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## RESEARCH ARTICLE

# Understanding the Impact of (Anti-)Racism on Covid-19 Vaccine Allocation Decision-Making

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**ABSTRACT:** This article uses critical discourse analysis to interrogate Covid-19 vaccine allocation frameworks created by Johns Hopkins and the National Academies to understand how the authors of these frameworks conceptualized the problem of vaccine hesitancy among people of colour. This article argues these frameworks represent an institutional discourse about vaccine-hesitant racialized people that casts people of colour as mistrustful, conspiracy-prone and unwilling to engage with public health efforts and that this stereotyping undermined the anti-racist potential of these frameworks to address vaccine hesitancy among racialized people by failing to consider how vaccine hesitancy in people of colour can be an attempt to mitigate the untrustworthy nature of US public health institutions. There will undoubtedly be another situation in the future where there are not enough critical health resources for all, and priorities will have to be set. Public health officials need to learn from the Covid-19 experience and will need a far better understanding of the issue of vaccine hesitancy among people of colour.

**KEYWORDS:** allocation, justice, race, trust, vaccine hesitancy

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## 1. Introduction

Vaccine hesitancy has been a major concern for U.S. public health officials during the Covid-19 pandemic, and while public health agencies have been concerned about vaccine hesitancy across the nation there has been a specific focus on racial disparities in vaccination rates. Racialized communities, and Black Americans in particular, have historically been viewed by public health officials as especially vaccine hesitant which has led to communities of colour being singled out as a “problematic” group in Covid-19 vaccine planning. Covid-19 vaccine allocation frameworks created by the Johns Hopkins Center for Health Security and the National Academies of Science, Engineering, and Medicine were highly influential in guiding U.S. states’ policies for

distributing Covid-19 vaccines and both models stress the need to address discrepancies in immunization rates between Whites and non-Whites to prevent the pandemic from further burdening communities of colour. These frameworks were intended to provide policymakers with a basic structure for equitable vaccine allocation and distribution, and while both frameworks explicitly connect their guiding ethic of mitigating health inequities to the goal of mitigating health inequities they provide few concrete suggestions as to how states might encourage racialized people to get vaccinated. Paradoxically, the frameworks actively encourage states *not to* prioritize racialized communities for fear of increasing mistrust, and therefore vaccine hesitancy, in communities of colour.

In this article, I argue the Johns Hopkins and National Academies frameworks perpetuated stereotypes about vaccine-hesitant racialized people as mistrust and conspiracy-prone by utilizing problematic racial health disparities data and by failing to give adequate and direct attention the impacts of present-day experiences of racism in the healthcare system on vaccine-hesitant racialized people. As a result, these frameworks fail to account for race as a cause of health inequities on its own terms and fail to see how their inability to engage directly with race in determining an ethical allocation structure makes them appear less trustworthy to racialized communities. This article addresses the inconsistency between these frameworks' stated commitment to anti-racism and their recommendation to not prioritize racialized people for Covid-19 vaccines despite their increased risk. I argue that Johns Hopkins and the National Academies relied on public health research that perpetuates stereotypes of vaccine-hesitant people of colour as being irrational and conspiracy-prone to make their recommendations, leading them to inadequately address the structural racism that contributes to vaccine hesitancy in racialized communities. In doing so, Johns Hopkins and the National Academies undermine their intentions to be anti-racist as their recommendations about how to address racial inequities in Covid-19 vaccine allocation amount to little more than acknowledging past wrongdoings and not actively excluding racialized people from the allocation process. Accordingly, I use critical discourse analysis (CDA) to interrogate the Johns Hopkins "Interim Framework for Covid-19 Vaccine Allocation and Distribution in the United States" and the National Academies "Framework for Equitable Allocation of Covid-19 Vaccine". CDA "focuses on the ways discourse structures enact, confirm, legitimate, reproduce, or challenge relations of power and dominance in society", and I use CDA to analyze these frameworks which I argue are intended to be an example of anti-racist healthy policy but in fact view vaccine-hesitant racialized people as "problem people" and challenge very few underlying assumptions of structural racism in medicine. (Van Dijk, 2001 353). I conclude by contrasting these guidelines with examples of explicitly race-based medical resource prioritization in the state of Vermont and Canada that exemplify the impact of anti-racist and race-conscious policy on building trust with racialized communities and a consideration of these frameworks' impact on vaccine hesitancy among people of colour.

## 2. Theoretical Framework

### 2.1 Vaccine hesitancy, Race, and Trust

Vaccine hesitancy has been a rising subject of concern over the last few decades, with the World Health Organization (WHO) declaring vaccine hesitancy one of the top ten threats to global health in 2019. The WHO defines vaccine hesitancy as a "delay in acceptance or refusal of vaccination despite availability of vaccination services," but the Covid-19 pandemic has shown this definition is unstable (MacDonald 2015). Rather than the WHO definition, this article uses Maya J. Goldenberg's definition of vaccine hesitancy — "mild to severe uncertainty about whether vaccines are safe, effective, and necessary" — to analyze Covid-19 vaccine allocation frameworks. The Goldenberg definition is better suited to the Covid-19 pandemic than the WHO definition because Goldenberg considers an individual's receptivity to vaccines regardless of the current availability or supply of vaccines, which more accurately represents the conditions under which the Johns

Hopkins and National Academies frameworks were created and the kind of vaccine hesitancy they were attempting to address.

