Disparities in the Medical Professional Pipeline:
Financial Challenges and Continued Demand for Black Medical Schools

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Introduction

Historically Black medical schools are a unique institution in American professional education, celebrated for their achievements in the Black community and heavily criticized for their unorthodox status in American education. The landscape of historically Black medical schools is ever changing in American history, and many analyses have signified the important responsibility historically Black education institutions have played in stakeholder communities. When evaluating historically Black medical programs, it is frequently found that their cultural commitments enhance and improve their success as well as increase the number of medical professionals who are effectively helping patients from various backgrounds (Sullivan, 2016).

After the ruling in *Brown v. Board of Education* in 1954 that stated segregated educational systems were unconstitutional, did the need for predominantly Black medical schools persist? Is the existence of such institutions a contradiction to the goal for a diverse, integrated society? These questions represent the plague of challenges facing historically Black medical schools today. The mission of these institutions is not to perpetuate segregation, but rather to expand the opportunities for Black and low-income students to be educated in an environment where their socioeconomic challenges are understood and analyzed, and to be an educational environment that preserves, values, and supports each student's history and culture.

There is no misunderstanding that the high cost of medical education, and the opportunity cost of committing years outside the job market to take on the financial burden of a medical education has become a significant barrier for many low-income students, of which Black

students make up a disproportionate number, who wish to pursue a career in medicine. Additionally, for those who do choose to attend medical school, there has been a significant shift in attendance patterns of Black students, with fewer enrollments in Black medical schools and a growing percentage in wealthy, elite, predominantly white medical institutions (PWIs). Both PWIs and Black medical schools have diversifying enrollment, with PWIs targeting minority populations and Black medical schools increasing enrollment among non-Black students, particularly first-generation, low-income students.

Regardless of diversification in PWIs, Black medical schools still remain a significant training ground. As of 2019-2020, Black students accounted for 7.31% of total enrollment in American Medical Schools (AAMC, 2020). Of the 6,783 Black students enrolled in one of 153 accredited American medical schools, 13.43% enrolled in Meharry Medical College (69% of university enrollment), Howard University (62% of university enrollment), and Morehouse School of Medicine (63% of university enrollment), which are three predominantly and historically Black medical schools (AAMC, 2020). Though the dominance of Black medical schools is waning as the result of PWIs more actively recruiting and training Black candidates, they still remain the institutions with the greatest responsibility for educating Black medical professionals.

However, despite their significance, Black medical schools receive limited public support, threatening their ability to meet the needs for increasing diversity in the medical field and sustaining their existing contributions and operations. Partial fault for this situation is the lack of empirical examination on the financial performance, financial resources, and allocation of resources of Black medical schools despite being one of the most commented about institutions in academia (Brown II, 2013). Consequently, Black medical institutions continue to be

inaccurately assessed by the public and policymakers. Changes in medical education funding are necessary to ensure Black medical schools can continue producing professionals that will diversify the workforce and improve the quality of care for an increasingly diverse population, of which racial, ethnic, and socioeconomic disparities in healthcare continue to persist (Norris, 2009).

Objectives

As the world continues to change in regard to initiatives to promote diversity and inclusion, the intent of this analysis is to discuss the financial challenges that Black medical schools face. Exploring these challenges provides significant insight into the relevance and contributions Black medical schools make to the medical professional pipeline and in combating chronic discrimination in medical treatment. In order to explore the modern financial situation for Black medical schools, it is first important to provide context on the historical development and importance of Black medical schools and how they have been systemically and systematically disadvantaged in obtaining financial resources. By doing so, analyzing disparities in funding between Black medical schools and PWIs allows the chance to see how well- or ill-equipped these institutions have been positioned to accommodate the emergent demands of a diverse medical workforce. Black medical schools have a unique history and highlighting this history will show the role and opportunities Black medical schools have in closing diversity and representation disparities in America.

