# ELIGIBILITY IS NOT ACCESS

## Prioritizing those most at risk in the next push of vaccine rollout

Partners In Health
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## Executive Summary


Across the United States, expanded vaccine eligibility offers hope that within months enough Americans will be immunized to allow the safe resumption of normal activity. However, relying on a national vaccination campaign to resolve the COVID-19 pandemic is not so straightforward; even with open eligibility, our health system is not designed to ensure vaccine access and uptake for all. We've seen time and again that simply making health care available without understanding and eliminating barriers to access perpetuates inequitable outcomes. In response, Partners In Health (PIH) is supporting and co-developing pragmatic and sustainable solutions with local communities to meet the opportunities and challenges of COVID-19 vaccination.

To get to our new normal—safely reopening our schools, our businesses and our communities —we must achieve 70-90% vaccination rates. Critically, for disease control and population immunity, we must reach these rates everywhere, at the global, national, and local levels, and we must maintain them. If not, we will continue to see hotspots of infection surface and spread, with resultant disease and mortality, potentially driving the emergence of new variants.

**Standing in the way of this goal are long-standing structural inequities that have led to a disproportionate burden of COVID-19 in certain communities. We must prioritize vaccinations for those most at risk and work together to establish a more responsive and community-centered public health system in the process.**

Epidemiologic and social risk factors reinforce the need to prioritize older individuals, communities of color, and essential workers. To combat the structural factors that have resulted in these groups suffering disproportionately from COVID-19 and other health inequities, **PIH is supporting a 3-pronged approach to rolling out vaccination and improving health outcomes:**

**1) increasing vaccine demand through community engagement;**

**2) ensuring adequate vaccine supply through resource allocation and operations; and**

**3) leveraging the vaccination opportunity to invest in long-term public health systems.**

**It can be done.** Our work in more than 15 locations across the country demonstrates how departments of health, community-based organizations, and others—regardless of where they are in the vaccine rollout—can take action alongside community leaders to ensure older adults, communities of color, and essential workers have the resources and information they need to get vaccinated. While the focus of this memo is the U.S., our work for equitable vaccination is not, and cannot be, restricted by national borders. Globally and locally, with a strong commitment to prioritization and targeted investment in the necessary resources, we can reach population immunity and stop COVID-19.

Much of our early learnings in community engagement and operations can be adapted globally; importantly, many of these lessons build on our global experience working to implement successful, equitable vaccination campaigns.

## Background

By April 19th, every adult in the U.S. will be eligible for COVID-19 vaccines. In the face of a fourth wave and the increasing spread of variants, we support the decision of the Biden-Harris administration to eliminate bureaucratic eligibility requirements. Population immunity is only possible if more people are eligible for vaccination. However, **eligibility does not equal access;** without structural interventions, open eligibility will deepen the racial and social inequities seen throughout the pandemic, preventing us from reaching the 70-90% needed for population immunity. An equity-centered approach offers the most direct and just path to reach everyone, ensuring that no one is left behind.

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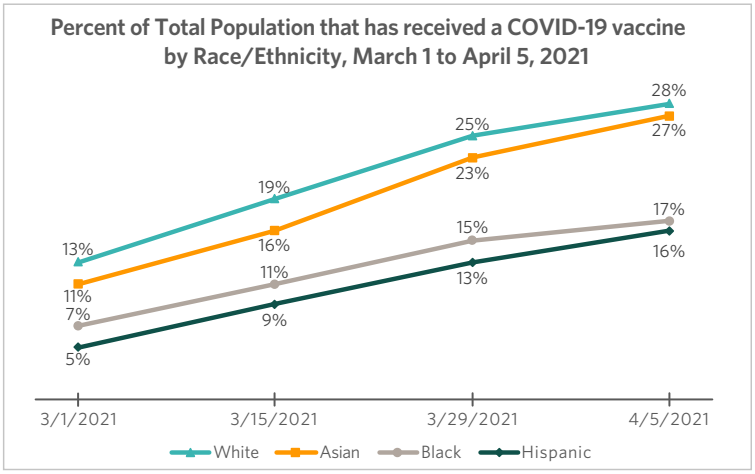
**The problem with the phased vaccine rollout to date: inconsistent approaches and inequitable results.** The Advisory Committee on Immunization Practices (ACIP) set out to balance epidemiologic and ethical considerations in their recommendations about which groups should receive vaccines during a period of low vaccine supply and high demand. However, adherence to recommendations for age-based cutoffs and high priority occupational criteria was inconsistent across the country. Often, due to complexity of implementation, occupational and/or exposure criteria were abandoned in favor of age-only criteria. The approach also neglected demographic and structural nuance: in strict, universal age-based prioritization, communities of color—with shorter life expectancies due to baseline health inequities[1]—were excluded.