Across the literature on vaccine hesitancy is the finding that an individual's feelings towards vaccines are shaped by cultural, social, political, and personal factors with attitudes ranging from outright refusal and mistrust to more latent misgivings to enthusiastic reception. Beyond individual factors, vaccine hesitancy rates are impacted by factors like public health agendas and the influences of race and class on health behaviours (Rogers and Pilgrim 1995; Burton-Jeangros, Golay and Sudre 2005; Calarco 2021). While a great deal of research understands vaccine hesitancy to be a problematic individual health behaviour, Goldenberg argues vaccine hesitancy is the result of poor public trust that is itself the consequence of poor science public relations, and that this is doubly true when considering vaccine hesitancy among racialized communities. Despite noting inadequate science communication is a key cause of vaccine hesitancy, Goldenberg is careful to caution against the patronizing assumption that we can "fix" vaccine hesitancy by simply correcting the uninformed public's misunderstanding of the science and notes that the current crisis of trust in science and public health is "inextricably tied to historical and contemporary structures of inequality and injustice that permeate our institutions," a disparity at the heart of vaccine hesitancy among people of colour (2021, 18).

This lack of trust and its connection to structures of inequality is of particular theoretical interest to scholars of vaccine hesitancy. Public health agendas, and vaccine programs in particular, have been argued to be acts of regulation, surveillance and control of bodies by the state and these impacts are disproportionately experienced by racialized communities (Armstrong 1995; Clarke et al. 2003). As a form of structural racism such acts of regulation, surveillance and control of people's bodies directly contribute to racial and ethnic health inequities (Bonilla-Silva 1997). This line of critique has been especially well developed by Black feminists who argue biomedicine creates and contributes to social marginalization by subjecting racialized people to both excessive regulation and control as well as medical abandonment, a combination Alondra Nelson calls a "dialectic of neglect and surveillance." (2011, 164) Some of this neglect can be seen in the lack of research on vaccine hesitancy among racialized people. Most pre-pandemic research on vaccine hesitancy in the global North is conducted on Whites, where the positive relationship between high socioeconomic status and vaccine hesitancy holds strong — although research on Covid-19 has found high levels of vaccine hesitancy in Whites across multiple socioeconomic classes (Bagasra, Doan and Allen 2021). Conversely, studies of vaccine hesitancy among racialized people note that racialized people with less education and lower incomes report higher degrees of vaccine hesitancy and their hesitancy frequently hinges on the idea of trusting medical institutions, public health science, and vaccine safety (Bagasra, Doan and Allen 2021; Fuller et al. 2021; Willis et al. 2021). Importantly, this work also reveals vaccine hesitancy does not necessarily equal vaccine refusal — racialized parents report higher concerns about vaccine safety than White parents, but parents of colour are far less likely to decline a doctor-recommended vaccine than White parents (Freed et al. 2010). Goldenberg suggests this disparity in relatively high levels of vaccine-hesitant belief with low levels of vaccine-refusal behaviour indicates that "disempowerment, rather than vaccine confidence, can underlie vaccine uptake within marginalized communities" (2021, 9). Finally, there are gaps in knowledge about the relationship between trust, vaccines, and racialized people because so much of the current research focuses on *mistrust* rather than *distrust*. While medical distrust — a lack of trust in the healthcare system — is often used synonymously with medical mistrust, distrust is based on experience or reliable information while mistrust is discomfort without evidence to support that feeling. Racialized peoples' experiences in healthcare — both the history of unethical medical and public health experimentation involving communities of colour in the United States and ongoing structural inequities and racism within medical institutions — create distrust, not mistrust, in their communities. This difference in phrasing may seem semantic, but Anishinaabe journalist Duncan McCue argues narratives of racialized people as mistrustful perpetuates paternalistic stereotypes about people of colour being reckless with their health and conspiracy-prone which in turn diverts attention away from the racist experiences that create distrust (McCue 2014). Similarly, Harriet Washington (2007) posits much of what is taught as the history of medicine in the U.S. is curated to malign the humanity and experiences of people of colour where the focus remains on racialized peoples' troubling health habits that serve to further

problematize people of colour rather than medicine's role in perpetuating white supremacy. Going further, Ruha Benjamin (2016) suggests scholars working in this space shift from analyzing racialized peoples' distrust to instead embrace an "epistemological refusal of "distrust" as an ever-ready cultural trope used to explain why racialized communities are "hard to reach" to open up this research to an evaluation of the relative trustworthiness of biomedical institutions (970). Using informed refusals as a case study, Benjamin argues refusing medical treatment can represent an act of agency and a desire to create more equitable relationships between patients and the healthcare system but also explains that the stereotype that refusals to engage with biomedicine on its terms mean the refuser is "anti-science" often puts the onus of repairing the broken trust in the healthcare system on the most vulnerable people in the system.

## 2.2 Medical Resource Allocation and Allocation (Bio)Ethics

To fully understand how the Johns Hopkins and National Academies frameworks contributed to stereotypes about vaccine hesitancy among racialized people, we must also understand such medical resource allocation and ethical frameworks more generally. In the Covid-19 pandemic, Johns Hopkins and the National Academies institutions and their frameworks were meant to provide the guiding ethics of Covid-19 vaccine allocation. The Johns Hopkins framework, published in August 2020, is the brainchild of a multidisciplinary group of public health experts at Johns Hopkins University who set themselves the task of recommending an approach for making allocation and distribution decisions by identifying priority groups who "would be ethically defensible to include as candidates for high-priority access to scarce SARSCoV-2 vaccine." (Toner et al. 2020, 1) The Johns Hopkins team specifically hoped that their framework would be used by Centers for Disease Control and Prevention (CDC) as well as state and federal governments, and as the first ethical framework for vaccine allocation published pertaining to Covid-19 the authors were interested in setting a precedence for which ethical principles would be considered when allocating vaccines in the U.S. (Moss and Privor-Dumm 2020). Published in October 2020, the National Academies framework was created by a committee comprised of 18 members with expertise in fields including public health, epidemiology, bioethics, law, and public policy who were asked by the CDC and the National Institutes of Health to make recommendations to assist policymakers at state, federal and global levels with vaccine allocation decisions. Like the Johns Hopkins team, the National Academies committee aimed to create a "plan for equitably distributing a limited vaccine supply" (National Academies 2020, 24).

