The Extent to which Physician Mistrust caused by the US Healthcare System and held by Minority Patients Exacerbates Racial Health Disparities

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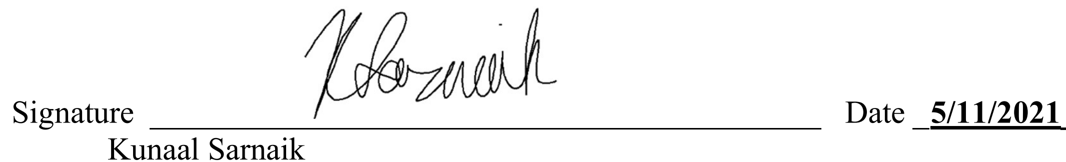

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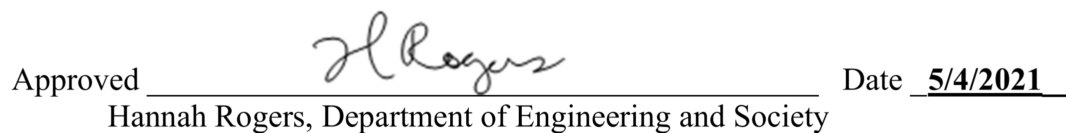

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Abstract

In order for a healthcare system to be considered ethical, several key tenets must be strictly adhered to—autonomy, beneficence, nonmaleficence, and most importantly, justice. When it comes to the United States healthcare system, however, these principles are largely undermined by racial disparities. Physician mistrust, or the resentment that patients hold towards healthcare professionals, has been found to be exhibited in greater rates within minority patient populations relative to white patient populations in the nation. This mistrust, which has been caused by a longstanding and ongoing history of inhumane investigations and clinical atrocities, exacerbates the state of racial health disparities by destroying the patient-provider relationship, decreasing the likelihood that minorities will divulge important information regarding their health and increasing their treatment refusal rates. Since physician mistrust is a complex and dynamic social problem, the Wicked Problem Framing methodology was applied in order to further analyze the origin of, severity of, and factors contributing to physician mistrust among minorities. A combined Historical Case Studies and Documentary Research Analysis methodology was leveraged to understand the exacerbating effects of this mistrust on racial health disparities. It was concluded that physician mistrust held by minorities, albeit justified by clinical atrocities and unethical investigations, is a constant threat to the continual deterioration of racial health disparities in the United States healthcare system unless epidemiological, clinical, and social solutions at the population-level are synthesized. If minority medical mistrust is left unaddressed, however, the nation's healthcare system will continue to stray further from its ethical tenets—how will any patient trust it?

The Extent to which Physician Mistrust caused by the US Healthcare System and held by Minorities Exacerbates Racial Health Disparities

Introduction

Any healthcare system must strictly adhere to four key tenets in order to be considered ethical—autonomy, beneficence, non-maleficence, and most importantly, justice. In the United States, however, these principles are undermined by a devastating force: racial disparities (Taylor, 2013). According to a 2017 study conducted by the Center for American Progress, uninsured rates among African Americans and Hispanic Americans were 10.6% and 16.1%, respectively, while the uninsured rate among whites was a mere 5.9% (Carratala & Maxwell, 2020). Furthermore, although overall mortality rates resulting from strokes, diabetes, kidney disease, hypertension, and liver cirrhosis have been decreasing, the inequities characterizing these rates between minorities and whites continually widen (Williams & Mohammed, 2009). For instance, in 2016, the Department of Health and Human Services found that African Americans were 30% more likely than whites to die prematurely from heart disease (National Academies of Sciences et al., 2017).

Popular explanations for these astonishing disparities include unconscious bias exhibited by healthcare providers, minorities presenting to less experienced professionals due to lower rates of insurance coverage, and minorities holding resistant attitudes or beliefs towards the nation's healthcare system (Bleser et al., 2016). The lattermost factor—specifically the deep-rooted resentment held by minority patients against the nation's physician workforce—is largely believed to be a byproduct of structural racism (Jacobs et al., 2006). Since trust between a patient and their provider is a strong predictor of care quality, the fact that higher mistrust rates have been found among minorities relative to whites is exceedingly alarming (Armstrong et al., 2007). Thus, an in-depth analysis into why these mistrust rates are higher among minorities may not only shine