Money has played a role in both easing and exacerbating health disparities in America, and a key objective of this analysis is to analyze whether increasing funding resources for Black medical schools translates in the long run to a more equitable healthcare system. Funding disparities between Black medical schools and PWIs create a caste system, where students at

better-funded schools benefit from enhanced facilities, equipment, and opportunities to earn work-study income. “While gaps in funding...can be attributed to differences in institutional capacity, it also stems from selection biases among funding agencies” (Toldson, 2016, p. 97). In 2014, Meharry Medical College ($79 million) and the Morehouse School of Medicine ($85 million) generated more revenue through grants and contracts than any other historically Black institution, but the average revenue among all 47 Carnegie-classified medical colleges in America was $165 million (Toldson, 2016). It is imperative to address the systemic disadvantages Black medical schools face when fundraising, since these institutions lead in educating Black medical professionals. The cost of not having diversity in healthcare professionals will be discussed by examining the short- and long-term effects of closing Black medical schools, a reality that many faced in the early 20th century after the implications of the Flexner report.

History: 19th and 20th centuries

After the Civil War, new schools and colleges, including seven medical schools, were established to educate the freed, largely illiterate, formerly enslaved Black Americans. Today, only two, Meharry Medical College and Howard University, of the seven initial Black medical schools still exist. Most of these early Black medical schools were largely underfunded and ill-equipped to provide an education comparable to its PWI peers. Nonetheless, these early medical schools served the important mission of providing education for Black medical professionals in a racially segregated society. Leading up to the 20th century, “at least 14 Black medical schools or departments of medicine were established” (Harley, 2006, p. 1425). At the time, there was no common curriculum and only the most selective programs took more than a year to complete (Wright-Mendoza, 2019).

Table 1. Black medical colleges, 1868-1923 (Savitt, 2006).

Name	City	Year Opened	Year Discontinued	Affiliation
Howard University Medical Dept.	Washington, DC	1868	–	None
Lincoln University Medical Dept.	Oxford, PA	1870	1874	Presbyterian (local)
Straight University Medical Dept.	New Orleans	1873	1874	American Missionary Assn.
Meharry Medical College	Nashville	1876	–	Methodist Episcopal
Leonard Medical School of Shaw Univ.	Raleigh	1882	1918	Baptist
Louisville National Medical College	Louisville	1888	1912	Independent
Flint Medical College of New Orleans Univ.	New Orleans	1889	1911	Methodist Episcopal
Hannibal Med. College	Memphis	1889	1896	Independent
Knoxville College Medical Dept.	Knoxville	1895	1900	Presbyterian
Chattanooga National Medical College	Chattanooga	1899	1904	Independent
State University Medical Dept.	Louisville	1899	1903 Merged with LNMC	Colored Baptist (Kentucky)
Knoxville Medical College	Knoxville	1900	1910	Independent
University of West Tennessee College of Medicine and Surgery	Jackson Memphis	1900 1907	1907 1923	Independent
Medico-Chirurgical and Theological College of Christ's Institution	Baltimore	1900	1908?	Independent

With rare exceptions, Black physicians were excluded from training in most white medical schools prior to the Civil Rights Movement. “Support for infrastructure, research, and linkages to communities of wealth were rare for historically Black medical schools, as governmental funding was nonexistent of limited to modest educational support, while foundations and philanthropy were reluctant to provide significant support” (Norris, 2009, p. 2). The unpredictable nature of the initial financial models for Black medical schools, whether controlled by white missionary groups, such as the American Baptist Home Mission Society and The Freedman’s Aid Society of the Methodist Episcopal Church (as seen in Table 1), or by the few existing independent Black physician proprietors, put these schools in endangered positions from the start. The core funding and vulnerable nature of these institutions has remained

relatively unchanged as allies remain low, despite the increasing demand for Black medical professionals.