The ethical principles discussed in these frameworks come from the field of bioethics, which typically uses the principles of beneficence, nonmaleficence, autonomy, and justice to guide medical research and clinical practice (Evans 2000; Saleh et al. 2021). By contrast, public health concentrates on population health and the prevention of disease, so ethical frameworks in this field emphasize a commitment to reducing health inequalities across society. Public health does not rely on one shared ethical theory, so public health ethics often make use of the core principles and assumptions of bioethicists in their ethical deliberations — this can be seen in the frameworks shared principles of "equal concern" and "maximizing benefits" (National Academies 2020; Toner et al. 2020; Saleh et al. 2021). However, applying bioethical principles to public health problems can result in ethical proposals that do not support public health's aim of reducing inequities. During the pandemic, mass shortages of resources like intensive care unit beds, ventilators, and personal protective equipment as well as critiques that the distribution of these limited resources was often unequal and disadvantaged marginalized persons (racialized people, disabled people, et cetera) made it abundantly clear that the lack of any concrete public health ethics in the U.S. led to a more unequal distribution of medical resources than ever imagined where marginalized communities, people of color in particular, were disproportionately exposed to Covid-19 and were undersupplied with protective resources. This realization ties back to Benjamin's argument that a truly anti-racist approach to medical resource allocation would require "a reorientation away from the purported traits and dispositions of "problem people"... toward the relative trustworthiness of institutions", a crucial step if public health institutions hope to inspire trust in racialized communities to reduce vaccine hesitancy and avoid further othering these communities (2016, 983).

## 2.3 Critical Discourse Analysis and Vaccine Allocation Frameworks

This paper uses CDA to analyze the Johns Hopkins and National Academies frameworks to show the discursive practices that cast vaccine-hesitant people of colour as mistrustful and unwilling to engage with public health within the context of Covid-19 vaccine allocation decisions. In contrast with modes of discourse analysis that treat only the text in relation to itself and other texts as a system of signs, CDA adopts a critical realist epistemology such that there is a real world outside the text. CDA examines the relationship of text to world critically, analyzing how the text may operate in relation to real power structures even when the text's relationship to such structures may be masked in the text itself (Kress 1990; Fairclough 2013). Fairclough (1989) treats language as socially conditioned but also treats social life as inextricable from its linguistic constitution, accordingly this paper uses an adapted model of Fairclough's three-dimensional model — modified to allow for close reading of the limited number of sources — in which texts are analyzed in three stages:

1. Description (analysis of the linguistic property of the text)
2. Interpretation (analysis of the relationship between the discursive process of production and interpretation and the text)
3. Explanation (analysis of the relationship between the processes of production and interpretation and social conditioning)

The three stages of discourse analysis relate to different aspects of the texts in relation to the structures and frameworks in which vaccine allocation is embedded: (1) analysis of linguistic choices in the text, (2) discursive practices, including citational practices, in the vaccine allocation frameworks, and (3) the socio-cultural practices of the authors of the frameworks (i.e., Johns Hopkins and the National Academies).

It is worth noting that allocation frameworks focused on ensuring ethical distribution of a scarce resource are relatively new in pandemic management in the U.S. The first federal vaccine allocation guidelines were published in 2008 in response to the H1N1 flu pandemic and prior to Covid-19 the only update to these guidelines was published in 2018 (Iskander et al. 2013; Toner et al. 2020). Stephen Hilgartner (2000) has argued scientific advisory reports by the National Academies may be treated sociologically as discursive performances in which the presentation of science is stage-managed so as to establish and protect its credibility. This paper similarly argues that these frameworks may be treated as textual-discursive performances aimed at enacting an image of an epidemiologically- and ethically-based response to vaccine hesitancy among people of colour as part of a broader attempt to establish anti-racist public health policy that in reality challenged few underlying assumptions of structural racism in medicine.

## 3. The Discursive Construction of Vaccine Hesitancy in the Johns Hopkins and National Academies Frameworks

### 3.1 Text Analysis

The creators of the Johns Hopkins and National Academies' frameworks conceptualize the issue of vaccine hesitancy among people of colour as one of distrust and a lack of confidence in the public health system, predominantly resulting from historic injustices and where the issue of present-day racism is left mostly unaddressed. The Johns Hopkins framework explains “communities of color, particularly Black populations, may be more wary of officials responsible for vaccine-related decisions due to past medical injustices committed by authorities on Black communities” — past medical injustices in this case being shorthand for medical exploitations like James Marion Sims, Henrietta Lacks, and the Tuskegee study — and goes on to

further explain Black Americans' lack of trust in public health policy, saying "awareness of historical or ongoing injustice in the medical system has led some Black individuals to lack confidence in the safety or efficacy of vaccines." (Toner et al. 2020, 2; 12) The Johns Hopkins authors discuss their views on whether racial and ethnic groups should be prioritized directly for a Covid-19 vaccine, and while they admit doing so "could potentially enable the greatest impact on reducing Covid-19 burden in these populations" they worry that directly prioritizing racialized communities could "further threaten the fragile trust that some have in the medical and public health system" as the authors argue racialized people could perceive being prioritized means they are being used as "guinea pigs" to test the vaccine (Toner et al. 2020, 12). This concern makes clear the Johns Hopkins framework-makers saw a tension between their desire to protect racialized communities and their fear that including race in their allocation decision-making could further alienate those communities. Indeed, while the Johns Hopkins framework-makers acknowledge ongoing racism in the healthcare system and make a commitment to justice and to "promoting social equity by... addressing racial and ethnic disparities", the authors fail to specify what forms of ongoing injustice and discrimination they intend to counter in making their recommendations and mostly sidestep the issue of racism by advocating for indirect measures to address race in vaccine allocation and they neglect to provide specific guidance on how local health departments and policymakers can resist perpetuating racism in their vaccine allocation or how build trust in racialized communities beyond acknowledging past wrongs (Toner et al. 2020, vi).