substantial light on why racial disparities continue to permeate the nation's healthcare system, but also generate downstream solutions that will restore the healthcare system's adherence to its ethical tenets. In this analysis, the Wicked Problem Framing methodology will be applied to analyze the origin of, severity of, and factors contributing to physician mistrust among minorities, while the Historical Case Studies and Documentary Research Analysis approaches will be utilized to understand the exacerbating effects of this mistrust on the overall state of racial health disparities. To describe and evaluate these intricate relationships, the following research question must be addressed: to what extent does the mistrust that minority patients hold towards physicians exacerbate racial health disparities in the United States? In the end, physician mistrust held by minorities in the nation may have been caused by unethical investigations and clinical atrocities, but it is also perpetuated by the lack of diversity and inclusion within the physician workforce; such mistrust exacerbates racial health disparities by deteriorating the patient-provider relationship, decreasing the likelihood that minorities disclose important information regarding their health and increasing their refusal of treatments beneficial to their well-being.

Methodologies

Wicked Problem Framing

The sociotechnical framework that will be utilized to explain why minorities hold mistrust towards physicians is Wicked Problem Framing. As originally defined by design theorists Horst Rittel and Melvin Webber in 1973, "wicked problems" are those which do not have consistent formulations, lack the inherent logic that signals when typical problems are solved, and do not generally have testable solutions, in contrast to the "tame," eminently solvable problems of subjects such as mathematics and biology (Head & Alford, 2015; *What's a Wicked Problem?*, n.d.). Additional characteristics of "wicked problems" include the possibility of the problem never

being definitively solved, the constraints of the problem changing over time, radically different ways to approach, understand, and solve the given problem, and continual cycles of the problem definition depending on the solution and vice-versa. Ever since Rittel and Webber introduced the notion of “wicked problems,” they have been repeatedly utilized as a sociotechnical framework for drawing attention to, understanding, and analyzing complex and dynamic problems in society (e.g., climate change, education policy, and public health). The framing aspect of the methodology involves gathering and assembling numerous sources of evidence that reveal indirect, often hidden connections between symptoms and root causes of the “wicked problem” of interest, which can in turn lead to the downstream generation of potential solutions.

Opponents of the Wicked Problem Framing methodology claim that the concept of a “wicked problem” itself has no coherent conceptual basis due to: 1) the framework’s lack of clarity when classifying a social problem as “wicked” or “tame”, the distinction of which is largely perspective-dependent, and 2) the framework’s inherent and rather unjustifiable effort to analytically define types of problems separately from the relationships between relevant social actors (Turnbull & Hoppe, 2019). Proponents of the Wicked Problem Framing methodology, however, refute such claims, stating that they are limitations of the methodology’s specific implementation rather than the underlying methodology itself (Reinecke & Ansari, 2015). Thus, for a social problem as complex and dynamic as the widespread mistrust of physicians held by minorities across the United States, Wicked Problem Framing will serve as an invaluable tool to not only analyze its root causes, but also elucidate its disastrous symptoms.

Historical Case Studies

After the reasoning behind higher rates of physician mistrust among minority patients is sufficiently explained through employing Wicked Problem Framing, the Historical Case Studies

approach will be leveraged to determine how such mistrust continues to exacerbate racial health disparities in the United States. The Historical Case Studies approach involves gathering and systematically organizing primary and secondary sources, as well as directing them towards an interpretation that will allow for a deeper understanding of the problem itself—racial health disparities (Doussot, 2020). Through the analysis of historical trends, direct explanations of how physician mistrust leads to the exacerbation of these racial health inequities will be elucidated. Furthermore, a Documentary Research Analysis of more recent findings will also be performed to show why physician mistrust is such a pertinent problem when analyzing modern racial health disparities (Morrison & Reeves, n.d.). Thus, the Historical Case Studies approach will: 1) allow for a connection to be made in regard to how physician mistrust among minority patient populations exacerbates racial health disparities in the United States, and 2) open up avenues of future research investigating how solutions can be found to address both these mistrust rates and racial health inequities overall.

Analysis

The Origins of Minority Mistrust of Physicians in the United States

To conduct a comprehensive analysis, it is important to first understand the origins of minority mistrust of physicians in the United States using Wicked Problem Framing. Through applying this sociotechnical framework, three root causes of minority medical mistrust were found: unethical investigations, clinical atrocities, and the lack of diversity and inclusion within the nation's physician workforce.

