



# Hyperlocal Covid-19 Testing and Vaccination Strategies to Reach Communities with Low Vaccine Uptake: Considerations for States and Localities

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## Authors

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### **Andrea Thoumi, MPP, MSc**

Health Equity Policy Fellow

Duke-Margolis Center for Health Policy

### **Kamaria Kaalund, BA**

Research Assistant, Health Equity

Duke-Margolis Center for Health Policy

### **Christina Silcox, PhD**

Policy Fellow

Duke-Margolis Center for Health Policy

### **Katie Greene, MPP**

Assistant Research Director

Duke-Margolis Center for Health Policy

### **Nikhil Chaudhry**

Undergraduate Margolis Intern

Duke-Margolis Center for Health Policy

### **Jeremy Jacobs**

Undergraduate Margolis Intern

Duke-Margolis Center for Health Policy

### **Kirk Williamson, MPH**

Senior Policy Analyst

Formerly Duke-Margolis Center for Health Policy

### **Mark McClellan, MD, PhD**

Director

Duke-Margolis Center for Health Policy

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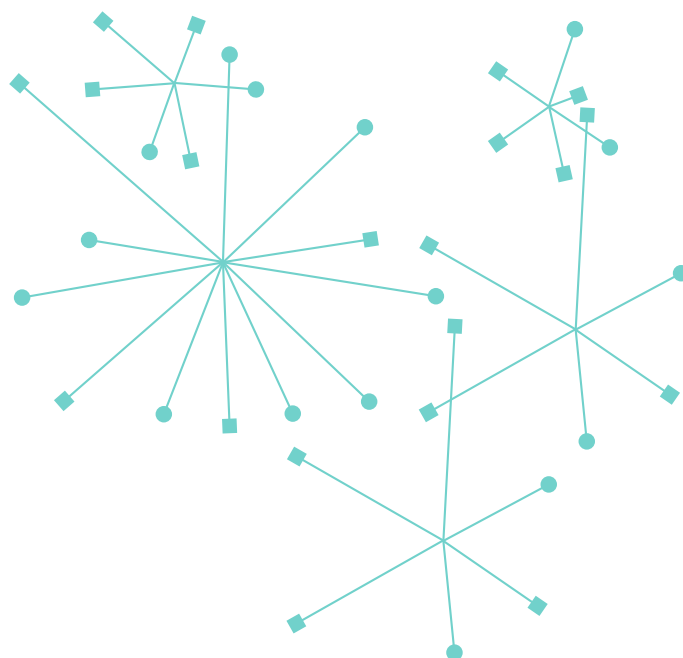
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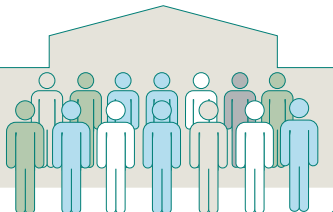


# Executive Summary

**Hyperlocal strategies that build on local partnerships and public health capacity are needed to address disparities in testing and vaccination uptake, especially as Covid-19 variants increase in prevalence in the United States (U.S.).<sup>1,2</sup> Mass Covid-19 testing programs at schools and workplaces are increasing as the Delta variant spreads, but such efforts are unevenly distributed across the country. This paper provides practical guidance to state and local health officials to ensure Covid-19 diagnostic testing and vaccinations are equitably accessible and distributed among communities experiencing low vaccine uptake.** We spotlight illustrative examples that show how states and communities can use existing infrastructure as a starting point and modify strategies to meet each community's needs. These examples are informed by interviews with state and local health officials representing three states and two localities as well as practitioners representing two community-based models. We synthesized findings based on these interviews into three guiding principles: tailoring approaches; delivering services and communications that are culturally responsive, linguistically accessible, and Americans with Disability Act (ADA) accessible; and engaging community partners (see [Table 1](#)). Forward-looking strategies that stem from efforts outlined in this paper can increase state and local capacity to respond to ongoing and future public health crises in an equitable, timely, and community-responsive manner.



**TABLE 1 Promising State and Local Strategies for Hyperlocal Covid-19 Testing and Vaccination**

GUIDING PRINCIPLES	STRATEGY
<p><b>1</b></p> <p><b>Principle</b></p> <p><b>Tailor the approach based on community-specific barriers to uptake</b></p> 	<p>Identify entities and community leaders (e.g., trusted providers, community organizers, pharmacies, local businesses, places of worship) best suited to understand what their communities need</p> <p>Expand access to Covid-19 resources and health services by reducing structural barriers (e.g., transportation, insurance, identification requirements)</p> <p>Facilitate access to the “right test” for different communities and situations (e.g., Covid-19 testing at home or at vaccination sites)</p> <p>Co-locate Covid-19 testing and vaccination services with additional supportive services (e.g., food and housing resources, quarantine supports, health and social services, care coordination)</p> <p>Implement innovative care delivery strategies that bring services to communities (e.g., mobile testing, door-to-door community engagement) or create incentives to increase uptake</p> <p>Use state and local Covid-19 tracking data and social vulnerability data (e.g., the CDC’s Social Vulnerability Index) to identify Covid-19 testing and vaccination disparities and to prioritize allocation of resources (e.g., a data consortium)</p>
<p><b>2</b></p> <p><b>Principle</b></p> <p><b>Deliver services and communications that are culturally responsive, linguistically accessible, and ADA accessible</b></p> 	<p>Facilitate collaborations that acknowledge community-based organizations as visible partners and engage those partners to identify cultural nuances required for effective communication strategies</p> <p>Provide resources (e.g., communications in Braille, plain language, American Sign Language, or visual aids) and services (e.g., screen reader compatibility, captioning, private testing or vaccination settings for individuals with sensory sensitivities) that address the full range of needs of people with disabilities</p> <p>Employ bilingual and bicultural staff for Covid-19 testing and vaccination services</p>
<p><b>3</b></p> <p><b>Principle</b></p> <p><b>Implement community-engaged decision-making and partnerships</b></p> 	<p>Design shared leadership structures and work with community leaders and local organizations to deliver resources and programs</p> <p>Convene community partners, employers, and other stakeholders to conduct community needs assessments, conduct asset mapping, and develop appropriate evaluation strategies to assess the effectiveness and reception of current strategies</p>

# Introduction

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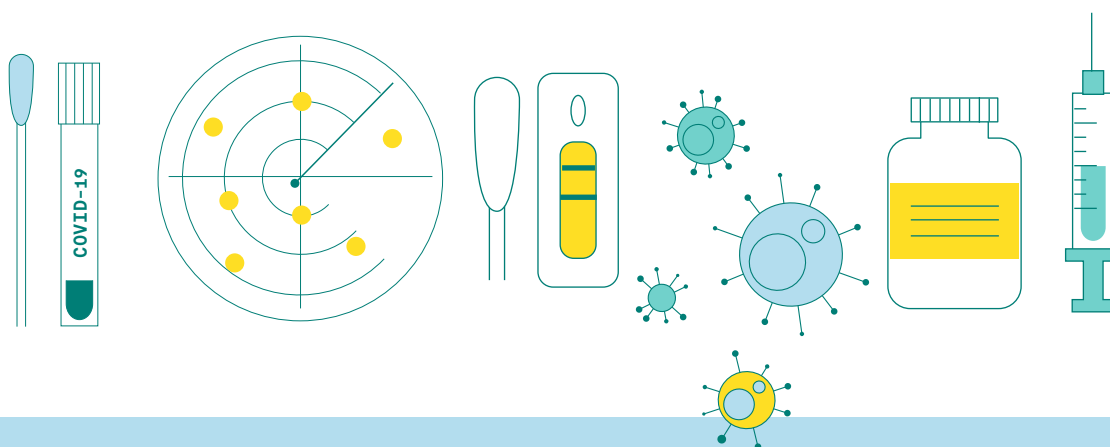
Hyperlocal strategies that include Covid-19 testing and vaccination can support state and local Covid-19 response efforts as increasingly contagious viral variants, such as the Delta variant, become more prevalent. While the continued spread of Covid-19 and its variants pose a threat to all vaccinated and unvaccinated groups alike, communities that continue to experience low vaccine and testing uptake are at greater risk for Covid-19 hospitalizations and mortalities.<sup>3-5</sup> These communities include: Black, Latinx, and immigrant communities; rural, white, politically conservative communities; people who are homebound; and communities experiencing greatest social vulnerability.<sup>6,7</sup> The underlying reasons for disparities in Covid-19 testing and vaccination uptake vary (see **Box 1**).<sup>1,2</sup> Although strategies to reduce systemic barriers have increased Covid-19 testing and vaccination availability, equity gaps persist.<sup>8</sup> For many communities, differential access to Covid-19 resources due to systemic racism is an underlying reason for disparities in Covid-19 testing and vaccination uptake;<sup>9-13</sup> for other groups, additional access challenges emerge (e.g., limited flexibility for time off, mobility, transportation, and language access)<sup>14</sup>; and still for other communities, Covid-19 vaccine skepticism is a key contributor to low vaccine uptake.<sup>7</sup> Some groups remain unvaccinated due to both access barriers and vaccine skepticism.

