

COVID-19 AND MINORITIZED PATIENT POPULATIONS

Aiman Bandali, PharmD, AAHIVP, BCPS, BCIDP

Clinical Pharmacy Specialist, Infectious Diseases
Penn Medicine Lancaster General Health



INTRODUCTION

As of February 3, 2021, the United States has reported more than 26 million COVID-19 diagnoses and 400,000 deaths,¹ but COVID-19 impacts the lives of minoritized groups far more than their white counterparts.²

COVID-19 has unmasked health inequities rooted within the modern American medical system. Race and ethnicity are risk markers for other underlying conditions that affect health including socioeconomic status, access to health care, and exposure to virus related to occupation.³

This article will explore structural racism, social determinants of health, and the impact of COVID-19 on minoritized populations.

STRUCTURAL RACISM AND SOCIAL DETERMINANTS OF HEALTH

Understanding core concepts in the study of racial justice is crucial in dismantling structural racism. The goal of equality is to ensure that everyone gets the same things in order to enjoy a full and healthy life. In pursuing equality, it is assumed that everyone starts from the same stage, and equal support should be provided to all. In contrast, equity ensures that each individual gets the unique support they require. Justice is achieved when the cause of any inequity is fully addressed. Equity and justice should be strived for, to ensure adequate distribution of resources.⁴

Healthy People 2030 defines social determinants of health as “conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality of life outcomes and risks.”⁵ Factors that encompass these determinants include education, built environments, employment, socioeconomic status, social networks, social norms and attitudes, and access to health care.² There is no one official definition of structural racism; however, all posit that private prejudices individuals hold are reproduced in societal practices.⁴ Structural racism is reflected in

the policies, laws, rules, norms, and customs enacted by organizations and societal institutions that advantage whites as a group over groups of color.⁶

Policies and programs designed to address structural racism have been under-resourced, inadequate, and even under-recognized, until the most devastating public health crisis in 100 years.

As the world is grappling with a global pandemic, inequities in minoritized populations have been magnified.

COVID-19: THE DISPARITIES

Black, Indigenous, Persons of color (BIPOC) are a *minoritized* population, not a *minority* – which is defined as a “racial, religious, political, national, or other group *thought to be different* from the larger group of which it is a part,” or “a group having little power or representation relative to other groups in society” per the Merriam-Webster dictionary.⁷ A *minoritized* population refers to “groups that are different in race, religious creed, nation of origin, sexuality, and gender, and *as a result of social constructs* have less power or representation compared to other members or groups in society.”⁸ The difference is that race is simply a *social construct* that results in certain populations having less power or representation.

According to the Centers for Disease Control and Prevention (CDC), COVID-19 has impacted minoritized populations to a higher degree than white, non-Hispanic controls.⁸ Age-adjusted case counts are 1.4 – 1.8x higher in American Indian/Alaskan Native, African American, and Hispanic populations. Hospitalizations and deaths are 1.2 – 4.1x and 1.1 – 2.8x higher in these patient populations, respectively. Nationally, about 20% of U.S. counties are considered disproportionately black; those same counties account for more than 50% of cases, and about 60% of deaths.⁵

The disproportional impact on vulnerable populations, such as the impoverished, disabled, refugees, uninsured, and other marginalized populations is

likely due to limited access to health care, nutritional food, and safe and affordable housing.⁹ For example, the Native American population is also at risk; the Navajo Nation has more cases per capita than any state.⁹ Doctors Without Borders has dispatched a team to help mitigate the unfolding Navajo health crisis even though they never sent teams to the United States prior to COVID-19. The pandemic has also disproportionately affected the homeless, and the approximately 2.3 million Americans in the prison system, who have major problems with regard to both access to health care and an elevated risk of community transmission.⁹

Pennsylvania is the ninth most densely populated state in the United States, with an estimated population of 12.8 million.⁶ In the week prior to February 3, 2021, Pennsylvania had about 332,000 test results, with a 10.6% positivity rate, and 957 new deaths. About 80% of the population is white, 11% is African American, 7% is Hispanic, and 3% is Asian. Notably, African Americans comprised 14% of new cases and 12% of deaths, while Hispanics comprised 20% of cases and 4% of deaths.