The Johns Hopkins framework dedicates several pages to a discussion of social norms and values that the authors argue influence vaccine hesitancy, but crucially lack any concrete strategies for policymakers to build connections with and understandings of racialized peoples in their communities. Case in point, the authors suggest that "various efforts need to be made, including engaging a diverse array of stakeholders from different communities to give input" but do not go on to specify what these efforts should entail nor what kind of engagement they recommend with diverse stakeholders (Toner et al., 2020 14). The closest example the framework gives is in a section called "Culturally Competent Policy," where the framework-makers advise that "in US jurisdictions where large numbers of Latino communities reside, public health authorities can exercise sensitivity to the strong cultural value placed upon the family when developing, implementing, and communicating vaccine allocation" but again, the authors never clarify what specifically they recommend public health authorities actually do to cater to cultural values and increase vaccine confidence (Toner et al. 2020, 15).

The National Academies framework was directly influenced by the Johns Hopkins model, and as such advises state and local health authorities to take up many of the Johns Hopkins recommendations. Like the Johns Hopkins framework, the National Academies framework acknowledges both the increased burden of Covid-19 on racialized communities as well as higher rates of vaccine hesitancy and skepticism, although the National Academies authors go into much greater empirical and theoretical detail about the then-current state of Covid-19 and how communities of colour were faring. (National Academies 2020, 18; 30). In a chapter entitled, "Achieving Acceptance of Covid-19 Vaccine", the authors acknowledge the growing trend of vaccine hesitancy and the well-organized characteristics of the anti-vaccination movement. The chapter details research on promoting vaccine uptake and remarks that "dialogue-based interventions—which include social mobilization, engagement with community leaders and trusted community representatives... and other communication across scales—have been highlighted as potentially effective" but also do not provide more explicit instructions and note that there are unique challenges to Covid-19 vaccine acceptance (National Academies 2020, 194; 191). Specifically, the framework notes many of the "risk factors that are associated with Covid-19 illness, hospitalization, and death in racial and ethnic minority communities... tie back to the historical impact of systemic racism and the social determinants of health" and argues all Covid-19 vaccine allocation frameworks "must explicitly address the higher burden of Covid-19 experienced by the populations affected most heavily, given their exposure and compounding health inequities." (National Academies 2020, 31; 95) Thereby establishing a clear link between their allocation recommendations and a desire to address structural racism.



And yet, the National Academies framework mirrors the Johns Hopkins authors' concern and argues "a purely race/ethnicity-based prioritization approach is likely to increase mistrust in communities of color, because they may suspect a lack of ethical and safety oversight for a new vaccine given a long history of mistreatment by the medical community in the name of research." (National Academies 2020, 133) Like the Johns Hopkins model, the National Academies framework focuses mostly on historic injustices and even lists examples in a subsection titled "Medical Exploitation and Distrust" with the Tuskegee study, the Edmonston-Zagreb vaccine trial, and forced sterilization of Latina and Indigenous women used as a rationale to argue that this "legacy leaves many communities of color... suspicious of initiatives to engage them in health promotion or surveillance efforts, and, in many cases, reluctant to become vaccinated." (National Academies 2020, 190) And while the National Academies framework does not dismiss the effect of present-day racism in medicine, tellingly the authors not follow up this section with an equally robust discussion of ongoing examples of discrimination in healthcare. The National Academies framework also goes into greater detail than Johns Hopkins in its recommendations on rebuilding trust in racialized communities, advising local government and public health agencies to engage in tailored outreach and promotional campaigns with diverse stakeholders, like historically Black colleges and universities and social marketing firms. It also suggests policymakers "prioritize promoting the vaccine to Black, Hispanic or Latinx, American Indian and Alaska Native, Hawaiian Native and Pacific Islander, and other communities in which vaccine hesitancy and skepticism have been documented" but ultimately leaves the particulars of these campaigns to individual policymakers and the framework offers little guidance to states and locales without a strong background in race relations as to how to bridge divides in their communities (National Academies 2020, 196).

