Incorporating Health Equity Into COVID-19 Reopening Plans: Policy Experimentation in California

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California has focused on health equity in the state's COVID-19 reopening plan. The Blueprint for a Safer Economy assigns each of California's 58 counties into 1 of 4 tiers based on 2 metrics: test positivity rate and adjusted case rate. To advance to the next less-restrictive tier, counties must meet that tier's test positivity and adjusted case rate thresholds. In addition, counties must have a plan for targeted investments within disadvantaged communities, and counties with more than 106 000 residents must meet an equity metric.

California's explicit incorporation of health equity into its reopening plan underscores the interrelated fate of its residents during the COVID-19 pandemic and creates incentives for action.

This article evaluates the benefits and challenges of this novel health equity focus, and outlines recommendations for other US states to address disparities in their reopening plans. (*Am J Public Health*. 2021;111(7):1481–1488. https://doi.org/10.2105/AJPH.2021.306263)

In March 2020, California became the first state to issue a stay-at-home order to reduce the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (COVID-19).[1] California lifted the order in May 2020, allowing each of its 58 counties to attest to its own readiness without necessarily meeting the state's benchmarks.[2] COVID-19 rates subsequently surged in many parts of the state, igniting criticism that the stay-at-home order had been lifted prematurely and leading to the reimposition of a statewide closure of many indoor activities.[3] Unfortunately, COVID-19 cases, morbidity, and deaths have been unequally distributed both between and within California's counties, largely correlated with measures of structural inequity and race/ethnicity: census tracts with the worst composite measures of community well-being, such as education, income, and health care access, are home to 24% of Californians but accounted for 40% of the state's COVID-19 cases.[4] As of May 2021, Latino/Hispanic people constituted 39% of California's population but 55% of its COVID-19 cases and 47% of confirmed deaths.[5]

Governor Gavin Newsom's second reopening plan, issued in August 2020, addressed variation in COVID-19 prevalence among counties.[6] The Blueprint for a Safer Economy (hereafter, Blueprint) classifies counties into 1 of 4 tiers based on test positivity rate and case rate per 100 000 residents adjusted for testing volume (Appendix, Exhibit 1, available as a supplement to the online version of this article at http://www.ajph.org).[6] As counties meet the successive benchmarks for these measures, they are progressively allowed to reopen businesses, schools, and other facilities.[6] To address population inequities and reduce within-county variation, an "equity focus" with 2 components was added to the Blueprint in October 2020 (Appendix, Exhibit 2). In addition to meeting the test positivity and adjusted case rate thresholds just described, counties must also show that they are addressing disparities by (1) planning targeted investments to interrupt disease transmission in disproportionately impacted populations and (2) meeting an equity metric for test positivity in the worst-off census tracts.[4]

California's policy, which explicitly incorporates health equity considerations into reopening decisions, is the first of its kind in the United States. The Blueprint aims to affirmatively address widespread concerns about the disproportionate impact of COVID-19 on

underresourced communities and communities of color because of structural racism and social injustice. California is unique in many respects, such as its large size, the diversity of its population, and its public health governance structures; nevertheless, its example is instructive. This article evaluates the benefits and challenges of this novel policy tool, which illustrate the difficulty of designing and implementing policies to improve health equity, and makes recommendations for the ethically sound inclusion of health equity considerations in other states' reopening plans.

KEY FEATURES OF CALIFORNIA'S EQUITY FOCUS

California's Blueprint incorporates an equity focus. Advancing to the next less-restrictive tier requires counties to meet metrics on test positivity and adjusted case rates for the entire county, and also to work to reduce disparities in levels of SARS-CoV-2 transmission. The equity focus has 2 distinct components:

1. Targeted Investments

All counties are required to submit a plan to the California Department of Public Health that defines the county's disproportionately impacted populations, reports the percentage of COVID-19 cases in these populations, and outlines plans to invest at least a proportionate percentage of their federal grant funds for COVID-19 response to combat viral transmission in these populations.[4,7] Examples of targeted investments include testing, contact tracing, education or outreach, and support for isolation or quarantine. Plans must be submitted before counties can move to a less-restrictive tier.

