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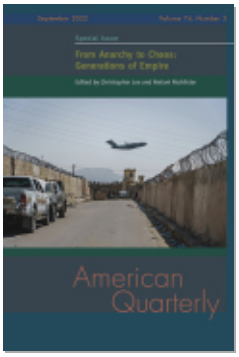

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Forum: COVID-19 and Empire

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Neel Ahuja

The COVID-19 pandemic has been the context for public health institutions, epidemiologists, and a range of social scientists to make a public case for an idea concisely stated by the American Medical Association in November 2020: "Racism is a threat to public health."[1] While activists and medical historians have long noted inequalities of access and outcomes for patients as well as exploitative conditions for research subjects based on race, class, gender, sexuality, nationality, and disability, such a statement by the AMA reflects a shift in public discourse at an organization that has historically worked to entrench such inequalities through its advocacy against universal health care and an elitist approach to medical training.[2] At the moment of this public statement on racism, the intersection of the global pandemic with public activism against police violence created conditions for a reckoning with medical and health institutions' complicity in racially unequal life outcomes, which Ruth Wilson Gilmore centers as racism's production of "group-differentiated vulnerability to premature death."[3] In the wake of the murder of George Floyd by Minneapolis police officer Derek Chauvin and the summer of Black Lives Matter protests that followed, the AMA Board of Trustees and other health officials made public statements about the health consequences of racism, the consequences of Trump-era xenophobia, and the historical discrimination against Black patients and doctors.[4] Such statements of the causative relation of racism to poor health outcomes were echoed by other institutional authorities. The US Centers for Disease Control (CDC) clarified that not only is racism an interpersonal relation, it is a structural one, which requires addressing a full range of social determinants of health.[5] The World Health Organization convened an expert panel in March 2021 to address the relationship between health inequalities in COVID-19 outcomes and "discrimination" based on race and ethnicity.[6]

At the same time that the Black Lives Matter movement spurred some public health experts and institutions to more directly address racial difference, both media discourse and scientific research on COVID-19 publicly highlighted inequalities in viral exposure, case rates, hospitalization rates, death rates, vaccine uptake, and other indicators of vulnerability. Recognition of widespread inequalities has also led social scientists and epidemiologists to set forth interdisciplinary analyses of COVID-19 as they relate to social phenomena ranging from housing segregation to occupational health to transportation inequalities.[7] Although such innovative work has moved toward producing more contextual knowledge of race, in particular localities, industries, and legal contexts related to public health, much of the national-level reporting and data suffer from problems based on data sets that flatten the complexity of racial identity and fail to capture experiences of Indigenous and multiracial individuals. Based on large data sets collected by the CDC and state health agencies, the main data on racialized differences in health outcomes in the era of COVID-19 tends toward a "four food groups" model of minoritization, highlighting vulnerabilities experienced on a mass scale by Black, Asian American, Latinx, and Indigenous groups (with the category "Hispanic" still in use for Latinx in a number of studies). Notably, the "Native American" category often gets removed from the analysis due to a small sample, repeating a larger problem that exists in social science data that reproduce the absenting of Indigenous peoples in North America.[8] Data on racial disparity have often been helpful in articulating certain stark differences, such as the significantly higher case and hospitalization rates among Black and Latinx people relative to population in the early phases of the pandemic.[9] Although many media reports highlighted inequality facing Black and Latinx groups, the more comprehensive and critical data sets showed from an early stage that there were also unequal outcomes for American Indians and Asian Americans affected by the virus.[10] Recent published data from the CDC put American Indian risks of hospitalization rates at triple those of whites and the death rate as the highest of all racial groups in the US.[11] When some data showed that Asian Americans experienced case and hospitalization rates similar to or lower than whites, breakdowns of the Asian American demographic in the New York region showed a more complex picture, with high case and hospitalization rates among South Asian Americans, and Chinese Americans displaying the highest death rates of all nonwhite groups.[12] Such research was confirmed in the UK context as well, where Black and South Asian groups fared worse in terms of cases, hospitalizations, and deaths.[13] At the very least, such disparate results suggest that more detailed breakdown studies

incorporating patient and community narratives will be crucial in obtaining a clearer picture of how racialized groups have experienced a range of pandemic impacts that are dependent on local conditions.