According to public health researchers from the University of Maryland, College Park, these causes themselves originate from the history of institutional slavery and racism in the United States (Thomas & Casper, 2019). In their article, Thomas and Casper state that "the vestiges of the

belief that Black people are 'less than' human remain solidly entrenched in today's society." As a result of this belief, members of more enfranchised and historically entitled racial categories have found it seemingly justified to perform inhumane investigations on, conduct negligent clinical care for, and underrepresent the nation's physician workforce with minorities.

One of the most infamous clinical research investigations in the nation's history is the Tuskegee Syphilis Study, which took place from 1932 to 1972 in Macon County, Alabama (Brandt, 1978). The study was conducted by the United States Public Health Service (USPHS), composed only of white scientists at the time, and it investigated the natural course of untreated, latent syphilis in over 400 black males. The fact that the research subjects were not given any experimental treatments for a devastating disease was inherently unethical, but even more inhumane was the fact that the investigators did not administer penicillin, which was empirically determined to be an effective treatment as early as the 1950s. Moreover, the subjects were not even privy to the fact that they had syphilis, and the researchers actively sought to prevent them from being treated at other clinics in the area. It was not until 1972, when the study was halted by the Department of Health, Education, and Welfare, that the Tuskegee Syphilis Study subjects were treated for their syphilis with penicillin. Even then, it was too late for many of the black men involved, as several of them "died from complications," and some even had their wives and children contract the highly debilitating disease (II, 2016).

Unethical investigations such as the Tuskegee Syphilis Study form one of the primary reasons why minority patients do not trust the nation's healthcare system. However, the root causes of minority medical mistrust in the United States are not exclusive to the research domain; the clinical setting has also experienced several atrocities disproportionately affecting minority patients due to a blatant disregard for their basic rights. A case that comprehensively exemplifies

this is that of African American patient Henrietta Lacks. Before cervical cancer took Lacks's life in 1951 when she was just 31, Lacks was in the process of being treated at Johns Hopkins University Hospital in Baltimore, Maryland for several months. During this treatment, physicians had collected numerous samples of her cancerous cells ("Henrietta Lacks," 2020). Although they initially utilized these cell samples as diagnostic and prognostic indicators of Lacks's cancer, they also "gave some of that tissue to a researcher without Lacks's knowledge or consent," already undermining her basic rights to both confidentiality—assurance that her sensitive information would not be released to anyone unless Lacks authorized it herself—and autonomy—Lacks's ability to use this information in ways only she deemed fit. Furthermore, in what is now recognized as a major scientific breakthrough, the researcher that obtained her cells discovered that they were immortal and shared them "widely with other scientists" for further investigation. Since, these so-called HeLa cells have been attributed to numerous key discoveries in modern medicine related to immunology, oncology, and hematology. However, none of the parties who profited from such groundbreaking findings gave any money back to Lacks's family. Similarly, none of the researchers who revealed Lacks's name publicly, published her medical records, and even divulged her entire genome on the Internet asked Lacks's family for consent. Even to this day, corporations in the biotechnology and medical industries continue to unethically profit off Lacks's unfortunate clinical experiences, bearing no regard for her basic rights as a patient in the nation's healthcare system.

Several other historical events pertaining to research investigations and inadequate medical care have unequally affected minority patients in the nation; similar to the Tuskegee Syphilis Study, many of these events have taken place in the healthcare system through support of local, state, or national governments. Just recently in 2013, it was found that "dozens of female inmates

in California have been illegally sterilized," and this highlighted that sterilization abuse, once viewed as "a tragic-but-past occurrence, [still] continues today" (Krase, 2014). According to social worker Kathryn Krase, sterilization abuse is a practice in which fertile women are coerced, misinformed, or deceived by healthcare providers to obtain their consent for sterilization. Krase reports that the healthcare system's history of forced sterilization has unfairly resulted in females of the historically marginalized Puerto Rican, Native American, African American, and prison inmate populations having their basic right of fertility permanently stripped away. Moreover, Krase mentions that the misinformation utilized in these campaigns involved patients being incorrectly told that their "status—related to immigration, housing, government benefits, or parenting—will be negatively impacted if they do not consent to the procedure," and that the procedure would be temporary or reversible when this was simply not the case. According to Cleveland Clinic nephrologist Gregory W. Rutucki, these forced sterilization procedures were a direct byproduct of widespread physician complicity with immoral national eugenic policies, and they resulted in an estimated "25-50% of Native American women" being sterilized between 1970 and 1976 (Rutecki, 2011). Such a large fraction of an already marginalized patient population being sterilized further contributes to the "archetypal genocide" many historians have framed the plight of Native American citizens in the United States to be.