The Biden Administration has announced efforts to sustain support for and expand Covid-19 testing and vaccination services as new variants emerge.<sup>15</sup> Covid-19 testing provides early information to detect potential viral surges and reduce the risk of spread of new variants. Covid-19 testing will remain an important mitigation strategy particularly as recent data show that the latest viral surges have been particularly consequential for hospitalizations and deaths in communities with low vaccine uptake.<sup>16,17</sup> Further, continued diagnostic testing for unvaccinated individuals with symptoms is an important strategy that can help link them with timely therapeutics. For example, catching positive test results early can be useful for identifying individuals who could benefit from monoclonal antibody treatment. States can consider other mitigation efforts such as masking recommendations and extending safety protocols.<sup>18</sup> Further, recent federal efforts include supporting hyperlocal vaccination approaches by deploying surge teams; implementing community-based door-to-door outreach programs; expanding mobile clinic services; and bringing Covid-19 vaccines to employers, local pharmacies, and physicians.<sup>19</sup> However, relying on health care providers and pharmacies alone falls short of reaching communities

where infrastructure such as public transportation and health services are limited or do not exist. These barriers are augmented for rural communities or communities where many families lack health insurance coverage.

Hyperlocal strategies that are tailored to specific community needs can overcome ongoing challenges and barriers to equitable Covid-19 testing and vaccinations. Several funding mechanisms exist to help states and localities build off of existing public health infrastructure (e.g., IT systems, labs and equipment, pharmacies) and respond to the pandemic. Some government agencies and departments providing emergency supplemental funding include: the U.S. Department of Health and Human Services (HHS), Indian Health Service (IHS), Centers for Disease Control and Prevention (CDC), U.S. Department of Justice (DOJ), U.S. Department of Housing and Urban Development (HUD), U.S. Health Resources and Services Administration (HRSA), National Institutes of Health (NIH), U.S. Department of Agriculture (USDA), U.S. Department of Education (ED), U.S. Department of the Treasury (USDT), and the Federal Emergency Management Agency (FEMA).<sup>20</sup>

This paper provides practical guidance to state and local health officials to ensure Covid-19 diagnostic testing and vaccinations are equitably accessible and distributed among communities experiencing low vaccine uptake. The paper builds on prior work that provides guidance on implementing equitable Covid-19 testing strategies to reach communities where they live, reducing racial and ethnic disparities in Covid-19 vaccination rates, and building public-private partnerships to support efficient and equitable Covid-19 vaccine distribution.<sup>21-23</sup> We spotlight illustrative examples that show how states and communities can use existing infrastructure as a starting point and modify strategies to meet each community's needs. We interviewed state and local health officials representing three states and two localities as well as practitioners representing two additional community-based models. We synthesized findings based on these interviews into three guiding principles: tailoring approaches; delivering services and communications that are culturally responsive, linguistically accessible, and ADA accessible; and engaging community partners (see **Table 1**). Forward-looking strategies that stem from efforts outlined in this paper can increase state and local capacity to respond to future public health crises in a timely, equitable, and community-responsive manner.



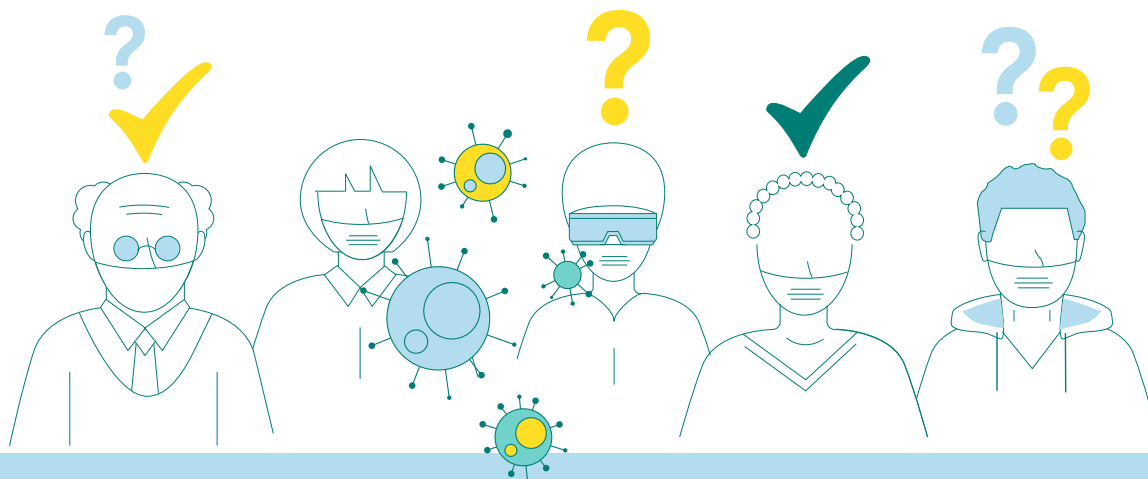
## BOX 1: KEY UNDERLYING REASONS FOR DISPARITIES IN COVID-19 TESTING AND VACCINATION UPTAKE BY COMMUNITIES

### *Multifaceted disparities in access to Covid-19 vaccinations and testing*

**Black, Latinx, and immigrant communities:** Despite national Covid-19 vaccination and testing goals in place, recent projections indicate that equity gaps will persist, especially among Black and Latinx communities absent new outreach strategies.<sup>1</sup> The following systemic barriers to Covid-19 vaccination and testing continue to contribute to racial and ethnic disparities in vaccination rates among these communities: limited linguistically accessible and culturally responsive Covid-19 services, paid time off, and access to existing health care networks and pharmacies.<sup>5,14,24</sup>

**Rural communities:** Challenges in transportation, misinformation, and distance from Covid-19 testing and vaccination sites persist in rural communities, where vaccination rates lag behind those of urban areas.<sup>25</sup> In addition, Covid-19 testing is challenging in areas with limited access to testing locations (e.g., pharmacies and primary care providers) and lack of clear communication about available services or the importance of Covid-19 testing.<sup>26,27</sup> These challenges are exacerbated for Black, Latinx, and immigrant communities in rural areas who bear the dual burden of systemic racism and reduced availability of health care networks.<sup>28</sup>

**Individuals with accessibility needs:** The Covid-19 pandemic has disproportionately impacted people living with disabilities.<sup>29</sup> For example, mask mandates pose challenges for individuals who are unable to wear masks due to health risks or individuals with hearing impairment who rely on lipreading. In addition, not all Covid-19 telehealth platforms and tools meet accessibility requirements (for individuals with sensory impairment), and accessible information (e.g., via Braille, American Sign Language, plain language) about Covid-19 and vaccines is not always provided.<sup>30,31</sup> Further, individuals who are homebound cannot access Covid-19 vaccination and testing sites. This has required states to adopt innovative Covid-19 service distribution practices that are ADA accessible.<sup>32</sup>



## BOX 1: KEY UNDERLYING REASONS FOR DISPARITIES IN COVID-19 TESTING AND VACCINATION UPTAKE BY COMMUNITIES *CONTINUED*

### *Varying attitudes on Covid-19 vaccination and testing*

**Covid-19 vaccination attitudes across communities:** According to recent surveys from the Kaiser Family Foundation, 10 percent of unvaccinated adults report they want to “wait and see” how vaccinated adults respond to the Covid-19 vaccine before making decisions about getting vaccinated, and 14 percent of unvaccinated adults report they “will definitely not” get a Covid-19 vaccine.<sup>7</sup> The reasons contributing to these attitudes include concerns about long-term effects and safety of the Covid-19 vaccines, believing the seriousness of Covid-19 is exaggerated, and not being worried about getting sick from Covid-19.<sup>7</sup> More encouragingly, the percentage of unvaccinated adults who are part of the “wait and see” group has decreased from 31 percent in January 2021 to 10 percent in June 2021.<sup>33</sup> More recent data also show increased vaccination rates in localities with surges due to the Delta variant. When adults originally in the “wait and see” and “definitely not” groups who have since decided to get vaccinated (21 percent) were asked what changed their opinions, 25 percent reported that seeing friends and family members get vaccinated without side effects was a major deciding factor. Additionally, 11 percent of individuals reported that conversations with their health care providers encouraged them to get vaccinated.<sup>34</sup>

**Covid-19 testing attitudes across communities:** The significant decline in Covid-19 testing since January demonstrates shifting priorities and attitudes about the pandemic. Increased vaccination rates, declining cases, pandemic fatigue, and inconvenience are factors contributing to the declining interest in Covid-19 testing.<sup>35,36</sup> Perceptions about Covid-19 testing also impact people’s willingness to get tested. For example, perceptions about pain associated with the nasal swab method, long wait times for results, and concerns about receiving a positive test result have been cited as testing deterrents.<sup>26,37-39</sup> Education is needed about new at-home testing techniques that are more convenient and less invasive (e.g., rapid antigen tests and saliva-based tests) and the benefits of vaccination. Continuing to emphasize the importance of Covid-19 testing will be crucial to stop the spread, especially as Covid-19 precautions loosen and attitudes about the pandemic shift.

