The COVID-19 pandemic has caused immeasurable devastation and loss for individuals, families, and communities across the State and the nation. Ensuring the health, safety and support of California’s communities that have been most disproportionately impacted by the pandemic has been critical to safeguarding the health of all Californians. Since the early days of the pandemic, California’s leaders, local and state agencies, health care and several other sectors have relied on and utilized the Healthy Places Index (HPI) as a proven and effective tool to identify and prioritize communities across the state that are at highest risk of adverse health and other related impacts due to the COVID-19 pandemic. When utilized alongside a coordinated suite of tools and strategies such as authentic, direct community engagement and the inclusion and consideration of other core demographic data, the HPI’s place-based approach has been a critical tool to help allocate limited resources and save lives.

The HPI has played a pivotal role in tracking, responding, and planning for recovery efforts related to the COVID-19 pandemic. In this brief, we provide an in-depth view into how the HPI tool has helped and continues to advance an equitable and just COVID-19 response and recovery. We share examples and describe how the State of California and other sectors have specifically used the HPI and also provide an overview of the positive impacts that HPI’s place-based approach has had on allocating resources, ensuring an equitable reopening, and saving lives.

Our entire state has come together to redouble our efforts to reduce the devastating toll that COVID-19 has had on our Latino, African-American, and Pacific Islander communities...This is not just about a higher number of cases in these communities, it is a matter of life and death that is affecting all Californians. A community-wide, cross-sectoral approach that allows us to work together to slow the transmission of COVID in all populations will help ensure that we can safely reopen our economy, protect our essential workers, and support our local partners.”

—Erica Pan, MD, MPH, California State Epidemiologist, California Department of Public Health, Official Press Release Announcing the State's Health Equity Metric
An Overview of the Healthy Places Index (HPI)

First launched in 2018, the Healthy Places Index (HPI) is a powerful data, mapping, and policy platform designed to identify opportunities to improve neighborhood health and where investments, programs, and policy changes will have the strongest impact on life expectancy. The HPI has a peer-reviewed methodology, and uses an asset-based, positive frame, focusing on opportunities to improve neighborhood health rather than disadvantage. Each census tract in California has an HPI score, which is comprised of 25 measures of community conditions that are most closely linked to life expectancy at birth. Coupled with an interactive, web-based mapping application, the HPI platform provides the data to address equity and ensure everyone has the opportunity to reach their greatest potential.

Since the HPI was first launched in California in 2018, HPI has been utilized by hundreds of government agencies, local and state health departments, health care institutions, community groups and other sectors for a variety of purposes, including the allocation of more than one billion dollars in investments directed to communities most in need.

What are HPI Quartiles?

Quartiles are a way of grouping data by dividing it into four equal parts. The HPI utilizes quartiles in the map feature to distinguish communities with the lowest and highest HPI scores. Census tracts colored dark blue have HPI scores that fall into the lowest quartile, which represent areas with the least healthy community conditions relative to the state as a whole. There are roughly nine million Californians living in this group of approximately 2,000 census tracts. Communities shaded in dark green have the highest HPI scores, falling into the highest quartile. These neighborhoods have the healthiest community conditions statewide. Areas prioritized for investments and interventions are typically defined as those neighborhoods within the lowest HPI score quartile, also known as Quartile 1.

What is the recommended level of geography to use for application of the HPI?

The Census tract is the recommended geography to use HPI, as it is the most granular level available in the platform. Census tracts typically have about 4,000 residents. Applying HPI at this level helps to elevate important neighborhood variation in living conditions that can often be obscured when looking at higher geographies such as the ZIP code level. Larger geographies are likely to miss important heterogeneity in living conditions and health outcomes apparent at the Census tract level. When distributing resources at too high of a geography, the unintentional impact of exacerbating systemic inequities may occur.
How Did the State of California Use HPI During the COVID-19 Pandemic?

In 2020, the State of California Department of Public Health (CDPH) selected the HPI as the tool that would guide the state’s plan for an equitable and just COVID-19 response and recovery. Since then, the state has used and/or adapted the HPI and utilized it in several ways that have directed resources and aid to many under resourced and disproportionately negatively impacted communities.

HEALTH EQUITY METRIC

What is the Health Equity Metric?