As of April 7th, 2021, nearly three-quarters of states have vaccinated at least 25% of white people, but just two states have reached that vaccination threshold among Black people, and another two states have done so among the Hispanic community.[2] Following the same trends seen throughout the pandemic—in access to testing sites, in access to personal protective equipment, etc.—vaccination rates remain low in many of the hardest-hit communities.[3] With expansion of eligibility, vaccination rates in these communities will continue to lag behind and worsen inequities.

**There is strong epidemiological evidence for prioritizing vaccination of communities of color and essential workers.** Vaccination serves two main goals: directly protecting those at highest risk of severe disease outcomes ("risk-based vaccination") and reducing transmission among those who are most likely to acquire and spread illness ("transmission-based vaccination"). Epidemiologic analysis makes a clear case for continuing to focus vaccination efforts on **three priority groups, based on risk and transmission: older adults, communities of color, and essential workers.**

The risk of death from COVID-19 increases sharply with age, with greater than 80% of reported deaths in the U.S. among those 65 and over.[4] Risk-based vaccination also dictates prioritizing Black, Indigenous, and Latinx communities, who have experienced two- to three-fold higher hospitalization and death rates from COVID-19 than the white community.[5] The intersection of marginalized identities (race, age, employment) compounds poor health outcomes. Though the majority of U.S. COVID-19 deaths have been in the oldest age groups, the death rate among Blacks and Hispanics aged 65 and older has been a significantly higher share of those populations than compared to Whites.[6]




Data from Kaiser Family Foundation, 2021[7]

Similar disparities in risk are evident among frontline essential workers, half of whom are from communities of color, an over-representation among jobs in major industries like energy, agriculture, and childcare that form the backbone of our society.[8] Black workers in particular are more likely to be working in jobs with the highest risk of exposure to COVID-19.[9] Essential workers are at heightened risk of both contracting and transmitting COVID-19 based on the nature of their work, making them a clear priority for vaccination. A recent study reveals that simultaneously vaccinating high-contact essential workers, in addition to older adults, **can result in up to 50% reduction in infections,** as well as reductions in mortality, compared to purely age-based prioritization.[10]

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**There is a social justice imperative for prioritizing vaccination of people of color and essential workers.** Racial and social justice reinforce the epidemiological evidence: historically marginalized groups have disproportionately suffered from COVID-19 and therefore deserve priority protection. Whether discussing cancer,[11] diabetes,[12] or maternal mortality,[13] the burden of disease born by communities of color is a pervasive feature of health in the U.S. Indeed, in the first half of 2020, non-Hispanic Blacks had a six-year lower life expectancy than white populations in the U.S.[14] Systemic injustices embedded in many U.S. institutions, which were initially built on slavery and codified by legislation, continue to be reflected in institutions today, including public health. The structured disinvestment of health resources in Black communities all but ensures reduced access and utilization of necessary health services, resulting in limited and substandard care.[15]

