

HARRIS COUNTY PUBLIC HEALTH (HCPH)

COVID-19 EQUITABLE TESTING STRATEGY



Harris County
Public Health
Building a Healthy Community

RELEASED: AUGUST 21, 2020

HCPH COVID-19 EQUITABLE TESTING STRATEGY

Executive Summary

Communities with a high concentration of historically marginalized populations (e.g., low income families, communities of color, children and older adults, those faced with historical discriminatory prejudices, etc.) exist throughout Harris County. These populations are highest for risk for potential COVID-19 exposure, hospitalizations, and death due to social and structural barriers. These barriers include, but are not limited to, close proximity of housing and densely populated households; challenges to practice social distancing; occupational exposure and barriers in transportation; historical obstacles to access health care, a concentration of unmet health needs and chronic disease burden.

These inequities and other comorbidities elevate the risk for severe COVID-19 illness, hospitalization, and death. Long standing health disparities and inequities are severely exacerbated by the COVID-19 pandemic. Community-wide COVID-19 testing is crucial to identifying the disease early and slowing the pandemic. Equitable testing approaches are necessary to ensure quality testing services are available, accessible, and utilized by people and places at highest risk for severe health outcomes from COVID-19.

Equitable Testing Strategy

Data-driven and community-first approaches ensure HCPH's ability to provide equitable COVID-19 testing access. Testing is a key foundational component in the fight against COVID-19. There are strong interconnections with community messaging, outreach and engagement, and other public health strategies such as case investigation and contact tracing. All play a role in a strong public health COVID-19 response. Continual analysis is performed to identify zip codes for emerging COVID-19 hot spots, "testing deserts", and COVID-19 driven health inequities in addition to existing analysis of social vulnerability (see Appendix A).

In tandem with analysis of public health trends, Harris County government plays a key role in driving decisions related to COVID-19 in the broader Harris County community. Increased and bidirectional engagement of community partners must be leveraged to ensure all Harris County residents have the

For more than a decade equity has been a core value for Harris County Public Health (HCPH) along with innovation and engagement. These principles continue to drive our work in the COVID-19 response. This strategy is built on best practices and resources that identify equitable testing strategies from other states, nations, local health departments (LHDs) and the Centers for Disease Control & Prevention (CDC). Outreach, engagement and testing are tailored to meet residents in places where they are in the community because health happens where community members live, learn, work, worship, and play (LLWWP).

As a system, the public health approach to COVID-19 is rooted in prevention, data surveillance, research, innovation, equity, and engagement. For COVID-19's holistic equity solutions, HCPH created the T³REO equity strategy (Testing, Contact Tracing; Vaccines and other Treatment; Health Supportive Resources; and Community Engagement and Outreach).

resources and support necessary for the opportunity to access care and good health. HCPH and other testing providers must provide testing modalities that are flexible enough to meet communities where they are and provide supportive resources to help residents access testing. Equitable testing strategies require key priority actions be taken to meaningfully prioritize people and places at highest risk for COVID-19 disparities and inequities. **These novel priority actions include:**

- 1. Increase HCPH's Capacity for Equitable COVID-19 Testing**
- 2. Expand Partnerships and Community Capacity for Equitable COVID-19 Testing**
- 3. Increase Community-level Outreach and Health Education**
- 4. Expand Linkage to Resources and Supports**

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PRIORITY ACTIONS

1 Increase HCPH's Capacity for Equitable COVID-19 Testing	2 Expand Partnerships and Community Capacity for Equitable COVID-19 Testing	3 Increase Community Level Outreach and Health Education	4 Expand Linkage to Resources and Supports
<p>Utilize COVID-19 data and trend analysis in partnership with UTSPH, "testing deserts", and health inequity data to identify and prioritize zip codes of concern. (HCPH Testing Decision Making Tool)</p> <p>Create Focused Testing Strike Teams to quickly provide testing to residents within identified zip codes of concern or clusters of cases within Harris County.</p> <p>Expand HCPH-led COVID-19 testing opportunities through a request for proposal (RFP) process for additional testing support to provide HCPH increased testing capacity.</p> <p>Offer COVID-19 testing at existing HCPH clinics (refugee, wellness, TB, and WIC) for patients and families.</p>	<p>Partner with clinic sites, doctors' offices, community clinics, and FQHCs to ensure resources for COVID-19 testing are more widely available.</p> <p>Coordinate with other COVID-19 testing partners, such as HHD, healthcare, and clinics, to share strategies and data findings and ensure equitable access across the county.</p> <p>Expand the number of faith and other neighborhood partners hosting testing site locations. Develop and distribute resources for faith leaders to share health education information, test site locations, and how to access COVID-19 test results.</p> <p>Provide educational materials and information about testing to healthcare, restaurant, frontline workers, and other populations at higher risk for COVID-19 exposure.</p>	<p>Partner with County Judge's Office and other county partners on a new campaign to raise awareness about when to get tested and other key COVID-19 prevention messages.</p> <p>Engage community members and partners via HCPH's communication and outreach teams to share health education information, test site locations, and how to access COVID-19 test results.</p> <p>HCPH will distribute CARE kits to community members and local businesses including educational materials, a free mask and hand sanitizer. HCPH will also canvas with door hangers sharing COVID-19 information.</p> <p>HCPH will develop materials and support for schools so they can implement COVID-19 prevention measures, educate children about COVID-19, and promote testing locations that serve children.</p>	<p>Support the expansion of community wrap-around initiatives and use communications and outreach teams to share information about resources available in the community.</p> <p>Share information about COVID-19 resources, such as available isolation resources, at the HCPH testing sites to increase public awareness and utilization.</p> <p>Collaborate with organizations providing home-based testing to vulnerable populations (such as the Area Agency on Aging). Share information with partners and individuals with disabilities about at-home testing options.</p> <p>Provide additional equity and resilience training and information for all outreach and testing site staff.</p>

Figure 1: Priority Actions for Equitable Testing Strategies

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HCPH COVID-19 Testing Site Selection Tool

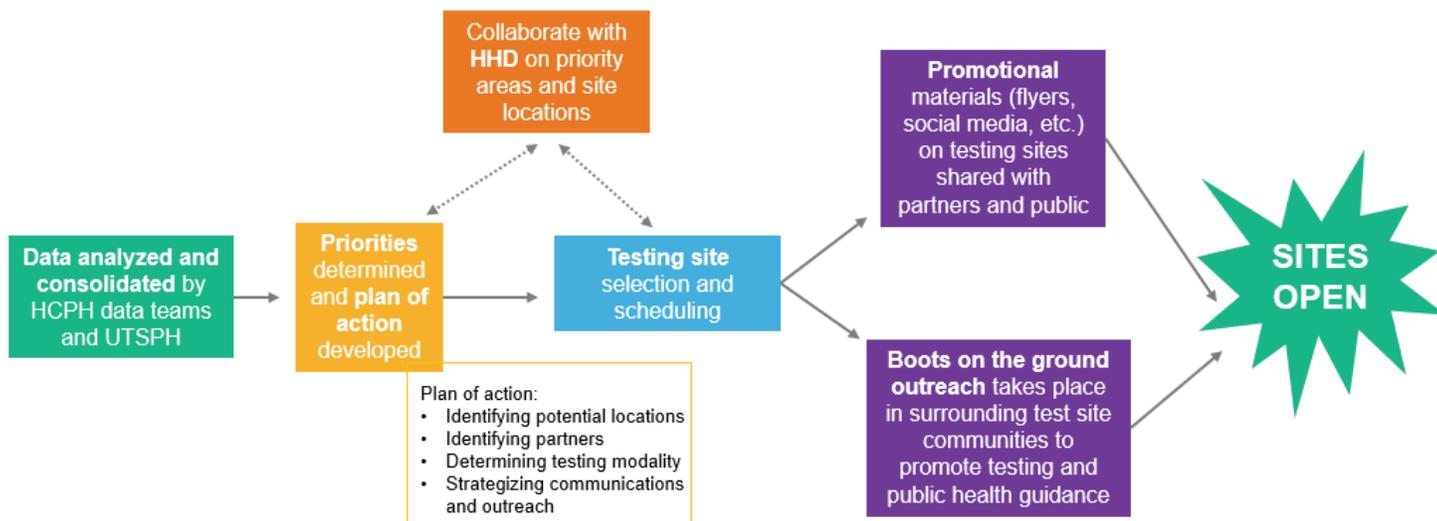
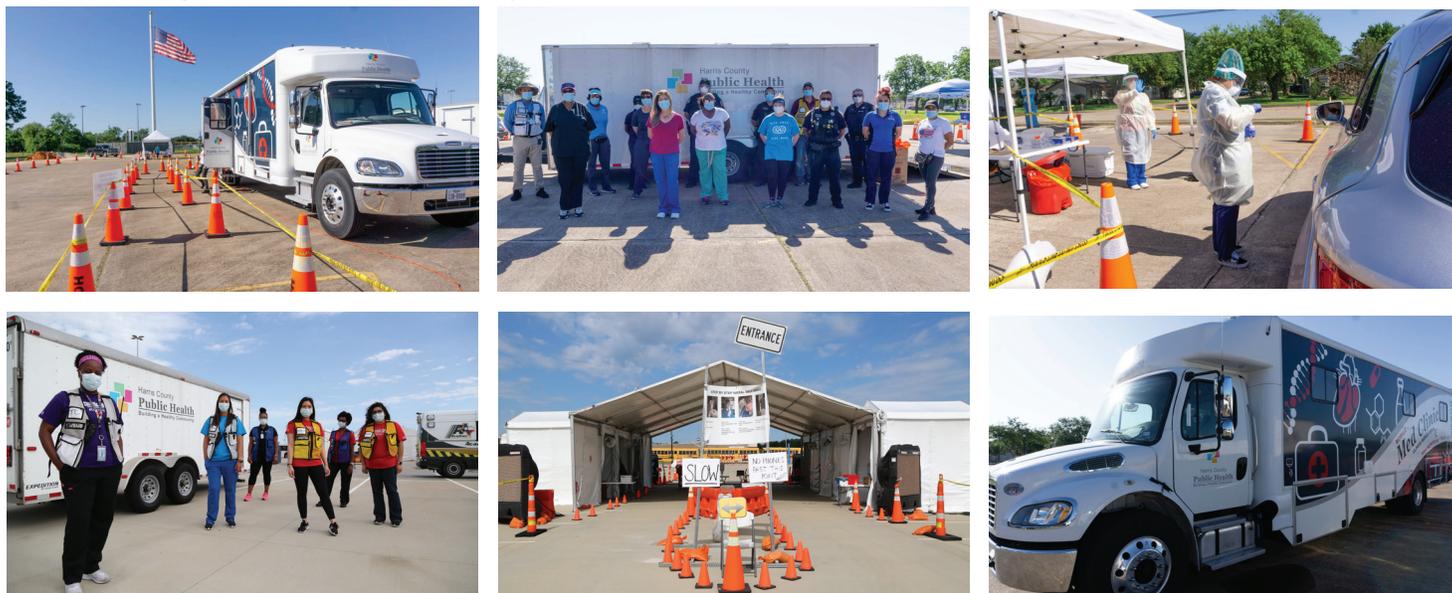


Figure 2: Testing site selection process via the COVID-19 Test Site Selection Tool

