Increasing Diversity in the Healthcare Workforce

The US will see a shortage of almost 139,000 physicians by 2032 as the demand for physicians grow faster than the supply according to data published by the Association of American Medical Colleges. This physician deficit has many downstream affects and translates into shortages in both primary care and specialty care. Among specialists, the data project a shortage of up to 12,100 medical specialists, 23,400 surgical specialists, 39,100 other specialists such as pathologists, neurologists, radiologists, and psychiatrists. 2032 is only 8 years away!

America's strength is in its diverse population. Our grand experiment in democracy, which is a byproduct of the sacrifice and toil of religious refugees, slavery, immigrants, and native Americans has resulted in the most powerful country in the world. However, we are only as good as our health. An unhealthy nation is a less productive nation. Certain segments of the American population are much less healthy than others. Black American's have the highest mortality rate of all causes in the US. These high rates of disease and death have economic consequences. Increasing diversity in the healthcare workforce is one of the solutions in reducing the historic differences in health outcomes. The problems are complex, and the potential solutions complicated.

Background

America and the black community have a serious challenge in addressing the **STEMM** (**S**cience **T**echnology **E**ngineering **M**athematics **M**edicine) education gap between white and black students. Furthermore, African Americans represent ~4% of US physicians but approximately 14% of the population. This chasm widens further when you include the under representation of Hispanics who represent 18.3% of the US population and only 5% of the nation's physicians. Richard Coley and Paul Barton note that progress was being made in recruitment of African Americans into medical school and peaked in 1994. However, there has been a precipitous decline in recruitment since that time creating a critical shortage in diversity in the physician workforce which adversely affects the care provided to underserved communities.

According to 2023 data from the Association of American Medical Colleges, it is estimated that there are over 989,000 physicians in the US, but only approximately 46,000, were Black or African American. Forty-four percent of African American physicians are between the ages of 55 and 64 while another 35% are 65 or older. Among younger (< 34 years old) African American physicians, the overwhelming majority (67%) are women, reflecting the dearth of young African American men entering the practice of medicine. The inequities in access to healthcare, participation in medical research, and current treatments can be mitigated by the presence of

physicians that have been recruited from the communities that they treat. The COVID-19 pandemic has made evident the chasm between access to care in communities of color compared to white communities.

Coley and Barton and multiple studies have consistently confirmed that black and Hispanic physicians are “significantly more likely to practice in underserved areas comprised largely of minority and poor populations”. The devastating, asymmetric impact of COVID-19 on communities of color and the racial inequities of the vaccine rollout highlighted the need for Black and Hispanic physicians. There is a wealth of data confirming better health outcomes in Black patients who have Black physicians. Dr. Karey Sutton, PhD (Director of Health Equity Research; Medstar Health Research Institute) oversaw a systematic review of over **3000 studies** on the impact of physician and patient race. The conclusion was that Black patients had better outcomes in the care of Black physicians because the care was better. Cultural connectivity is important, particularly in the context of historical mistrust. The negative impacts of outright racism (both individual and structural) on patient care like healthcare workers minimizing the pain of Black patients’ complaints of pain and encounters of racism in emergency departments have been well documented. The bottom line is that racial concordance studies have illuminated the ways in which race affects how patients and doctors communicate and make decisions, regardless of either person’s intent. Physicians and patients bring subconscious racial perceptions to their conversations. These problems can be mitigated by having a healthcare workforce that reflects the community that it serves.

A 2018 Pew Research Center review described the poor foundation of STEMM education in K through 12th grade as the root of the recruitment problem of black students into medical school. The declining quality of public education, shrinking education budgets, loss of programs in the arts and music, greater emphasis on athletics and the increasing societal distractions (electronic gaming, social media, cell phones, etc.) have made educating our youth much more challenging. The shift to virtual learning due to the pandemic has had an additionally devastating impact on learning, particularly among African American males. A US Department of Education’s study of students beginning college as early as 1989 -1990 found that African American men were less likely to major in science than white males and females or African American women. Only 2.6% of African American males were science majors in their first year of college, representing only 1/3 of the proportion of 1st-year white males majoring in science during the same year. Coley and Barton concluded that this alarming trend supports the observation that African American men are steering away from majoring in science, leaving only a small pool of African American male science majors for medical schools (and STEMM entities) to recruit from. African American

women, while performing better than the males, are being negatively impacted as well. I would dare say that at the current rate of decline in the recruitment of blacks into medicine that there may come a day that black physicians are rarely seen, especially black men!