Although several pieces of legislation and programs were created by the federal government in 2020 to combat the impact of the disease on the general public, their benefits have expired, leaving millions without benefits in a time of crisis while we await new legislation.

One of the themes across data platforms collecting information on the impact of COVID-19 on minoritized populations is the sheer lack of data. How do we fix a problem that is not yet quantified?

The first step is to understand and acknowledge the relationship between social and structural determinants of health and how both impact health care.

THE AMERICAN MEDICAL SYSTEM AND THE HISTORY OF STRUCTURAL RACISM

Race itself is a social construct. Early science created the concept of race as an innate biologic and later genetic attribute.⁸ The term “race” was first used in the English language around 1580 from the French word “rasse” and Italian word “razza” to categorize humans into groups.¹⁰

In the 16th century, scientists classified humans according to geographic locations, using skin color, stature, and physical characteristics.¹⁰ Carl Linnaeus, a Swedish biologist, gave modern humans the scientific name of *Homo sapiens* and further divided the

species into *Europaeus* (white skin), *Asiatus* (yellow skin), *Americanus* (red skin), and *Afer* (black skin). This is where race was born.¹⁰

The American medical system has a legacy of scientific racism and eugenics movements. In the early 20th century, the eugenics movement swept through the United States; laws prohibiting “miscegenation” and forced sterilization of undesirable “races” were commonplace, all in an effort to create a “better, more intelligent,” and Whiter nation. Scientists like Samuel Cartwright and J. Mario Sims propagated the idea that Black persons are inferior to White persons.

The infamous 1932 Tuskegee Study of Untreated Syphilis in the Negro Male developed by the Public Health Service and Tuskegee Institute that set out to study syphilis¹¹ initially involved 600 Black men – 399 with syphilis and 201 without disease. Informed consent was not obtained, and even when penicillin was made available in 1947, participants were not offered treatment.¹¹ The enduring distrust felt by minoritized populations, especially African Americans, stems from such historical experiences.

Racism is very much alive in the American medical system today. According to the County Health Rankings, a program of the Robert Wood Johnson Foundation, clinical care only accounts for about 20% of health outcomes, whereas physical environment accounts for 10%, and social/economic factors at 40% impact outcomes far more.⁵ In its 2003 report *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, based on a review of 100 studies, the Institute of Medicine concluded that bias, prejudice, and stereotyping contributed to differences in health care.⁹ In 2018, the National Healthcare Quality and Disparities Report documented that Black, American Indian, Alaska Native, and Native Hawaiian and Pacific Islander patients continued to receive poorer care than White patients on 40% of quality measures.⁹ It is clear that there is much work to be done to give all individuals equitable health care.

Clearly, structural racism is part of our history and cannot be uprooted easily.

VACCINE HESITANCY AND DISTRIBUTION

There are currently several effective COVID-19 vaccines either already approved by the FDA under an Emergency Use Authorization (EUA), or being considered. A high efficacy rate is of limited value, however, if vaccine acceptance is low.

Vaccine hesitancy is a principal concern in moving towards eradication of COVID-19. Consecutive surveys by the Pew Research Trust indicate that vaccine acceptance by the American public has varied throughout the pandemic.^{12,13,14} In May 2020, 72% of Americans said they would definitely or probably receive the vaccine, in September 2020 there was a 50-50 split, and in December 2020, acceptance had increased to 60%, perhaps because prominent scientists were advocating vaccination after two EUAs.