Beyond their shared concern that prioritizing racialized people will inspire distrust and potential vaccine refusal, both frameworks recommended against directly prioritizing people of colour in part to avoid missing out on other important social determinants of health that contribute to poor Covid-19 outcomes. To get around this challenge, the frameworks suggest prioritizing other population cohorts, like those with underlying health conditions known to contribute to poorer Covid-19 outcomes and essential workers, may indirectly prioritize people of colour given racialized people have higher incidences of poor health and are more likely to be employed in frontline occupations (National Academies 2020, 123; Toner et al. 2020, 2; 12; 25). However, this shift from contemplating a direct race-based prioritization to attempting to indirectly prioritize people of colour by way of their poorer health and lack of safe employment — both of which can be attributed to their social marginalization — also means the frameworks fail to engage directly with the structural racism that leads to these forms of health and employment disparities. The Johns Hopkins framework also recommended health agencies allocate based on non-race-based factors like age and occupation but states that followed this advice were criticized for disadvantaging racial and ethnic minorities, who have shortened lifespans and disproportionately die younger from Covid-19. The National Academies, by contrast, suggested policymakers factor race and ethnicity in their vaccine plans by way of a statistical tool called a "social vulnerability index" or a "disadvantage index" to target disadvantaged populations without using race or ethnicity as a specific allocation criterion (National Academies 2020). And yet, these indexes present their own challenges when attempting to account for racial disparities. The social vulnerability index (SVI) identifies geographic areas of vulnerability based on 15 U.S. Census variables that are thought to capture social determinants of health for that area and are generally grouped into four domains: socioeconomic status; household composition and disability; minority status and language; housing and transportation. The National Academies recommended health agencies set aside 10% of vaccines for communities determined to be vulnerable by the SVI but modelling of this plan reveals that even if every state followed this plan racialized communities would be offered vaccines below their population share until the beginning of phase 3 (Schmidt et al. 2021). Additionally complicating matters is that there are no prescribed weights for the four domains in the methodological design of the SVI meaning minority status can account for as little as one-fifteenth of the overall SVI score if considering all variables equally and neither Johns Hopkins nor the National Academies advises states on how to design their SVI (Schmidt, Gostin and Williams 2020).

Finally, the National Academies recommended the SVI in part to avoid legal challenges and criticism resulting from directly prioritizing communities according to race, however this suggests an internal inconsistency in their framework as they explicitly excluded legal changes including “the potential intersection of allocation criteria with federal and state anti-discrimination laws” from their considerations of ethical vaccine allocation (National Academies 2020, 24). Moreover, the hope that by using an SVI health agencies could avoid such challenges was proven untrue when Republican state legislators in Michigan passed an amendment prohibiting the use of the SVI in vaccine allocation because they argued it amounted to “social engineering” (Cwiek 2021).

As the pandemic wore on and more data became available about how exactly communities of colour were faring, it also became evident that Covid-19 racial disparities were not consistently explained by greater social vulnerability. A study of Covid-19 in San Francisco reported “multiple instances of discordance between the relationships of race and ethnicity and the relationships of social vulnerability” on Covid-19 infection, morbidity, and mortality rates, and found that while Asians had the highest hospitalization rate among the four largest racial groups in the city, this rate was independent of social vulnerability. (Cho and Hwang 2022, 7) A similar large-scale study from Missouri found that Black patients were almost four times more likely to be hospitalized for Covid-19 than White patients even after the data was adjusted for SVI, pandemic time course, gender, and age (Landman et al., 2021). Beyond the apparent inability of SVI-based measures to account for the totality of racial inequities in Covid-19, there is a question as to why this was the National Academies' preferred strategy when decades of research have proven racial differences in health cannot be reduced to the social factors that make up the SVI — including research conducted by the National Academies. In 2003, the National Academies published *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, a book of more than 700 pages dedicated to discussing racial health disparities that continue to exist even when differences in access and socioeconomic class are accounted for, compounding the need for these frameworks to directly address race.

### 3.2 Analyzing Context

The research context in which the Johns Hopkins and National Academies frameworks were crafted is vital to understand the text, and so in this section I analyze materials cited by the frameworks as part of the discursive practices under examination. Understanding these citations is integral to understanding how the framework-makers translated this data into recommendations, and crucially how the network of expertise they utilized compromised their anti-racist aims.

The Johns Hopkins framework cites an article on racial influences on flu vaccine attitudes and behaviour (Quinn et al. 2017) as well as a Johns Hopkins's Working Group on Readyng Populations for Covid-19 Vaccine piece on planning recommendations (Schoch-Spana et al. 2021) as evidence for its claim that racialized people would be mistrustful of Covid-19 vaccines if they were prioritized. The Quinn article examines the impact of racial factors “including racial consciousness, fairness, and discrimination” on vaccine beliefs and behaviours and found that, while Black Americans reported higher levels of vaccine hesitancy than Whites, Blacks also reported facing more barriers getting vaccinated (Quinn et al. 2017, 5). Importantly, in the context of the Johns Hopkins framework's employment of this paper, Quinn et al. found Black Americans were “statistically significantly higher on naturalism and conspiracy” (2017, 4). The Quinn article operationalizes belief in conspiracy theories as a respondent's likelihood to agree with statements like “The main reason for promoting the flu vaccine is for drug companies to make money” but also statements like “The flu vaccine is a way to experiment on people without their knowledge” and “The flu vaccine is used as a way to harm certain groups of people” (2017). The problem with this research design is that — as the Johns Hopkins framework notes — experimental vaccines have been used on Black Americans meaning that Black respondents who agreed with these statements were not necessarily agreeing because they are conspiracy-prone, but because they are aware of this history. Moreover, the lack of cultural awareness at the heart of this



operationalization of “vaccine conspiracies” plays into the kinds of paternalistic stereotypes about people of colour McCue warns against and continues a longer tradition of using racialized people’s belief in a so-called conspiracy to discount their concerns. Erica Lagalisse (2019) and Jack Bratich (2008) also explore how the term “conspiracy theory” is used to disqualify people who hold non-mainstream views from serious consideration. This tendency is arguably especially true when the theory originates from marginalized groups whose “conspiracies” have the potential to threaten the power of the dominant group. While the Johns Hopkins framework is admirably attentive to racial discrimination, their reliance on the narrative from Quinn that Black Americans are statistically more conspiracy-prone and thus their lower vaccination rates is a result of their irrationality, mistrust and lack of scientific knowledge and their failure to explicitly critique this kind of stereotyping in their framework served to legitimize this assumption and hampered Johns Hopkins’s ability to address the disproportionate burden of the pandemic on communities of colour.