Why Mistrust of Physicians held by Minorities in the United States Continually Perpetuates

Together, unethical research investigations conducted on and clinical atrocities detrimentally affecting marginalized groups throughout the course of the nation's history has intuitively led many patients within these groups to resent the healthcare system. However, what causes such mistrust to perpetuate? In answering this question, several experts have pointed to the substantial lack of diversity and inclusion present within the nation's physician workforce.

According to the Association of American Medical Colleges (AAMC) in 2014, "only 4% of physicians" in the United States belonged to the Hispanic and African American racial groups (Silver et al., 2019). Furthermore, since "minority patients are more likely to choose a URM [(underrepresented minority)] physician," this concerning homogeneity in racial category breakdown within the physician workforce has led to URM physicians caring for approximately 53.5% of all minority patients and 70.4% of all non-English-speaking patients. Such a demanding workload disproportionately placed on URM physicians further contributes to a devastating problem in the healthcare industry: burnout. As a result, physicians who belong to underrepresented groups have a higher likelihood of leaving the profession, further deteriorating the lack of diversity and inclusion within the healthcare system. The effect of this process leaves minority patients struggling to find providers that they are comfortable with, leading them to settle for physicians from primarily white and Asian racial groups. However, as previously stated, minority patients are already skeptical to trust these groups due to the numerous unethical investigations and clinical atrocities these groups have performed on them. Placing their well-being in the hands of these physicians from so-called overrepresented racial groups due to the lack of an alternative simply exacerbates this resentment, and thus, continually perpetuates the mistrust of physicians exhibited by minorities in the United States (Jacobs et al., 2006).

The Effects of Physician Mistrust on Racial Health Disparities in the United States

As outlined in the previous section, the Wicked Problem Framing methodology found that three primary factors—unethical investigations, clinical atrocities, and the lack of diversity and inclusion within the nation's physician workforce—have not only caused, but also perpetuated minority mistrust towards physicians in the United States. In a study conducted by investigators Scharff et al. analyzing barriers to research participation among African American adults, mistrust

was found to be the primary concern voiced by participants. The researchers concluded that the detrimental experiences marginalized groups have historically faced in the nation's healthcare system were substantial factors in reducing the ability to recruit minority patients into scientific studies (Scharff et al., 2010). Furthermore, they reasoned that "disrespect and discrimination towards African Americans" within the healthcare system continues to occur, which perpetually exacerbates the mistrust held among these minorities.

The Patient-Provider Relationship

According to University of Pennsylvania researchers Armstrong et al., trust is a central component to a "physician-patient relationship because of the risk and uncertainty inherent in medical care." Moreover, previous studies have repeatedly demonstrated a relationship between "trust and adherence to treatment recommendations, short-term symptom resolution, and overall health status" (Armstrong et al., 2007). Thus, as previously mentioned, minority mistrust of physicians can be intuitively thought of as a primary exacerbating factor of racial health disparities within the nation's healthcare system. As will be discussed in the following paragraphs, which showcase the results of a combined Historical Case Studies and Documentary Research Analysis methodology, these exacerbating effects of mistrust on racial health disparities manifest themselves primarily via deterioration of the patient-provider relationship. Overall, this results in minorities being less likely to divulge important information regarding their health to physicians and more likely to refuse treatments beneficial to their health.

The patient-provider relationship is the dynamic between a patient and their physician, or more generally, their caretaker. Previous studies have elucidated that patient-provider relationships can have profound positive and negative implications on clinical care, and by extension, the outcomes that patients experience in the clinical setting (Chipidza et al., 2015; Johnson, 2019).