The State of California used HPI in developing a first-in-the-nation Health Equity Metric (HEM). Utilizing HPI Census tract level data, the HEM compares COVID-19 test positivity rates between Census tracts in the lowest HPI quartile in each county with test positivity rates for the county as a whole. The HEM was integrated into the State’s Blueprint for a Safer Economy reopening framework in September 2020, and was used to determine whether certain sectors and services were able to reopen and at what capacity in California’s largest counties.
California’s “equity metric” attempts to tackle that disparity by requiring that the 35 largest counties invest more in testing and ensure that positive rates of infection in the most disadvantaged neighborhoods come close to meeting the county’s overall positivity rate. The rule ensures that restaurants in Beverly Hills can’t resume indoor dining unless the most impoverished census tracts also show low rates of infection.

—Victoria Colliver, Politico, October 8, 2020

Why Was HPI Selected for the Health Equity Metric?

The State chose HPI for use in the Health Equity Metric after doing extensive analysis and monitoring of the equity impacts of COVID-19. The State found that HPI was extremely effective in identifying place-based impacts that are also correlated to race.

For example, early in the pandemic, the California Department of Public Health (CDPH) found that HPI captured differences in the population’s ability to stay-at-home to minimize COVID-19 transmission while shelter in place orders were in effect. They found a seven percentage-point difference in proportion of the day spent at home between the highest and lowest HPI quartile communities:

Average Proportion of Day Spent at Home in Most and Least Advantaged Census Tracts According to California Healthy Places Index, California, Week 6 – 19, 2020

SOURCE: Governor's COVID-19 Report, California Department of Public Health, May 9, 2020
These differences in ability to reduce exposure to COVID-19 in community settings translated into differences in COVID-19 case and death rates by HPI scores. Case rates decrease along a gradient from least healthy to most healthy California communities:

![Healthy Places Index](source)

The magnitude of these disparities were not consistent throughout the pandemic. As case and death rates surged, the gap between HPI quartiles grew:

**COVID-19 Case Rate per 100,000 Population by HPI Quartile, California, March 2020 - April 2021**

![COVID-19 Case Rate Graph](source)

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_HPI was chosen by CDPH because of its granularity, the variation of geographic regions, comprehensive social determinants of health that were validated and linked to life expectancy at birth, and finally, paired with policy guides._

—Dr. Rohan Radhakrishna, Deputy Director, Office of Health Equity, California Department of Public Health, Academy Health Presentation, 9/3/2021
CDPH’s analysis found that HPI captured both race and place-based inequities when combining data on mortality rates by race/ethnicity and HPI quartile. In separate analyses, it was clear that communities of color, as well as communities with the least healthy conditions, experienced the highest COVID-19 mortality rates.

When combined together, there was a substantial decrease in mortality across all racial/ethnic groups when accounting for place. People from the same racial/ethnic group that lived in a community in the lowest HPI quartile were much more likely to have a higher mortality rate than those living in communities in the highest HPI quartile. By eliminating place-based inequities, mortality due to COVID-19 would substantially decrease across all groups. For example, 51% of deaths among the Native Hawaiian Pacific Islander (NHPI) population could be eliminated if the mortality rate of the lowest three HPI quartiles had the same mortality rate as those that live in communities in the highest HPI quartile.
What Were the Impacts of the Health Equity Metric?

The Health Equity Metric was not only a consistent approach for protecting the health and wellness of communities most vulnerable to the impacts of the COVID-19 crisis, but it was also part of a statewide effort to prioritize the investment of resources more broadly in communities facing inequities. As a result, the State was able to identify populations with the most need for resources and positive interventions, and also save many lives. For example:

- The HEM required that local health jurisdictions (LHJs) develop Targeted Investment Plans, which outlined how resources would be allocated to communities that had scores in the lowest HPI quartile. As a result, approximately $272 million in federal COVID-19 funding was directed to these communities, including to community-based organizations representing Black and Latinx populations, and different smaller sub-groups of racial and ethnic populations such as Native Hawaiian and Pacific Islanders, which have seen some of the worst case and fatality rates.

- CDPH also directed $5 million in funding to 19 community-based organizations to implement Health Equity Pilots within these communities.
The equity measure is an idea that should be adopted by other states, the Centers for Disease Control and Prevention, and other federal agencies as an essential strategy for COVID-19 recovery. The pandemic is further evidence of how deeply race and neighborhood segregation govern our lives. We won’t get through this economic crisis unless we support the health and welfare of every community in our counties.