The Working Group’s recommendations also cite the legacy of historic medical exploitation and experimentation on racialized people as creating a lack of trust in vaccinations, arguing “the US is in a paradox, where populations of color could be prioritized for vaccination based on their increased risk for disease, yet doing so may be perceived as experimenting on a vulnerable population.” (Schoch-Spana et al. 2021, 12-13) The Working Group references Vanessa Northington Gamble’s influential paper “Under the shadow of Tuskegee” as the basis for this concern that historical exploitation is to blame for vaccine hesitancy among people of colour, and yet in that paper Gamble argues fixating on events like Tuskegee “places emphasis on a single historical event to explain deeply entrenched and complex attitudes within the Black community.” (Gamble 1997, 1773) More ironically, in the article Gamble critiques earlier work from Quinn on the relationship between race and vaccine hesitancy for ignoring how experiences of discrimination before and long after the revelations of the Tuskegee study were made public shape racialized people’s perspectives on vaccines. For example, the Working Group references several news articles which detail how the Covid-19 vaccine triggered fears of “another Tuskegee” in Black communities (Jennings 2020). The Working Group, and the Johns Hopkins framework by extension, did not cite media coverage that focused on Black Americans who eagerly anticipated or actively sought out a Covid-19 vaccine instead focusing on news articles that represented Black and brown Americans as being especially vaccine-hesitant compared to other American demographics. For comparative purposes, a *Reuters* Poll from May 2020 — two months before the Working Groups report was published — found that while 37% and 32% of Black and Latinx respondents respectively reported being “not interested” in getting a Covid-19 vaccine, 41% of Republicans responded as being “not interested” (Ax and Steenhuysen 2020).

The National Academies framework authors do not provide any specific citation to justify why they suspect “a purely race/ethnicity-based prioritization approach is likely to increase mistrust in communities of color.” This argument may have come in part from the Johns Hopkins model which the National Academies cites elsewhere in its framework or from other research on Black attitudes towards the Covid-19 vaccine that the committee chose not to cite (see Bogart et al. 2021). The National Academies does, however, reference another Quinn article in a section discussing historical gaps in immunization coverage and more notably cites the 2011 Plough et al. article detailing racial disparities in H1N1 vaccines in which Plough et al. found “African Americans had the lowest rates of vaccination uptake compared to other racial and ethnic groups.” (National Academies 2020, 33) In this study, the authors used racial and ethnic data from free H1N1 vaccination clinics in Los Angeles to estimate each group’s total county population and thus extrapolate the extent of vaccine hesitancy among communities of colour in Los Angeles during the 2009 H1N1 pandemic. Plough and collaborators, and the National Academies by extension, use this data to conclude that vaccine-hesitant racialized people often remain hesitant despite targeted outreach and emphasize the challenge of convincing marginalized peoples to get vaccinated. The problem with this approach is that these free vaccine clinics accounted for just 20% of all H1N1 vaccinations in Los Angeles county during the study period, leaving a high degree of uncertainty around the study findings (Ayers et al. 2021). Moreover, while vaccinated adults of all races were most likely to get vaccinated at their doctor’s office, Blacks were significantly less likely than Whites to be vaccinated at these free clinics for H1N1 (2.9% vs. 12.4%) further obscuring the strength of

Plough et al.'s conclusions (Uscher-Pines, Maurer and Harris, 2011). This discrepancy in where people went to get their H1N1 vaccinations and how that data has been interpreted speaks to the inconsistencies in how institutions like Johns Hopkins and the National Academies understand the health and vaccine behaviour of racialized people, reiterating Benjamin's point that these institutions often focus on the behaviours of "problem people" at the expense of examining how their practices — including their citational practices — contribute to racist stereotypes about racialized people's health behaviours.

### 3.3 Analysis of Discursive Practices and Socio-Cultural Aspects of the Frameworks

The National Academies As Fairclough (1992) makes clear, discursive practices alongside social and cultural perspectives are crucial to understanding any text. In the case of vaccine allocation frameworks, the discursive practices are the recommendations while the social and cultural practices include the framework-makers' explicit commitment to ethics and to allocating a limited public good (Covid-19 vaccines) most fairly and equitably. While there is no universally agreed upon public health code of ethics, attempts to codify public health ethics have argued public health should address social determinants of health and empower marginalized people to ensure health equality (Baylis et al. 2008; Ortmann et al. 2016; Thomas et al. 2002). Exemplifying this approach, a team of bioethicists led by Ezekiel Emanuel proposed using emergency care triage logic to attempt to distribute resources during the pandemic based on how severe the suffering was in a given place (Emanuel et al. 2020). Unlike the Johns Hopkins and National Academies models, Emanuel's framework emphasizes prioritizing the disadvantaged and argues that the primary measure used to prioritize and allocate resources should be the number of premature deaths that a vaccine would prevent (Emanuel et al. 2020).