However, Black Americans continue to stand out as a group that is less inclined to get vaccinated – only 42% – compared with 63% of Hispanics and 61% of White Americans.^{12,13,14} For Black Americans, years of scientific racism play a large part in this decision, so now more than ever, it is crucial that credible members of each community advocate for vaccination. It is time to highlight scientists like Dr. Kizzmekia Corbett, an African American woman who is a research fellow and scientific lead at the National Institutes of Health who facilitated development of the Moderna vaccine.¹⁵

Vaccine hesitancy is not the only barrier in minoritized populations. Another is distribution. Upon request of the National Institutes of Health (NIH) and Centers for Disease Control and Prevention (CDC), the National Academies created a framework for equitable allocation of the COVID-19 vaccine.¹⁶ The major principles considered were maximum benefit, equal concern, and mitigation of health inequities.¹⁶ Four allocation phases were assigned, with Phase 1a consisting of the highest risk individuals such as health care workers and first responders.¹⁶ Equity is a crosscutting consideration across all phases in order to prioritize certain geographic areas identified by CDC's Social Vulnerability Index tool.¹⁶

Distribution across nations is lopsided as well; wealthy nations were able to secure almost 2 billion vaccine doses via Advance Purchase Agreements (APAs).¹⁷ Governments that do not have financial resources to purchase vaccines are at risk of not having access to vaccines. During the 2009 H1N1 influenza pandemic, APAs held by high-income countries (HICs) were used to secure priority access to vaccine, making procurement of vaccine for other countries difficult.¹⁷ APAs can be utilized by global health organizations to secure vaccine for low and middle income countries (LMICs) as part of an Advanced Market Commitment (AMC).¹⁷ One of the most notable global organizations is Gavi, which established the

COVID-19 Vaccine Global Access (COVAX) AMC,¹⁷ which aims to have enough doses of COVID-19 vaccines for at least 20% of participating countries' populations with a goal of 2 billion doses by 2021.¹⁷ Since it is projected that 70% – 85% of a population would need to be vaccinated for herd immunity, this effort is commendable, but barely enough.

CLINICAL TRIALS

Just as the mistrust and fear in minoritized populations was reflected in vaccine hesitancy, it was also reflected in attitudes toward enrollment in clinical trials, which has always lagged in these populations despite the NIH Revitalization Act of 1993.¹⁸

Top scientists pushed for inclusion of BIPOC at the July, 2020 Senate hearing for Operation Warp Speed, and the FDA released a non-binding guidance stating it “strongly encourages the enrollment of populations most affected by COVID-19, specifically racial and ethnic minorities.”¹⁸ It is not surprising that protests sparked by George Floyd's death on May 25, 2020, stimulated these conversations, but drug companies lack the know-how to recruit BIPOCs, and recruitment can be expensive, requiring culturally competent outreach specialists and patient navigators.¹⁸ Also, though the killing of George Floyd opened the eyes of researchers to improve on inclusion, it made it paradoxically more difficult to convince African Americans to participate in government-funded programs.¹⁸

The NIH has advocated that grantees must include information on minority recruitment plans, but they do not have direct control over private contract research organizations. In addition, the FDA has not specified how much minority representation it would like to see – adding another layer of complexity for researchers.¹⁸

Minoritized populations are dying at such an alarming rate that we do not have the luxury of time. Addressing fears, and enrollment into clinical trials, is key.

MOVING FORWARD

Dismantling structural racism is a duty of our society. Training in diversity and cultural competency is crucial, but strides need to be made on a policy level. Engaging the medical and public health disciplines is crucial to success.⁸

According Bailey and colleagues,⁸ there are four major ways we can move forward: (1) document the

health impact of racism in medical journals; (2) support efforts to develop and improve measurement of structural racism; (3) critically evaluate individuals and institutions that comprise the medical and public health communities; (4) support policies that improve health for all populations.

At Lancaster General Health, a Diversity and Inclusion Advisory Committee was created to advance the community's health and well-being by first dismantling racism and bias that may exist within the institution. The committee is led by Chief Nursing Officer, Larry Strassner, and Dr. Cherise Hamblin, and consists of 12 individuals

with diverse backgrounds.

