastern Shore Health Department has experienced high levels of turnover. Four medical directors have retired or moved to other jobs, and the current medical director lives across the Chesapeake Bay where he directs a second health district. The commute to the Eastern Shore is 3 hours. Strong community-based initiatives are grant-funded and the grant renewal process places an already taxed agency under greater pressure. Inadequate budgets and stringent procurement requirements limit rather than expand opportunities.

Investments in adequate staffing are needed for planners, community health workers, and social marketers. Employees formally trained in public health are hard to find, but their training is essential to a forward-looking public health operation. Funding levels and salaries need enhancement to attract talent. Budgets are dictated by political decisions. Removing both state and local public health budgets from the instability of 2-year budgets will stabilize, grow, and adequately fund the public health effort.

Recommendations

Humanize Vaccine Information and Delivery

Now is a good time to change course and engage individually with community members who have not yet chosen to vaccinate. Engage partner CBOs and FBOs and build new strategies that are peer led. Use the approach with vaccine messaging, consider location, and understand audience motivation. While previous messaging was widespread, try more targeted and peer-led approaches.

Engage Community Partners

The relationships between CBOs and the Eastern Shore Rural Health, Riverside Shore Memorial Hospital, and the Eastern Shore Health District have always been mutually supportive. Recommit to working together in an enhanced and targeted approach to refresh relationships that are sustained in the long term beyond the COVID-19 pandemic. With fresh eyes, CBOs and FBOs can offer insight into unique or hard-to-uncover community concerns because of their trusted status. They can identify concerns, offer new approaches, and identify neighborhood locations for vaccination in familiar and trusted places.

The American Rescue Plan²¹ designates funding to employ community organizations and workers to co-develop appropriate "diagnostics" to offer keen insights on slow vaccine uptake and develop strategies to address identified issues. This critical knowledge can provide a foundation for co-developing new systems that advance vaccination beyond the pandemic.

This would also be a good time to rethink and jumpstart a community health needs assessment—an accreditation requirement for local public health agencies and an Affordable Care Act mandate for critical access hospitals, which is conducted every 3 years. ²² The resulting implementation or improvement plan will focus on addressing unmet community needs—and when this plan is integrated into both counties' comprehensive plans and referenced in the hazard mitigation plan, it becomes a direct link into broader county planning and ensures broad understanding, responsibility, and elevation of important public and community health matters.

Continue Bringing Vaccines to Residents

The Eastern Shore Health Department, along with Eastern Shore Rural Health and Riverside Shore Memorial Hospital, have led an extensive outreach and messaging campaign. Partner pharmacy sites, businesses, churches, and schools have demonstrated a willingness to collaborate for increased accessibility and safety. It is important to continue the process by meeting people where they live and work, understanding their context and circumstances, and adapting interventions accordingly. Given the slow vaccine uptake rate in communities of color, we need to work hard to reimagine more relevant sites, add local community partners, and engage in conversations before vaccine clinics are held to ensure all questions are asked, all

vaccine preferences are known, and all community health needs are noted, with a response planned and delivered.

Frame Personal Choice in the Social Context

Target as many social settings as possible—in person and across all local media channels—to create multiple opportunities for peer-to-peer conversations about vaccines. Our data show that individuals do not make vaccine decisions on their own; even if they make the final decision about getting the vaccine, family and peer groups have a strong influence over how individuals make these decisions. People want to converse with trusted community members in their own language. They want to ask questions and be listened to, and they do not want judgement regarding vaccine status. Communications should be interpersonal and avoid lecture-style presentations.

Take a Holistic Approach

Recovery from the pandemic could launch a renewed focus on the social determinants of health, refreshing leaders and grassroots residents' knowledge on the unyielding interconnectedness of health and wellbeing with racism, poverty, food insecurity, trauma, transportation, housing, education, and digital capacity. The vaccine is essential to recovery, but complete recovery from COVID-19 will require more than a vaccine. In this context a renewed dialogue and a focus on Health in All Policies—an approach that integrates health into policymaking across sectors—are in order.

Apply a Whole Person Model of Recovery

Working in partnership with public agencies, hospitals and health systems, social service providers, CBOs, and FBOs, agree to align around a "whole person" model of recovery to meet the self-identified needs of the community, many of which were captured in this report, and to multiply the benefit of each encounter.^{23,24} Vaccines are important but full recovery will take more effort. As part of clinical visits, offer the vaccine and link the person to other parts of the health and social services system that could benefit them.

Commit to Long-Term Recovery and Resilience

We recommend a commitment to long-term planning for recovery and community resilience. The pandemic has exposed the deficiencies of all organizations in preparedness for such a disaster; however, this will not be the last crisis of this nature that we face. Planning across sectors while still engaged in real-time effort offers insights that might be forgotten if we do not document them.