Research on racial difference and disparity in COVID-19 dynamics and outcomes remains in a nascent stage. Looking at the early work embedding notions of racial difference into constructions of epidemiological and social risk helps us begin to make sense of how the move toward recognizing racial difference within health and medicine at the outset of the pandemic is contributing to emergent forms of racial knowledge and governance. I argue here that while such research tends to suffer from the abstraction of large racial groups in quantitative data, it also takes initial steps toward reframing certain mass concepts in epidemiology (especially herd immunity) toward understanding not just unequal life outcomes but *unequal burdens of immunological labor*. Two recent articles that work with race in large COVID-19 data sets demonstrate both the potential and pitfalls of centering race in emerging public health knowledge along these lines. The first, "Trajectories of COVID-19 Vaccine Intentions among U.S. Adults: The Role of Race and Ethnicity," was published in *SSM Population Health* by the sociologists Michael Niño, Brittany Hearne, and Tianji Cai in February 2021.[14] Utilizing data from the national Understanding America Study, the authors make two lines of argument: (1) they track the declining enthusiasm for vaccination among all racial groups in the early phase of vaccine rollout, and (2) they argue that Black Americans experience significantly lower vaccine enthusiasm than all other racial groups, concluding that a history of anti-Black medical neglect and violence likely results in significant distrust of medical authorities. In turn, the authors argue that intervention strategies should turn away from stigmatizing vaccine hesitancy and more directly address the histories of inequality that underlie mistrust of public health. The second article, "Modeling the Impact of Racial and Ethnic Disparities on COVID-19 Epidemic Dynamics," was published in the open access journal *eLife* by the public health researchers Kevin Ma, Tigist Menkir, Stephen Kissler, Yonatan Grad, and Mark Lipsitch in May 2021.[15] Analyzing data from across New York City and from Long Island in particular, the authors argue that the calculation of the Herd Immunity Threshold masks deep racial inequalities in case rates. These inequalities reflect not just different life outcomes but a different course for the epidemic: as higher-risk racial groups experience case rates that balloon to as high as four times the average, these groups bear the disease burden that ultimately produces enough postinfection immunity to allow a population-wide decline from peak infections.

These studies reflect some limitations of data collected using the "four food groups" racial categories, as they fail to adequately capture American Indian or mixed-race disease dynamics, or to disaggregate complex intragroup differences. At the same time, they each point to the ways that COVID-19 has been unequal not only in its direct costs for people of color in the United States but also in the immunological burdens it places on them to move the infection dynamics from pandemic to endemic. Ma et al. display a graph showing that Latinx patients on Long Island bore four times the disease burden of whites, and Black patients bore twice the burden (fig. 1). Their cases collectively contributed to the population as a whole more rapidly reaching the Herd Immunity Threshold (HIT). If people of color are significantly overrepresented among the number of people infected early in the pandemic, then they differentially contribute toward population-level immunity through their own experience of illness (and the concomitant higher death rate that occurs within their community). The authors put it this way: "Incidence rate ratios are elevated initially in high-contact groups relative to non-Hispanic whites, but this trend reverses after the epidemic has peaked and overall incidence is decreasing—a consequence of the fact that a majority of individuals have already become infected."[16]

One consequence of this reframing of the Herd Immunity Threshold as heterogeneous based on race is that the HIT infection threshold is different for different groups. The authors note that in Long Island, the racial differences at the peak of the first surge of 2020 were especially stark: "The burden of infection fell disproportionately on minority populations: in a model fit to Long