The mission of this committee aligns with those of Penn Medicine, and among the committee's first actions was creating and disseminating a Diversity and Inclusion Survey for all staff to gain fresh insight and to identify key areas of opportunity. Nearly 2,000 employees took the survey. Additional efforts include engaging employees across the institution in Unconscious Bias Training.

Formation of the advisory committee at LGH is a step forward, and other organizations have taken similar steps forward – steps that will benefit our generation now, and future generations to come.

REFERENCES

1. John Hopkins University & Medicine. Coronavirus Resource Center. Available at <https://coronavirus.jhu.edu/map.html>. Published 2019.
2. Arya V, Butler L, Leal S, et al. Systemic racism: Pharmacist's role and responsibility. *J Am Pharm Assoc*. 2020 Sept;60:e43 – 46.
3. Centers for Disease Control and Prevention. Available at <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html>. Published November 30, 2020.
4. The Annie E. Casey Foundation. Equity vs. Equality and Other Racial Justice Definitions. Available at https://www.aecf.org/blog/racial-justice-definitions/?gclid=EAIaIQobChMI1drF0crz7QIVRaGGChIbxwfrEAAYASAAEgLP0PD_BwE. Published August 24, 2020.
5. Social determinants of health. Healthy People 2030. Available at: <https://health.gov/healthypeople/objectives-and-data/social-determinantshealth>. Published 2020..
6. Bell LA, Funk MS, Joshi KY, Valdivia M. Racism and white privilege. In: Adams M, Bell LA, Goodman DJ, Joshi KY, eds. *Teaching for Diversity and Social Justice*. 3rd ed. New York, NY: Routledge; 2016:133.
7. Equity and equality. 2020. In Merriam-Webster.com. <https://www.merriam-webster.com/dictionary/>.
8. Bailey ZD, Feldman JM, and Bassett MT. How structural racism works – racist policies as a root cause of U.S. racial health inequities. *N Engl J Med*. 2020; Dec 16; doi: 10.1056/NEJMms2025396.
9. Shadmi E, Chen Y, Dourado I, et al. Health equity and COVID-19: global perspectives. *Int J Equity Health*. 2020 Jun 26; 19(1):104. doi: 10.1186/s12939-020-01218-z.
10. Mersha TB and Beck AF. The social, economic, political, and genetic value of race and ethnicity in 2020. *Hum Genomics*. 2020 Oct 15; 14(1):37. doi: 10.1186/s40246-020-00284-2.
11. Centers for Disease Control and Prevention (CDC). The Tuskegee Timeline. Available at <https://www.cdc.gov/tuskegee/timeline.htm>. Published March 2, 2020.
12. Pew Research Center. Trust in medical scientists has grown in U.S., but mainly among democrats. Published May 21, 2020.
13. Pew Research Center. U.S. public now divided over whether to get covid-19 vaccine. Published September 17, 2020.
14. Pew Research Center. Intent to get a covid-19 vaccine rises to 60% as confidence in research and development process increases. Published December 3, 2020.
15. ABC News. Dr. Kizzmekia Corbett praised as key scientist behind COVID-19 Vaccine. Published December 17, 2020.
16. National Academies of Sciences Engineering Medicine. A framework for equitable allocation of vaccine for the novel coronavirus. Published October 2, 2020.
17. Phelan AL, Eccleston-Turner M, Rourke M, et al. Legal agreements: barriers and enablers to global equitable COVID-19 vaccine access. *Lancet*. 2020 Sept 19;396(10254):800 – 802.
18. Jaklevic MC. Researchers strive to recruit hard-hit minorities into COVID-19 vaccine trials. *JAMA*. 2020 Sept 1; 324(9):826-28.

Aiman Bandali, PharmD, AAHIVP, BCPS, BCIDP
 Penn Medicine Lancaster General Hospital Pharmacy
 555 N. Duke St.
 Lancaster, PA 17602
 717-544-7418
 aiman.bandali@penntmedicine.upenn.edu