HCPH Testing Sites - Deer Park & Katy



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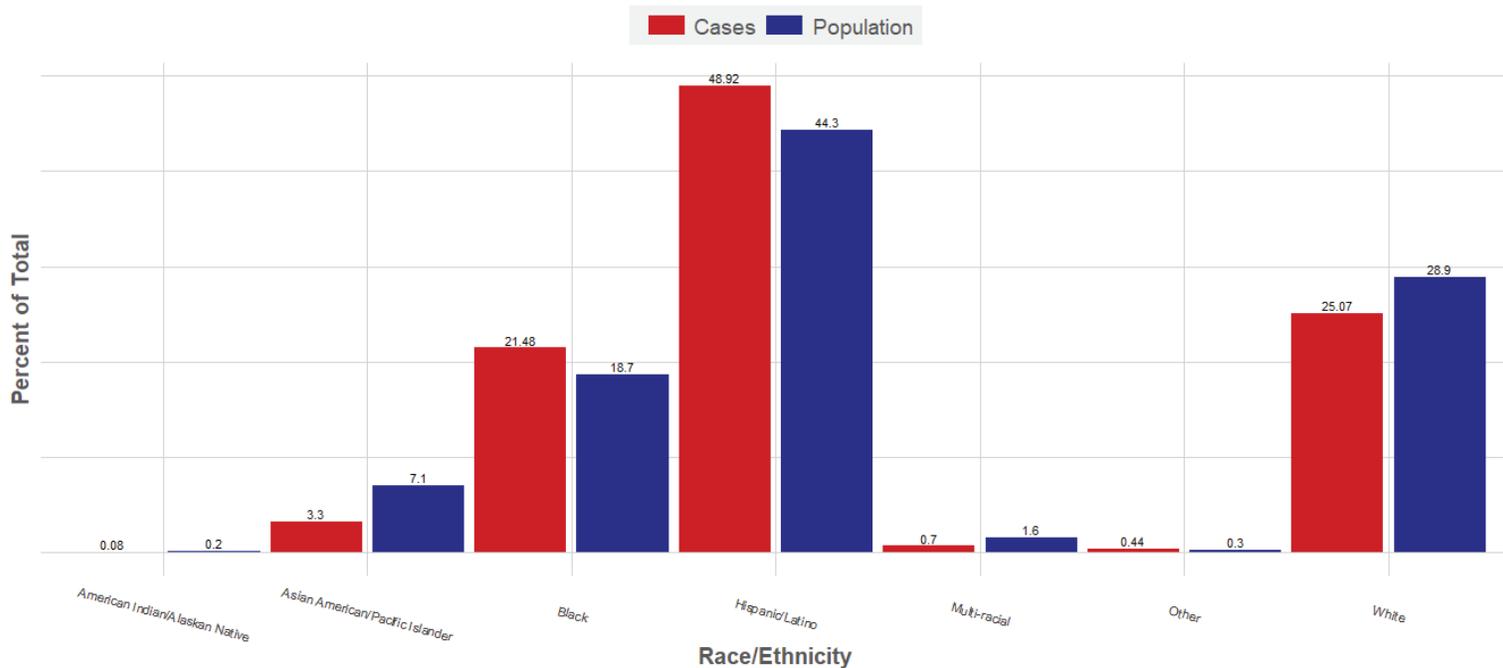
COVID-19 and Health Equity – DEMONSTRATED INEQUITIES WITH COVID-19

Emerging public health trends demonstrate clearly, COVID-19 disparities are markedly similar to existing health disparities within communities of color and other disproportionately impacted communities.

In Harris County, case data demonstrates that Hispanic and Black communities are adversely impacted by COVID-19 at disproportionate rates; with the minority community experiencing the highest rate of hospitalizations, cases, and deaths. Additionally, HCPH recognizes the geographic and systemic barriers for many populations to readily access COVID-19 testing (see *Appendices B & C*).

Percent of Harris County Cases Compared to Percent of Population by Race/Ethnicity

Cases with Unknown race/ethnicity not included in analysis



HCPH + HHD Data. Approved for Public Distribution. Updated: 2020-08-27

Figure 3: Harris County Cases by Race/Ethnicity

CDC has highlighted several factors that contribute to increased risk for severe health outcomes and death from COVID-19 for disproportionately impacted communities. These factors have not only contributed to disparities with COVID-19 but have also

played a role in other medical and chronic health conditions that increase one’s risk for severe illness from COVID-19. Below are some of the many factors that contribute to COVID-19 health disparities:

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Discrimination: Unfortunately, discrimination exists in systems meant to protect well-being or health. Examples of such systems include health care, housing, education, criminal justice, and finance. Discrimination, which includes racism, can lead to chronic and toxic stress and shapes social and economic factors that put some people from racial and ethnic minority groups at increased risk for COVID-19.

Healthcare Access and Utilization: Approximately 1 in 5 Harris County residents are uninsured in Harris County, and unfortunately Black and Hispanic residents are more likely to be uninsured. Healthcare access can also be limited for these populations by many other factors, such as lack of transportation, child care, or ability to take time off of work; communication and language barriers; cultural differences between patients and providers; and historical and current discrimination in healthcare systems.

Occupation: People from some racial and ethnic minority groups are disproportionately represented in essential work settings such as healthcare facilities, farms, factories, grocery stores, and public transportation. Individuals who work in these settings may have more chances to be exposed to the virus that causes COVID-19 due to several factors, such as close contact with the public or other workers, not being able to work from home, and not having paid sick days.

Educational, Income and Wealth Gaps: Inequities in access to high-quality education for some racial and ethnic minority groups can lead to lower high school completion rates and barriers to college entrance. This may limit future job options and lead to lower paying or less stable jobs. People with limited job options likely have less flexibility to leave jobs that may put them at a higher risk of exposure to the virus that causes COVID-19. People in these situations often cannot afford to miss work, even if they're sick, because they do not have enough money saved up for essential items like food and other important living needs.

Housing: Some people from minority communities live in crowded conditions that make it more challenging to follow prevention strategies. Quarantine and isolation guidance is increasingly difficult to follow with insecure housing options. In addition, growing and disproportionate unemployment rates for some racial and ethnic minority groups during the COVID-19 pandemic may lead to greater risk of eviction and homelessness or sharing of housing.

Access to Transportation: Access to COVID-19 testing and health services are heavily reliant on available methods of transportation such as owning a car and geographic proximity. Many communities are disproportionately without available vehicles and reliant on alternative transportation options.

Comorbidities and Underlying Health Conditions: People of any age with certain underlying medical conditions are at increased risk for severe illness from COVID-19. Those with 2 or 3 underlying health conditions are at 4.5 to 5x the risk of hospitalization from COVID-19. Definitive disparities in chronic disease across Harris County's communities, places, and racial and ethnic groups.

Age: Among adults, the risk for severe illness from COVID-19 increases with age. Throughout the United States, 8 of 10 deaths reported have been in adults aged 65 years or older. Additionally, other medical conditions and secondary health impacts for younger children have been reported and research is emerging. Consideration of individuals through the lifespan is important for COVID-19 response planning.

Culture & Language: Culture and language can play a key role in health outcomes, both for better and for worse. While many of the disparate outcomes can be attributed to the above factors recognizing the role that socio-economic status plays, culture and language are also key contributors. Living in multi-generational households, as an example, is not just about housing conditions and access to resources but may also be driven by cultural traditions. Language similarly can act as a barrier to receiving and acting upon health education resources provided by public health and healthcare entities alike.

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exist, and the population is at high risk for COVID-19 health disparities. Analysis will be done weekly as part of a Test Selection Tool to update new zip codes of focus, especially as new investments in focused zip codes are realized. One important caveat to this zip code analysis is that the data available to HCPH includes only a partial record of COVID-19 tests conducted within the City of Houston. Additional data coordination is needed with HHD as a part of more regular strategy coordination outlined below. Through the CDC, HCPH has access to lab tests from the 6 biggest commercial labs, including LabCorp and Quest. Any tests administered through other laboratories is not captured in this analysis. Solutions to sync City of Houston lab test data with other data in Harris County will be further explored as part of increased coordination and collaboration outlined later in the document.

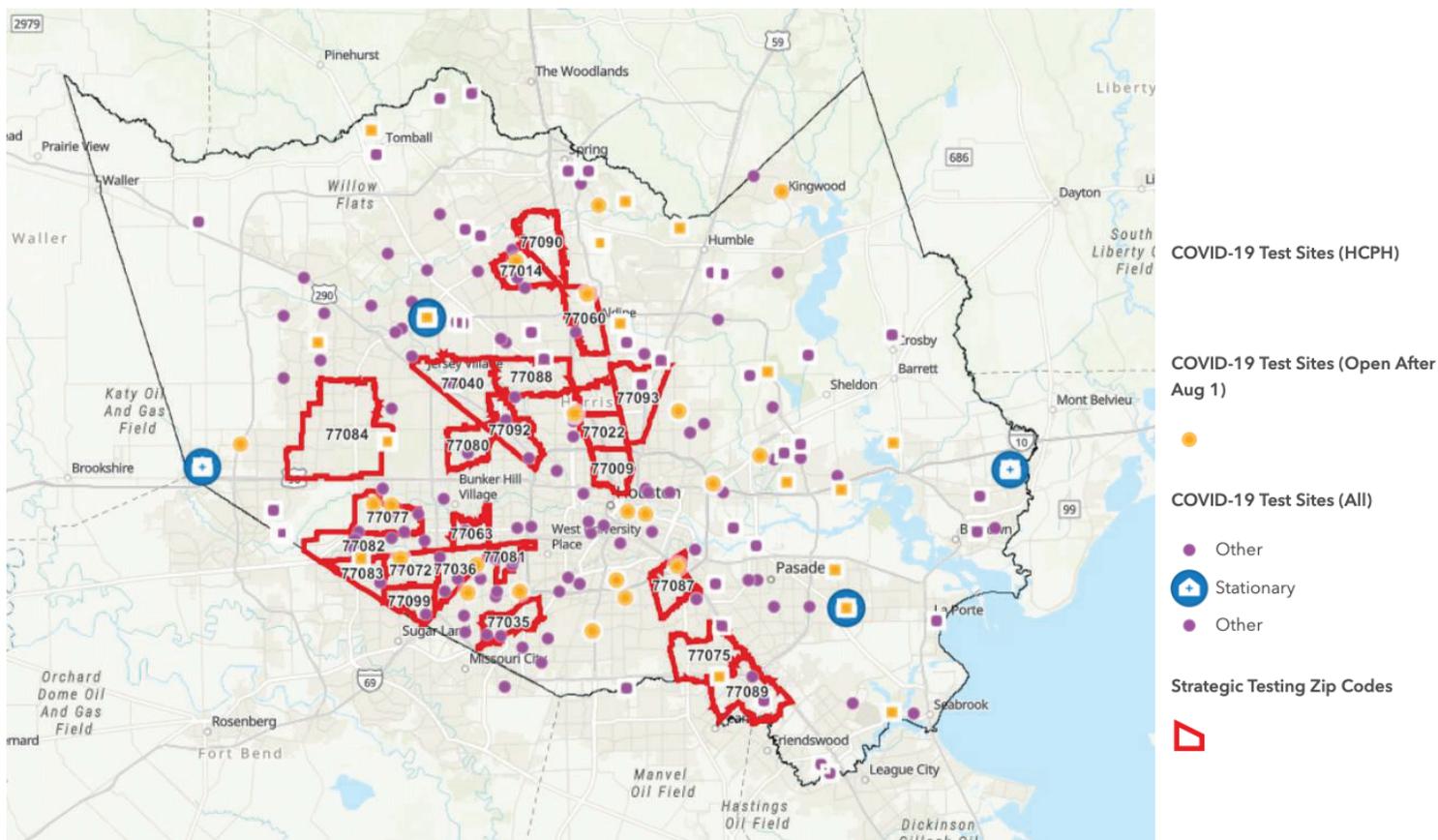


Figure 5: Select Zip Codes with Past and Current Testing Sites

The above map highlights the zip codes identified in the red box of the Figure 4. These zip codes have relatively lower testing per capita and a high SVI. The blue and yellow circles show where HHD and HCPH have set up public testing sites to address the testing deserts. Caveats to data analysis visualized in this map are addressed above. Increased coordination will allow for more complete analysis.

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Equity in Action: Working with Priority Locations and Populations – Reaching Disproportionately Impacted Communities.

To do this analysis, HCPH plots factors that can help prioritize populations or locations for testing. Working with partners HCPH identifies priority locations and populations by:

1. Locations of COVID-19 hot spots determined weekly by increase in cases, hospitalizations, and deaths, and/or identified clusters of cases;
2. Testing deserts – areas without access to FREE and accessible testing; and,
3. Existing health inequities – race/ethnicity, income, occupation.