## Considerations for States and Localities to Implement Hyperlocal Covid-19 Testing and Vaccination Strategies

Based on these interviews, we identified three guiding principles to inform Covid-19 testing and vaccination strategies that are responsive to community needs and use existing resources to reach communities experiencing low vaccine uptake. In this section, we share illustrative state and local examples that operationalize these guiding principles in hyperlocal responses. These guiding principles include:

1

### Principle

Tailor the approach based on community-specific barriers to uptake

2

### Principle

Deliver services and communications that are culturally responsive, linguistically accessible, and ADA accessible

3

### Principle

Implement community-engaged decision-making and partnerships

### State Spotlight: MARYLAND Co-locating Covid-19 Testing and Vaccination Sites at Community-Identified Locations

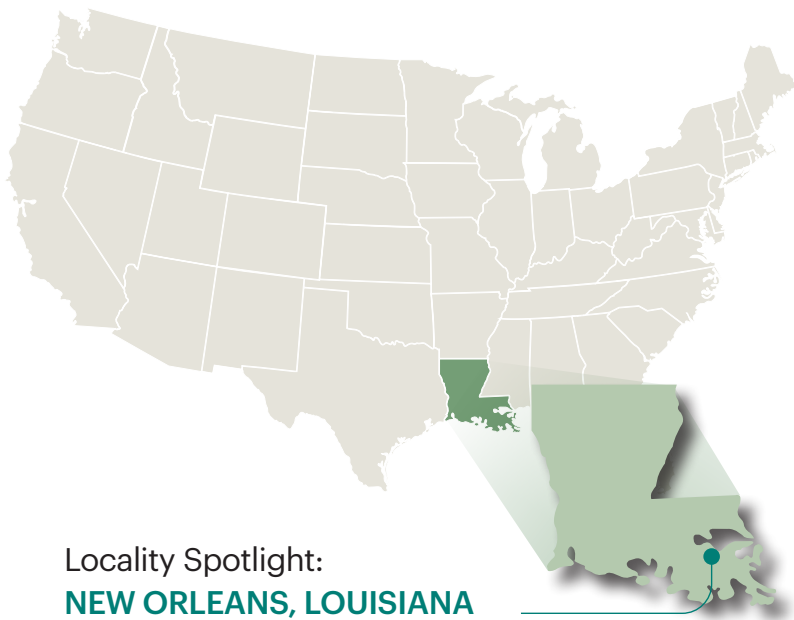
Maryland prioritized locating Covid-19 testing – and eventually co-locating Covid-19 testing and vaccines – in areas with high social vulnerability since the beginning of the pandemic. Indicators of high social vulnerability include limited access to primary care providers or pharmacies, crowded housing, poverty, lack of access to transportation, and lack of insurance. Currently, the state locates fully integrated mobile pop-up Covid-19 testing and vaccination units at community-based settings (e.g., churches, farmers markets, barber shops, beauty salons) that are familiar and comfortable. Looking

ahead, Maryland aims to make co-located Covid-19 testing and vaccination services a key strategy of the state's Covid-19 response efforts.

**Operationalizing social vulnerability data to identify Covid-19 mitigation strategies:** The Maryland Vaccine Equity Task Force (VETF) works with the Maryland Department of Health and the state's 24 local health departments to ensure equitable delivery of vaccinations to Maryland's hardly reached communities. The VETF works with providers with close ties to these communities, the state's Vaccine Advisory Group, the Governor's Office of Community Initiatives, the network of Medicaid providers, and other public sector and community partners. The state overlays social vulnerability data with other Covid-19 data (e.g., vaccination, testing, and case rates) to determine where to locate new Covid-19 testing and vaccination sites. In zip codes with low vaccination rates, the state conducts pop-up events to answer Covid-19 questions, provide testing services, and administer vaccines. Once the state identifies a location, the state partners with community-based organizations to host Covid-19 testing and vaccination clinics. For example, the state partnered with a primarily Black church and a local vacant school to conduct Covid-19 vaccine administration, monoclonal antibody infusion, and testing.

**Reaching rural communities:** Maryland works directly with statewide and local organizations, whose constituencies represent and include rural communities, migrant workers, and politically conservative groups, to deploy the state's mobile vaccine assets. In addition, Maryland has developed specific vaccine delivery programs to reach migrant workers and the rural agricultural and aquacultural workforces in the far western and eastern parts of the state. **Box 2** describes additional strategies for rural communities.

**Expanding personnel to include bilingual speakers:** Initially, the state closely partnered with the Maryland National Guard and FEMA, among others, to implement its Covid-19 response. The state paired members of the National Guard with native speakers of predominant non-English languages and medical providers at mobile pop-up locations. Currently, the state is partnering with vendors to provide mobile vaccinations in hardly reached urban communities and multilingual communities.



## Locality Spotlight:

### NEW ORLEANS, LOUISIANA

#### Developing a Community-based Workforce to Provide Health Resources and Social Support Services

While New Orleans was an early adopter of federal drive-through Covid-19 testing sites, this strategy led to disproportionately low Covid-19 testing rates in areas with high social vulnerability and minimal access to transportation (e.g., public transportation and car access). In response, the city established hyperlocal Covid-19 community testing centers in partnership with community-based organizations to reach neighborhoods with low Covid-19 testing rates. This successful testing approach informed vaccine distribution. A local health official noted a key factor to New Orleans' success to increasing uptake of Covid-19 testing and vaccination included a hotline service and call center, which linked residents with Covid-19 resources, information, and a wide range of other health services. Now, as the city shifts from mass vaccination to smaller events, the New Orleans Health Department and other agencies are focused on tailored outreach to specific neighborhoods that continue to experience low vaccine uptake.

#### **Recruiting bilingual staff to run Covid-19 call centers:**

As Covid-19 vaccine supply and demand increased during the spring, the Health Department launched call centers to schedule vaccination appointments, provide information on Covid-19 vaccines and testing locations, answer questions about vaccines, and track special vaccination needs (e.g., homebound vaccine services).

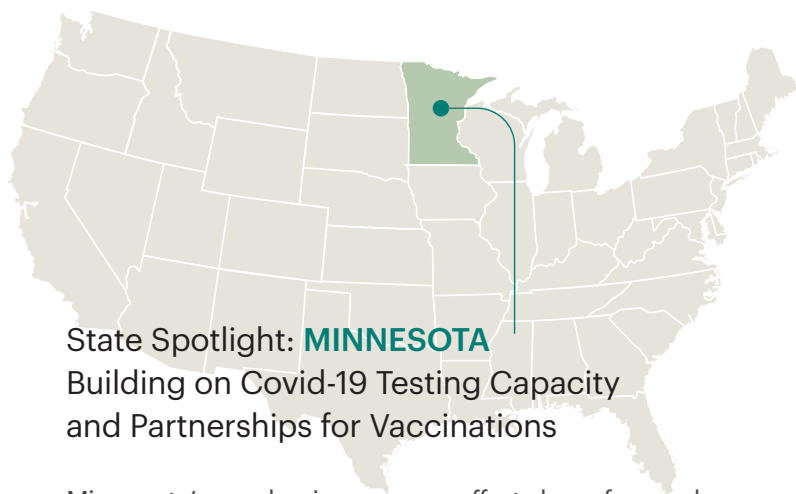
Initially, Health Department employees staffed the call centers. Then, local community members, volunteers, and native Spanish, Vietnamese, and other language speakers staffed the call centers. These call centers complemented contact-tracing services and — unlike state call centers — provided local, on-the-ground resources (e.g., financial assistance, food, mental health resources, and utility support) to support individuals and families impacted by Covid-19.