These studies have overwhelmingly concluded that stronger patient-provider relationships are correlated with improved patient outcomes. To determine why exactly this correlation exists, one must examine what Harvard Medical School and Massachusetts General Hospital researchers Chipidza et al. state are four central tenets of the patient-provider relationship: knowledge, regard, loyalty, and most importantly, trust. Knowledge refers to how well physicians and patients know each other, while regard is a spectrum essentially capturing whether the patient feels as if the physician is “on their side.” Loyalty “refers to the patient’s willingness to forgive a doctor for any inconvenience or mistake and the doctor’s commitment not to abandon a patient.” The knowledge, regard, and loyalty elements can be thought of as being encompassed by the trust element, which generally involves the patient’s “faith in the doctor’s competence and caring.” Although in recent decades, the United States has observed a general decline in the trust placed in physicians by patients, mistrust has disproportionately dwindled in minority patient populations due to the reasons outlined previously (Eustice, 2020). Specifically, minorities do not feel inclined to trust their providers if these providers come from groups that have performed unethical investigations and clinical atrocities that have had a devastating impact on their own marginalized groups.

The Lack of Health Information Disclosure among Minorities due to Mistrust

The disproportionate amount of mistrust held by minority patients towards the healthcare system relative to whites results in a similarly disproportionate quantity of impaired patient-provider relationships for minorities relative to whites. One of the primary reasons these impaired patient-provider relationships continually widen racial health inequities is due to a resulting lack of communication between minority patients and their physicians. Several barriers to communication exist in the patient-provider relationship; chief among them are patients’ anxiety and fear, both of which are negatively correlated with their trust in physicians (Ha & Longnecker,

2010). This is to say that as levels of trust in a patient-provider relationship decrease, patients' anxieties and fears of disclosing information pertinent to their health increase. According to Columbia University and University of California researchers Chao et al., "African Americans, Latinos, and Asian Americans are less likely than non-Latino whites to tell doctors about using" complementary and alternative medicine (CAM). The utilization of CAM can negatively affect treatment outcomes due to potentially adverse herb-drug interactions (Chao et al., 2008). Furthermore, the investigators concluded that factors forming the impetus behind this decreased likelihood of disclosure among minority patients included lower patient-provider relationship ratings and perceived differential treatment. These factors are directly related to the amount of trust minority patients place in healthcare providers, with lower rates of trust resulting in lower likelihoods of divulging information regarding their use of CAM to these providers.

Similarly, a study found that African Americans seek primary care "through a physician's office at only two thirds the rate of whites" (Arnett et al., 2016). Instead, African Americans have "historically used the emergency department (ED) and hospital outpatient departments at higher rates than their white counterparts." These trends generally describe racial disparities associated within primary care settings, and primary care beneficially exposes patients to insurmountable preventative health benefits. Also, the findings suggest that African Americans are less likely to divulge information regarding their health to a primary care provider, which results in discontinuous care that can leave them more vulnerable to numerous chronic health conditions such as diabetes, coronary artery disease, and hypertension (Starfield et al., 2005). Arnett et al. specifically reported that psychosocial factors, including "medical mistrust and perceived discrimination," form the impetus for African American patients being less likely to regularly follow-up with a primary care provider relative to white patients. Similar to the explanation behind

minority patients being less likely to disclose their use of CAM, African American patients' widespread preference to present to emergent care centers rather than primary care settings is because they are more likely to have impaired patient-provider relationships and less likely to divulge important health information to providers relative to their white counterparts.

Since primary care providers "can help [patients] stay healthy and can be the first to treat any health problems that arise," the finding that minority patients are less likely to present to them relative to white patients due to medical mistrust perpetuates the racial health disparities minorities experience (*The Importance of Having a Primary Care Provider*, n.d.). Minority patients have historically been found to experience significantly higher rates of hypertension, diabetes, and coronary heart disease relative to white patients (Leigh et al., 2016; Loganathan et al., 2017; Saeed et al., 2020). According to Johns Hopkins University Bloomberg School of Public Health researcher Leiyu Shi, these are all chronic health complications that seeing and divulging information to a primary care provider early and often can make less burdensome, cheaper to manage, and most importantly, avoidable. Thus, if minority mistrust of physicians continues to permeate the nation's healthcare system and make it less likely that a minority patient presents to a primary care provider, the racial health disparities pertaining to these chronic health conditions will continue to worsen (Shi, 2012).