Case Example: Zip Code 77090

Zip code 77090 is a shared jurisdiction between City of Houston and Harris County that has an SVI score of 85%, demonstrating it is a zip code at risk for being disproportionately impacted by COVID-19. Residents are 47% Black, 32% Hispanic, and the median household income is \$39,879. In this zip code, 78% of housing units are occupied by renters and 23.1% of the population lives below the Federal Poverty Line.

To ensure needs of these residents are met, HCPH's Equitable Testing Strategy would be applied as follows:

- HCPH would conduct rapid in-depth data analysis of the zip code's demographics and testing options. The analysis will look at demographics, case data, hospitalizations, deaths, and test site locations in this zip code or nearby.
- As a shared jurisdiction, HCPH would contact Houston Health Department (HHD) to share the data and identified need for increased testing availability in the identified hot spot. HCPH would verify that HHD is seeing the same data trends and HCPH would then coordinate with HHD to make sure that either they or other partners will be providing testing to the location as soon as possible.
- HCPH would support any HHD testing in this shared jurisdiction by placing sites in the county portion of the zip code/surrounding areas. The REACH Taskforce would seek strategic partnerships with local community-based organizations and Houses of Worship to get the community's feedback and better understand the community's needs. This information would guide the types of outreach HCPH engages in, the partners that would be leveraged, and the selection of the test site location.
- In instances where HHD or another trusted partner are unable to provide testing, HCPH would offer additional testing support and resources. HCPH and HHD would continue to work together to decide how resources would be deployed in or nearby this zip code to increase access to testing. This step would include checking with partners, such as Harris Health, FQHCs, and others to see who else might be offering testing in this zip code or surrounding areas.
- In cases where HCPH is deploying testing to the hot spot, testing would be offered at 1-2 sites in the impacted area over a two-week period.
- HCPH would coordinate with HHD to identify strategic partnerships with local community-based organizations and Houses of Worship for intensified (linguistically and culturally appropriate) outreach. Through the REACH Task Force, HCPH would gather community feedback to better understand the community's needs. This information will guide the types of outreach HCPH engages in, the partners that will be leveraged, and even any outstanding issues with test site location.
- HCPH outreach team would be in the community sharing information about prevention and the importance of testing to business and civic organizations within a 10-mile radius of the identified test site location. [Small businesses and those that employ or serve Black and Hispanic residents, apartment complexes, and Houses of Worship are prioritized settings for outreach.] HCPH would support any HHD outreach in this shared jurisdiction by scheduling outreach events in the county portion of the zip code/surrounding areas.
- The HCPH Reach Task Force would work with partner organizations to follow up with the community after the testing is deployed to confirm the community's testing needs have been met.

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In the example above, HCPH identified that there are 32% of Hispanic residents in the zip code 77090. Through HCPH's Equitable Testing Strategy, these residents would be a focal point for outreach and engagement. Focused efforts would include tailored strategies to reach these residents. These would include the following:

- Locations of COVID-19 hot spots determined weekly by increase in cases, hospitalizations, and deaths, and/or identified clusters of cases; Ensuring messaging, imagery, and materials are culturally and linguistically appropriate and adapted.
- Existing health inequities – race/ethnicity, income, occupation, etc. Reducing cultural barriers and potential trust issues by leveraging HCPH's outreach team and Promotoras who represent the diversity of the community.
- Scheduling outreach activities in locations that are likely provide access to a large number of Hispanic residents at one time such as outreach to apartment complexes due to the high number of rental units in the zip code.
- Share information and conducting in-person outreach in Spanish via bilingual outreach workers.
- Partner with community organizations that reach Hispanic communities and residents near zip code 77090 to share information about the COVID-19 testing that will soon be available.
- Develop and disseminate materials in English and Spanish to Houses of Worship in and near the zip code. These materials can include flyers, talking points for faith leaders, and resources for other services residents need.

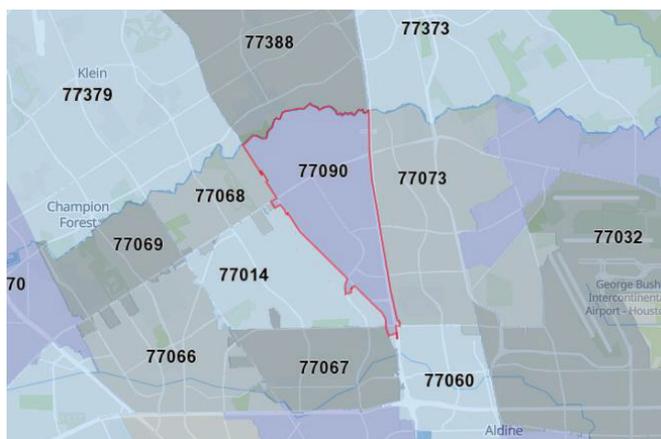


Figure 6: 77090 Zip Code, Harris County, TX

Health Equity Approaches for HCPH's COVID-19 Response

HCPH applies an **Intersectional Health Equity (IHE)** lens across all levels of the department's work. IHE is an ongoing process of critical learning, research inquiry, and developing practical solutions that honor unique identities. Various combinations of class, gender, race, religion, ability, sexuality, age, national origin, and citizenship place people at differing individual levels of disease risk, susceptibility, and access to health supportive resources.

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Recognizing the importance of equity in all its COVID-19 response activities, HCPH activated the Resilience and Equity Branch (REB) as part of its initial Incident Command System (ICS) in February 2020 to address inequities by analyzing existing data, assessing community needs, and leveraging existing community assets. In July 2020, HCPH expanded the capacity of REB by forming an internal task force to review COVID-19 response operations and identify and address issues that pertain to race and ethnicity. The HCPH Racial and Ethnic Approaches to COVID-19 and Health (REACH) Task Force was responsible for reviewing best practices, data, emerging strategies, developing and monitoring metrics for success, and identifying opportunities to increase capacity for equitable work by HCPH.

As a system, the public health approach to COVID-19 is rooted in prevention, data surveillance, research, innovation, equity, and engagement. For COVID-19's holistic equity solutions, HCPH's REACH Taskforce has adopted a T³REO equity strategy (Testing, Contact Tracing; Vaccines and other Treatment; Health Supportive Resources; and Community Engagement and Outreach).

Under the T³REO strategy, HCPH has implemented equity-centered interventions and regularly analyzes data to continuously assess and improve efforts to reduce inequities. HCPH's goal is to prevent the spread and impact of COVID-19 by equitably helping the community protect against and recover from the pandemic requires collective impact and multidisciplinary approaches. HCPH's REACH Task Force has embraced the community concept "what's done for me but without me is done to me." To expand collective response, HCPH has been collaborating with trusted community partners and stakeholders, including impacted residents, to assure the community's expressed needs are quickly identified and adequately met. Collectively, HCPH and its partners harness a community's natural resilience, its local assets and resources, to protect against risks that most often affect residents who experience vulnerable conditions where they LLWWP.



Regular consultations with community members about their testing needs has improved HCPH measures to ensure equitable access to testing by:

- Ensuring that bilingual staff as well as translation and interpretation services are available on site at all testing locations;
- Offering online or call-in pre-registration process in English, Spanish, and Vietnamese (as well as other languages as necessary); and,
- Decreasing wait times on site and working with labs to decrease lab turnaround times.

For equitable COVID-19 testing strategies, planning of COVID-19 testing locations will be done with an understanding of emerging public health trends in tandem with increased and bidirectional engagement of community partners. Testing modalities will be flexible enough to ensure equitable access to the opportunity for COVID-19 testing. Equitable testing strategies require key priority actions be taken to meaningfully prioritize people and places at highest risk. These strategies are further outlined below.

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Providing Equitable Access to Testing- Existing Capacity and Actions

Current Testing Strategy (March – August 2020)

Since March 2020, HCPH has operated two stationary testing sites with federal and state support in unincorporated Harris County. This has been done concert with Houston Health Department's (HHD) two fixed federal and state-supported locations. HCPH also has an at-home testing team, six county-owned mobile testing units, and testing strike teams for congregate settings. These additional modalities have helped to meet increased demand, provide greater access, and decreased wait time for COVID-19 testing. HCPH testing sites have grown to offer a maximum capacity of over 3,000 tests per day, or 22,500 tests per week. As of August 19, 2020, HCPH has spent approximately \$16 million on over 150,000 COVID-19 tests.

Mobile testing sites are scheduled across the county, changing locations at a minimum weekly, using high-level case data by zip code, SVI analysis from Harris Cares 2020, geographic distance from other known testing sites. Other considerations include requests from the community and populations with increased risk for being disproportionately impacted by COVID-19. Places that have not been offered testing are also taken into consideration and are known by a term coined by HCPH as "testing deserts" because testing is not and has not been offered by public or private entities. This term has since been adopted by the federal government to describe this phenomenon similar to the notion of food deserts in a community. Mobile testing sites have included community centers, parks, schools, and places of worship that have the logistics coordination for size and drive-thru capabilities.

HCPH uses multiple outlets to raise awareness about the importance of testing and preventing COVID-19. Messages are disseminated through social media, traditional media outlets, and culturally appropriate and accessible print and digital materials in English, Spanish, and other languages. Promotion efforts are designed to reach distinct communities, including those disproportionately impacted. Social media as well as in-person "boots on the ground" engagement efforts have been employed share information about testing and to dispel misinformation and myths.

Teams made of members with experience in resilience, equity, and communications engage the community to share information and resources. Outreach and education are conducted to support testing sites through virtual townhalls, mask and educational material distribution, and community-based in-person outreach with a focus on local businesses and other establishments. The communications and outreach teams focus their efforts on reaching community members who are disproportionately impacted by COVID-19 to share information about testing locations and how to get tested in English, Spanish, and other languages to the extent possible.

HCPH also has Liaison Officers that partner with each Commissioner's Precinct Office to identify outreach opportunities, coordinate future test sites, share current test site information, and get feedback from the community. Liaison Officers also share information about testing with local jurisdiction partners, offices of emergency management, regional LHDs, and elected officials to provide information about mobile testing throughout the county.

Existing Testing Modalities

Providing equitable access to testing in the community is an important facet of the COVID-19 response. Currently, HCPH has the capacity for over 3,000 tests a day available at stationary and mobile sites across Harris County. Existing testing strategies have been guided by data analysis, information about testing access, and known disparities highlighted in Harris Cares 2020. HCPH's Testing Strategy currently includes five primary testing modalities to meet the demand and need for testing throughout the county.