#### **Engaging a diverse multi-sector workforce to provide community-responsive support services:**

The Health Department recruited additional staff from other branches of the city government to staff the call centers, Covid-19 testing sites, and Covid-19 vaccine sites. In total, over 1,000 medical and nonmedical local volunteers contributed to these efforts. Moving forward, the city aims to use these outreach partners to support non-Covid-19 related initiatives that address community health concerns including health literacy, chronic disease management, and primary care. In addition, the Health Department works closely with the city's Department of Public Works to collect both testing and vaccination uptake data at the neighborhood level.

#### **Partnering with community-based organizations to create incentives for Covid-19 testing and vaccine uptake:**

To alleviate Covid-19 vaccination concerns, the Health Department collaborates with community organizations who conduct tailored outreach to communities (e.g., door-to-door knocking) ahead of vaccination pop-ups. Vaccine sites are strategically located in places such as churches and local organizations to increase convenience and accessibility amongst community members. The city also partners with local businesses, including popular neighborhood restaurants, to provide local incentives (e.g., free food or beverages) at vaccination events.



## State Spotlight: **MINNESOTA**

### Building on Covid-19 Testing Capacity and Partnerships for Vaccinations

Minnesota's pandemic response efforts have focused on collecting data, reducing health disparities, and adapting quickly to address emerging and evolving community needs. At the onset of the pandemic, Minnesota's Department of Health worked to shore up human resources to increase their capacity to conduct Covid-19 testing. Their initial model focused on pop-up testing sites in locations with viral surges. As the number of labs to analyze samples and testing supplies increased, the state set up mass testing sites to reach more communities. However, these mass sites did not receive high participation from communities experiencing access barriers, therefore encouraging the state to focus on hyperlocal Covid-19 testing strategies. Lessons learned from Covid-19 testing initiatives informed Minnesota's model for Covid-19 vaccine distribution. For example, the Minnesota Health Department partners with community-based organizations, local leaders, and community health workers to identify locations to prioritize for Covid-19 vaccine distribution.

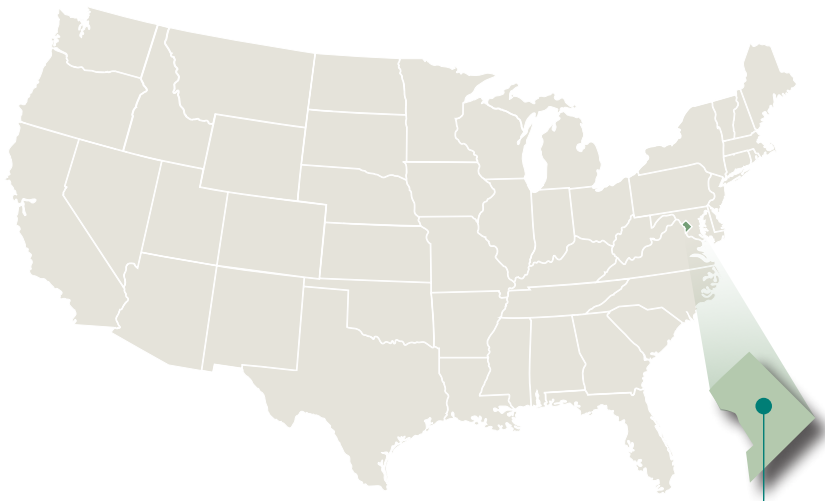
**Collecting state and local Covid-19 tracking data to identify gaps:** In the early days of the pandemic, many states did not have metrics to inform targeted testing and vaccine initiatives (e.g., testing rates by race and ethnicity). To address early data gaps, Minnesota worked with members of the state's health care community (e.g., providers, university health systems, hospitals, and private health networks) to develop the Minnesota Electronic Health Record (EHR) Consortium. Members of this data consortium pool together key statistics about the pandemic including disparities in Covid-19 testing and vaccination rates by race, ethnicity, and other demographic factors. Through this consortium, partners share key local data to identify testing and vaccination disparities.

**Adapting Covid-19 testing and vaccine strategies to address persisting disparities:** Early in the pandemic, the Minnesota Department of Health focused efforts

on localized outbreak response, which required working closely with community partners to deliver Covid-19 testing. As Covid-19 testing capacity increased, the state pursued mass testing sites to increase the number of individuals reached. However, these sites were not accessible by all communities, which thwarted goals for equitable distribution.<sup>40</sup> Therefore, the state developed partnerships with communities to increase confidence in mass testing sites and to establish local and accessible Covid-19 testing options. The state gave tours of Covid-19 testing sites to trusted community leaders, offered localized and community-based testing events, and contracted community-based organizations to perform outreach and host testing clinics. In addition, Minnesota partnered with Vault Medical Services to provide free at home saliva tests for state residents. The Department developed relationships with the employers, employees, unions, and community-based partners through testing initiatives and built off of those partnerships to bring vaccination clinics to familiar and accessible locations. Currently, the state is focusing on bringing Covid-19 vaccines to locations where people gather regularly such as places of worship, shopping centers, and community centers.

**Connecting communities with health resources and assistance:** Minnesota developed a Covid-19 Community Coordinators (CCCs) program, where staff at community-based organizations help connect individuals in the community to Covid-19 testing and other resources.<sup>41</sup> The CCCs draw on their existing community networks and trusted relationships to initiate conversations about the importance of Covid-19 testing and public health safety protocols. As Covid-19 vaccine supply increased, CCCs' roles expanded to include hosting onsite vaccination clinics and conducting outreach for state-run vaccination clinics.

**Developing guidance to support accessible and inclusive Covid-19 services:** The Minnesota Department of Health developed a checklist for Covid-19 testing and vaccination providers to ensure their sites are accessible to different physical, sensory, cognitive, and technological needs.<sup>42</sup> In addition to this checklist, the Department published a set of best practices for test and vaccine administrators to adopt to ensure individuals with disabilities receive the support they need to access Covid-19 mitigation resources.<sup>43</sup> The Department also contracted with nine organizations to serve as CCCs for people with disabilities.



## Locality Spotlight: **WASHINGTON, DC**

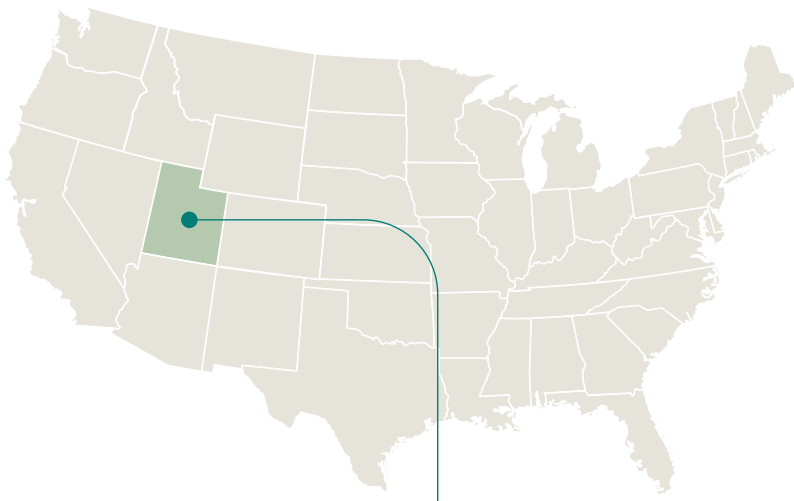
### Reaching People who Remain Homebound

In November 2020, the Washington, DC Department of Health (DC Health) established a service for at-home Covid-19 testing administered by health care personnel for residents unable to access Covid-19 testing sites. As Covid-19 testing kits became more readily available in spring 2021, the mayor's office launched the Test Yourself DC campaign. This campaign offers residents a way to receive at-home Covid-19 testing kits at locations in and around DC. In April 2021, DC Health implemented an in-home Covid-19 vaccination program for residents who are home-bound due to disability. After initially focusing on people with disabilities, the program now includes those home-bound for a variety of needs (e.g., lack of childcare). In the fall, DC Health will offer school-based vaccine and immunization programs across the DC Public School system. The city intends to apply lessons learned from Covid-19 testing and vaccination community outreach to upcoming childhood immunization outreach efforts.

#### ***Collaborating with Medicare to identify recipients of at-home Covid-19 testing and vaccination services:***

DC collaborates with Medicare to identify residents who need home-based Covid-19 testing and vaccination services by identifying patients who already receive homebound health services. The city reaches out to these residents via live phone operators and robocalls. These residents, or their care providers, can take an onsite Covid-19 test at one of the 16 city locations or drop off their test samples at the closest DC public library drop box at no cost.