**Prioritization must be accompanied by supportive infrastructure.** What we've seen to date is that declaring eligibility without understanding and eliminating barriers to access for the eligible simply recapitulates inequitable outcomes. Equal is not equitable. Generations of structural inequity and racism have culminated in limited access to health care in certain communities. Already limited access is further compounded by logistical barriers. Vaccine sites often operate with limited hours, and are in difficult-to-reach locations with limited connection to public transportation. These barriers disproportionately affect essential workers who must balance job demands against opportunities to be vaccinated. Additionally, there are many barriers to vaccine access among older, non-English speaking, and disabled populations: internet access, advanced technology, and mobility are often requirements for scheduling and getting to appointments at most vaccine sites. One out of six older adults surveyed in March 2021 reported being unable to make an appointment.[16]

**Achieving epidemiologic control and ensuring vaccine access for the communities that have been most affected by COVID-19 are not disparate goals—in fact, they are entirely aligned.** Population immunity is only achievable if every community has access to vaccines. We must overcome structural and racial barriers and invest in community partnerships to achieve vaccine equity and to reduce transmission and disease burden throughout the country. This effort will require collaboration and commitment to prioritize communities that have been systematically marginalized by the inequitable and racist structures of our society.

**Stopping COVID-19 will require these interventions.** The U.S. is now immunizing ~3 million people daily—an achievement to be celebrated. However, without an equitable global vaccination strategy, we cannot reach population immunity. Even in the U.S., these vaccination rates will not be linear. In the upcoming weeks and months, supply will outpace demand, and daily vaccine numbers will plateau. Our key task will be to ensure we reach the 70-90% of the population in all communities, global and local. This will take a series of structured supply and demand side interventions, with a focus on communities that have been historically left behind and structurally excluded from health systems and services, domestically and around the world. If not, COVID-19 hotspots will continue to flare in under-vaccinated communities, with resultant work lost, hospitalizations, and deaths—and will potentially perpetuate the evolution of new variants of concern, further threatening our communities.

# PIH Practical Guidance/Early Learnings in Operationalizing Vaccine Equity

We propose a pragmatic approach to vaccination to achieve equity and epidemiologic control. Recognizing that "eligible to be vaccinated" does not equal "opportunity to be vaccinated," ongoing efforts must still prioritize those most at risk. Vaccination programs at state, county, city, and community levels should focus on a 3-pronged approach: 1) understanding and improving vaccine demand through community engagement; 2) ensuring adequate vaccine supply through resource allocation and operations; and 3) leveraging this opportunity to invest in long-term public health systems.

Below we describe key efforts that public health leaders should undertake—with examples from PIH's U.S. Public Health Accompaniment Unit sites where community vaccination activities are in process—to prioritize communities and community leadership in every aspect and stage of vaccine rollout. We outline near-term solutions and share resources to address the supply and demand challenges in equitable vaccination, while beginning the process of correcting historical health injustices. Many of these approaches are drawn from our global experience with community health, vaccination campaigns, and emergency response over the last three decades and, as such, can be adapted globally.

In the U.S., it isn't too late to incorporate these approaches into in-progress vaccination efforts; on the contrary, now is the moment to re-emphasize the need for equitable distribution and to commit the requisite time and resources to reach population immunity and ensure our communities can reopen safely. The strategies we outline will remain equally important as we emerge from the pandemic and re-imagine community health systems and the role of community in shaping strategies to meet health care and social service needs.

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## 1. Community Engagement: Understanding & Driving Demand

A primary aim of community engagement is to create and maintain channels to hear concerns and share information, with the goal of understanding health and social needs, providing up-to-date and accurate information, and facilitating localized access to vaccination. The most effective engagement strategies leverage the leadership already within communities, with critical interpretation of information and collective decision-making by community members. Such efforts help generate demand for vaccination and drive equitable allocation and distribution.

### ▷ Build community partnerships that can steer vaccination activities according to community needs and concerns

Implementing organizations (including departments of health, community based organizations, and others) should partner with local community organizations, places of worship, and health service providers to develop a community engagement strategy. When identifying and recruiting these partners into the vaccine process, include groups that provide coverage across various social issue areas, languages, and geographic locations. The expertise of established organizations and their existing relationships with community member networks make them critical participants for identifying the populations most vulnerable to COVID-19.