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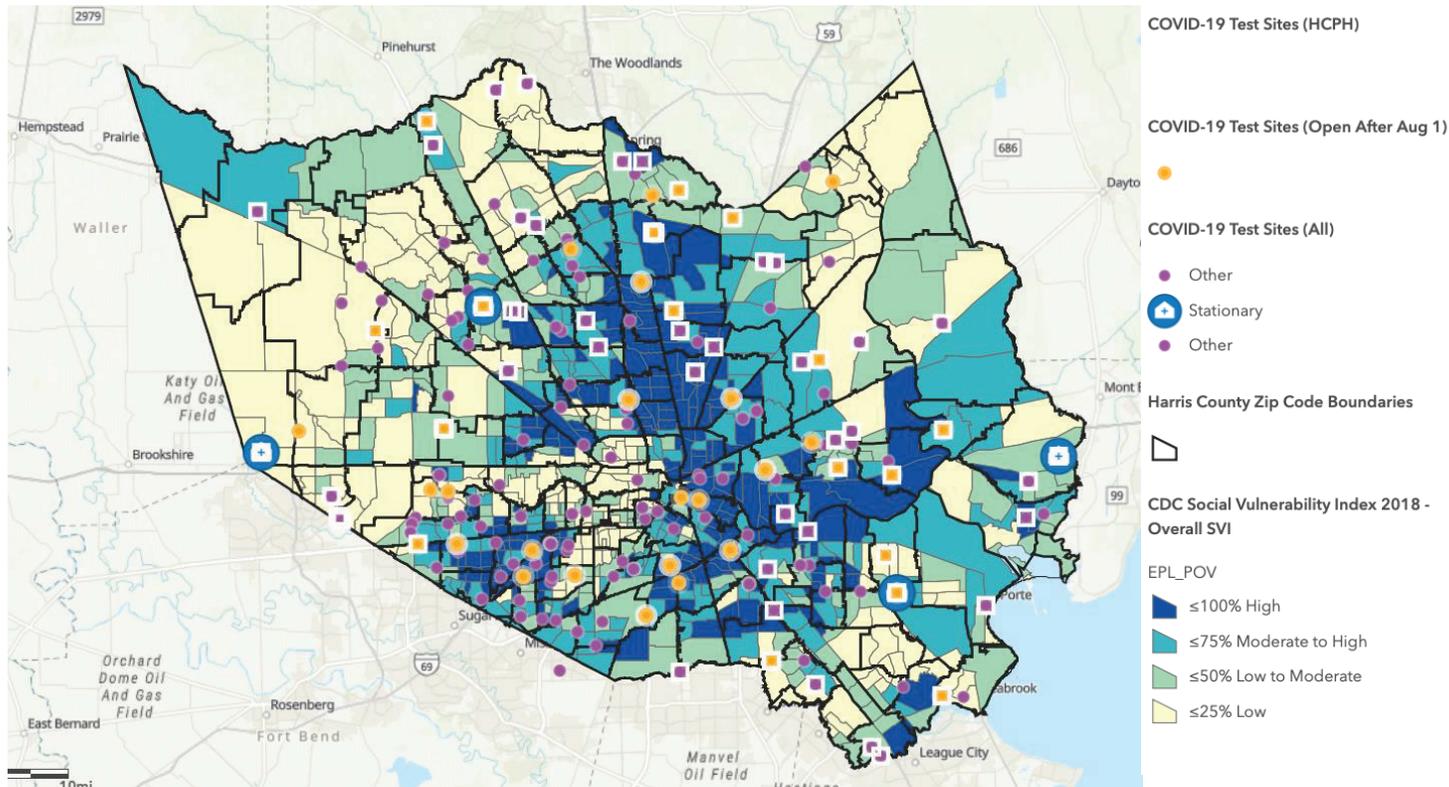


Figure 7: COVID-19 Testing Sites (Past and Current) and SVI as of 8/21/20

Stationary Testing Sites

Stationary Testing Sites in Katy, Cypress, Baytown, and Pasadena have been foundational to HCPH's testing strategy. Each has been set up in partnership with County elected officials, Harris County Engineering Department, Harris County Sherriff's Office, local Independent School Districts, San Jacinto Community College, and other partners.

Stationary Testing Site locations were identified using a data informed and community-driven approach, in coordination with HHD (and even surrounding LHDs). Sites are chosen to make testing accessible to the largest number of residents of Harris County and the surrounding region. Large well-known sites are selected by considering their access to major highways and their proximity to minority-majority communities or communities with high socio-economic needs.

Mobile Testing Sites

A fleet of mobile testing units provides testing to a broader variety of communities throughout the county. These mobile testing sites help HCPH be responsive to community needs using a quicker and more nimble approach. HCPH has increased the number of mobile units from two to six with a total capacity of 1,250 tests per day. Each unit is deployed to a geographic location in need of testing, a trusted partner with ties to priority locations and partners with links to a group of people with increased focus.

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- Mobile Testing Units 1-4 provide testing in each of the four Precincts based on geographic access and equity analysis. These locations move around the Precincts and are determined by greatest need as identified by Precinct partners and through community assessments by HCPH's REACH Task Force.
- Mobile Testing Unit 5 focuses on businesses and other civic organizations and is deployed to provide testing to groups such as staff in customer-facing industries, schools, workers with little to no healthcare coverage, and other occupations that face increased risk for COVID-19 exposure. Mobile Testing Unit 5 can be used to test clusters of cases identified by the HCPH epidemiology team.
- Mobile Testing Unit 6 focuses on houses of worship and cultural organizations. This allows HCPH to bring testing to people who may not otherwise seek testing if not offered at a location that they already know and trust.

Congregate Testing

Congregate facilities present opportunities for infectious diseases to spread through person-to-person, airborne, foodborne, waterborne, and vector-borne exposure and transmission methods. Residents of long-term care (LTC) facilities, nursing homes and certain healthcare institutions are vulnerable to COVID-19 infection due to underlying health conditions and face greater negative effects of the virus. HCPH provides on-site assessments of infection control practices at facilities and testing for all staff and residents in partnership with several local EMS agencies to mitigate infection in congregate settings. Since April 2020, HCPH has provided free COVID-19 testing to all Harris County nursing home staff and residents and added assisted living facilities, detention centers, and homeless shelters outside the City of Houston's jurisdiction.

At-Home Testing

HCPH provides an at-home testing service for individuals living with a disability and/or those without access to transportation, however, the capacity of at-home testing is limited at this time. At-home testing is available to everyone using HCPH's online screening tool or by calling the HCPH COVID-19 Call Line (832-927-7575). An HCPH employee calls individuals who have signed up to make an appointment for a 15-minute window when a nurse will extract the sample at the patient's home. All appointments are set-up and completed within a week.

Partner Testing in Harris County

In addition to HCPH, testing capacity in Harris County is bolstered by capacity of other local providers and institutions. Texas Medical Center (TMC), Harris Health System (HHS), HHD, FQHCs and geographically spread community health clinics, retail, and pharmacy have greatly expanded the scope of testing in Harris County. A key challenge throughout this pandemic has remained cataloguing and updating testing strategies used by these important and diverse partners.

Enhancing Equitable Access to Testing- Future Actions and Next Steps

Equitable Testing Strategy- Growing Testing Modalities to Meet Community Needs

Going forward, HCPH will invest in additional approaches to implement a balanced, high-throughput testing strategy that meets community needs through agile testing in focused areas across the county. These additional approaches will complement the specific actions to scale future testing through data- informed and community-driven strategies. Addition to overall testing capacity in the community – whether through HCPH or beyond – will continue to be necessary during continued phases of the COVID-19 pandemic.

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HCPH will add the following 4 novel priority actions to its existing work to provide testing solutions that meet the community's needs.

PRIORITY ACTIONS			
<p style="text-align: center;">1 Increase HCPH's Capacity for Equitable COVID-19 Testing</p>	<p style="text-align: center;">2 Expand Partnerships and Community Capacity for Equitable COVID-19 Testing</p>	<p style="text-align: center;">3 Increase Community Level Outreach and Health Education</p>	<p style="text-align: center;">4 Expand Linkage to Resources and Supports</p>
<p>Utilize COVID-19 data and trend analysis in partnership with UTSPH, "testing deserts", and health inequity data to identify and prioritize zip codes of concern. (HCPH Testing Decision Making Tool)</p> <p>Create Focused Testing Strike Teams to quickly provide testing to residents within identified zip codes of concern or clusters of cases within Harris County.</p> <p>Expand HCPH-led COVID-19 testing opportunities through a request for proposal (RFP) process for additional testing support to provide HCPH increased testing capacity.</p> <p>Offer COVID-19 testing at existing HCPH clinics (refugee, wellness, TB, and WIC) for patients and families.</p>	<p>Partner with clinic sites, doctors' offices, community clinics, and FQHCs to ensure resources for COVID-19 testing are more widely available.</p> <p>Coordinate with other COVID-19 testing partners, such as HHD, healthcare, and clinics, to share strategies and data findings and ensure equitable access across the county.</p> <p>Expand the number of faith and other neighborhood partners hosting testing site locations. Develop and distribute resources for faith leaders to share health education information, test site locations, and how to access COVID-19 test results.</p> <p>Provide educational materials and information about testing to healthcare, restaurant, frontline workers, and other populations at higher risk for COVID-19 exposure.</p>	<p>Partner with County Judge's Office and other county partners on a new campaign to raise awareness about when to get tested and other key COVID-19 prevention messages.</p> <p>Engage community members and partners via HCPH's communication and outreach teams to share health education information, test site locations, and how to access COVID-19 test results.</p> <p>HCPH will distribute CARE kits to community members and local businesses including educational materials, a free mask and hand sanitizer. HCPH will also canvas with door hangers sharing COVID-19 information.</p> <p>HCPH will develop materials and support for schools so they can implement COVID-19 prevention measures, educate children about COVID-19, and promote testing locations that serve children.</p>	<p>Support the expansion of community wrap-around initiatives and use communications and outreach teams to share information about resources available in the community.</p> <p>Share information about COVID-19 resources, such as available isolation resources, at the HCPH testing sites to increase public awareness and utilization.</p> <p>Collaborate with organizations providing home-based testing to vulnerable populations (such as the Area Agency on Aging). Share information with partners and individuals with disabilities about at-home testing options.</p> <p>Provide additional equity and resilience training and information for all outreach and testing site staff.</p>

Figure 8: Priority Actions for Equitable Testing Strategies

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HCPH COVID-19 EQUITABLE TESTING STRATEGY

New Approaches and Actions

1. Increasing HCPH's Capacity for Equitable COVID-19 Testing

Data Driven Approaches: HCPH will use enhanced pattern and trend recognition in case growth, transmission, and outbreaks to inform equitable testing approaches. HCPH has partnered with UT School of Public Health (UTSPH) to analyze COVID-19 hotspots by comparing population size to test administered, case numbers and severe outcomes based on geography, age, and/or race as well as occupational data. Enhancing its ability to track and monitor data in disproportionately impacted communities will also help HCPH more quickly respond to the needs of the community. In addition to analysis of existing social vulnerability data already used as a planning tool, data-driven approaches for equitable COVID-19 testing access within the community requires continual zip code level analysis of:

1. Emerging COVID-19 hot spots,
2. Testing deserts; and,
3. COVID-19 driven health inequities.

Every week, HCPH's COVID-19 response operational staff and subject matter experts will explore these chosen data points to share with HCPH leadership and adjust testing strategies. These recommendations will then be passed to operational staff and liaisons for tactical adjustments and implementation. This data analysis will also be shared with HHD as part of the increased coordination discussed below.

Stationary Testing Sites: HCPH is relocating stationary testing sites to locations in areas of need based on new data-driven recommendations. New sites may also vary in size and capacity based on community need and site availability. These sites will likely rotate or change over time as there is either testing saturation or need to change location. For example, one location is the M.O. Campbell Center that will have a capacity of 300-500 tests per day. Other locations throughout the community will be continually evaluated and carefully coordinated with HHD and other testing partners to ensure efficiencies, effectiveness, and to avoid duplication. Evening hours have been added recently at the fixed site locations to allow for ease of testing among

residents who cannot be tested during the day and weekend hours have been in place since the beginning of the pandemic. Hours will continue to be reviewed and adjusted appropriately to the community's needs.

Focused Testing Strike Teams: HCPH will create a new testing modality, Focused Testing Strike Teams, to quickly respond to COVID-19 hot spots. The Focused Testing Strike Team will merge with the existing Congregate Testing Strike Team and leverage existing testing models to provide nimble and adaptable testing operations in unique settings.

HCPH will analyze emerging contact tracing and testing data regularly to identify possible outbreaks traced to the neighborhood or facility level, such as in apartment complexes, schools, mobile home parks, and workplaces. These hot spots will serve as potential roving locations for focused testing. Congregate settings will be prioritized based on factors such as age of residents, known health disparities, and other demographic factors. Testing through this team would not be based on testing capacity, but on testing need (the capacity ranges from 20 – 300 tests per day, depending on the location). While not employed at present, non-traditional hours and days will continue to be reviewed for mobile testing availability.

Mobile Sites: HCPH will continue operations with its Six Mobile Testing Units throughout the county and will now deploy them based on the Testing Deployment Tool (Appendix A). This tool will help HCPH prioritize testing sites using equity data based on CDC findings for increased risk (race/ethnicity, housing, income, occupational data, access to care, etc.), Harris County COVID-19 data (hot spots and testing deserts), and leveraged community partnerships. While not employed at present, non-traditional hours and days will continue to be reviewed for mobile testing availability.

Indoor Testing: HCPH will explore the pursuit of indoor testing

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for individuals who do not have access to transportation for a drive-through test option. HCPH is actively engaging LHDs such as Riverside, CA and elsewhere in Texas to learn about their existing indoor testing programs, share best practices, and determine feasibility.