Therefore, we recommend:

- 1. As a community, we must rely on all internal and external resources to increase workforce capacity. CBOs and FBOs often have planning skills and a willingness to integrate with governmental and health sector organizations.
- 2. Convene political leaders in a cross-sector council of stakeholders—including African American/Black and Hispanic/Latino leaders and community organizations who can take a whole-of-community, whole-of-government approach for managing the pandemic's recovery phase.^{25,26}

- 3. All planning bodies, Accomack–Northampton Planning District Commission, county planners, and disaster planners should be included.
- 4. Challenges exist with planning together as 2 county governments that are not fiscally bound, but it will be worth collaborating to be prepared for the next event. Include community stakeholders in the process.
- 5. Adopt a Health in All Policies approach to governing for full recovery to ensure all social determinants are considered when assessing pandemic impacts.
- 6. All relevant sectors should be included: health, safety, education (K-12 and community college), social services, planning, and private industry.

This approach will also ensure that diverse entities representing the social determinants can apply their input together for whole community benefit.

Strengthen Public Health Infrastructure for Community Impact

For optimal impact on community health, the Eastern Shore Health District workforce should be sustainably resourced, demographically representative, and practiced at authentic community engagement.

Stabilize Funding

State and local governments should commit to core funding of public health and ensure a steady budget with funding levels to provide needed infrastructure, ensure effective emergency response capabilities, and effectively address the consistent chronic health challenges affecting members of the community, especially those with disparate health outcomes. Assess salaries to ensure compensation is adequate to recruit and retain public health professionals.

Commit to Equity

Commit to promoting equity, cultural competency, and trauma sensitivity among the workforce. The goal should be to have a workforce that reflects the people they serve and models sensitivity and compassion.

Strengthen Workforce Competency

As the public health infrastructure is considered, develop and sustain support for a professional workforce that is socially and community proficient, and includes specialists in risk management, risk communication, social marketing, social media, and language translators. Compensation should be competitive and evaluated against the critical role each plays in reducing health disparities in the community.

Conclusion

The Eastern Shore collective health agency—including hospitals, health departments, and primary care and mental health systems—worked tirelessly throughout the COVID-19 pandemic to serve the Eastern Shore of Virginia communities, but some portions of the population have still been left behind. Our findings from the interviews and focus groups show that the reasons people decided to vaccinate, or not vaccinate, were diverse. The motivations behind their decision making on vaccination provides context and insights to inform future efforts. These findings direct us to build trusted relationships by engaging individually with community members and humanizing vaccine information and delivery. The findings also highlight the importance of addressing social determinants of health that existed long before the pandemic. including racism, poverty, transportation, education, housing, food insecurity, trauma, and digital access which may have become exacerbated as a result of the pandemic. For many community members, these concerns are more immediate than a COVID-19 vaccine. Our job is to address these issues by being present in communities of color. being willing to listen to concerns, and responding by directing resources as they are available. Finally, strengthening the public health infrastructure through financial resources, human workforce capacity, and planning will optimize its impact on the community. This will enable us to reach community members today and prepare for the inevitabilities of tomorrow.

References

- Brunson EK, Schoch-Spana M, Carnes M, et al. on behalf of the CommuniVax Coalition. Carrying Equity in COVID-19 Vaccination Forward: Guidance Informed by Communities of Color. Baltimore, MD: Johns Hopkins Center for Health Security; 2021. Accessed September 19, 2021. https://www.centerforhealthsecurity.org/our-work/pubs-archive/pubs-pdfs/2021/20210714-CommuniVax-national-report-2.pdf
- 2. Vaughn C. COVID-19 resurgence straining hospital, health care system. *Eastern Shore Post*. September 17, 2021. Accessed October 15, 2021. https://www.easternshorepost.com/wp-content/uploads/2021/09/09.17.2021.pdf
- 3. US Census Bureau. 2020 Decennial Census: Race Accomack County. Accessed September 19, 2021.