2. Equity Metric

California's equity metric relies on the California Healthy Places Index (HPI). The HPI incorporates 25 community characteristics related to economic stability, education, the built environment, social and community context, and health and health care. Low HPI values correlate with marginalization and disadvantage. Each county's census tracts are divided into quartiles based on HPI. For a county to move forward into less-restrictive tiers, the test positivity rate in its lowest-quartile HPI census tracts must not substantially lag behind the county's overall test positivity rate. After pushback from counties, the state agreed not to use the equity metric to move counties backward into more-restrictive tiers.[7] Counties with 106 000 or fewer residents were excluded from the equity metric because test positivity cannot be reliably calculated by HPI census tract quartile; these 23 exempt counties have only a small fraction of California's racial/ethnic minority populations.[4,7]

BENEFITS OF INCORPORATING AN EQUITY FOCUS

California's state leaders have taken a bold step by explicitly incorporating an equity focus into reopening decisions, and some county leaders have taken steps to address health disparities (Appendix, Exhibit 3).[8] Doing so offers several potential benefits:

1. Core Value Definition

The incorporation of a health equity focus into the Blueprint has an expressive function: it sends a strong message that public health leaders place equity among Californians' aspirational values.[9] Moreover, going forward, failure to address the disparate impact of the COVID-19 pandemic on disadvantaged communities, often communities of color, will have tangible consequences for Californians. Thus, the equity focus reflects a leadership commitment that California's residents will rise or fall together.

2. Public Health Strategy

The Blueprint's health equity focus underscores how interrelated the fates of various communities are from an epidemiological perspective. COVID-19 "hot spots" will not stay contained; rather, they will eventually spread to other communities, increasing everyone's risk and straining the health care system's ability to respond. The health equity focus also provides incentives for COVID-19 reduction efforts to conform with evidence-based public health practices and data-driven epidemiological strategies. Public health best practice is to target resources where diseases are most prevalent by identifying individual- and community-level risk factors. Yet the populations and communities with the highest COVID-19 case rates have often received fewer resources and received them more slowly than other communities. For instance, multiple analyses of New York City data reveal that higher neighborhood rates of COVID-19 testing were associated with higher proportions of White people and higher-income families, despite those groups' lower rates of SARS-CoV-2 infection.[10,11] Meeting California's call to address disparities in levels of transmission will require counties to recommit to public health best practices.[12]

3. Recognition of Structural Drivers

By focusing the equity metric on structurally disadvantaged communities, California spurs counties to redouble their efforts to address structural issues, such as residential overcrowding and underresourced neighborhoods, that put populations at increased risk of SARS-CoV-2 transmission and COVID-19 mortality.[13] Expanding critical infrastructure and identifying safe housing options to quarantine patients with COVID-19 are examples of targeted resource utilization with potentially large returns on investment. Although robust structural change will require sustained commitment and will be challenging to achieve, the public health returns will extend beyond the current pandemic, given the strong association between these same structural factors and other health disparities.

4. Justice and Fairness

Questions of justice and fairness arise when health and threats to health vary across populations. California's inclusion of a health equity focus in the Blueprint not only potentially reduces disparities in COVID-19 prevalence and outcomes but also more equitably distributes the burdens and benefits of reopening businesses during the COVID-19 pandemic. Reopening imposes disproportionate risks on disadvantaged communities because of their representation in at-risk workforces. To highlight 1 example, people of color constitute 72% of California's restaurant workers.[14] Their risks of SARS-CoV-2 exposure and infection increase as restaurants increase on-site dining.[15] The Blueprint requires more affluent communities to acknowledge the risks borne by the marginalized workers who serve them and to address within-county disparities attributable to high COVID-19 case rates in marginalized communities as a condition of reopening.

CHALLENGES AND RECOMMENDATIONS FOR OTHER STATES

Understanding the challenges of incorporating a health equity focus into reopening may provide guidance for other states or localities considering equity-oriented reopening policies as well as those thinking about incorporating an equity focus into public health policies beyond COVID-19. Although state and local public health governance structures vary, many of the challenges encountered in California are likely to occur in other settings.