The Johns Hopkins and National Academies frameworks did not adopt this suggested code, instead choosing to roughly follow the "utility principle," meaning resources are allocated to provide the maximum possible benefit to the public. In the pandemic, this meant prioritizing healthcare workers and first responders for vaccines alongside certain groups of people based on clinical factors like a high risk of infection, morbidity, mortality risk, and transmission of the disease to preserve and return to the normal functioning of society (Moodley et al. 2013). The utility-based recommendations the Johns Hopkins and National Academies authors made to health agencies encouraged them to prefer essential personnel and employees for early vaccination while simultaneously de-prioritizing those deemed unnecessary for normal societal functioning. For example, in its sample allocation plan, the National Academies framework suggests people experiencing homelessness be vaccinated in phase two of a vaccine roll-out despite their high risk of infection, morbidity, mortality, and transmission because they are at low risk of negative societal impact — the argument here being that homeless people becoming ill would not adversely affect societal function and so they can afford to wait despite it being exactly this social marginalization that puts them at such high risk (National Academies 2020, 109). As a number of bioethicists have pointed out, a utility-based approach to vaccine allocation has the potential to amplify pre-pandemic inequalities as focusing solely on clinical factors or societal preservation ignores the dramatically different levels of death and socioeconomic devastation already-marginalized communities have experienced in the pandemic (Ingeno 2020).

The decision to use a utility-based approach is also notable when we compare the American frameworks to the allocation frameworks produced in Canada and the United Kingdom. The U.K. model, created by the government's Joint Committee on Vaccination and Immunisation (JCVI), is most like the U.S. model wherein Covid-19 vaccines were allocated according to age and occupation. Like the American frameworks, the JCVI recognized the importance of race in determining Covid-19 outcomes, but ultimately decided against prioritizing racialized communities because of concerns that doing so may "reinforce these negative stereotypes and further increase experiences of stigma and discrimination." (Campos-Matos and Mandal 2020) While it is beyond the scope of this article to consider the veracity and implications of this claim, it is noteworthy that the JCVI framework discounts direct race-based prioritization because of concerns that Whites may respond with stigma and discrimination rather than arguing that lack of trust in racialized communities is the main issue. The Canadian National Advisory Committee on Immunization (NACI) allocation framework

also prioritized vaccines according to age and occupation but included “[a]dults in Indigenous communities where infection can have disproportionate consequences” in the first phase of vaccinations according to recommendations made in December 2020 which were updated to include “[a]dults in racialized and marginalized communities disproportionately affected by Covid-19” in phase two alongside first responders and people over 60 in February 2021 (National Advisory Committee on Immunization 2020, 2021). Created a few months after the American and British models, the Canadian framework explicitly took the racial disparities in U.S. and U.K. immunization rates into account as they developed their framework. As such, the NACI framework is not only an example of an allocation framework with multiple forms of race-based prioritization but also represents a very different rationale behind race-based prioritization. Where the U.S. frameworks worry prioritizing racialized individuals will stir up distrust and vaccine hesitancy, the Canadian model argues prioritizing communities of colour is vital “to reduc[ing] inequities and increase[ing] access to vaccines” (National Advisory Committee on Immunization 2021). Furthermore, the NACI’s Equity Matrix, a tool designed to evaluate the equity of different allocation strategies, urged local health agencies to focus on increasing access to vaccines as a way to build trust with vaccine-hesitant people (Ismail et al. 2020).

Compared to these models the utility-based American allocation frameworks’ potential to increase health inequities is striking, especially when we consider the Johns Hopkins and National Academies frameworks make an explicit commitment to decreasing such inequalities. Both frameworks specify the principle of justice as a guiding ethical value in their allocation decision-making — “justice requires treating people equally” (Toner et al. 2020, 10). However, there is an irreconcilable tension in these frameworks’ use of justice given both frameworks also argued “[m]itigating... health inequities is, therefore, a moral imperative of an equitable vaccine allocation framework.” (National Academies 2020, 95) As the Johns Hopkins framework explains, justice can mean treating all people fairly in terms of their inclusion or exclusion from vaccine allocation, but justice also means “advance[ing] equity... within society as a whole by addressing inequities between social groups, especially those rooted in entrenched, unfair patterns of power and advantage.” (Toner et al. 2020, 11) The Covid-19 pandemic presented an opportunity for these institutions to engage with race in public health in a novel way and more seriously take on the challenge of addressing structural racism. Instead, the actual recommendations made by the frameworks regarding how to address racial inequities in Covid-19 vaccine allocation amount to little more than acknowledging past wrongdoings and not actively excluding racialized people from the allocation process. To this extent, the frameworks use this double definition of justice to suggest that they are radically promoting new ways of responding to a health crisis while doing very little to combat racism in healthcare.

Not only do the Johns Hopkins and National Academies frameworks, therefore, misinterpret racial health disparities data and misrepresent vaccine-hesitant racialized people as being a consequence of historic injustices while minimizing the impact of present-day experiences of racism in the healthcare system on racialized peoples’ attitudes towards vaccines, but these frameworks also fail to account for race as a cause of health inequities on its own terms and fail to see how their inability to engage directly with race in determining an ethical allocation structure makes them appear less trustworthy to racialized communities. By advocating for an indirect prioritization of racialized people through occupation and social vulnerability, the frameworks are unable to engage directly with structural racism despite the abundance of evidence that race-specific strategies are needed to improve health outcomes for disadvantaged racial groups. The absence of direct race-based prioritization in these frameworks is additionally noteworthy considering both frameworks explicitly situate their recommendations within the context of the 2020 protests and action over systemic racism. The Johns Hopkins framework argues the “structural racism that is the root cause of police brutality is also the root cause of the disproportionate impact of the current pandemic on people of color and people living in poverty” while the National Academies says “at this moment there is an awakening to the power of racism... we saw our work as one way to address these wrongs” (National Academies 2020, xviii; Toner et al. 2020, 2). While the framework-makers approached vaccine allocation with lofty goals of addressing racism and using the pandemic as an opportunity to alleviate racial health disparities, they continued to rely on the problematic

assumption that racial disparities in vaccine rates would predominantly result from vaccine-hesitant racialized people being too mistrustful and conspiracy-prone to engage with public health.