 https://data.census.gov/cedsci/table?q=Accomack%20County%20VA&tid=DECENIALPL2020.P1
- 4. United for ALICE Project Virginia. Accessed September 19, 2021. https://www.unitedforalice.org/state-overview/Virginia
- 5. Vaughn C. Poultry plant employees concerned as coronavirus cases grow. *Eastern Shore Post*. April 24, 2020. Accessed October 15, 2021. https://www.easternshorepost.com/2020/04/22/poultry-plant-employees-concerned-as-coronavirus-cases-increase/
- 6. Vaughn C. CDC establishes Shore presence to monitor COVID-19 among poultry workers. *Eastern Shore Post*. May 1, 2020. Accessed October 15, 2021. https://www.easternshorepost.com/wp-content/uploads/2020/04/05.01.2020.pdf
- 7. Vaughn C. Black Voters Matter holds COVID-19 health briefing for Shore workers. *Eastern Shore Post*. May 22, 2020. Accessed October 15, 2021. https://www.easternshorepost.com/2020/05/19/black-voters-matter-holds-covid-19-health-briefing-for-shore-workers/
- 8. US Census Bureau. Accomack County, Virginia. Accessed September 19, 2021. https://data.census.gov/cedsci/profile?g=0500000US51001
- 9. US Census Bureau. Northampton County, Virginia. Accessed September 19, 2021. https://data.census.gov/cedsci/profile?g=0500000US51131
- 10. Virginia Department of Health. COVID-19 data in Virginia. Accessed September 19, 2021. https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/
- 11. US Centers for Disease Control and Prevention. COVID data tracker weekly review. Accessed September 19, 2021. https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html
- 12. Virginia Department of Health, Virginia Open Data Portal. VDH-COVID-19-PublicUseDataset-Cases_By-Race-Ethnicity. Accessed September 19, 2021. https://data.virginia.gov/Government/VDH-COVID-19-PublicUseDataset-Cases By-Race-Ethnic/9sba-m86n

- 13. Vaughn C. Northampton County has highest vaccination per 100k in the state. *Eastern Shore Post*. February 26, 2021. Accessed October 15, 2021. https://www.easternshorepost.com/2021/02/25/northampton-has-highest-county-vaccination-rate-per-100k-in-state/
- 14. McLenon J, Rogers MA. The fear of needles: A systematic review and metaanalysis. *J Adv Nurs*. 2019;75(1):30-42.
- 15. Vozzella L, Morrison J, Schneider GS. Gov. Ralph Northam admits he was in 1984 yearbook photo showing figures in blackface, KKK hood. *Washington Post*. February 1, 2019. Accessed October 28, 2021. https://www.washingtonpost.com/local/virginia-politics/va-gov-northams-medical-school-yearbook-page-shows-men-in-blackface-kkk-robe/2019/02/01/517a43ee-265f-11e9-9ocd-dedbocg2dc17_story.html
- 16. Feeding America's *Map the Meal Gap*. Accessed September 19, 2021. https://map.feedingamerica.org/county/2019//overall/virginia/county
- 17. US Department of Agriculture. Supplemental Nutrition Assistance Program (SNAP). Accessed October 28, 2021. https://www.benefits.gov/benefit/361
- 18. US Department of Agriculture. Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Accessed October 28, 2021. https://www.fns.usda.gov/wic
- 19. US Department of Labor. Unemployment insurance relief during COVID-19 outbreak. Accessed October 28, 2021. https://www.dol.gov/coronavirus/unemployment-insurance
- 20. Monti M, Torbica A, Mossialos E, McKee M. A new strategy for health and sustainable development in the light of the COVID-19 pandemic. *Lancet*. 2021;398(10305):1029-1031.
- 21. The White House. American Rescue Plan. Accessed October 28, 2021. https://www.whitehouse.gov/wp-content/uploads/2021/03/American-Rescue-Plan-Fact-Sheet.pdf
- 22. Center for Rural Health. Community health needs assessment. Accessed September 19, 2021. https://ruralhealth.und.edu/projects/community-health-needs-assessment
- 23. Abramson DM, Stehling-Ariza T, Park YS, Walsh L, Culp D. Measuring individual disaster recovery: a socioecological framework. *Disaster Med Public Health Prep.* 2010;4(suppl 1):S46-S54.
- 24. Schoch-Spana M. An epidemic recovery framework to jump-start analysis, planning, and action on a neglected aspect of global health security. *Clin Infect Dis*. 2020;71(9):2516-2520.
- 25. Schoch-Spana M, Brunson E, Hosangadi D, et al on behalf of the Working Group on Equity in COVID-19. *Equity in Vaccination: A Plan to Work with Communities of Color Toward COVID-19 Recovery and Beyond*. Baltimore, MD: Johns Hopkins Center for Health Security; 2021. Accessed September 19, 2021.

- $\underline{https://www.centerforhealthsecurity.org/our-work/publications/equity-in-vaccination}$
- 26. Chakos A, Taylor M, Bonilla R, on behalf of the CommuniVax Coalition. *CommuniVax Implementation Toolkit*. Baltimore, MD: Johns Hopkins Center for Health Security; 2021. Accessed September 19, 2021. https://www.centerforhealthsecurity.org/our-work/publications/communivax-implementation-toolkit