1. Unintended Educational Harms

Challenge. Under the Blueprint, schools in the most restrictive tier cannot reopen for in-person learning without a waiver. Once counties progress into the next tier—by meeting the test positivity and adjusted case rate thresholds and also by satisfying the equity focus—and stay there for 14 days, they can reopen schools.[16] Although it may be a powerful lever for inducing action, slowing reopening of schools involves foreseeable harms to marginalized communities. Not only does online K–12 learning appear less effective population-wide than in-person learning, but low-income students also disproportionately face learning barriers in online settings, such as lack of access to computers and Internet and crowded living conditions that impede focus.[17,18] Achievement gaps may widen further as more affluent families hire private tutors or adopt strategies like podding, in which households team up to allow children to learn with a hired teacher.[19] Children may also lose access to specialists and support services. For example, approximately one fifth of California's students are learning English as a second language, and online learning has struggled to adequately meet their language-instruction needs.[20] Prolonged school closures and unstable access to in-person schooling also affect family finances. With schools closed and affordable childcare in short supply, parents—in particular women of color—have had to leave the workforce to care for school-age children.[21–23] Low-wage workers may be especially likely to struggle with childcare affordability.

Recommendations. Because of the disproportionate benefits of in-person rather than remote learning for low-income children and their families, school reopening should be prioritized. Exempting schools from reopening requirements helps minimize the unintended burdens on disadvantaged communities while maintaining incentives for action. The relatively low rates of COVID-19 illness and death among children further support a carve-out for school reopening, as do the experiences of other countries that have reopened schools without significant outbreaks.[24–26] Because creation of the conditions for safe school reopening will require significant resources for COVID-19 testing and implementation of other strategies like physical distancing and ventilating facilities to reduce SARS-CoV-2 transmission, plans for resuming in-person instruction must, as

the Biden administration has noted, incorporate equity considerations.[27,28] For instance, schools in marginalized communities may need additional financial and technical resources, as well as assistance, to plan and implement mitigation strategies. In addition, it is important to consider and address variations in family resource needs.

2. Unintended Economic Harms

Challenge. Extended closure of businesses that employ workers from disadvantaged communities could serve to compound the direct economic effects of the pandemic on Latino/Hispanic and Black workers—particularly women—who report being laid off or furloughed at higher rates than other workers.[21,22]

Recommendations. If prolonged business closures are to be used to incentivize counties to pay greater attention to health equity, they should be accompanied by targeted financial assistance to low-wage workers and small businesses, including unemployment benefits and programs such as loans and investments within structurally disadvantaged communities. Otherwise, equity metrics for reopening could disproportionately damage the economic security of the communities they are intended to help.

3. Unfunded Mandate

Challenge. California directs counties to make targeted use of federal grant funds to combat SARS-CoV-2 transmission in disadvantaged populations but provides no new funding.[4,7] Health inequities are multifactorial and pernicious and require multilevel strategies to mitigate them. Counties already facing budgetary strain because of the pandemic may struggle to find the resources to effectively address disparate COVID-19 prevalence and outcomes. California's approach implicitly acknowledges this problem, but at the expense of holding counties accountable: all counties are required to submit a plan for targeted investments, but there is no clear penalty for failing to implement that plan. One might argue that implementing the plan is necessary to satisfy the equity metric; therefore, the penalty for nonimplementation, albeit indirect, is not advancing to a less-restrictive tier. Yet, this is not necessarily the case. For counties with small disparities, whose numbers will not restrict reopening, performative efforts (e.g., submitted plans but no action, half-hearted efforts at quick distribution of personal protective equipment) may be the only product of including the targeted investment requirement in the Blueprint. In addition, many drivers of COVID-19 disparities—such as the need to work, lack of paid sick leave, and limited access to health insurance—are simply not within counties' control.[29] California has worked to address some of these issues statewide—for instance, by allowing special enrollment in the Covered California health exchange and expanding the state's supplemental paid sick-leave requirements.[30,31]

Recommendations. States that condition reopening on counties' demonstration of a health equity focus should provide additional resources to do so. Continued funding should be conditioned upon counties demonstrating robust efforts to implement their targeted investment plans and to measure progress against COVID-19. However, if funds are withheld, it could ultimately make implementation more difficult, so guidelines regarding when, how, and under what circumstances funding would stop and restart should be developed in advance. Given the consequences of delayed reopening, states should also consider how to assist counties by addressing those determinants of COVID-19 prevalence and outcomes that lay beyond counties' control. We admit that states face constraints in the help they can offer; only the federal government is free of the requirement to have a balanced budget. For this reason, the federal government, too, should play a role in redressing COVID-19 disparities. It is encouraging that the National Strategy for the COVID-19 Response released by the Biden administration calls upon "states to account for equity in their pandemic planning" and identifies federal resources to assist them in doing so.[27(p48)]