Contracted Testing: HCPH will finalize a rolling Request for Proposals (RFP) for additional testing support with all current and future additional test sites. So long as the federal government supported testing sites, contracting test sites was not always a feasible and cost-effective option. Contracting testing operations will give HCPH increased flexibility to provide services with clear guidance and oversight. This will

assure HCPH efforts to reach “hot spots” or priority populations throughout Harris County. HCPH is exploring other options for contracting services to manage current or future testing or sites support existing operations with staffing or lab support. Future sites may potentially serve as immunization sites when a vaccine becomes available.

Testing in HCPH Clinics: HCPH will be expanding the capacity of HCPH clinics (TB, Refugee, and WIC, etc.) to offer COVID-19 testing to its patients and their families, many of whom are from disproportionately impacted communities.

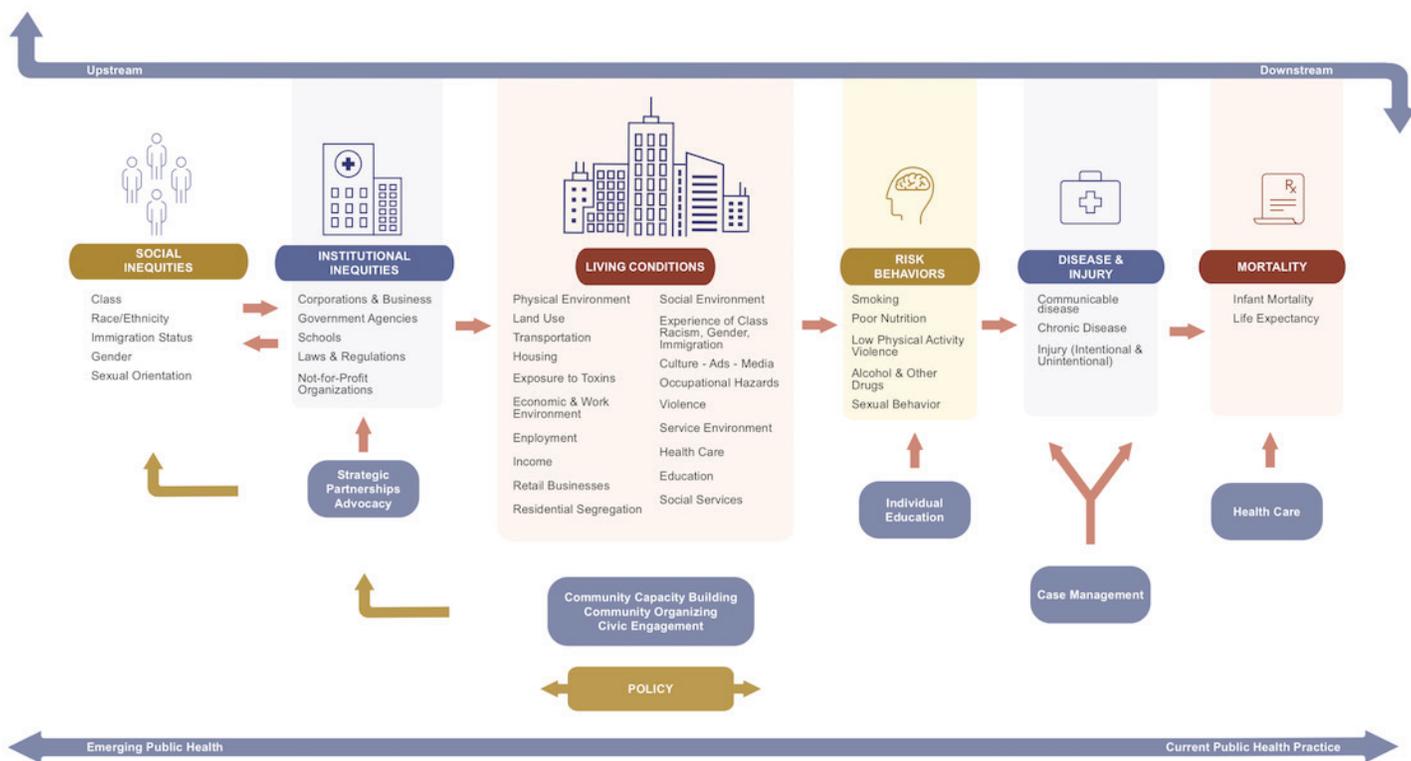


Figure 9: A Framework for Reducing Health Inequities, Bay Area Regional Health Initiative (BARHII)

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HCPH COVID-19 EQUITABLE TESTING STRATEGY

2. Expand Partnerships and Community Capacity for Equitable COVID-19 Testing

COVID-19 testing in Harris County is provided by multiple entities outside of HCPH. Convening, coordinating, and collaborating with partners who are providing testing will be crucial to countywide engagement and strategy coordination. Sharing findings and developing methods to increase efficiency and collaboration will be key to equitable distribution of testing resources in Harris County.

Partnering with Houston Health Department (HHD): As noted in Harris Cares 2020, infectious diseases do not know political borders. Regular coordination between HHD and HCPH has been ongoing throughout the COVID-19 response. Coordination across all levels of leadership and staff between departments takes place daily. Jointly, COVID-19 data is released on a shared public dashboard and COVID-19 hotel programs to assist with quarantine and isolation are offered to the community. While having two large LHDs with at times confusing and overlapping roles and activities is not ideal in the midst of a pandemic, both HCPH and HHD have been committed to working together to fight the COVID-19 pandemic in a coordinated and collaborative manner.

HHD's testing strategies include regular review of data to assess testing penetration and utilization, vulnerability for COVID-19 in different communities and zip codes, and emerging outbreaks. HHD's modalities of testing in the community align with HCPH, in that HHD offers fixed sites, mobile testing, testing strike teams for special populations, at-home testing, and testing through partners. HCPH's equitable testing strategy outlined in this document also aligns with strategies used by HHD and increased coordination will be pursued to ensure increased sharing of data findings, equitable testing is available, and capacity is built throughout the county for COVID-19 testing.

Additional coordination with HHD will include:

- Bi-weekly calls between HCPH and HHD operational staff and leadership to share testing strategies and communicate on communities in need of increased testing. As appropriate, this might include additional regional LHDs and other testing providers to coordinate focused efforts across the community.

- As part of bi-weekly convenings, data and analysis will be shared on populations of focus using the Test Site Selection Analysis tool. HCPH will pursue increased data coordination and sharing to refine the analysis of testing site selection across the entire county. This analysis will be used to strategize existing placement of testing sites by HHD, HCPH, and partners and coordinate future placement.
- Share information about community needs brought to HCPH by residents or partner organizations on behalf of community members for increased community voice during planning.

Partnering with Other Healthcare Providers: HCPH will coordinate testing across the community with other providers that offer testing, including community health clinics and FQHCs. Aligning strategies ensures adequate testing coverage throughout Harris County. Additional attention, coordination and partnership will be dedicated to other Harris County entities, such as Harris Health System (HHS) and Harris Center, and their respective clinic-based activities. Collaborative efforts will continue with these key collaborative partners.

Currently many community clinics offer COVID-19 testing to symptomatic individuals, not the broader community. Clinics need more resources and staffing to expand their testing capacity. Testing through existing safety net partners and other clinical providers will increase access for low-income and uninsured populations. Partnering with private medical practitioners, through Harris County Medical Society, can increase access to testing for residents with health insurance.

Partnering with Houses of Worship: Since June 2020, HCPH has a dedicated mobile unit for faith-based communities to provide testing opportunities, engagement, and outreach to congregants of all faiths through partnerships with organizations of all sizes. To date the unit has visited mosques, temples, and churches of various denominations. Faith partners are asked to promote the testing event to congregates and partners using flyers and promotional materials provided in advance. If registration for a faith-based testing site is low, appointments may be offered to the broader nearby community to maximize available resources.

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Using Houses of Worship for testing has been a successful equitable strategy especially given the level of trust that these faith entities have in their respective communities. HCPH will grow efforts by leveraging Houses of Worship as well-known locations and partners that can help build trust within the community to improve reach to priority COVID-19 populations, including disproportionately impacted communities.

Partnering with Schools: As K-12 schools and higher education begin to reopen for in-person instruction, planning for student and staff safety is a top community priority. The Harris County [Roadmap to Reopening Schools](#) outlines specific metrics and recommendations for schools to use as a guide as they are planning to reopen. Testing to diagnose COVID-19 can be a component of a comprehensive school strategy that needs to be used in conjunction with other practices to reduce spread of the disease. HCPH will share materials to promote locations offering testing for children to help school districts meet their testing needs.

Partnering to Reach Individuals with Disabilities: The population of people with disabilities is a diverse group, representing five broad types of functional impairments related to difficulties with hearing, seeing, moving, communicating, thinking, and learning. Over 9% of Harris County residents, or over 414,000 individuals, have a disability. People with disabilities have poorer health status compared to people without disabilities and are considered the largest health disparity population in the United States. Blacks and Hispanic communities have a higher prevalence of disability and associated poorer health outcomes while also facing disproportionate COVID-19 related adversities.

HCPH offers at-home testing operations to serve this population by bringing testing to the individual in case they cannot travel due to a disability or for other reasons. HCPH will enhance this limited resource to reach this important demographic and others that may not have access to reliable transportation by increasing the capacity to provide at-home testing.

Partnering with Non-Traditional Partners: While the above partnerships will remain key to enhanced equitable testing strategies, HCPH will pursue other partnerships within and outside Harris County government. As an example, the Harris County Public Library (HCPL) could provide locations for community-based testing on an ad hoc basis, while Harris County Community Services Department (CSD) is a trusted partner and can help identify additional locations of high socio-economic need in the community. Leveraging of other external partners such as The Health Museum could augment efforts to reach others in the community that HCPH has not otherwise reached.

3. Increase Community Level Outreach and Health Education

HCPH will expand existing community outreach and engagement in identified disproportionately impacted communities as well as local businesses in all four Commissioner's Precincts. HCPH's goal is to increase knowledge about COVID-19 prevention, including risk reduction options, and testing opportunities. Outreach teams attend activities in each precinct and at flea markets, shopping centers, apartment complexes, houses of worship including churches, schools, and community events. Outreach events are prioritized by neighborhoods where testing will be deployed to locations of focus or to meet the needs of specific populations.

HCPH is enhancing outreach by adding 10 Community Health Workers, or Promotoras, for public health outreach to disproportionately impacted communities. The HCPH Outreach and Engagement team is being re-deployed with the additional support from the Promotoras. Community Health Workers are trusted sources of health information and will help expand current testing efforts by engaging the community in preparing for testing available in their community and following-up with additional needs. In addition to these Promotoras, additional outreach staff for other communities are also necessary for robust outreach to the diverse populations that make up Harris County.

TESTING SITE PROMOTION STRATEGY

Test sites are promoted within a 10-mile radius through phone calls, emails, and in-person outreach.

Outreach priorities:

- Businesses
- Apartment complexes
- Mobile home parks
- Places of worship
- Restaurants
- Schools
- Chambers of commerce
- Local governments
- Schools
- Small businesses

HCPH's outreach strategy relies on "boots on the ground" outreach to increase awareness of prevention messaging and share information about when to access testing. The outreach team will engage the community in anticipation of the upcoming testing site to share information, resources, and health education materials that will encourage residents to seek testing. The communications teams and the REACH Taskforce will continually assess if more testing is needed to serve the location or population after testing has been offered.