The Connecticut Department of Public Health, has identified and mapped critical actors as a first step towards building vaccine coalitions able to reach community members with accurate information on vaccine availability, safety, and efficacy. The team used this mapping to organize a trusted messenger forum in which hundreds of community leaders have been equipped to share information with their communities, as well as engage in dialogue to address and mitigate access and equity challenges.

### ▷ Listen to and learn from the community, establishing channels for bidirectional communication

Subsequent community engagement should take many forms, including engagement through virtual and in-person meetings, as a part of ongoing outreach by CHWs, or through surveys and focus group discussions. Convenings and outreach should not simply convey information. Community members must be endowed with real power and influence; their concerns and viewpoints should inform subsequent policies and procedures. To facilitate honest conversation, sessions should be conducted by individuals trusted by the communities with whom they interact. These community leaders should not only be familiar with the local setting, but also equipped with accurate information and tailored materials to allow them to bridge the gap between the community and the vaccination system.

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In Chicago, where the city has launched an initiative to dedicate vaccine resources to 15 vulnerable neighborhoods, PIH has helped to coordinate and support a Vaccine Corps Partnership (VCP), a community coalition to aid in the city's push for more equitable vaccination. As a part of the VCP, PIH has developed a training program to equip local leaders with resources for engaging community members in dialogue, to ensure relevant vaccine information reaches everyone, including public health planners. The VCP is a diverse and adaptive community network with broad health and social aims and a mandate for long-term system improvement that will last beyond the pandemic.

### ▷ Use transparent, tailored communication strategies that are shaped by and resonate with the community

Access to accurate and transparent information about the development, safety, and efficacy of the vaccine—as well as how to access it—is a critical element when attempting to build trust between community members and the public health system. Beyond town halls and individual outreach efforts described above, mass communications campaigns can also play an important role. Campaigns can be built from the ground-up or by customizing resources that are available from the CDC and other organizations. Ultimately, all messaging and communication strategies must be tailored to specific community needs, questions and concerns, and they should be developed in partnership with community members.

In Montgomery, AL, PIH is working with the Mayor's Office, the Department of Health, a social impact creative firm, and community leaders to develop a multi-channel public engagement campaign focused on the vaccine specific to the local context. Key stakeholder interviews informed the campaign through a multimodal approach, including a survey to gauge vaccine confidence, social media analysis, and local message testing. The campaign launch will coincide with the state's eligibility expansion.

**PIH Resource Links**

COVID-19 Vaccinaton: *A Guide for Community Conversations*

COVID-19 Vaccination Town Hall: *Facilitation Guide*

COVID-19 Vaccine Community Mobilization Leadership Training

COVID-19 Vaccine FAQ: *Community Messenger Guide*

## 2. Resource Allocation and Vaccine Operations: Understanding & Facilitating Supply

In order to achieve sufficient coverage for all members of a community, vaccine allocation and distribution strategies need to be driven by, and developed in partnership with local stakeholders. From planning to execution, involvement from community members illuminates opportunities in the decision-making process that might otherwise be overlooked in service of efficiency. Community-based organizations, places of worship, and local businesses can readily marshal support and resources alongside public health agencies, enhancing the likelihood that community member vaccination experiences reflect shared values and are not transactional encounters with impersonal systems.

### ▷ Visualize gaps in access and patterns of disease—and act accordingly

Spatial mapping is an approach for data analysis and visualization that can spark discussion and drive collaborative planning for access among community stakeholders. Collaborative mapping can bring existing quantitative data to life to illuminate gaps in access, highlight community resources, and drive transparency and accountability in how and where vaccine resources are deployed.