The impact of structural and systemic racism continues to hinder entry of black students into STEMM career fields in 2021. In 2019, we saw the lowest representation of African Americans in the incoming medical school classes of the country's medical schools since 1978! Even more alarming is the fact that most blacks entering graduate medical education programs are female. This trend of declining black male representation in medical school began in 1988-89 when the percentage of black female medical school graduates became the majority at 51-52%. In 2018, Q. M. Capers and L. Clinchot concluded that black gender disparity rapidly accelerated to 35% male versus 65% female medical school graduates in 2015.

Health Disparities in Alabama

My home state of Alabama has a population of 4,833,722 and is faced with some serious healthcare challenges, particularly with limited access to healthcare in many of its rural areas. Many of our small rural hospitals have closed. The "Black Belt" of the state, with some of its poorest areas, has suffered the most. We are experiencing significant healthcare workforce shortages.

Per 2023 AAMC Data: Alabama's Physician Race/Ethnicity

White 69%
Black 7%
Hispanic 3%
Asian 10.5%
American Indian/ Alaska Native 0.3%
Unknown 8.4%

Per the 2020 U.S. Census Data: Alabama's Race & Ethnicity Composition

White alone 64.1%
Black alone 25.8%
Hispanic 5.3%
Asian alone 1.5%
American Indian/ Alaska Native alone 0.7%

Native Hawaiian/ Other Pacific Islander alone 0.1% Some Other Race alone 2.7% Two or More Races 5.1%

The “Alabama Health Disparities Status Report 2010” confirmed the startling tragedy of minority healthcare in Alabama, which consistently ranks as one of the least healthy states (46th out of 50) in the nation. Similarly, Alabama ranks 37th in health care access, 39th in health care quality and 47th in public health. Not only is the overall health of Alabamians poor compared to that of residents of other states, but health disparities between African Americans and Whites are considerable. African Americans comprise approximately 82.75% of the non-white population in Alabama. These health disparities in both access to care and the delivery of care to minorities in the state. African Americans in Alabama had higher rates of all chronic diseases, injury, premature death and disability. The consequences of these disparities include shorter life expectancy, diminished quality of life, loss of economic opportunities and socioeconomic inequality.

There are significant racial disparities in cardiovascular disease, diabetes, obesity, kidney disease, cancer, **infant mortality**, chronic lung diseases, stroke, and complications (and severity) of the COVID-19 infection. It is a moral imperative that we actively seek to increase the numbers of physician healthcare providers in the state of Alabama and ensure that there is appropriate representation of African American physicians. Studies have shown that black patients are more likely to feel comfortable with physicians with a similar cultural framework and more likely to adhere to preventative medical recommendations offered by black physicians. Cultural competency is the key to improving patient compliance and trust. The COVID-19 vaccine rollout has confirmed that the black community continues to distrust majority health institutions, reflected in the “PTSD” of the “Tuskegee Experiment" and the legacy of physicians like James Marion Sims (the “father of modern gynecology”) who performed unethical surgical procedures on enslaved black women. In addition to these landmark research abuses, there is both a long legacy and, in some settings, an ongoing pattern of racial bias experienced by African Americans seeking care. It is for these reasons that we must provide early introduction to STEMM education, mentor, prepare and recruit more African American students into medicine. The presence of diversity in medicine enhances African American (Hispanic, Asian, and Native American) cultural competency by increasing empathy and cultural sensitivity in the entire medical community.

The Lack of a Pipeline

Coley and Barton write that a college graduate’s educational choices directly affect the size of the pool of candidates available to apply to medical school. This talent pool is

deeply deficient in the US and even more so in Alabama. Multiple factors, early in the lives of young Alabamians, hinder growth of the pool of qualified students applying to STEMM graduate programs. The “molding” of talent starts at the birth of the child and extends to care provided in early formative years. This process continues through the K-12 education system as the students potentially lack rigorous academic curricula and subsequently don't graduate from high school or attend college. Even among those Alabamians who do attend college, many, lacking early stimulation of their interests in science and math, do not choose a STEMM major or even succeed in graduating.