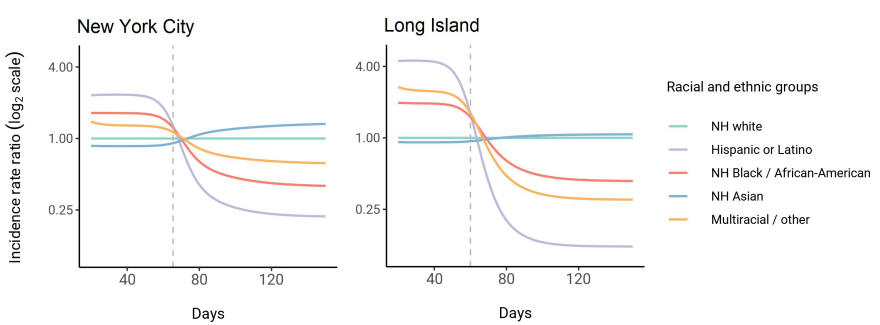

Figure 1.
Incident rate ratios relative to "non-Hispanic whites," with dashed line representing epidemic peak. From Kevin C. Ma, Tigist F. Menkir, Stephen Kissler, Yonatan H. Grad, and Marc Lipsitch, "Modeling the Impact of Racial and Ethnic Disparities on COVID-19 Epidemic Dynamics," *eLife*, May 18, 2021, https://elifesciences.org/articles/66601, Creative Commons License CC By 4.0.

Island serosurvey and census data, 81% of Hispanics or Latinos were infected when the HIT was reached compared to 34% of non-Hispanic whites. Our findings, which are meant to be illustrative and not best estimates, demonstrate how racial and ethnic disparities can impact epidemic trajectories and result in unequal distributions of SARS-CoV-2 infection."[17] This conclusion sheds light on the 80 percent national herd immunity threshold often reported in media. Although the higher infectiousness of current variants would have resulted in a different curve than the 2020 New York curve plotted in the study, the vast disparity means that Latinx residents bear a starkly disproportionate burden of what I would call immune labor (consisting of the work of undergoing infection, distributing care labor within and beyond the household, and developing immune defenses in the body through recovery). White residents are in turn likely to misapprehend the cause of their relatively higher rate of susceptibility at the peak, even as they unequally benefit from the ensuing decline in cases. Racially unequal immune labor thus plays a central role in the potential for dubious political manipulation of health data. The premature declaration of endemic status pronounced by right-wing politicians in several countries in early 2022 reveals that the politicized desire for pre-pandemic capitalist normalcy is enabled in part by the shadow immunological labor of racialized minorities. The relative burden of disease for whites during spikes in infections is minimized, and such a situation can minimize the spectacular effects of contagion to burnish reactionary arguments about evolutionary fitness and calls for an early end to broad-based public health protection. As such, the early history of COVID-19 seems to involve a situation in which racialized minorities bear the compound burdens of early infection and state obstruction of workable health interventions.

If we track this observation forward to consider the herd immunity after the introduction of vaccines, we can restate the thesis like this: a combination of a higher rate of infection and a lower level of vaccination means that communities of color bear unequal care burdens and disease burdens due to higher exposure and compromised access to the health system. For Niño, Hearne, and Cai, this occurs on the level of vaccine uptake. While white, Latinx, and Asian American groups, according to their data, appear to more quickly accept vaccination, for Black Americans there is a need to overcome an ingrained distrust of the system marked by a history of medical experimentation and apartheid. The authors thus argue that "medical and governmental institutions must begin to publicly acknowledge and address how racist structures and interactions have historically and presently fostered deep distrust among Black Americans."[18]