> In Ohio, PIH is helping coordinate across community, government, and academic partners to comprehensively document and visualize the resources and vaccination needs of communities most vulnerable to COVID-19. By regularly analyzing community needs and resources the team has been able to identify where gaps in coverage exist, where public transportation is insufficient for enabling access, and propose areas where mobile vaccination units can be deployed to meet local vaccination goals.

### ▷ Allocate for equity by prioritizing based on risk of exposure and risk of severe health outcomes

Planning for equitable vaccine access should happen simultaneously with communication and outreach, informed by the same insights and feedback gathered during on-going touchpoints with community members and local leaders. In Newark, NJ, the PIH team and city partners co-developed a tool to estimate unmet needs in the city, and operationalize plans for supplemental sites—all to make sure every Newark resident has access to vaccinations. Recognizing the burden of disease, risk of transmission and death, communities of color, essential workers, and the elderly should receive preferential access in allocation.

> In Cook County, IL, PIH is working with the health department to make sure areas with high-vulnerability have the infrastructure to support vaccination, and are helping to prioritize where mobile vaccination sites should be established by developing an index of vaccine need based on the COVID-19 vulnerability index (CCVI), COVID-19 disease burden, and population risk factors (e.g. congregate workers, seniors, unsheltered, etc.). These structural interventions are essential for disease control and equitable outcomes.

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### ▷ Eliminate critical barriers to access: limited hours of operation, complex scheduling/registration systems, inaccessible sites with limited transport options

PIH has supported a range of solutions, based on the guidance of local partners, to address the various barriers to vaccination. In Montgomery, AL, a free rides program supports transportation needs for community members, and a cadre of Community Vaccine Ambassadors offer vaccine education and appointment scheduling to navigate challenging sign-up systems. Access barriers also manifest in vaccine site operations without specific community involvement to mitigate such challenges. Site selection, staffing arrangements, and patient journey all require active input from community stakeholders to ensure all people feel welcome and comfortable during their vaccination experience.

> PIH's team in Newark, New Jersey has worked with the health department to select, staff, and operate a vaccination program that focuses on meaningful access to high-risk populations. Various partners, led by the local health department, collaborated to deploy pop-up vaccination sites to homeless shelters and senior housing buildings, in order to bring doses directly into communities at highest risk.

> In New Bedford, MA, PIH is supporting vaccine site operations that focus on specific vulnerable segments of the local population, utilizing low-tech tools and local knowledge to register and vaccinate smaller populations who are at risk of being left behind because of barriers like access to technology and English language proficiency.

### ▷ Deploy tactical vaccination: target resources to emerging clusters of infection

To stop the pandemic, "hot spotting" approaches for prioritizing vaccination add value. Using existing COVID-19 contact tracing systems, emerging clusters of infections can be identified (e.g., at workplaces, schools, or places of worship) and then prioritized for vaccination, deploying mobile vaccine teams or other solutions to the location. By definition, these interventions concentrate vaccine administration in high-burden communities, saving lives and reducing transmission. These tactical efforts will be critical to identify and reach pockets of infection before they spread and are a pragmatic and high-yield way to operationalize "last mile" strategies.

### ▷ Use data to improve vaccine equity and create shared accountability among public health partners

Data are critical in shaping all of the activities discussed above. Vaccine coverage data, disaggregated by race, ethnicity, age, and essential worker status are necessary to understand disparities in access, monitor progress towards outcomes, and enable community leaders with information to drive action. To create shared accountability, and to channel resources where they're needed, communities need visibility on how vaccination efforts are—or are not—reaching different groups.

**PIH Resource Links**

Equity Mapping: Visualizing Community Vulnerability to COVID-19 and Vaccine Access

Community-based COVID-19 Vaccination Manual
*(by CORE and PIH)*

## 3. Building Long-Term Systems for Health Equity

Ultimately, vaccination is just one part of a robust and effective COVID-19 response, and even the most optimistic predictions have domestic and global population-level immunity months and years off, respectively. Vaccination and booster campaigns will continue long after. We must continue to drive vaccine resources where they are needed, but we must also double down on other aspects of response, recovery and reimagining public health.