***Building community trust through communication campaigns and incentives:*** DC mobilized three “Day of Action” door-to-door Covid-19 vaccine outreach campaigns in partnership with organizations with strong ties to local neighborhoods. These outreach campaigns were prioritized in wards with low vaccine uptake and high social vulnerability. Community members from similar racial-ethnic backgrounds as residents living in the prioritized wards led these outreach campaigns. These teams included a dedicated workforce of bilingual speakers who could build trust and facilitate peer-to-peer communication. In addition to these measures, the city provides incentives for vaccinations at specific community sites in prioritized wards. Prizes have included a year of free groceries (totaling \$10,000), free Metro and train passes, and new cars.<sup>44</sup>



## State Spotlight: **UTAH**

### Using Data and Asset Mapping to Identify Communities to Deploy Mobile Units

The disproportionate impact of Covid-19 cases, deaths, and hospitalizations among Latinx communities prompted the Utah Department of Health (UDOH) to develop and implement a Covid-19 Vaccine Distribution Roadmap to ensure the state's pandemic response efforts are inclusive, accessible, and effective for all Utah residents.<sup>45</sup> The UDOH does this by using data to identify locations with disparities in Covid-19 testing and vaccination. Once the geographic areas are identified, UDOH staff works with community-based partners to strategically locate Covid-19 testing and vaccination units in trusted and accessible spaces. Utah state health officials noted their data-driven approach to identify and reduce disparities in Covid-19 testing and vaccination has improved service uptake in communities disproportionately affected by Covid-19.

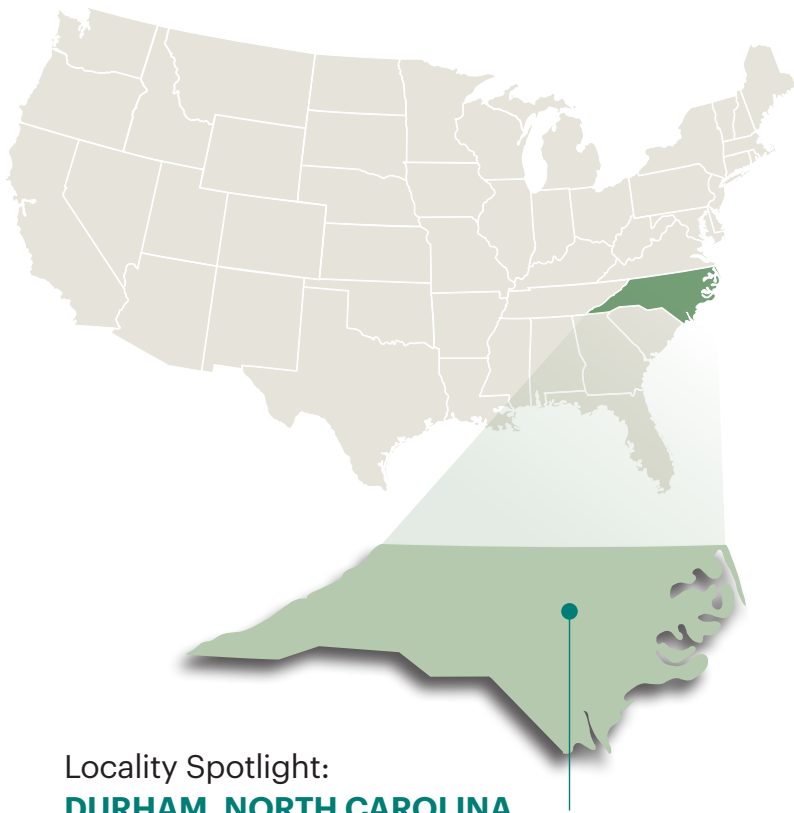
#### **Operationalizing data to make equity-driven decisions:**

As outlined in the Vaccine Distribution Roadmap, the state overlays social vulnerability data with data on case counts, test positivity rates, vaccine coverage rates, and vaccine hesitancy rates in a color-coded matrix to identify locations in which to deploy mobile units.

**Bringing services directly to communities:** During the initial months of the Covid-19 pandemic, the UDOH established mobile testing units and deployed them at convenient, community-based locations. The state has since expanded these mobile units to include

Covid-19 vaccines. These mobile teams offer informational handouts at all Covid-19 testing events to alleviate vaccination concerns. The state will continue to expand community partnerships and mobile unit capacities to reach unvaccinated populations and prevent surges in areas with a confluence of high social vulnerability, low vaccination rates, and high or rising case rates.

**Implementing community-directed outreach and communication initiatives:** The UDOH repurposed their contact tracing workforce to conduct outreach to unvaccinated Medicaid beneficiaries. To date, the UDOH has conducted over 38,000 targeted calls to unvaccinated Medicaid members to provide information on walk-in opportunities and community vaccination events. Utah state health officials attribute much of the program's success to the intentional strategy to hire native speakers of many different languages, beyond just Spanish, to communicate Covid-19 vaccination information.



### Locality Spotlight:

#### **DURHAM, NORTH CAROLINA**

#### Empowering and Engaging Community Members and Partners to Reduce Access Barriers

The Latinx Advocacy Team & Interdisciplinary Network for COVID-19 (LATIN-19) is a multi-sector coalition including over 500 members representing a broad range of organizations across Durham and North Carolina. In March 2020, clinicians at Duke University launched LATIN-19 in anticipation of the expected impact of Covid-19 and in response to emerging health disparities among Latinx communities, including Covid-19 case rates, hospitalizations, and mortality.<sup>46,47</sup> In July 2020, Latinx community members comprised almost half of the Covid-19 cases in the entire state of North Carolina, while comprising approximately 10 percent of the state's population.<sup>46</sup> Since then, LATIN-19 has been at the forefront of Covid-19 testing and vaccination efforts to reach the Latinx communities in Durham and other areas across the state.<sup>46</sup> The LATIN-19 leadership team noted that efforts to spread information and increase access to Covid-19 testing and vaccination among Latinx communities have contributed to two key results: 1) lower Covid-19 case rates among Latinx communities, and 2) an increase in Covid-19 vaccinations among Latinx communities (i.e., 7 to 22 percent increase from March 2021 to April 2021).

#### ***Building trust among local partners and community members:***

LATIN-19 partners with local community, government, and faith-based organizations to plan and coordinate Covid-19 testing events. For example, LATIN-19 works with local nonprofits, including La Semilla, El Futuro, El Centro Hispano, and Root Causes to provide Covid-19 resources and support services (e.g., food assistance, mental health resources, free Covid-19 testing regardless of insurance status). These organizations are trusted among Latinx community members. LATIN-19 members attend weekly meetings to share information, alleviate fears, address misinformation, and provide feedback on state-wide Covid-19 initiatives. All LATIN-19 members volunteer their time to the coalition.

***Reducing systemic access barriers:*** LATIN-19 has adapted lessons learned from Covid-19 testing to address systemic access barriers that remain pervasive among Latinx communities. LATIN-19 events do not require proof of health insurance, residency, or identification, which are barriers for undocumented members of Latinx communities. Furthermore, the coalition prioritizes the use of community health workers and multilingual resources at each pop-up community site.

#### ***Developing bicultural and bilingual resources***

***and services:*** LATIN-19 offers multilingual resources and information about Covid-19 vaccines to counter misinformation. Bilingual community health workers and volunteers staff vaccination events, which are advertised through LATIN-19's weekly meetings and social networks in English and Spanish. Many participants and partners of LATIN-19 also disseminate information through word-of-mouth.