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HCPH COVID-19 EQUITABLE TESTING STRATEGY

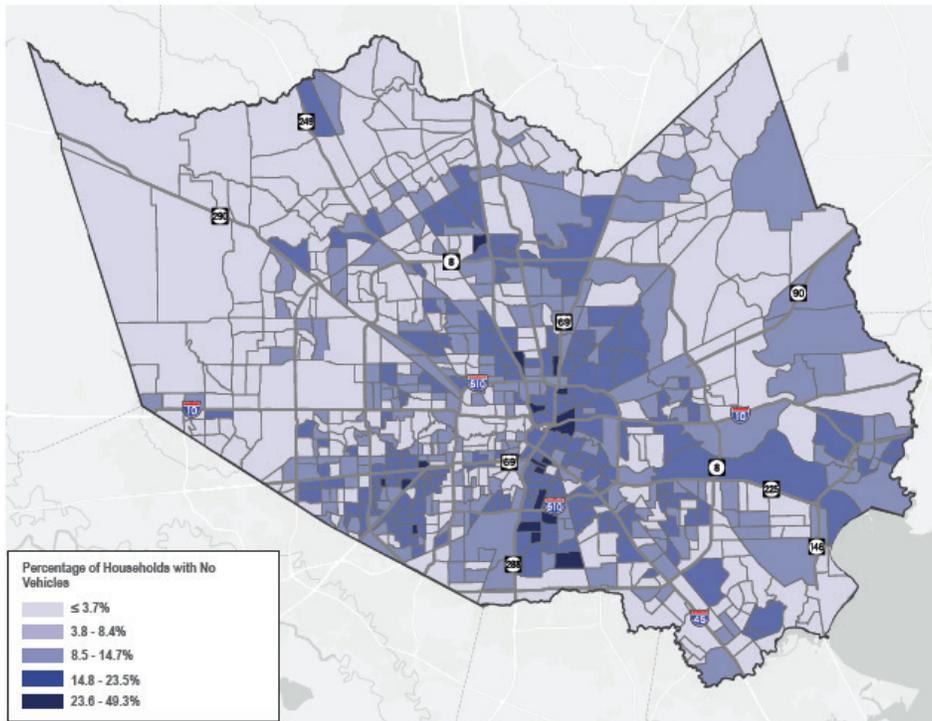


Figure 10: Percentage of Households with No Vehicle, Harris County, TX, 2017 (American Community Survey)

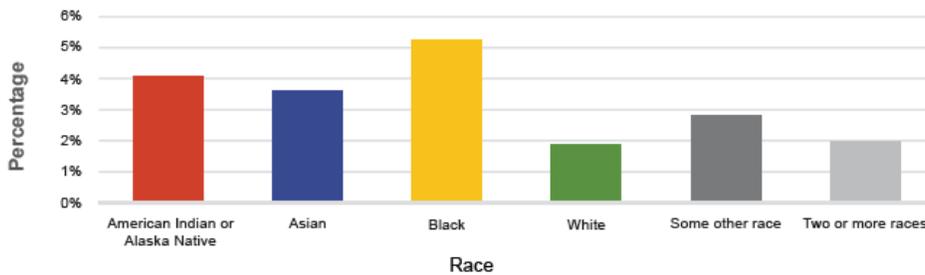


Figure 11: Percentage of Commuters That Use Public Transit by Race, Harris County, TX, 2017 (American Community Survey)

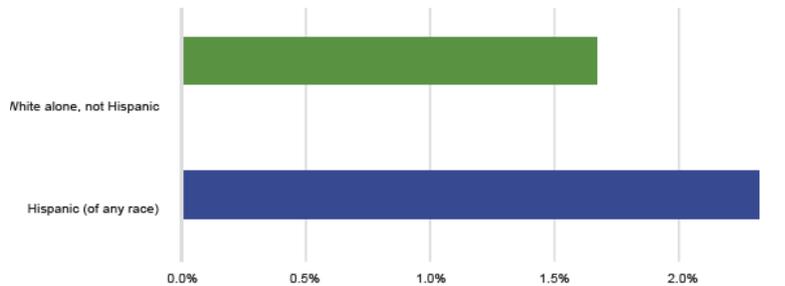


Figure 12: Percentage of Commuters That Use Public Transit by Ethnicity, Harris County, TX, 2017 (American Community Survey)

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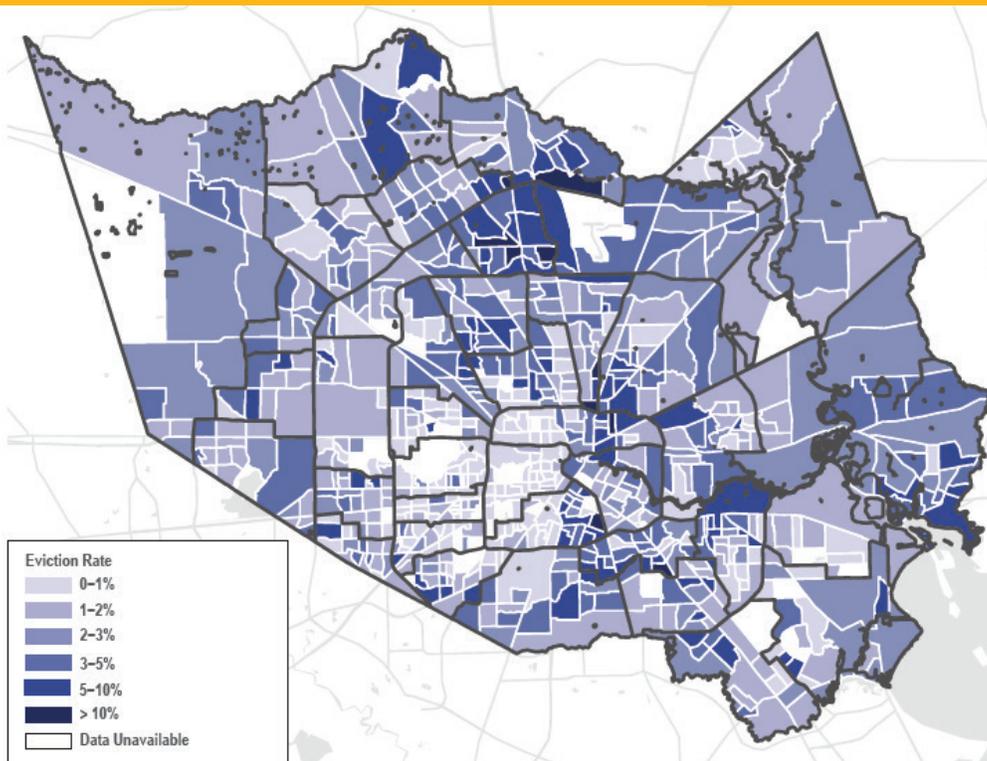


Figure 13: Per Capita Income, 2017 (American Community Survey)

4. Expand Linkage to Resources and Supports

Testing is only one facet of meeting the complex needs of Harris County residents. COVID-19 deepened existing food, housing, and income insecurities that are rooted in individual and structural risk factors. HCPH is increasing partnerships with organizations that can help meet the immense social needs exposed by COVID-19. This will require a wrap-around-like approach to help community members access specialized COVID-19 related supportive services. To provide these services, HCPH will leverage new internal capacity through social workers available in partnership with the Harris Center through a federal grant that was recently received. Additional grant opportunities play a key role in expanding a health equity lens to HCPH's efforts to link to existing resources and supports.

HCPH will expand support for community organizations that are using place and population-based strategies. HCPH is learning the importance of wrap-around type approaches in real-time from collaboration with organizations addressing the social determinants of health, such as the GROW Unity Resources for Living Initiative and Dia de la Mujer Latina. By supporting initiatives that provide a comprehensive and

holistic approach to addressing the disproportionate burden of COVID-19 on communities HCPH can help build on existing assets while increasing community resilience. For more than a decade equity has been a core value for Harris County Public Health (HCPH) along with innovation and engagement. These principles continue to drive our work in the COVID-19 response. This strategy is built on best practices and resources that identify equitable testing strategies from other states, nations, local health departments (LHDs) and the Centers for Disease Control & Prevention (CDC). Outreach, engagement and testing are tailored to meet residents in places where they are in the community because health happens where community members LLWWP.

As a system, the public health approach to COVID-19 is rooted in prevention, data surveillance, research, innovation, equity, and engagement. For COVID-19's holistic equity solutions, HCPH created the T³REO equity strategy (Testing, Contact Tracing; Vaccines and other Treatment; Health Supportive Resources; and Community Engagement and Outreach).

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HCPH COVID-19 EQUITABLE TESTING STRATEGY

Health Equity: Place Matters

Even beyond COVID-19, health happens where community members LLWWP. In fact, zip code is a better predictor of health than one's genetic code. As stated last year in Harris Cares 2020, the gravity of this fact is unmistakably felt when one realizes that neighbors who live 20 minutes apart could expect to live 20 years less within Harris County. Low-income families and neighborhoods; communities of color; children and older adults; and those belonging to groups who have experienced discriminatory prejudices are often disproportionately impacted by health inequities that lead to poorer health and a greater burden of disease.

As noted in Harris Cares 2020:

- **Health disparities** are simply differences in the presence of disease and health outcomes between population groups.

- **Health inequities** are differences in health that are not only unnecessary and avoidable, but also unfair and unjust. Health inequities are rooted in social injustices that make some populations more vulnerable to poor health than other groups.

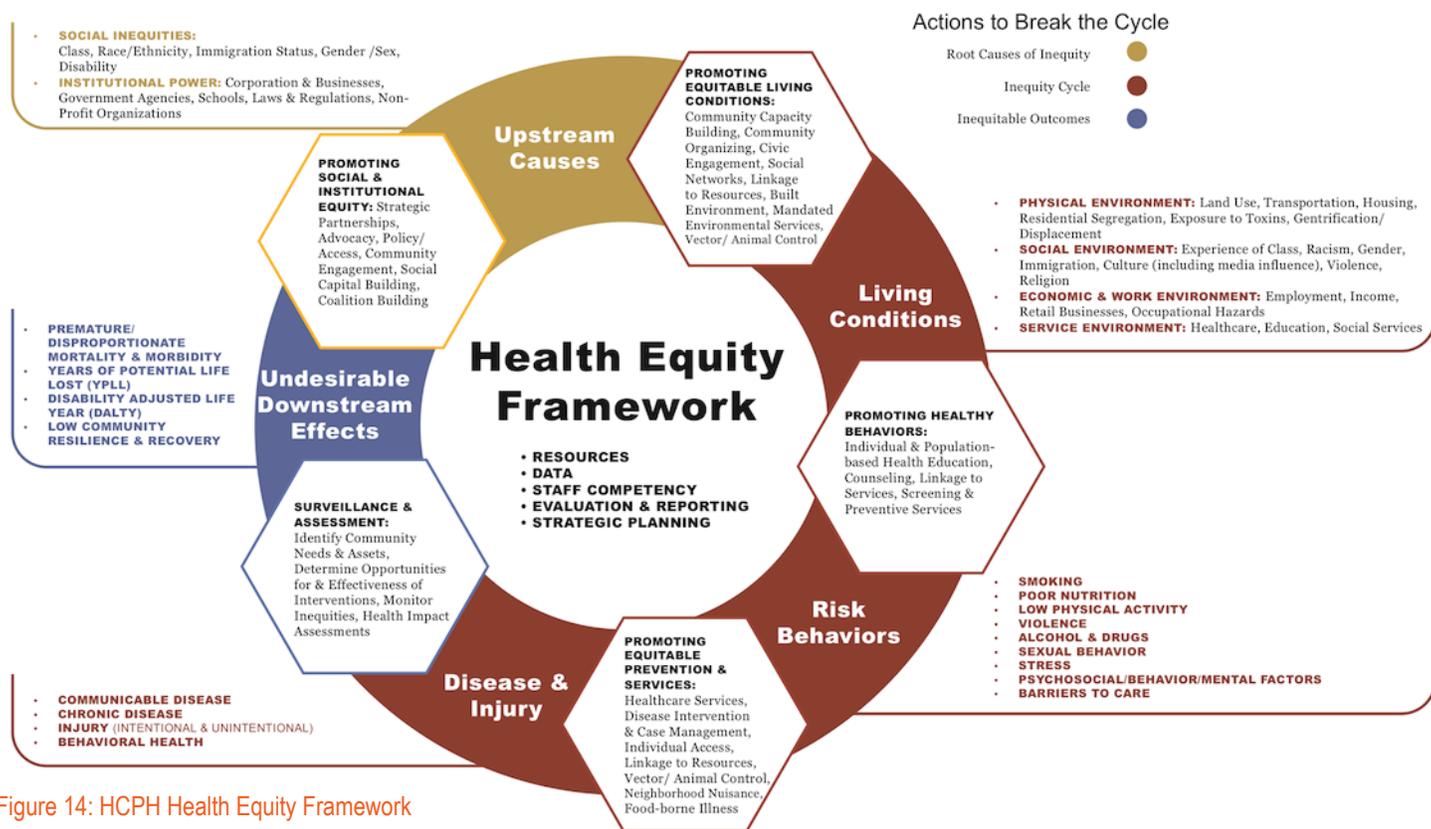


Figure 14: HCPH Health Equity Framework

HCPH formally defines health equity as “the attainment of the highest possible standard of health for all people” in Harris County. Equity is not synonymous with equality (sameness) for all. Rather, equity requires identifying the needs of residents and communities who face curable barriers to health. These barriers, which may appear as simple health disparities, such as disproportionate rates of COVID-19 cases, hospitalizations, and deaths, can be addressed through targeted solutions that focus on these particular community groups, populations, or geographic areas of a community.