### ▷ Reinforce pillars of pandemic response: community protection, testing, contact tracing, and supported isolation and quarantine

All of these components are critical as we face emerging variants and, hopefully, move towards last mile disease control. These pillars are also essential for preparedness for future outbreaks of infectious disease.

> On the Navajo Nation, where vaccination coverage has outpaced states, PIH is helping to sustain the positive momentum by supporting contact tracers to incorporate questions on vaccination status into regular contact tracing/case investigation activities. and training staff to solicit feedback and answer questions about the vaccines, and make referrals for COVID-19 vaccination.

> In Pima County, AZ, PIH is incorporating vaccine messaging into contact tracing and case investigation workflows to bolster the vaccine response through the already established tracing workforce. The team has also helped the health department craft strategies, in collaboration with local community organizations, to reach vulnerable sub-groups of the population—including individuals experiencing homelessness, American Indian/Alaskan Natives, refugees, and those who are homebound.

**PIH Resource Link**

Vaccine Education and Messaging for Contact Tracing, Case Investigation, and Care Resource Coordination (CT/CI/CRC) Personnel

### ▷ Invest in care resource coordination programs that support individuals during and beyond the vaccination process

COVID-19 vaccination presents an important opportunity to connect communities and individuals into health and public health systems, and to build trust in those systems. Care Resource Coordination programs are a fundamental building block in the strengthening of systems to meet the health-related social needs of communities. Often developed from existing programs, Care Resource Coordination can support community members throughout the vaccination process. Before vaccination, coordinated support with pre-registration, scheduling, and transportation help improve access for marginalized groups. During vaccination, social and health needs screening can be conducted while individuals wait for vaccination or are being observed. After vaccination, follow-up with community members ensures any needs they had outside of vaccination are met, whether those needs are health care, health coverage, or essential social services.

> In Immokalee, FL, PIH and partners work at testing and vaccination sites to connect those in need to social supports, including food vouchers and unconditional cash transfers, to support isolation/quarantine and to alleviate the disproportionate impact of the pandemic on this community.

> In North Carolina, PIH is working with NC Department of Health and Human Services to ensure social and health services screening by Community Health Workers becomes a standard practice during vaccine registration and at vaccine sites throughout the state. Through efforts focused on historically marginalized populations including farmworker populations, as well as for those accessing mass vaccination, PIH is leveraging vaccination touchpoints to make sure community members have what they need to stay safe and healthy.

**PIH Resource Links**

Building Healthier Communities: Leveraging COVID-19 Vaccination to Address Social Determinants of Health

Recommendations for Achieving Equity in the U.S. COVID-19 Vaccination Rollout

### ▷ Invest in the public health workforce that will be critical to recovery and long-term system improvements

PIH's efforts to rebuild a more equitable health system, with communities at the center, start with vaccination and will continue as community partnerships expand and deepen. As vaccination progresses, we need to expand a public health workforce of community contact tracers and care coordinators to stamp out COVID-19 in the months ahead. These workers should be supported and equipped to move beyond COVID response, serving as key personnel in a responsive system that addresses current health disparities and the looming challenges in a post-COVID future, ensuring health for all of our communities.

**PIH Resource Link**

Public Health Jobs Corps: Responding to COVID-19, Rebuilding the Community Health Workforce

## Conclusion

Stopping COVID-19 is now possible, but doing so will not be easy. To reach this goal, and get to our new normal—opening our businesses, our schools, and our communities—we must not leave anyone behind. As we open vaccination to all adults, we must invest in those communities most at-risk: older adults, essential workers, and communities of color. Pragmatic and structural investments must be made on the supply and demand side, with a focus on building sustainable systems for the future.

We must recognize that population immunity—stopping COVID-19—can only be achieved with successful vaccination programs in every community, at the global, national, and local levels. Critically, these strategies cannot be one-time initiatives; they must be part of a durable effort to empower communities, as the most experienced and best positioned to advocate for structural, logistical, and informational resources that will not only increase vaccination coverage but also improve long-term health.