Treatment Refusal among Minorities due to Physician Mistrust

The skepticism that minorities hold towards primary care settings leads into another primary exacerbating factor of racial health disparities that is driven by their mistrust of physicians: higher rates of treatment refusal. Similarly, this mistrust plays an important role in leading to impaired patient-provider relationships that only aggravate treatment refusal rates among minorities. In 2003, a study conducted by the United States Institute of Medicine found that relative

to whites, African Americans and Hispanics are less likely to receive appropriate cardiac medication, hemodialysis, kidney transplantation, and coronary artery bypass surgery even when variations in insurance status, income, age, co-morbid conditions, and symptom expression were accounted for (Smedley et al., 2003). The study's consideration of these confounding variables suggests that minority patients are less likely to receive these treatments primarily due to their refusal rather than their insufficient socioeconomic access. Moreover, the study found that these differences are a direct byproduct of the greater rates of medical mistrust that minorities possess relative to white patients, and it concluded that these differences in treatment refusal rates are associated with greater mortality rates among African American patients.

Even in 2018, 15 years after the United States Institute of Medicine's nationwide investigation was published, a study conducted by Northwestern University Feinberg School of Medicine researchers Mendelson et al. found that tissue plasminogen activator (tPA)—a treatment for acute ischemic stroke—refusal rates were higher among eligible black patients relative to eligible non-black patients. Possible factors for these treatment refusal disparities cited by the investigation included "institutional mistrust in health care", as it "is also higher in black compared to non-Hispanic white patients" (Mendelson et al., 2018). Given that the context of this study is within the acute care setting in which lives can be saved or lost in the matter of minutes, higher rates of treatment refusal due to mistrust among African Americans relative to others are extremely concerning. Furthermore, higher stroke morbidity and mortality rates have been historically associated with minority patient populations, especially those of the African American and Hispanic racial categories (Levine Deborah A. et al., 2020). For instance, a 2020 study conducted in northern Manhattan found that the "greatest [stroke] incidence rate was observed in blacks…followed by Hispanics…and lowest in whites" (Gardener Hannah et al., 2020). These

findings increase the urgency of the situation, as they suggest that mistrust plays a substantial role in minorities refusing treatment for acute health complications that may cause fatalities in seconds.

The refusal of treatment extends beyond simply the physical well-being of minority patients, however, as it additionally affects the psychological and epidemiological health of these marginalized populations. Mental illness already suffers from cultural stigmas in the United States, and mistrust of physicians prescribing the medications typically utilized to manage psychiatric disorders—including depression, anxiety, and bipolar disorder—can further disproportionately exacerbate the adverse outcomes minorities experience as a result of these illnesses (Conner et al., 2010). A 2010 joint study conducted by psychiatric and behavioral health researchers from the University of Pittsburgh and University of Washington, Conner et al., found that depressed African Americans are less likely than their white counterparts "to be currently in treatment, to intend to seek treatment in the future, or to have ever sought mental health treatment for depression." Similar to other studies cited in this section, Conner et al. reason that minority "distrust of the treatment system" is one of the barriers to mental health treatment acceptance for African American and Latino adults. According to the Desert Hope Treatment Center mental health facility, leaving a mental illness untreated can cause the illness to become insurmountably difficult to treat later, lead to long-term physical issues such as cardiovascular disease, and also lead to a greater likelihood of committing suicide (*The Potential Dangers of Untreated Mental Health Disorders*, n.d.). Thus, if minority medical mistrust continues to pervade the nation's healthcare system, racial health disparities related to mental health outcomes will continue deteriorating.

Regarding the epidemiological well-being of minorities, mistrust of the healthcare system is also causing concerns for these patients experiencing a disproportionate number of adverse outcomes associated with the coronavirus pandemic. According to Wellesley College researcher

Susan Reverby, “study after study appears to show that more Black and Brown people, out of proportion to their numbers in the population, are getting sick and dying from COVID-19 compared with whites, yet [they continue] resisting the vaccinations because of mistrust.” Furthermore, Reverby’s editorial specifically cites the Tuskegee Syphilis Study and the case of Henrietta Lacks when explaining the reasoning behind minority medical mistrust (Reverby, 2021). This is extremely alarming, as refusal of the vaccination does not only lead to adverse health outcomes for the patient, but also their nearby community and the larger population since the virus is highly contagious. Thus, the case of mistrust playing a role in greater rates of vaccination refusal among minorities does not only indicate further exacerbation of racial health disparities, but also increases the urgency of addressing such mistrust at its roots for the safety of the entire nation.