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HCPH COVID-19 EQUITABLE TESTING STRATEGY

Conclusion

HCPH has researched international, national, and Texas-based best-practices to building equity, engage the community, reduce barriers, and increase access to testing. These best practices have been integrated into this plan with gratitude to our partners for contributing their lessons learned and advice to guide HCPH's work. HCPH's Equitable Testing Strategy operationalizes the high-level actions outlined in CDC's [COVID-19 Response Health Equity Strategy: Accelerating Progress Towards Reducing COVID-19 Disparities and Achieving Health Equity](#). This strategy has also been informed by 1:1 exchanges with local health departments including but not limited to: Houston, Dallas, San Antonio, Tarrant, Austin, TX; Seattle/King County, WA; Marion County, IN; Los Angeles, San Diego, Riverside, CA; Milwaukee, WI; and New York, NY. Additionally, HCPH has coordinated with and led meetings with the Texas Association of City & County Health Officials (TACCHO) which represents 45 Texas LHDs and 80% of the state's population and the National Association of County & City Health Officials (NACCHO) representing over 3,000 LHDs across the nation to share best practices and jumpstart conversations on emerging innovations in public health that can be applied within Harris County.

Responding to COVID-19 requires continual innovation, collaboration, and attention to community needs. Equitable access to community-wide COVID-19 testing is crucial to ensure the health of people and places at highest risk for severe health outcomes. Health happens where we LLWWP and our solutions rely on holistic equity solutions such as the T³REO equity strategy and the foundations of public health. Prevention, data surveillance, research, innovation, equity, and engagement are the tools in public health's toolbox to keep the community healthy and safe.

HCPH will accomplish this by ensuring that stationary, mobile, congregate setting, at-home and focused testing are guided by this Equitable Testing Strategy and its four key actions and next steps:

- 1. Increase HCPH's Capacity for Equitable COVID-19 Testing**
- 2. Expand Partnerships and Community Capacity for Equitable COVID-19 Testing**
- 3. Increase Community-level Outreach and Health Education**
- 4. Expand Linkage to Resources and Supports**

HCPH is developing a mechanism to measure the success of these efforts by identifying associated goals, objectives, and ways to assess progress. These measures will be tied to the Harris County Benchmarks for a Healthy Community, the Threat Level System Metrics for Success.

COVID-19 presents the opportunity to fix long-time and deeply entrenched issues that contribute to health inequities. Continually transforming the testing strategy to be as responsive to community needs as possible will position HCPH to scale efforts appropriately. By strategically allocating testing resources equitably, HCPH can provide other essential public health services to the community while mitigating the risks and effects of COVID-19. As the pandemic continues to evolve, HCPH's Equitable Testing Strategy will be updated to best fit the current needs based on feedback from partners and community members.

In closing, Harris County Public Health appreciates the opportunity to present this Equitable COVID-19 Testing Strategy for Harris County. HCPH recognizes the leadership and support provided by members of Harris County Commissioners Court and their respective staff, as well as the multitude of Harris County governmental partners. HCPH values the support by these county partners as well as those at federal, state, regional, and local levels and beyond. Ultimately, Harris County will not be successful in its fight against COVID-19 without all of these public and private partners as well as community members joining together to end this pandemic.

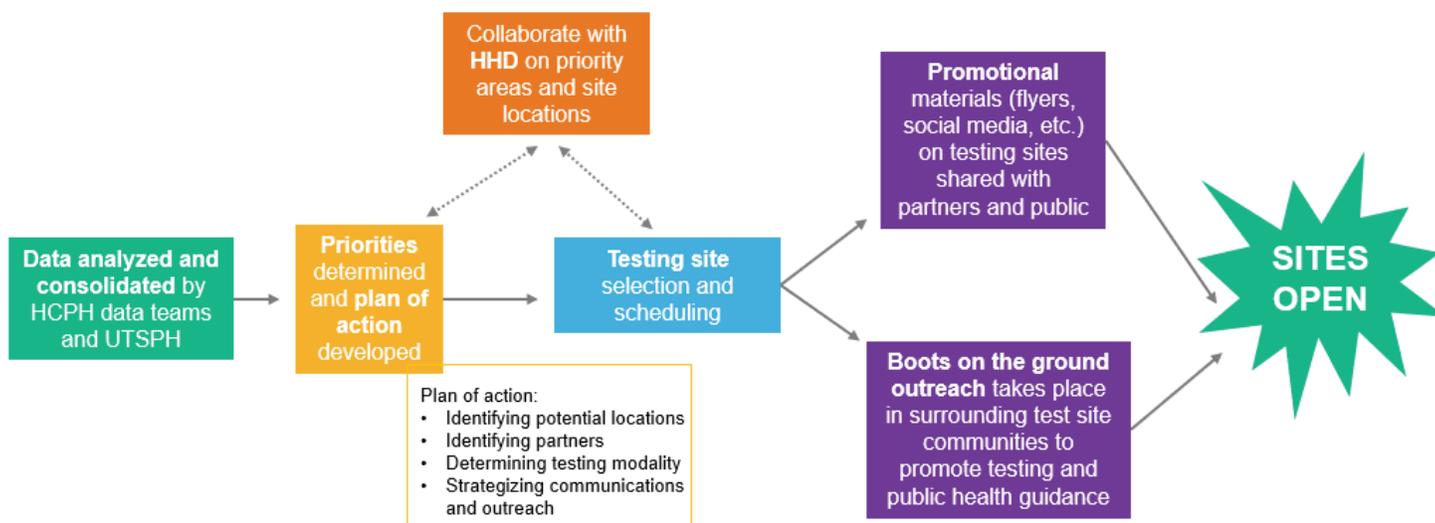
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HCPH COVID-19 EQUITABLE TESTING STRATEGY

Appendix A: Testing Decision Making Tool

HCPH uses a multi-part methodology to determine how to deploy COVID-19 testing resources across the county within several communities.

HCPH COVID-19 Testing Site Selection Tool



The HCPH COVID-19 Testing Site Selection Tool outlines the process for real-time triage of the community's testing needs. The tool guides decisions in the following manner:

1. Data and trend analyses are completed by HCPH data teams and UTSPH, where zip codes of concern are identified by each team. The HCPH data team will provide a combined list of zip codes of interest based on three criteria:

- Locations of **COVID-19 hot spots** determined weekly by increase in cases, hospitalizations, and deaths, and/or identified clusters of cases;
- Testing deserts** – areas without access to FREE and accessible testing; and,
- Existing **health inequities** – race/ethnicity, income, occupation, etc.

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HCPH COVID-19 EQUITABLE TESTING STRATEGY

2. HCPH representatives from testing, communications and outreach, liaisons, and resilience and equity teams meet each week to discuss priorities and specific locations within the identified zip codes for testing sites, as well as possible partners to reach out to for collaboration.

Together, a plan of action is developed covering:

- a. Locations of test sites
- b. Modality of testing to be utilized (i.e.- mobile testing, focused testing, etc.)
- c. Communications and outreach strategies; and,
- d. Potential partners to ask about potential sites and opportunities for outreach

3. HCPH will reach out to established as well as potential new partners in order to schedule testing sites and outreach events.

- a. Site criteria includes availability of location, size of space available, restrooms and other facilities available for staff, and distance from other COVID-19 testing sites.

4. HCPH will collaborate with the Houston Health Department to provide information areas and zip codes of interest, as well as any potential partners inside the City of Houston that have expressed interest in hosting a testing site.

5. The HCPH testing team will finalize a testing schedule for the week and share with internal and external partners.

6. HCPH will work with partners (elected officials offices, houses of worship, grassroots organizations, etc.) to provide information about upcoming testing opportunities. Flyers, outreach materials, and strategic messaging will be shared with partners to raise awareness about testing opportunities with their constituents/clients. Promotion with partners will continue throughout the operation of the testing site for that location.

7. Outreach teams will perform “boots on the ground” promotion of testing sites and other public health guidance in the community, leading up to and during testing site operations.

Since the beginning of the pandemic when HCPH began testing, the lessons learned have been integrated into the testing strategy in real-time. HCPH has identified these best practices to ensure equitable access to testing:

- Well-known landmarks within the community to increase trust and knowledge of testing operations.
- Geo-location (GIS) mapping using an equity lens to prioritize areas where the most burdened groups reside and identifying nearby potential test site locations.
- GIS mapping to identify testing deserts, or locations where testing is not or has not been offered by HCPH and other public or private entities.
- Analysis of data demonstrating high or increasing infection rates combined with other demographic data (including minority communities, socio-economic levels, and transportation and access information).
- Utilizing experiences and perspectives of trusted partners in the community to further draw on areas where equitable testing locations and efforts can be focused.
- Community listening sessions with community member organizations to understand COVID-19 control & prevention needs, successes, and challenges from a community perspective.

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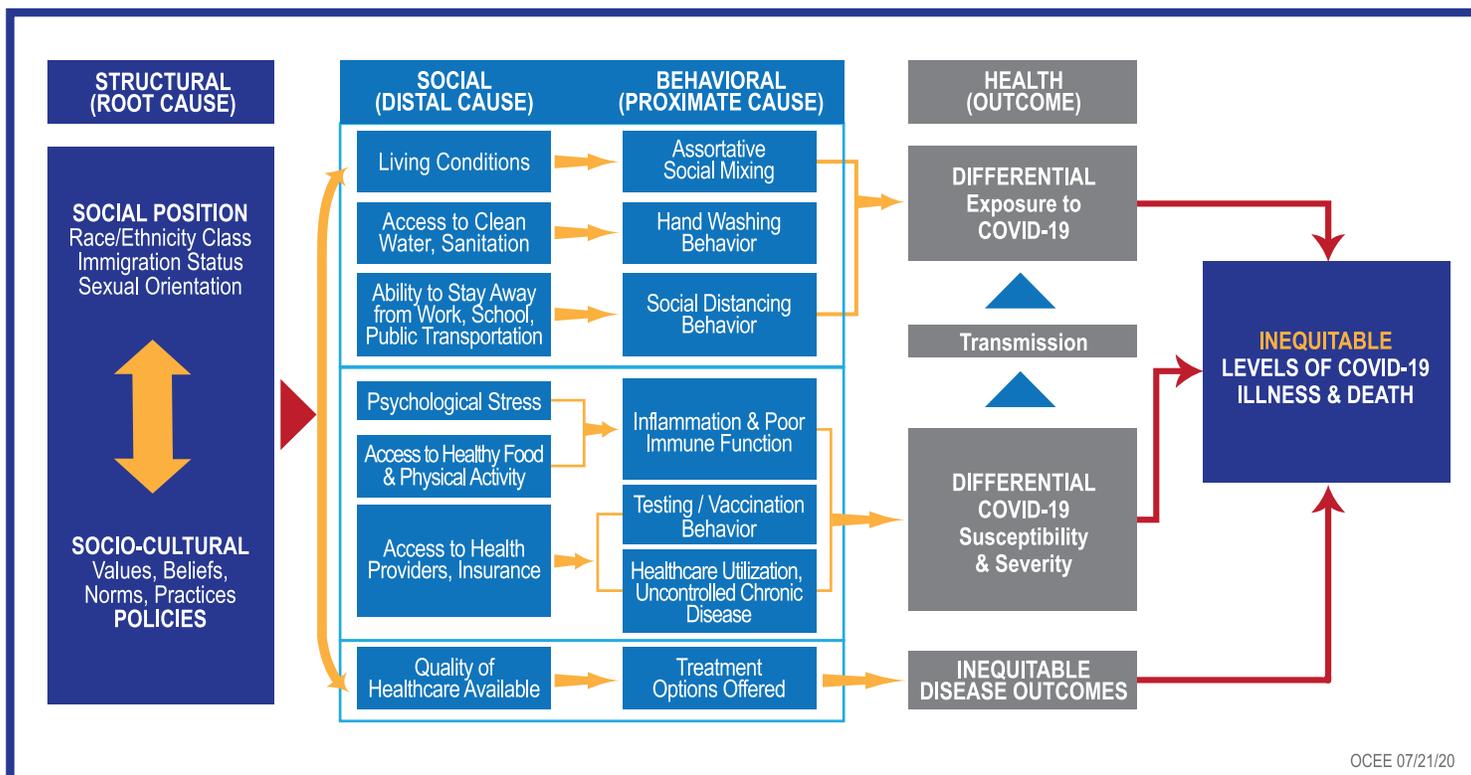
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HCPH COVID-19 EQUITABLE TESTING STRATEGY