## Endnotes


1. Thomas N. & McPhillips D. (2021) *More than 80% of Alabama's Black population lived in a county where life expectancy didn't meet vaccine eligibility, CNN analysis shows.* https://www.cnn.com/2021/02/10/health/alabamas-black-population-vaccine-eligibility/index.html
2. Bloomberg.(2021) *U.S. White Vaccination Rates Are 1.7 Times Those of Black People: Covid-19 Tracker.* https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/us-vaccine-demographics.html Accessed April, 7th 2021.
3. Hughes M., Wang A., Grossman M., et al. (2021) County-Level COVID-19 Vaccination Coverage and Social Vulnerability — United States, December 14, 2020–March 1, 2021. MMWR Morb Mortal Wkly Rep; 70: 431–436. DOI: https://www.cdc.gov/mmwr/volumes/70/wr/mm7012e1.htm
4. Centers for Disease Control and Prevention. (2021) *COVID-19 Mortality Overview.* https://www.cdc.gov/nchs/covid19/mortality-overview.htm
5. Centers for Disease Control and Prevention. (2021) *Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity.* https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html
6. Centers for Disease Control and Prevention. (2021) *Health Disparities: Race and Hispanic, Origin Provisional Death Counts for Coronavirus Disease 2019 (COVID-19).* https://www.cdc.gov/nchs/nvss/vsrr/covid19/health_disparities.htm
7. Ndugga N., Pham O., Hill L., Artiga S., Alam R., Parker N. (2021) *Percent of Total Population that Has Received a COVID-19 Vaccine by Race/Ethnicity, March 1 to April 5, 2021.* https://www.kff.org/coronavirus-covid-19/issue-brief/latest-data-on-covid-19-vaccinations-race-ethnicity
8. Kinder M. & Stateler L. (2021) *Essential workers comprise about half of all workers in low-paid occupations. They deserve a $15 minimum wage.* https://www.brookings.edu/blog/the-avenue/2021/02/05/essential-workers-deserve-minimum-wage-increase/#:~:text=Using%20our%20colleagues%20Adie%20Tomer,less%20than%20%2415%20an%20hour
9. Hawkins, D. (2020) *Differential occupational risk for COVID-19 and other infection exposure according to race and ethnicity.* Am J Ind Med. 63: 817– 820. https://doi.org/10.1002/ajim.23145
10. Mulberry, N., Tupper, P., Kirwin, E., McCabe, C., & Colijn, C. (2021). Vaccine Rollout Strategies: The Case for Vaccinating Essential Workers Early. medRxiv. https://www.medrxiv.org/content/10.1101/2021.02.23.21252309v1
11. National Institutes of Health: National Cancer Institute. (2020) *Cancer Disparities.* https://www.cancer.gov/about-cancer/understanding/disparities
12 Centers for Disease Control and Prevention. (2019) *Addressing Health Disparities in Diabetes.* https://www.cdc.gov/diabetes/disparities.html
13. Artiga S., Pham O., Orgera K., Ranji U. (2020) *Racial Disparities in Maternal and Infant Health: An Overview.* https://www.kff.org/report-section/racial-disparities-in-maternal-and-infant-health-an-overview-issue-brief/
14. Centers for Disease Control and Prevention. (2021) *Provisional Life Expectancy Estimates for January through June, 2020.* https://www.cdc.gov/nchs/data/vsrr/VSRR10-508.pdf
15. Bailey, Z. D., Feldman, J. M., & Bassett, M. T. (2021). How structural racism works—racist policies as a root cause of U.S. racial health inequities.
16. Hamel L., Sparks G., Brodie M. (2021) *KFF COVID-19 Vaccine Monitor: Experiences With Vaccine Access And Information Needs* https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-experiences-vaccine-access-information-needs