The very concept of herd immunity and the associated Herd Immunity Threshold reflect certain eugenic legacies of the idea of population that inflected early twentieth-century colonial epidemiology as research on immunity to measles and other infectious diseases moved from the agricultural to the medical domain.[19] Although my brief discussion of the racialization of herd immunity has not to this point focused on the gendered and animalized notions of reproduction evident in the long twentieth-century colonial history of herd immunity as a concept, or in the sorts of outbreak narratives for emerging diseases that Priscilla Wald traces in her contribution to this forum,[20] such population-level thinking about viral vulnerability reflects a longer history of the racialization of disease vulnerability that has long characterized public health. As such, it is necessary for scholars of race, gender, and public health to acknowledge that racial disparities in health outcomes are not the end point of the analysis of race and COVID-19, as they reveal that the racial regimes of settler colonialism are a broader structure, not isolated events of inequality.[21] The immune labors of groups experiencing racial and class marginalization literally construct the settler colonial immunities of the speculated transition to endemic COVID-19, and as such they reflect the ongoing colonialism of United States efforts to embed the "national defense" in the immunologically "value-added body of the settler" who hopes to experience the next phase of COVID-19 as a periodic contagion rather than a state of emergency.[22]

Notes

1. Kevin B. O'Reilly, "AMA: Racism Is a Threat to Public Health," November 16, 2020, https://www.ama-assn.org/delivering-care/health-equity/ama-racism-threat-public-health.
2. See David Serlin, *Replaceable You: Engineering the Body in Cold War America* (Chicago: University of Chicago Press, 2004), 3.
3. Ruth Wilson Gilmore, *Golden Gulag: Prisons, Surplus, Crisis, and Opposition in Globalizing California* (Berkeley: University of California Press, 2007), 28.
4. "AMA Board of Trustees Pledges Action against Racism, Police Brutality," June 7, 2020, https://www.ama-assn.org/press-center/press-releases/ama-board-trustees-pledges-action-against-racism-police-brutality.
5. Centers for Disease Control and Prevention, "Racism Is a Serious Threat to the Public's Health," n.d., accessed March 23, 2022, https://www.cdc.gov/healthequity/racism-disparities/index.html.
6. World Health Organization, "Health Inequities and Racial and Ethnicity Based Discrimination: What Covid 19 Is Teaching Us," March 25, 2021, https://www.who.int/news-room/events/detail/2021/03/25/default-calendar/health-inequities-and-racial-and-ethnicity-based-discrimination-what-covid-19-is-teaching-us.
7. Pavel Chernyavskiy, Jeanita W. Richardson, and Sarah J. Ratcliffe, "COVID-19 Vaccine Uptake in United States Counties: Geospatial Vaccination Patterns and Trajectories towards Herd Immunity," May 31, 2021, https://www.medrxiv.org/content/10.1101/2020.07.11.20148486v1.full.pdf; Dwayvania Miller, Amara Sarwal, Bo Yu, Edgar Gomez, Victor Perez-Gutierrez, Marcia Gossai, Elisenda Valdez,

Astrid Mendez, Sarah Chaudry, Usha Venugopal, Vihren Dimitrov, Moiz Kasubhai, and Vidya Menon, "Impact of Residential Neighborhood and Race/Ethnicity on Outcomes of Hospitalized Patients with COVID-19 in the Bronx," January 12, 2021, https://www.medrxiv.org/content/10.1101/2021.01.09.21249515v1; Graziella Bertocchi and Arcangelo Dimico, "COVID-19, Race, and Redlining," July 2020, https://www.medrxiv.org/content/10.1101/2020.07.11.20148486v1.full.pdf; Elizabeth S. McClure, Pavithra Vasudevan, Zinzi Bailey, Snehal Patel, and Whitney R. Robinson, "Racial Capitalism within Public Health—How Occupational Settings Drive COVID-19 Disparities," *American Journal of Epidemiology* 189.11 (2020), https://doi.org/10.1093/aje/kwaa126; Neel Ahuja, "Fluid Pandemic: Disease Surveillance, Phophylactic Mobility, and Privatization of Air Space in the Covid-19 Outbreak," *ISLE* 27.4 (2021), https://academic.oup.com/isle/article/27/4/779/5975031.