## Locality Spotlight: **DETROIT, MICHIGAN** Adapting Existing Infrastructure and Cross-Sector Collaborations to Localize Delivery

In September 2020, the Michigan Department of Health and Human Services (MDHHS) fostered a partnership with Wayne State University (WSU) and Wayne Health (WH) hospital system to expand Covid-19 testing resources in the greater Detroit area. Prior to the pandemic, WSU developed an integrated data resource to increase access to cardiometabolic risk factor screening in Detroit, focusing on outreach where community members live, work, and play. The vision was to use this approach to drive innovation and change existing models of care by integrating environmental, geospatial, and social service data with population health data. With the onset of the Covid-19 pandemic, WSU partnered with WH, to bring Covid-19 testing and vaccine resources to communities. To complement these efforts, MDHHS and the city of Detroit's Health Department (DHD) plan to use some of the \$40 million dollars in grants awarded to the city this summer to expand equitable Covid-19 vaccine distribution and strengthen long-term community resilience in the event of future public health crises.<sup>48</sup>

### **Data-sharing collaboratives to address disparities:**

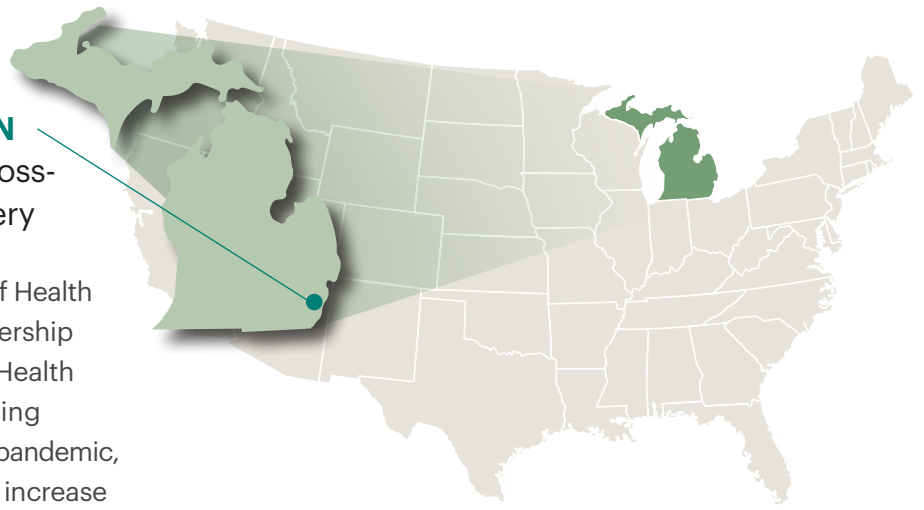
The WSU/WH mobile health unit program includes five units that move between sites and serve communities at higher risk for Covid-19. Michigan's Racial Disparities Task Force, an advisory group to the Governor, shares data with the program to identify Covid-19 mobile vaccine unit locations.<sup>49,50</sup> The WSU/WH mobile health program also uses Census tract data to inform vaccination efforts and determine the number of vaccinations needed to reach vaccination goals.

**Reducing transportation barriers:** To reduce transportation and other structural barriers, the mobile units are accessible to individuals walking or driving and neither appointments nor insurance are required. The DHD partners with WH and the Detroit Wayne Integrated Health network to visit mental health facilities, substance use centers, and adult foster homes, and long-term care facilities for individual with disabilities to provide mobile vaccination services. The city is also working to increase vaccinations by sending canvassers to neighborhoods

to inform people about local walk-in vaccination sites. In addition, a program launched in June 2021 brings vaccinations to homebound Detroit residents.

**Co-locating Covid-19 mitigation services with other health, social, behavioral health services:** In addition to Covid-19 testing and vaccination resources, the WSU/WH mobile health unit program provides many other health services such as flu shots, blood pressure screening, and HIV testing. Additionally, people can get on-site referrals for public health benefits such as Medicaid and unemployment assistance as well as emergency food and shelter services. The WSU/WH team works with the Community Health Corps Program, a program launched by the mayor's office that connects Detroit community members in low-income settings (or who are experiencing vulnerabilities exacerbated by the pandemic) to critical resources and services such food security, utility and water bill assistance, home repair and relocation, and physical and behavioral health services.<sup>51</sup> This program deploys teams of case managers including nurses, licensed social workers, and community health workers assigned to help individuals and families get connected with the services and supports they need.

**Developing tools to support accessible testing and vaccination services:** The MDHHS in collaboration with the state's Racial Disparities Task Force developed a comprehensive guide of proposed protocols for site administrators, staff and volunteers to ensure accessibility at vaccination sites. This guidance includes considerations about sensory and touch diversity, signage, registration assistance, language interpretation, mobility assistance, and service and emotional support animals. MDHHS also provides communication aids and interpreter cards for vaccine administrators to adopt and modify.<sup>52</sup>



## BOX 2: RURAL-FOCUSED STRATEGIES FOR VACCINATIONS

Rural communities continue to experience significant gaps in vaccine uptake.<sup>25,28</sup> Strategies to directly engage rural communities include:<sup>27,53</sup>

- deploying mobile health units for testing and vaccination
- door-to-door Covid-19 screenings
- delivering mobile hotspots to communities to access telehealth services
- hosting vaccine town halls in local communities
- addressing vaccine skepticism through social media
- working directly with federally qualified health centers to deliver Covid-19 resources
- reaching out to faith leaders to encourage vaccination
- developing vaccine appointment scheduling hotlines to address frequently asked questions
- partnering with local-led programs and clubs (e.g., library book clubs, Rotary and Lions Clubs) to provide vaccine and testing resources and education
- presenting vaccine and testing information to local school administrations and police departments



# Guiding Principles for Hyperlocal Covid-19 Testing and Vaccination Strategies

Based on interviews with state and local health officials as well as community-based practitioners we identified three guiding principles to inform Covid-19 strategies that are responsive to community needs and use existing resources to reach communities experiencing low Covid-19 vaccine uptake. The guiding principles can inform Covid-19 tailored testing and vaccination strategies to ensure they meet the context-dependent needs of different communities. The guiding principles complement other roadmaps that describe strategies to increase vaccine uptake and confidence.<sup>54-56</sup> In this section, we describe each guiding principle that can support public health mitigation efforts today and in the future. **Table 2** summarizes key strategies that we highlight in the state and local spotlights by guiding principle.

# 1

## Principle



### Tailor the approach based on community-specific barriers to uptake

Multifaceted disparities in access to Covid-19 vaccines (and varying degrees of vaccine skepticism among wait-and-see populations) (see **Box 1**) demonstrate the need for continued Covid-19 testing and vaccination strategies that respond to the specific needs of communities. To implement this principle, state and local health officials can partner with community leaders who understand the history, culture, relationships, demographics, infrastructure, and physical environment of their communities and know what structural barriers (e.g., lack of transportation or insurance) exist. Making Covid-19 resources easily accessible and straightforward by bringing services directly to communities (e.g., at common community locations such as grocery stores, places of worship, schools, and places of employment) is important for reaching communities that are routinely left out of the health care system.<sup>57,58</sup> Furthermore, because not all access barriers that people experience are visible, it is important to work with diverse community partners who know the members of their communities and their needs. This proactive approach can help state and local health officials embed inclusive planning throughout the pandemic response.

Identifying the context-specific barriers that communities experience can help state and local health officials facilitate the right Covid-19 mitigation services (e.g., at-home testing or community-based vaccination sites) and reduce gaps in Covid-19 vaccination and testing uptake. Finally, to address the structural inequities that influence health outcomes, it is important for state and local health officials to strategically link social and health services. Coordinating access to social services (e.g., housing, food security, and employment resources) with health care services are crucial strategies for intervening on social determinants of health. Identifying methods of care delivery that are agnostic to condition can assist with adapting interventions to shifting public health needs. For example, mobile health interventions can be applied to many contexts, including chronic disease management and primary care to establish more equitable health systems that are accessible to more people.

States can also use demographic, social, and economic data combined with real-time Covid-19 cases, deaths, and hospitalizations to identify neighborhoods and communities at high risk.<sup>59</sup> Census tract or zip code data can help community, local, and state leaders understand broad patterns of vaccination and testing rates and neighborhood composition. Importantly, these geographic metrics pose some limitations and may mask sociocultural heterogeneity within communities, therefore using these tools strategically (e.g., with partners who live in the community) is crucial. Indeed, access to reliable demographic data is a limiting factor for many states and localities and impacts their ability to identify and address public health concerns. Modernizing data reporting systems as well as supporting efforts to strategically disaggregate data is critical for connecting communities to the right testing and vaccination resources and for identifying urgent public health priorities.<sup>60-62</sup>

# 2

## Principle



### Deliver services and communications that are culturally responsive, linguistically accessible, and ADA accessible

Services and materials developed with cultural humility and including linguistically accessible messaging will help bridge access to care with communities that have been historically left out of public health communication campaigns.<sup>63,64</sup> The lack of culturally responsive, linguistically accessible, and ADA accessible Covid-19 communications, services, and resources are barriers to care for many communities including non-English speaking communities, immigrant or refugee communities, unhoused populations, individuals who are incarcerated, individuals with disabilities, and rural communities.<sup>27,65,66</sup> Providing messages that meet people where they are through trusted voices can build confidence in the health system and helps address fears, concerns, and questions about Covid-19 vaccine safety and effectiveness. Further, Covid-19 communication strategies that debunk false information and increase community members' ability to discern fact from fiction are crucial for addressing the concerns of communities that remain unvaccinated due to low vaccine confidence.<sup>67-69</sup>

Providing Covid-19 communication resources that address sensory, cognitive, and technological accessibility needs are critical. Integrating accessibility features in Covid-19 communication campaigns can include providing captioning on telehealth services, including screen reader compatibility on websites and Covid-19 resource pages, and developing visual aids to communicate Covid-19 health information.<sup>70</sup> Many promising practices to ensure accessibility in testing and vaccination programs have been highlighted elsewhere.<sup>31,71</sup> Providing accessible resources also requires understanding how lived experiences related to race, ethnicity, age, gender identity, sexual orientation, language, housing status, disability status, political affiliation, and value systems, shape how people understand and access health information. Different cultural perspectives, shaped by myths, stigmas, norms, and values also impact how individuals and communities receive and interpret health information. Embedding cultural and linguistic diversity into messaging ensures accessibility by all populations in public health communications and helps build health literacy, foster trust, and facilitate higher quality relationships between individuals and the health system.