In failing to adequately respond to the race-based inequities of the Covid-19 pandemic, the National Academies and Johns Hopkins perpetuated the structural racism they sought to confront. A Kaiser Family Foundation poll from January 2021 — during the first distribution of Covid-19 vaccines — found 52% of Black adults reported feeling “not too” or “not at all” confident that the vaccine distribution efforts were taking into account the needs of Black people indicating people of colour in the U.S., and especially Black Americans, were unconvinced of the trustworthiness and ability of public health agencies to protect them and their communities (Hamel et al. 2021a).

If we consider the frameworks’ recommendation to not directly prioritize people of colour for a Covid-19 vaccine to perpetuate structural racism in public health because it created a sense that health institutions and agencies did not account for the needs of racialized people and did not do enough to create a sense of safety and trust, otherwise “irrational” behaviour on the part of vaccine-hesitant people of colour suddenly becomes sensible. Polling from April 2021, when all adults in the U.S. became eligible for a Covid-19 vaccine, revealed approximately 19% of Black and 18% of Latinx adults intended to “wait and see” how safe and effective Covid-19 vaccines were before getting immunized compared to 13% of Whites intended to do the same (Hamel et al. 2021b). Given Covid-19 presents a real risk of death and severe illness and that this risk is significantly higher for racialized people, the decision to “wait and see” if a vaccine is safe when it has been tested and approved numerous times by multiple public health and safety entities can appear irrational. But in light of structural racism, racialized people who waited to get vaccinated were not irrational actors who fail to understand science or behave appropriately amid a pandemic but were instead trying to navigate their relationship with institutions that fail to understand or provide for them. In this way, deciding to “wait and see” can be considered an act of informed refusal, a term Ruha Benjamin (2016) uses to describe moments of refusal that negate pre-existing relationships between subjects and figures of authority and instead create new, more equitable relationships. People who are hesitant to get vaccinated or seek out additional assurances of the safety and efficacy of vaccines — especially vaccine-hesitant racialized people — attempt to find a balance between protecting themselves from the oppression of those institutions and protecting themselves from a threat like Covid-19. Much like Goldenberg’s assertion that vaccine hesitancy is not an expression of ignorance but an attempt to actively participate in public health discourse, reconceptualizing vaccine hesitancy as an act of informed refusal centres racialized people exploring their capacity to resist and reimagine their rights as citizens instead of mistrustful, conspiracy-prone problem people. And, while Benjamin warns against valorizing informed refusals as universally good, this framing shifts the cause of vaccine hesitancy back onto the trustworthiness of public health institutions.

#### 4. Conclusion

The Johns Hopkins and National Academies Covid-19 vaccine allocation frameworks recommend against direct race-based Covid-19 vaccine allocation based on the assumption that prioritizing racialized people will invoke mistrust and conspiracy theories in communities of colour and increase rates of vaccine hesitancy. This recommendation originated, at least in part, from a lack of explicit pushback to the structural racism within the data and ethics employed by these institutions which lead the framework-makers to employ racial health disparities data in a way that stereotypes people of colour as mistrustful, conspiracy-prone, and unwilling to engage with public health initiatives thereby being reckless with their health. I argue that by making vaccine-hesitant racialized people’s potential distrust of the healthcare system the focal problem to be overcome in mitigating health inequities in vaccine allocation, these frameworks continue to perpetuate structural racism by failing to recognize vaccine hesitancy in racialized communities can be a way to participate in public health efforts by way of an informed refusal and a sign that public health institutions need to do more to understand and address race in healthcare. In this way, the Johns Hopkins and National Academies fall short of their goal of providing anti-racist ethical frameworks for vaccine allocation.

The lack of a strong anti-racist method of allocating a scarce medical resource amid a racially disparate pandemic raises several important questions for further research. Given both institutions are invested in helping health agencies build trust with racialized communities as a matter of justice and that the literature on medical distrust and race makes clear expecting members of marginalized communities to resolve the issue of medical distrust will only serve to further burden racialized people and exacerbate inequalities, how might these institutions take up Benjamin's suggestion that "enacting justice requires a reorientation... toward the relative trustworthiness of institutions" (2016, 983)?

One such avenue to explore is the impact on racial gaps in vaccine hesitancy in places where health agencies and institutions took the risk of recommended prioritizing racialized people for vaccines in an effort to make themselves more trustworthy to communities of colour. A preliminary example is the state of Vermont which made all self-identified Black, Indigenous, and people of colour (BIPOC) and people living in their households eligible for a Covid-19 vaccine on April 1, 2021, two weeks before White Vermonters became eligible (Galewitz 2021). In a March press release, Vermont Governor Phil Scott justified the decision as a response to both BIPOC Vermonters' increased risk of severe illness and hospitalization due to Covid-19 and as a response to racial disparities in vaccine distribution between BIPOC and White Vermonters. The governor also spoke directly to BIPOC Vermonters, telling them an early Covid-19 vaccine was something "you deserve as members of the Vermont community." (Office of Governor Phil Scott 2021) While it will take time to draw conclusive results of this decision, by July 2021 the state had decreased the gap in vaccinations between Whites and non-Whites from of high of 13% in March to a low of 4% (Vermont Department of Health 2021). It appears that the risks in making race-conscious allocation decisions may be worth the reward in attempting to rebuild trust between racialized people and public health institutions, and it is crucial that researchers engage with these questions to provide guidance to public health officials who hope to avoid racial disparities in allocating resources in a future scarcity.

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