Discussion

Interpretation of the Analysis

The Wicked Problem Framing methodology elucidated that minority mistrust of physicians in the United States is indeed a “wicked problem”—a complex and dynamic social problem with many hidden and indirect connections between its symptoms and root causes. Application of this methodology determined that three primary factors—unethical investigations, clinical atrocities, and the lack of diversity and inclusion within the nation’s physician workforce—are origins and continually perpetuating factors of minority medical mistrust. Then, the combined Historical Case Studies and Documentary Research Analysis methodology found that this mistrust has exacerbating effects on the state of racial health disparities within the nation, as it deteriorates the patient-provider relationship that minorities participate in. These impaired relationships in turn cause minorities to disclose substantially less information regarding their health and to possess greater refusal rates pertaining to essential physical, psychological, and epidemiological treatments

relative to whites. Together, the findings suggest that minority mistrust of physicians is a pertinent problem that must be solved at the population level to mitigate racial health disparities in the United States.

Potential Solutions

The findings do not, however, indicate that medical mistrust held by minorities cannot be solved. Nevertheless, mitigating such mistrust involves first understanding the views of minority patients towards physicians. In order to do this, an aforementioned perpetuating factor of this mistrust—the lack of diversity and inclusion within the nation's physician workforce—must be acknowledged, addressed, and improved. Public health researchers have argued for a long time that "contributing factors to [mistrust] in physicians include a lack of interpersonal and technical competence", and this can be directly improved through increased integration of URM physicians within the workforce (Jacobs et al., 2006). Increasing the drastically low portion of URM physicians in the United States would further expose physicians from majority racial groups to the experiences of marginalized groups, giving them a better understanding of the adversities, unfairness, and tragedies historically facing minority patients and allowing the physician workforce to generally relate better to these patients. In this way, physicians can work towards improving their personalization and adjustment of care towards marginalized groups, potentially mitigating this longstanding medical mistrust held by the minorities within them.

Another problem that the lack of diversity and inclusion within the physician workforce has been shown to continually perpetuate is a lack of communication between minority patients and the healthcare system; this also causes misinformation regarding medicine to be spread among minority communities and in turn exacerbates mistrust (Phillips et al., 2014). According to researchers Philips et al., this problem can be tackled head-on using innovative approaches to

healthcare communication, one of which involves leveraging the widespread use of mobile phones to implement a text message campaign with "educational information to resolve misconceptions, patient reminders, or prompts encouraging patients to talk to physicians." Similar to increasing diversity and inclusion, a more effective healthcare communication campaign across the nation may increase the exposure minority patients have with physicians, thereby breaking down one of the barriers that has perpetuated minority medical mistrust in the United States.

Additional solutions to medical mistrust held by minorities include restructuring insurance coverage to be more protective of marginalized groups, using trusted community organizations to disseminate health and prevention information, and increasing resources directed towards informed consent within clinical trials and medical research studies (Fillon, 2016; Musa et al., 2009). Nevertheless, it is important to note that physician mistrust held by minorities in the United States is not a problem that can be solved simply via technical means. Instead, by utilizing various lenses such as Wicked Problem Framing to generate diverse perspectives, solutions like those mentioned above can be ideated and implemented in order to address this complex and dynamic problem through necessary social avenues.

Limitations

Primary limitations of the analysis above are related to the methodologies employed, as well as the scope and nature of the evidence gathered. As stated previously, critics of the Wicked Problem Framing methodology claim that the framework possesses a lack of clarity when classifying a social problem as "wicked" or "tame", as well as an inherent unjustifiable effort to analytically define types of problems separately from the relationships between relevant social actors (Turnbull & Hoppe, 2019). In regard to the former, the analysis in this paper characterized medical mistrust held by minorities as a "wicked problem" since it is complex and dynamic with

no clear solution and many hidden connections between its symptoms and root causes. However, opponents of this view might characterize the problem as "tame", as many solutions, some of which are listed above, have been conceptualized to comprehensively solve this problem. One can discount these opposing claims by reasoning that these solutions would be extremely difficult to implement at the nationwide scale, requiring meticulous coordination, effort, and communication between patients, providers, and the government. In regard to the latter complaint concerning the omission of actor-network dynamics, the analysis did in fact account for relationships between patients and their providers, as well as the unethical investigations and clinical atrocities that originally formed minority medical mistrust. Nevertheless, a more explicitly defined actor-network system may have made the analysis more granular and comprehensive. As such, characterizing this mistrust as "wicked" and utilizing the Wicked Problem Framing methodology was indeed effective, yet the intricacies of the framing aspect and methodologies employed to explain the origins of minority mistrust may be further improved.