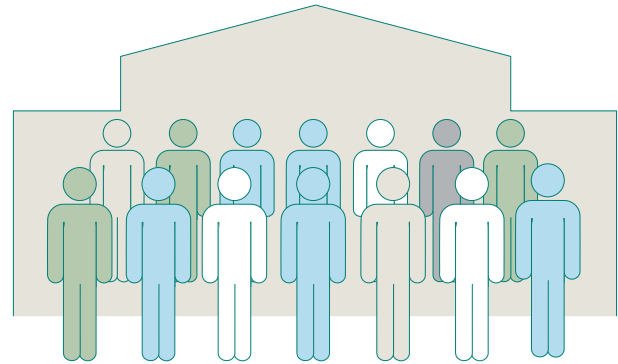
# 3

## Principle

### Implement community-engaged decision-making and partnerships

Community-engaged decision-making is necessary to achieve more equitable, transparent, and sustainable health policy actions that address and reduce gaps in health service delivery, Covid-19 vaccine uptake, and testing uptake.<sup>72-76</sup> Collaborations with community partners can help state and local leaders understand the systemic barriers to access in individual communities as well as determine strategic and effective investments to reach communities who remain unvaccinated.<sup>23</sup> Community partners can also help identify where community members go for health information. For example, such strategies may include engaging faith leaders as trusted voices to deliver public health messages and locating testing and vaccination services at places of worship.<sup>76</sup> Visible community partnerships may allay concerns and provide platforms for community members to discuss experiences with Covid-19 vaccination or testing.<sup>77,78</sup>

Community engagement varies widely depending on the context. It is important for state and public officials to not just listen but to fully engage with community partners who will understand community needs and know what messaging will resonate among local communities. Authentic collaboration means not only providing spaces for community members to hear about research and ask questions but also fostering partnerships where community members are key decision-makers in brainstorming and implementing health interventions.<sup>75</sup> Community members possess local knowledge and can provide valuable insight into the complexity of issues related to the context-specific barriers that they encounter in the health system.



State and local health officials and community partners can adopt shared leadership structures to design Covid-19 mitigation initiatives and deliver resources. State and local health officials, community partners, employers, and other stakeholders can convene to conduct community needs assessments and asset mapping as well as develop appropriate evaluation methods to assess the effectiveness and reception of current strategies. Identifying tools and providing resources to support existing health infrastructure (e.g., provider networks, available mobile units, community health workforce) to assess stakeholder relationships strengthens the health system's ability to address emerging crises. Strengthening community engagement also entails expanding partnerships with businesses, places of employment, schools, and other industries.<sup>23</sup> Strategies that boost multisector engagement will be important for the continued pandemic response. State and local health officials can work with these businesses and institutions to bring services to communities and support testing and vaccination efforts. Especially, as businesses and schools move forward with vaccination requirements for employees and students and regular testing programs, unified public health approaches will be important to engender trust and sustain engagement in communities.

TABLE 2 Key Strategies to Operationalize Guiding Principles

GUIDING PRINCIPLES	STRATEGY	ILLUSTRATIVE EXAMPLES
<div data-bbox="126 338 196 438">1</div> <div data-bbox="118 464 232 495">Principle</div> <div data-bbox="118 527 331 716">Contextualize the approach based on community-specific barriers to uptake</div> <div data-bbox="118 768 354 1041">  </div>	<p>Identify entities and community leaders (e.g., trusted providers, community organizers, pharmacies, local businesses, and places of worship) best suited to understand what their communities need</p> <p>Expand access to Covid-19 resources and health services by reducing structural barriers (e.g., transportation, insurance, and identification requirements)</p> <p>Facilitate access to the “right test” for different communities and situations (e.g., Covid-19 testing at home or at vaccination sites)</p> <p>Co-locate Covid-19 testing and vaccination services with additional supportive services (e.g., food and housing resources, quarantine supports, health and social services, care coordination)</p> <p>Implement innovative care delivery strategies that bring services to communities (e.g., mobile Covid-19 testing, door-to-door community engagement) or create incentives to increase uptake</p> <p>Use state and local Covid-19 tracking data and social vulnerability data to identify Covid-19 testing and vaccination disparities and to prioritize allocation of resources (e.g., data consortium)</p>	<ul style="list-style-type: none"> <li>• <b>Maryland:</b> Partnered with community-based organizations to conduct outreach to places such as local faith-based institutions, doctor’s offices, and grocery stores</li> <li>• <b>Washington, DC:</b> Collaborated with Medicare to identify patients who would need home-based Covid-19 testing and vaccination services</li> <li>• <b>LATIN-19:</b> Removed health insurance and identification requirements for Covid-19 testing and vaccination events</li> <li>• <b>Detroit:</b> Reduced transportation barriers for Covid-19 vaccination events by setting up mobile units that were accessible to individuals walking or driving. Additionally, appointments were not required</li> <li>• <b>Maryland:</b> Partnered with local institutions to provide monoclonal antibody infusion with mobile Covid-19 testing available onsite</li> <li>• <b>Washington, DC:</b> Launched the Test Yourself DC campaign and at-home Covid-19 vaccination programs</li> <li>• <b>Detroit:</b> Implemented the Community Health Corps Program which connects community members in low-income settings (or experiencing vulnerabilities exacerbated by the pandemic) to critical resources and services relating to food security, utility and water bill assistance, home repair and relocation, and physical and behavioral health</li> <li>• <b>LATIN-19:</b> Partnered with a local nonprofit, La Semilla, to provide no-cost food and Covid-19 testing resources</li> <li>• <b>New Orleans:</b> Partnered with local organizations to provide behavioral health, pharmaceutical services, cleaning supplies, and food at Covid-19 testing sites</li> <li>• <b>Maryland:</b> Implemented mobile Covid-19 testing units to provide vaccinations in community-based settings at familiar and comfortable locations such as churches, farmers markets, barbers shops, and beauty salons</li> <li>• <b>Utah:</b> Deployed mobile Covid-19 testing teams to specified locations to offer vaccine information and educational materials</li> <li>• <b>Minnesota:</b> Convened a Covid-19 data consortium with partners in the health system to pool together key statistics about the pandemic to identify gaps and disparities in mitigation efforts</li> <li>• <b>Detroit:</b> Formed the Racial Disparities Task Force that studies the causes of Covid-19 racial disparities, and provides the Governor’s Office with recommended actions to address the disparities</li> <li>• <b>Utah:</b> Repurposed Covid-19 contact tracing workforce and contact tracing data to conduct tailored outreach to unvaccinated Medicaid beneficiaries</li> <li>• <b>New Orleans:</b> Collaborated closely with the Department of Public Works to collect Covid-19 vaccination uptake data at the neighborhood level</li> </ul>