Appendix B: HCPH COVID-19 Equity Framework

EQUITY FRAMEWORK

INEQUITABLE LIFE OUTCOME



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HCPH COVID-19 EQUITABLE TESTING STRATEGY

Appendix C: COVID-19 Disparity Findings from CDC

COVID-19 ASSOCIATED HOSPITALIZATION RELATED TO UNDERLYING MEDICAL CONDITIONS

FACTORS THAT INCREASE COMMUNITY SPREAD AND INDIVIDUAL RISK

- CROWDED SITUATIONS
- CLOSE / PHYSICAL CONTACT
- ENCLOSED SPACE
- DURATION OF EXPOSURE

RISK FOR HOSPITALIZATION IF YOU HAVE ANY OF THESE CONDITIONS AND GET COVID-19 COMPARED TO PEOPLE WITHOUT THE CONDITION(S).

Asthma	Hypertension	Obesity (BMI ≥ 30)	Diabetes	Chronic Kidney Disease	Severe Obesity (BMI ≥ 40)	2 Conditions*	3 or More Conditions*
1.5x	3x	3x	3x	4x	4.5x	4.5x	5x

*Conditions include asthma, obesity, diabetes, chronic kidney disease, severe obesity, coronary artery disease, history of stroke and COPD.

Data has shown that racial and ethnic minority groups with the referenced conditions are at even higher risk for severe COVID-19 illness. Race and ethnicity are risk markers for other underlying conditions that impact health — including socioeconomic status, access to health care, and increased exposure to the virus due to occupation (e.g., frontline, essential, and critical infrastructure workers).

ACTIONS TO REDUCE RISK OF COVID-19

- WEARING A MASK
- SOCIAL DISTANCING (6 FT GOAL)
- HAND HYGIENE
- CLEANING AND DISINFECTION

ALTHOUGH RISK GENERALLY INCREASES WITH AGE, ALL INDIVIDUALS SHOULD ROUTINELY TAKE ACTIONS TO REDUCE RISK OF INFECTION AND AVOID ACTIVITIES THAT INCREASE COMMUNITY SPREAD.

[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

Source: Ko JY, Danielson ML, Town M et al. 2020. CS319360-A 08/08/2020

COVID-19 CASES, HOSPITALIZATION, AND DEATH BY RACE/ETHNICITY

FACTORS THAT INCREASE COMMUNITY SPREAD AND INDIVIDUAL RISK

- CROWDED SITUATIONS
- CLOSE / PHYSICAL CONTACT
- ENCLOSED SPACE
- DURATION OF EXPOSURE

Rate ratios compared to White, Non-Hispanic Persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
CASES¹	2.8x higher	1.1x higher	2.6x higher	2.8x higher
HOSPITALIZATION²	5.3x higher	1.3x higher	4.7x higher	4.6x higher
DEATH³	1.4x higher	No Increase	2.1x higher	1.1x higher

Race and ethnicity are risk markers for other underlying conditions that impact health — including socioeconomic status, access to health care, and increased exposure to the virus due to occupation (e.g., frontline, essential, and critical infrastructure workers).

ACTIONS TO REDUCE RISK OF COVID-19

- WEARING A MASK
- SOCIAL DISTANCING (6 FT GOAL)
- HAND HYGIENE
- CLEANING AND DISINFECTION

[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

¹ Data source: COVID-19 case-level data reported by state and territorial jurisdictions. Case-level data include about 80% of total reported cases. Numbers are unadjusted rate ratios.

² Data source: COVID-NET (<https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>), accessed 08/06/20. Numbers are ratios of age-adjusted rates.

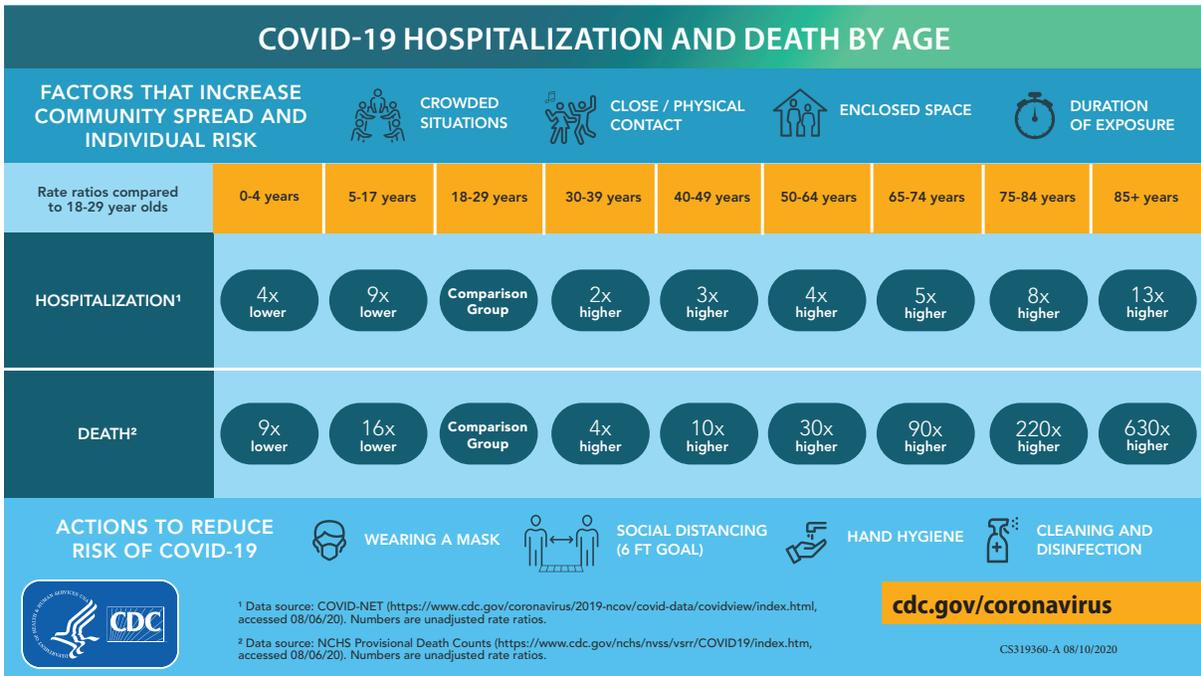
³ Data source: NCHS Provisional Death Counts (<https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm>), accessed 08/06/20. Numbers are unadjusted rate ratios.

CS319360-A 08/08/2020

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HCPH COVID-19 EQUITABLE TESTING STRATEGY

Appendix C: COVID-19 Disparity Findings from CDC continued....



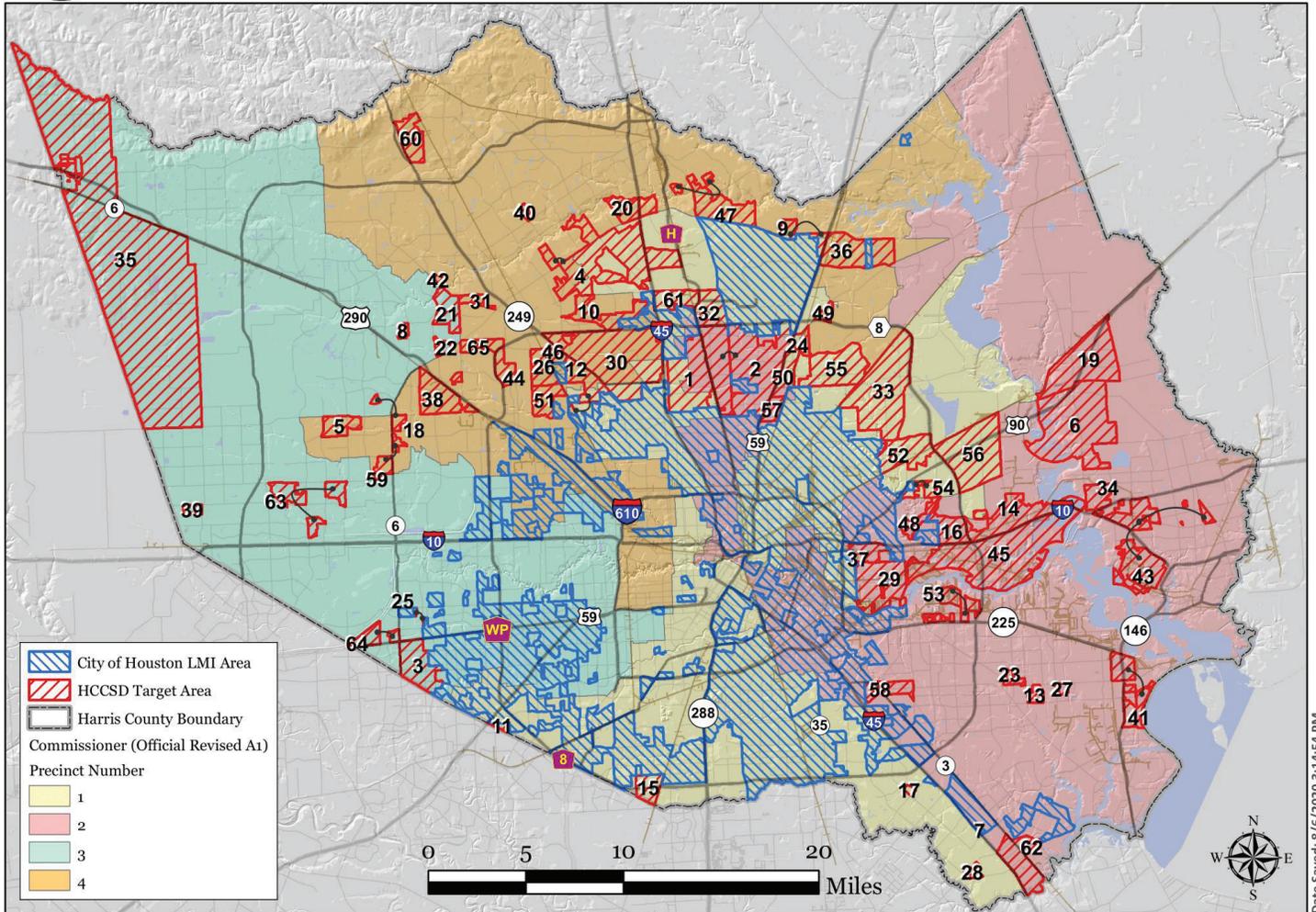
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HCPH COVID-19 EQUITABLE TESTING STRATEGY

Appendix D: Community Services Department Targeted Areas



Harris County CSD Target Areas and COH LMI Areas



Data Source: American Community Survey 2011-2015 5-Year HUD Estimates of Low-to-Moderate Income Individuals by 2010 Block Group

Note: Service Area includes 12 Cooperative Cities: Deer Park, Galena Park, Humble, Jacinto City, Katy, La Porte, Morgan's Point, Seabrook, Shoreacres, South Houston, Tomball, and Webster.

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