Multiple sources including Parker and Funk as well as Shamard Charles recognize that the overwhelming challenge is to enhance the educational process, introduce the students at an early educational age to STEMM, “steer” their education choices towards STEMM and reduce the attrition rate. Enlarging the pool of qualified African American students who realistically have a choice of a higher education pathway to medicine requires increasing their academic proficiency during the period from middle school to high school. The success of increasing the pool of academically qualified black students from Alabama for acceptance into the medical school requires a dual approach of developing and exposing students early in their academic journey to a STEMM curriculum and exposing them to black STEMM role models. Controlling the attrition rate will require reinforcing this exposure through continuous contact with black STEMM mentors. The more “African American success” they see, the more confidence they will have that they too can “succeed” in STEMM. The goal should not be to lower academic standards but to enhance student education and preparation.

Economic Impediments to Medical Education

It is no secret that there is a significant economic gap between white communities and communities of color in the US. Many aspiring students and their families struggle just to provide financial support for a college education. The cost of collegiate and graduate education has increased significantly over the years which represents a greater barrier to entry for students of color. Graduate school can be a financial “Mount Everest” for most qualified students of color. On average medical school tuition, fees, and health insurance during the 2019-2020 academic year ranged from $37,556 (in-state, public) to $62,194 (out of state, public). Additionally, among persons entering medical school in 2018, African Americans were more likely than other racial and ethnic subgroups to owe > $50K dollars even before accumulating any additional medical school debt. It is imperative that financial support be readily available to those students who successfully navigate the academic rigors of a collegiate pre-medical program and are accepted into a medical school program .

What Are the Solutions?

The ideal goal should be to create a healthcare workforce that is representative of the population that it serves (preferably staffed by members from that community). This means setting recruitment goals based on the ethnic make-up of the state or community.

K-12 STEMM Education – Building the talent pool of kids interested in undergraduate education in the sciences and ultimately pre-medical education.

Completely Changing the K-12 Education Paradigm – Moving away from the educational structure of the past and shortening the pathway into medicine. Developing health academies in high schools in partnership with a state's undergraduate universities and medical schools creating curriculums that "fast track" qualified students into medical careers.

Reducing the Financial Burden – The cost of an average 4-year undergraduate education at a public institution is approximately $120,000 (out-of-state $180,000). Combine that with the average medical school cost of $300 – 400,000 and a student pursuing a career in medicine is looking at shouldering over $500,000 in debt! This is outlandish and has a negative impact on diversity in the healthcare workforce.

Increasing Medical School Class Sizes – U.S. medical schools graduated 28,700 students in 2022. The training of new doctors must keep tract with the physician retirement rate. The challenge facing our nation is the substantial number of "baby boomer" physicians, like me, who will be leaving the workforce in the coming 5-10 years that will create the projected shortfall of 139,000 physicians by 2033!

Increasing the Number of Residency Training Positions – As medical school enrollment is increased the concern is the lack of residency programs and clinical training sites for the graduates. According to an AAMC annual survey, the number of residency training positions has not kept pace with the increasing number of medical students. This dilemma threatens to exacerbate the nation's physician shortage.

Conclusions

1) Our country has faced daunting challenges before. This is not a democrat or republican problem; it is an American problem.
2) Heart disease, diabetes and cancer don't care about political party affiliation or race. The health of "all" of our population must be our number one priority. Our people are our greatest strength and our treasure and should be treated as such.

3) Assembly of talented people who have different experiences and perspectives empowers the necessary cultural translation when people need assistance facing challenges that have the complexity and intimacy of healthcare.
4) Diversity improves cultural competence for the collective body of the healthcare workforce. Better cultural competence facilitates better engagement with patients which leads to better understanding, better shared decision making, better compliance with treatment plans, and, ultimately, to improved patient outcomes.
5) Furthermore, as we consider the wholistic approach of improving the health of the population, cultural differences not only affect engagement with people who have clinical needs but also influences how different peoples ingest information to consider participation in clinical research.
6) A healthcare work force that reflects the heterogeneous population of the U.S. increases patient “trust” which is necessary to achieve greater participation in clinical research and achieve better clinical outcomes to improve the health of the entire US population. To optimize effectiveness for healthcare outcomes we must confront the reality that communication and trust are essential to be most effective, as we focus on the opportunity to help those who need the most help.