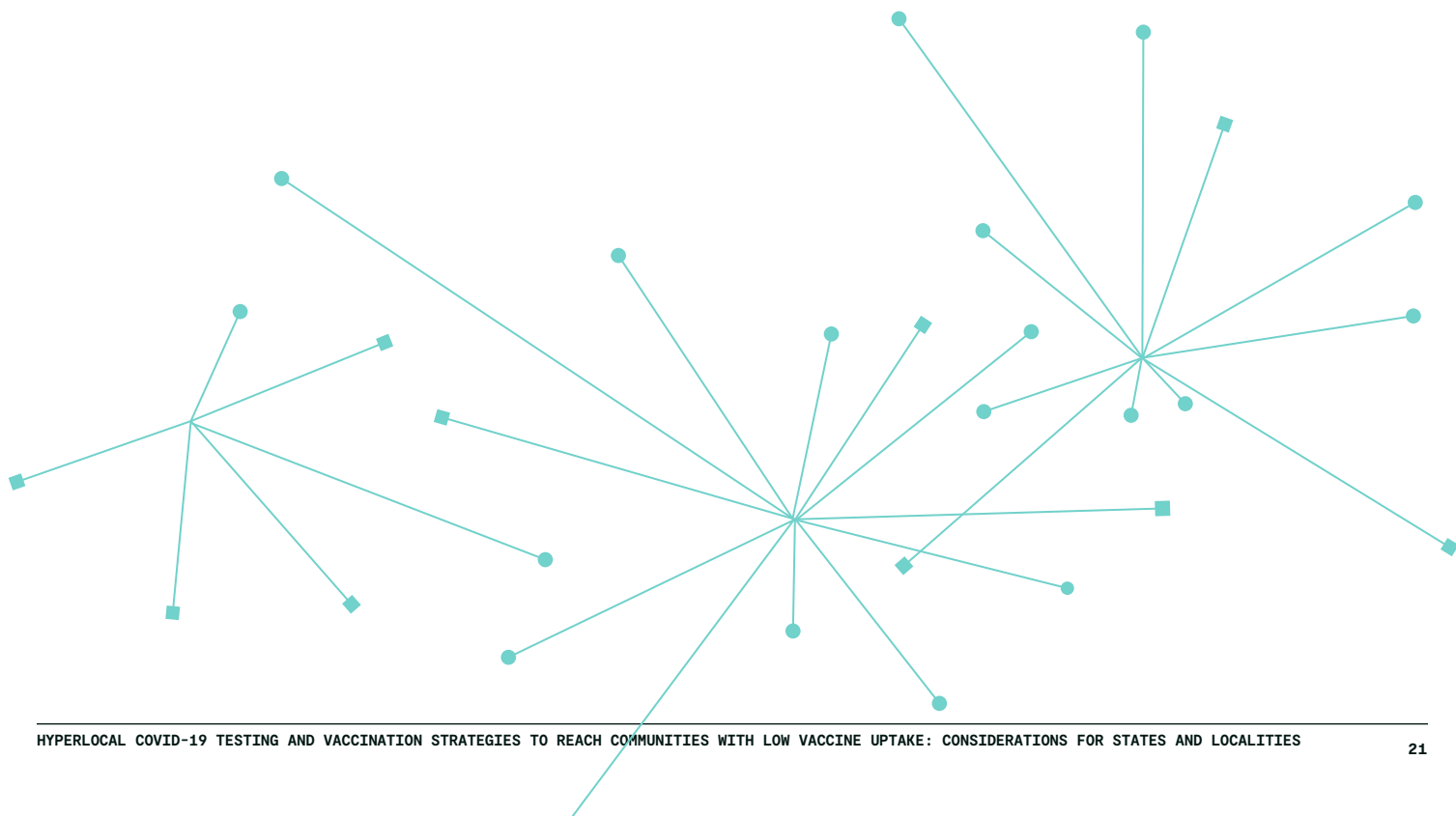
TABLE 2 Key Strategies to Operationalize Guiding Principles *continued*

GUIDING PRINCIPLES	STRATEGY	ILLUSTRATIVE EXAMPLES
<div data-bbox="126 254 196 359">2</div> <div data-bbox="118 380 232 411">Principle</div> <div data-bbox="118 443 375 663"> <p>Deliver services and communications that are culturally responsive, linguistically accessible, and ADA accessible</p> </div> <div data-bbox="99 705 396 905"> </div>	<p>Facilitate collaborations that acknowledge community-based organizations as visible partners and engage those partners to identify cultural nuances required for effective communication strategies</p> <p>Provide resources (e.g., communications in Braille, plain language, American Sign Language, or visual aids) and services (e.g., screen reader compatibility, captioning, private testing or vaccination settings for individuals with sensory sensitivities) that address the full range of needs of people with disabilities</p> <p>Employ bilingual and bicultural staff for Covid-19 testing and vaccination services</p>	<ul style="list-style-type: none"> <li>• <b>LATIN-19:</b> Hosted weekly meetings where information was shared by Latinx leaders to Latinx community members to alleviate fears and address misinformation. Vaccine and testing events were advertised through these meetings and social networks in English and Spanish</li> <li>• <b>New Orleans:</b> Partnered with community organizations such as local churches and businesses to conduct tailored outreach before Covid-19 vaccination pop-ups in specific neighborhoods</li> <li>• <b>Minnesota:</b> Published a set of best practices and a checklist for establishing accessible Covid-19 vaccination and testing sites that address different physical, sensory, cognitive, and technological needs</li> <li>• <b>Michigan:</b> Developed guidance on accessibility protocols for testing and vaccination sites, including recommendations for tailored strategies to improve equitable access</li> <li>• <b>Utah:</b> Hired native speakers of many different languages who provided culturally responsive information to individuals on where to get tested for Covid-19 or receive a vaccination</li> <li>• <b>Washington, DC:</b> Implemented door-to-door Covid-19 vaccine outreach campaigns led by bilingual teams</li> </ul>
<div data-bbox="126 1209 196 1314">3</div> <div data-bbox="118 1335 232 1367">Principle</div> <div data-bbox="118 1398 329 1556"> <p>Implement community-engaged decision-making and partnership</p> </div> <div data-bbox="99 1587 396 1766"> </div>	<p>Design shared leadership structures and work with community leaders and local organizations to deliver resources and programs</p> <p>Convene community partners, employers, and other stakeholders to conduct community needs assessments and asset mapping as well as develop appropriate evaluation strategies to assess the effectiveness and reception of current strategies</p>	<ul style="list-style-type: none"> <li>• <b>Maryland:</b> Partnered with a predominantly Black church and local schools to administer Covid-19 vaccines and monoclonal antibody infusions as well as conduct mobile testing</li> <li>• <b>LATIN-19:</b> Partnered with local community and faith-based organizations to establish Covid-19 testing events</li> <li>• <b>Utah:</b> Worked with community-based partners to strategically locate mobile units for Covid-19 testing and vaccinations and to identify trusted and accessible spaces</li> <li>• <b>LATIN-19:</b> Hosted weekly meetings with providers, public health officials, and community members to discuss progress on efforts and strategize solutions for emerging challenges</li> </ul>

# Conclusion

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**The Covid-19 pandemic has underscored the consequences of underinvesting in public health infrastructure and pandemic preparedness. The guiding principles we outlined in this paper – tailored strategies, accessibility, and community engagement – can support states in continued efforts to respond equitably and inform a paradigm shift in public health practice and health care.** Continuing Covid-19 testing and vaccination strategies for communities experiencing low vaccine uptake and high disease burden can help monitor the spread of the virus, fill gaps in vaccine delivery, mitigate community surges in real time, and reduce misinformation. Providing Covid-19 testing resources that reach people where they are will be important to reduce viral spread among communities with low vaccine uptake. At the same time, hyperlocal Covid-19 mitigation efforts to boost Covid-19 vaccine confidence and eliminate systemic access barriers will help increase vaccine uptake. Looking ahead, states and localities can apply lessons learned from Covid-19 mitigation strategies and guiding principles to address persisting health inequities in other areas.



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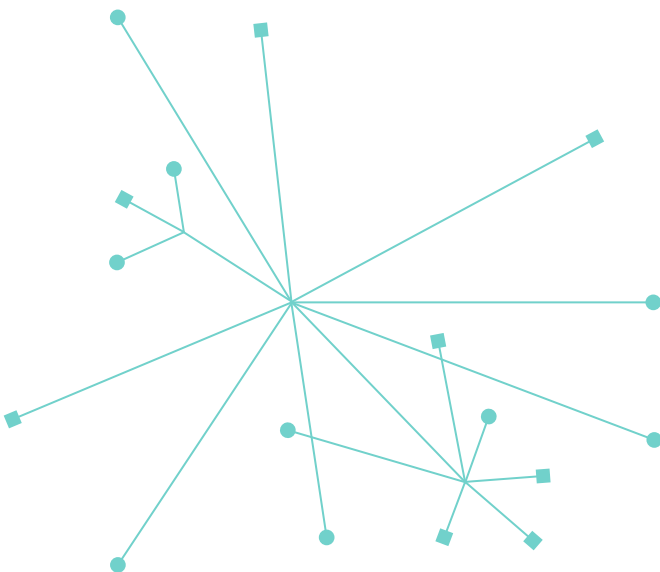
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