—Angela Glover Blackwell, Founder in Residence of PolicyLink, and Dr. Manuel Pastor, Director of the University of Southern California’s Equity Research Institute, Los Angeles Times, 10/14/2020

The HEM was lauded by nationally recognized equity leaders and champions such as Angela Glover Blackwell, Founder in Residence of PolicyLink, and Dr. Manuel Pastor, Director of the University of Southern California’s Equity Research Institute, in a Los Angeles Times op-ed, where they encouraged other states and the federal government to implement equity metrics. In addition, many health equity and racial justice community partners and advocates including the California Pan-Ethnic Health Network (CPEHN) and Prevention Institute echoed their support for the use of community-informed equity metrics and prioritization throughout the COVID-19 response and recovery process, uplifting the power of the HPI for supporting prioritization to many of the most disproportionately impacted communities throughout the State.
Vaccine Equity Metric

Building on the success of the Health Equity Metric (HEM), the State released the Vaccine Equity Metric (VEM) in March 2021. The VEM combined HPI scores at the ZIP Code level along with 325 CDPH-derived ZIP Code scores (CDZS). The imputed CDZS scores were from geographies excluded from HPI due to concerns with statistical reliability and validity. The State also shifted the level of geography for the VEM. While the Health Equity Metric used HPI at the Census tract level and used within-county comparisons, the Vaccine Equity Metric used HPI, along with CDZS at the ZIP Code level and employed statewide comparisons. Shifting to a larger geography, such as Zip Codes, dilutes the ability to see localized inequities which are visible at Census tract level. For more information on the difference between HPI and the VEM, see our HPI Frequently Asked Questions.

The VEM was used in two ways:

1. When vaccines were in short supply in March 2021, the State used the VEM to prioritize allocation of 40% of vaccine doses to the lowest VEM quartile when vaccines were still in limited supply. According to Dr. Rohan Radhakrishna, Deputy Director of the CDPH Office of Health Equity, this meant 800 shots in arms per day to people living within the lowest VEM quartile that otherwise wouldn’t have been prioritized during a time of vaccine scarcity.

   [The Vaccine Equity Metric] meant there were 800 shots in arms per day that wouldn't have otherwise if not allocated to low resource areas.
   —Dr. Rohan Radhakrishna, Deputy Director of the CDPH Office of Health Equity

2. The State has been stratifying vaccination rates by quartiles in order to monitor vaccine coverage and demand over time. Prioritizing vaccines by quartile resulted in more people getting vaccinated at a critical time during the pandemic.

   SOURCE: CDPH
COVID-19 Data Dashboard

HPI also continues to help communicate and inform Californians about the state of COVID and equity in the state. The COVID-19 Data Dashboard presents graphs and charts using HPI on a variety of different issues, and the CDPH presents information by HPI quartile in official presentations and briefings. For example, charts have been produced showing:

HIGH-RISK OCCUPATIONS

The State has been able to examine the number of people working in high-risk occupations by HPI quartile, and have found that a much larger share of workers in the natural resources, construction and maintenance occupations live within the lowest HPI quartile.

SCHOOL REOPENINGS

The State has also has used HPI to monitor public schools that were open for in-person instruction during the pandemic, showing that fewer schools reopened in the lowest HPI quartile than in communities with healthier conditions.
PRE-EXISTING CONDITIONS

The State has also has used HPI to examine preexisting conditions by quartile, revealing that there are more people with preexisting conditions in the lowest HPI quartile.

The State Paired HPI with A Suite of Strategic and Coordinated Strategies

Finally, it is important to note that the State also employed other tools and strategies to ensure and equitable reponse and recovery in the hardest hit communities. As detailed by Dr. Rohan Radhakrishna in a presentation to Academy Health on August 3, 2021, as the State moved from a broad-based to more refined approach, they continually assessed different tailored combinations of strategies to address equity. This included insights and feedback from local health jurisdictions and community-based organizations. Their findings were that specific combinations of levers/resources were more effective for different communities or geographies than others. These additional strategies allowed the State to compliment their more data-driven approaches using HPI with more targeted approaches to address other important factors. The figure below displays some of these other lever “recipes” that were deployed:

<table>
<thead>
<tr>
<th>Geography/Population</th>
<th>Levers</th>
<th>Potential lever ‘recipes’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racially or culturally diverse communities</td>
<td>1 3 4</td>
<td>Host clinics at sites with a high degree of community trust (e.g. schools, FEOS, SMBs)</td>
</tr>
<tr>
<td>Urban areas and large cities</td>
<td>1 2 3</td>
<td>Ensure incentives are immediately distributed and tailored to the targeted community</td>
</tr>
<tr>
<td>Small and dispersed communities</td>
<td>1 3</td>
<td>Focus door-to-door canvassing around highly convenient and well-known sites</td>
</tr>
<tr>
<td>Agricultural and other working communities</td>
<td>1 4</td>
<td>Pair walk-in availability and off-work hours with extensive local signage</td>
</tr>
<tr>
<td>Linguistically diverse communities</td>
<td>1 3</td>
<td>Provide multi-lingual services at every stage of vaccination (e.g. outreach, education, on-site)</td>
</tr>
</tbody>
</table>

1. Geography/Population was derived from sources.

2. Levers were selected based on insights and feedback from local health jurisdictions and community-based organizations.

3. Potential lever ‘recipes’ were designed to address specific needs of different communities or geographies.

4. Source: CDPH Equity Grades and Risk Assessment.
**Conclusion**

The information contained in this brief demonstrates how HPI has proven to be an effective tool in advancing an equitable and just COVID-19 response and recovery by the State of California. The State chose HPI for use in the Health Equity Metric after doing extensive analysis and monitoring of the equity impacts of COVID-19, and this successful use prompted the State to adapt HPI for its Vaccine Equity Metric. Through these uses, HPI has helped to prioritize and marshal resources, including hundreds of millions of dollars in targeted investments, to communities with the least healthy conditions, and substantially decrease the loss of life across all racial/ethnic groups. HPI has also helped the State track and monitor trends over time and focus their policy and investment efforts on the communities most impacted by the pandemic. CDPH now highlights HPI as the “common language for addressing inequities” in official presentations and briefings across the nation.

While HPI was not designed specifically for COVID-19, it has proven to be a useful tool because of its focus on identify and elevating the vital community conditions that impact health equity and racial justice. As we move toward a long-term recovery phase of the pandemic, HPI will be a critical tool to allow decision-makers at the local and state level to continue focusing on equity and ensuring the communities most in need have the resources they need to live a healthy life.

**ADDITIONAL RESOURCES**

- **Learn More About HPI** - For more information about the Healthy Places Index and join our mailing list, visit our website at [http://healthyplacesindex.org](http://healthyplacesindex.org)
- **HPI Frequently Asked Questions** - The HPI team has received many questions about HPI’s use in the COVID-19 response and recovery, and has developed a list of Frequently Asked Questions, available [here](http://healthyplacesindex.org).
- **State COVID-19 Uses Fact Sheet** - The information contained in this brief is also available in a short fact sheet, available [here](http://healthyplacesindex.org).
- **Beyond the State: Other COVID-19 Uses Fact Sheet** - The State’s successful use of HPI was also bolstered by many uses by local health jurisdictions, health care, and other sectors. To learn more about these uses, check out our fact sheet [here](http://healthyplacesindex.org).
- **Beyond COVID-19: HPI into Action Snapshot** - To see highlights of the hundreds of ways HPI has been put into action, including the allocation of more than one billion dollars in investments directed to communities most in need, check out our [HPI Into Action Snapshot](http://healthyplacesindex.org).
- **Race and Place Both Matter for Advancing an Equitable and Just COVID-19 Response and Recovery** - This fact sheet provides an overview of the important role of race and place in the COVID-19 equity efforts, and the value of the HPI approach in examining their intersections, check out our fact sheet.[here](http://healthyplacesindex.org).
- **Additional Public Health Alliance COVID-19 Resources** - The Public Health Alliance has developed many additional resources to advance an equitable COVID-19 response and recovery. Check them out [here](http://healthyplacesindex.org).

**FOR MORE INFORMATION, PLEASE VISIT OUR WEBSITES:**

- [http://thepublichealthalliance.org](http://thepublichealthalliance.org)
- [http://healthyplacesindex.org](http://healthyplacesindex.org)

**Questions? Please contact** [info@thepublichealthalliance.org](mailto:info@thepublichealthalliance.org)