Other limitations involve the evidence utilized in the analysis. Firstly, apart from treatment refusal rates, the published research utilized to bolster the origins of medical mistrust among minorities and elucidate the exacerbating effects of this mistrust on racial health disparities relied on methods that were largely anecdotal and qualitative in nature. For instance, findings of greater mistrust rates among minorities relative to white patients were generated through employment of surveys and interviews, both of which are highly vulnerable to response bias, sampling bias, and question order bias (Armstrong et al., 2007; Jovancic, 2019). Furthermore, limitations related to the scope of the evidence utilized in the analysis are characterized by many findings disproportionately focused on the experience of African Americans in comparison to other racial groups (e.g., Hispanics, Native Americans, Pacific Islanders, etc.). As such, the evidence utilized

may be too specific to African Americans, thereby limiting the analysis's generalization of its findings to the experiences of all marginalized patient populations.

Future Avenues of Research

Primary future avenues of research related to the problem of minority mistrust of physicians in the United States healthcare system involve those that would address the limitations of this analysis. For instance, applying Actor-Network Theory (ANT), which is useful "in understanding how social effects are generated as a result of associations between different actors in a network," in conjunction with the Wicked Problem Framing methodology may prove more prudent in comprehensively describing both the origins of minority medical mistrust and its exacerbating effects on the nation's racial health disparities (Cresswell et al., 2010). Contextualizing ANT to these issues would involve defining the network—the entirety of the nation's healthcare system—defining the relevant actors—minority patients, white patients, physicians, and the government—and also discussing the interplay involved between the actors within the network. As previously mentioned, this would provide for a more granular analysis, which could in turn lead to generating more effective solutions downstream.

Another future avenue of research involves stratifying the analysis among the many racial minority populations that exist in the United States. This would be prudent since each minority group might have different origins for their mistrust of the healthcare systems, which would in turn lead to specific and potentially exclusive exacerbating effects on the racial health disparities associated with the respective group of minority patients. A stratified analysis would thereby lead to more personalized solutions that take each group's individualized needs into account. Finally, there are several marginalized groups that experience a higher quantity of adverse outcomes in addition to racial minorities. For instance, "sexual minorities have worse health outcomes and risk

behaviors when compared with heterosexual men and women" in the United States (Durso & Meyer, 2013). According to Durso & Meyer, these sexual orientation-related health disparities have also caused a general mistrust of physicians among these populations and led to higher rates of nondisclosure pertaining to their pertinent health information. Thus, future analyses should incorporate these non-racial minorities and identify relevant exacerbating effects on health disparities, as well as respective solutions.

Conclusion

Racial health disparities are highly prevalent within the United States healthcare system, and a factor that continues to exacerbate the state of these disparities involves the mistrust held towards physicians by minority patients. The Wicked Problem Framing methodology revealed that origins of medical mistrust held by minorities include a history of unethical investigations and clinical atrocities within the country, and that the lack of diversity and inclusion within the physician workforce continues to deteriorate this mistrust. Furthermore, the combined Historical Case Studies and Documentary Research Analysis methodology elucidated that minority medical mistrust results in a lower likelihood of disclosing health information to providers and a greater likelihood of refusing essential treatments due to a deteriorated patient-provider relationship. Overall, these findings suggest that minority mistrust of physicians is justified, yet its widespread prevalence throughout the nation's healthcare system further aggravates the current state of racial health disparities in the United States. As such, minority mistrust of physicians is a pertinent societal issue that requires further investigation and an urgent need for comprehensive and effective solutions. If this mistrust is instead left unaddressed, the United States may never again adhere to the key cornerstone tenets of an ideal healthcare system.

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