4. Perverse Rewards

Challenge. If equity metrics focus exclusively on within-county disparities, counties that have avoided becoming socioeconomically and racially diverse—for example, through residential redlining or exclusionary housing policies—are less likely to be held back from reopening. The weight of this concern will vary by state and depend on historical and political context; in California, the wealthiest counties tend to have greater disparities than poorer counties, but patterns may differ in other states.[32] Counties might also face counterproductive incentives to adopt testing strategies that underreport test positivity or case rates in the worst-off census tracts.

Recommendations. Equity policies could, if feasible, incorporate cross-subsidization to alleviate perverse rewards. For instance, a specified percentage of funds from affluent counties with high, relatively homogeneous HPI scores and low rates of COVID-19 could be designated for COVID-19 response in counties with lower HPI scores and high test-positivity and case rates. This would provide additional resources for struggling counties as well as opportunities for all counties to participate in statewide efforts to improve COVID-19 equity. In addition, states can try to limit gaming—for example, by adjusting case rates to reflect the number of tests performed. For this to be effective, counties would need to ensure that the number of tests administered, not just the number of positive test results, was being taken into consideration.

5. Public Backlash

Challenge. While many Californians have welcomed the Blueprint's equity focus, other residents in this large, diverse state have complained that "there is no justification for the governor to . . . restrict the most basic liberties of citizens for purposes of equity."[33] While such complaints have not ripened into litigation in California, litigation would be a possibility for other states that adopt an equity focus. Even short of this, if reopening is slower because of the equity focus than it would otherwise have been, those living in higher-quartile tracts may become angry or resentful, leading to stigmatization and policing of the behavior of those in the lowest-quartile tracts or to other forms of backlash.[34]

Recommendations. States should engage in a public process before incorporating a health equity focus into reopening plans. California engaged with county leaders to understand and address their concerns but did not conduct a public-facing deliberation process.[7] Public discourse increases transparency, which may partially allay objections. Because tensions between equity and liberty may invite hostility, however, it is important to ensure in public engagement that rules of civil discourse are enforced, marginalized voices are equally heard, and public preferences motivated by racism (which present not only ethical but also legal concerns) are not translated into policy. The goal of public engagement is to learn about community concerns and have those inform policy decisions, not dictate them.

Once an equity focus is implemented, public health education and messaging should promote community solidarity and cultivate buy-in. Emphasizing that addressing COVID-19 in vulnerable neighborhoods is in everyone's interest—for example, by minimizing transmission risks in community settings and through contact with workers—is valuable, as is communicating the message that public officials care about all of their constituents, including the most disadvantaged.

6. Designing Equity Metrics

Challenge. Crafting defensible health equity metrics is not straightforward. Numeric thresholds are needed to make metrics administrable, but those thresholds inevitably invite criticism. Other challenges relate to selecting the benchmarks used to assess disparities. It is not clear whether it is preferable to compare the test positivity rate in disadvantaged parts of a county to the county's overall test positivity rate (as California does) rather than to the most advantaged areas in the same county or to state averages. Each approach has limitations. For instance, if a county is doing poorly on COVID-19 across the board, no within-county difference might exist, but disadvantaged communities will still need help. By contrast, comparison with a state average fails to account for county-specific features that may be driving outcomes but are not amenable to improvement through county public health response, such as residential density, health insurance coverage, and occupational profile. Another issue is how great a disparity is tolerable. California's equity metric does not require that the lowest quartile HPI census tracts reach parity with other tracts; moreover, worsened disparities do not push counties backward into a more restrictive tier. Such choices reflect an acceptance of some degree of disparity. Insisting on absolute equality is not realistic, but tolerating any inequity undermines the expressive function of a health equity focus.

Recommendations. It is critical to engage leaders from marginalized communities and other key constituencies, such as workers' groups, to design equity metrics that minimize unintended consequences and have the best chances for success. It is possible, for example, that inclusion of diverse voices would have provided a counterweight to counties' efforts to prevent them from moving backward if COVID-19 disparities worsened. There is a tradeoff, however, between maximizing counties' incentives to act (i.e., using backward movement as a threat) and minimizing economic harm to the vulnerable.