8. See Philip Deloria, *Playing Indian* (New Haven, CT: Yale University Press, 1997); and Jodi Byrd, *The Transit of Empire: Indigenous Critiques of Colonialism* (Minneapolis: University of Minnesota Press, 2011).
9. Centers for Disease Control and Prevention, "Health Equity Considerations and Racial and Ethnic Minority Groups," January 25, 2022, https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html.
10. Zhaoying Xian, Anshul Saxena, Zulqarnain Javed, John E. Jordan, Safa Alkarawi, Safi U Khan, Karan Shah, Farhaan Vahidy, Khurram Nasir, and Prachi Dubey, "Racial and Ethnic Disparities in COVID-19 Infection and Mortality in the United States: A State-wise Update," December 14, 2020, https://www.medrxiv.org/content/10.1101/2020.12.03.20243360v2.
11. Centers for Disease Control and Prevention, "Risk for COVID-19 Infection, Hospitalization, and Death by Race/Ethnicity," March 10, 2022, https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html.
12. Roopa Kalyanaraman Marcello, Johanna Dolle, Areeba Tariq, Sharanjit Kaur, Linda Wong, Joan Curcio, Rosy Thachil, Stella S. Yi, and Nadia Islam, "Disaggregating Asian Race Reveals COVID-19 Disparities among Asian American Patients at New York City's Public Hospital System," *Public Health Reports* 137.2 (December 30, 2021), https://pubmed.ncbi.nlm.nih.gov/34965776/.
13. Robert W. Aldridge, Dan Lewer, Srinivasa Vittal Katikireddi, Rohini Mathur, Neha Pathak, Rachel Burns, Ellen B. Fragaszy, Anne M. Johnson, Delan Devakumar, Ibrahim Abubakar, and Andrew Hayward, "Black, Asian, and Minority Ethnic Groups in England Are at Increased Risk of Death from COVID-19: Indirect Standardisation of NHS Mortality Data," *Wellcome Open Research* 5 (2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7317462.2/.
14. Michael D. Niño, Brittany N. Hearne, and Tianji Cai, "Trajectories of COVID-19 Vaccine Intentions among U.S. adults: The Role of Race and Ethnicity," *SSM Population Health*, May 27, 2021, https://pubmed.ncbi.nlm.nih.gov/34075337/.
15. Kevin C. Ma, Tigist F. Menkir, Stephen Kissler, Yonatan H. Grad, and Marc Lipsitch, "Modeling the Impact of Racial and Ethnic Disparities on COVID-19 Epidemic Dynamics," *eLife*, May 18, 2021, https://elifesciences.org/articles/66601.
16. Ma et al., "Modeling."
17. Ma et al., "Modeling."
18. Niño, Hearne, and Cai, "Trajectories," 6.
19. David Robertson, "Of Mice and Schoolchildren: A Conceptual History of Herd Immunity," *American Journal of Public Health* 111.8 (2021), https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2021.306264; Paul Fine, Ken Eames, and David L. Heymann, "Herd Immunity: A Rough Guide," *Clinical Infectious Diseases* 52.7 (2011): 911–16; Amy McDermott, "Herd Immunity Is an Important—and Often Misunderstood—Public Health Phenomenon," May 19, 2021, https://www.pnas.org/content/118/21/e2107692118; David Jones and Stefan Helmreich, "A History of Herd Immunity," *Lancet* 396 (September 19–25, 2020), 10.1016/S0140-6736(20)31924-3; David Jones and Stefan Helmreich, "The Shape of Epidemics," *Boston Review*, June 26, 2020, https://bostonreview.net/articles/david-shumway-jones-stefan-helmreich-epidemic-waves/.
20. Cf. Priscilla Wald, *Contagious: Culture, Carriers, and the Outbreak Narrative* (Durham, NC: Duke University Press, 2007).
21. Cf. Patrick Wolfe, "Settler Colonialism and the Elimination of the Native," *Journal of Genocide Research* 8.4 (2006): 387–409.
22. Neel Ahuja, *Bioinsecurities: Disease Interventions, Empire, and the Government of Species* (Durham, NC: Duke University Press, 2016), xvi.