A critical adjunct to the implementation of an equity focus is rigorous evaluation. Evaluation will require reliable tracking of COVID-19 testing rates, test

results, case rates, and disease outcomes by race, ethnicity, socioeconomic status, and neighborhood, which does not consistently happen. States should assist counties in developing robust reporting processes to determine if the focus on equity is, in fact, addressing disparities in within-county COVID-19 prevalence and outcomes such as hospitalization and death. The federal government could also support this effort; the Biden administration's National Strategy highlights the need for increased data collection and reporting for high-risk groups.[27] States must incorporate what they learn through their evaluation processes to iteratively redesign the equity focus.

7. Defining Disadvantage

Challenge. California uses the HPI, a tool developed by the Public Health Alliance of Southern California (hereafter, Alliance) to measure disadvantage.[35] The 25 HPI indicators are organized into 8 domains: economy, education, access to health care, housing, neighborhoods, clean environment, transportation, and social environment. The Alliance, while acknowledging "the significant and well-documented role that race and ethnicity play in shaping health outcomes in the United States—including California,"[35] does not include measures of racial inequities at either an individual or a group level in the HPI. That choice reflects its interpretation of California's Proposition 209, which prohibits "preferential treatment to . . . any individual or group on the basis of" race or ethnicity in "public employment, public education, or public contracting."[36] Nevertheless, the health disparities identified using the HPI "often stem from historical racism, including redlining in housing markets, education and employment discrimination, and racial bias in many other areas."[37] The Alliance has analyzed the HPI compared with a version of the HPI that includes race (the "race+ version") and concluded that "[a]dding the race domain primarily acts to partition the variance among the [other] domains rather than increase the predictive power of the HPI score."[38(p26)] Across the country, whether to explicitly include race in measures of disadvantage—and, by extension, in the allocation of resources—is currently being debated in the COVID-19 response.

Recommendations. States can choose among 3 strategies: (1) use race as an individual-level variable (i.e., providing resources to individuals based on their race), (2) include race as a neighborhood-level variable that indicates disadvantage, or (3) as California does, use neighborhood-level variables that indicate disadvantage, without including race among them. The first approach is unlikely to be legally viable and makes little sense in a population-level public health response, leaving the meaningful choice between the second and third approaches. That race—through structural racism—is such an important driver of COVID-19 disparities makes it appropriate for inclusion among the neighborhood variables used in a measure of disadvantage. Its use as a neighborhood variable has passed legal muster in other contexts, such as education, though policymakers must be sensitive to the details of applicable law.[39] If the choice is made not to include race as a variable, policymakers should nonetheless be aware of whether and how race tracks with the chosen variables.

In view of the stark racial disparities in COVID-19 outcomes and increasing public reckoning with the racism that underlies them, the use of race in states' health equity focus would be powerful. To clearly name "race" acknowledges the racial injustices that underpin disparities and signals a commitment to address structural racism's deadly effects on racial/ethnic minorities and to heal communities' emotional wounds. In this time of extreme polarization, explicitly mentioning race may heighten the risk of backlash, but we believe the benefits of recognizing racism as a root cause of COVID-19 disparities outweigh this concern.

CONCLUSION

The success of California's bold health equity experiment remains uncertain, but the Blueprint is a welcome step toward including equity in COVID-19 policy. The challenges we have identified are not objections to this important project but, rather, reflections of the degree of difficulty involved in implementing real-world policies to advance health equity.

Other states should follow California's lead. Some, including California, have begun including equity considerations in vaccine allocation.[40] The federal government could promote equity-focused policies by tying funding to efforts to reduce health disparities or earmarking funds to be used to achieve that end. We encourage states to consider the concerns and include the recommendations outlined here in the public debate and design of their own equity-based policies. Sound, just, and courageous strategies are essential for guiding the United States through the pandemic, and the Blueprint may serve as a template for broader development

of public health approaches that center equity as a core value. AJPH

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M. M. Mello serves as an Advisor to Verily Life Sciences LLC on a product designed to facilitate safe return to work and school.

HUMAN PARTICIPANT PROTECTION

This study was exempt from institutional board review because no human participants were involved.

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