Most Black medical schools collapsed with increased pressure from the American Medical Association (AMA) and the Association of American Medical Colleges (AAMC) to reform in the beginning of the 20th century. Institutions such as Meharry, Howard, Leonard, Flint, Knoxville, and Louisville National faced two-pronged threats to their survival. First, the increasing demand for an MD degree overwhelmed admissions that could not admit all applicants, due to financial constraints and operating in a PWI dominated education system in which a "good" school is historically one with competitive admissions. As a result, these institutions could not satisfy increasing requests from towns for Black physicians despite graduating the majority of Black medical students in the country (Savitt, 2006). Second, reform pressures caused additional financial strain as Black medical schools lacked funding to fulfill demands for better-trained professors, longer school periods, and better equipped research and clinical facilities. This rising demand and limited financing opportunities because of their weak and unsustainable financial structures caused problems for many Black medical schools in the early 20th century, a time when pressures amounted for modernization. External funding bias limited the abilities of Black medical schools to meet stricter standards, unable to secure the large endowments and state support that PWIs easily achieved (Norris, 2009).

The Flexner Report and the events surrounding it led to the eventual downfall of most early Black medical schools. In 1904, the AMA formed the Council on Medical Education (CME) with the goals of standardizing educational requirements for medical school admissions and creating a universal curriculum consisting of "basic science and laboratory work for years before two years of clinical exposure in teaching hospitals" (Harley, 2006, p. 1426). These goals

were a message to Black medical schools, that the expenses to reform as well as the reforms themselves were threats to their existence. Accepting these goals would disproportionately lower the number of eligible students at Black medical schools, since it was not required at the time to complete college before investing in a professional medical education. Reduced enrollments translate to reduced income for institutions, of which missionary and proprietary schools relied on as a significant source of funds (Harley, 2006).

The 1910 Flexner Report was seemingly well-intentioned to standardize medical education and increase the quality of medical care in the country. Today, however, the Report is an often unacknowledged source of trauma in the Black American health experience, disenfranchising many Black Americans in attaining a medical education (Arrington, 2015). For over a year and a half, Flexner evaluated 155 medical schools based on five aspects: entrance requirements, size and training of faculty, size of endowment and tuition, quality of laboratories, and the availability of clinical education (Harley, 2006). These criteria stemmed from Eurocentric education models and standards, and Black medical schools were disproportionately targeted, given poor reviews and explicitly told to shut down without providing equitable resources to succeed. The Flexner Report reinforced the exclusion of Black Americans from a medical education for generations, with only two Black medical schools, Howard and Meharry, producing the majority of Black graduates.

The disproportionate number of Black medical schools that failed to meet Flexner's criteria and eventually closed is attributable to institutionalized racism. Even the schools that survived, such as Meharry, continued to struggle after the Flexner Report in search for funding. Flexner urged Meharry to construct a hospital to improve its medical education, an investment of $20,000. Luckily, the Carnegie Foundation donated $10,000, however, the organization also

refused assistance to many other Black medical schools (Arrington, 2015). The large demands from Black medical schools were difficult for individual philanthropists or missionaries to manage. Today, Black medical schools still have less access to resources because those with the money to donate, often legacy benefactors and foundations, typically do not choose to invest in Black medical schools as much as they do to PWIs. Further discussion will detail how these financial disadvantages reinforce the systemic exclusion of Black Americans from medical education, creating lasting implications for generations of racial disparities in the medical professional pipeline and racial health disparities (Arrington, 2015).

Identifying disparities in funding between Black Medical Schools and PWIs

Black medical schools contribute significantly to making the medical profession a better reflection of the demographics of America, training a disproportionate number of students historically underrepresented in the health professions. In 2015, "3% of American medical schools produced 18% of the Black medical graduates" (Sullivan, 2016, p. 451). By diversifying the medical pipeline and workforce, the entire profession is better equipped to respond to the needs of a diverse population. However, one of the biggest challenges for today's Black medical schools is still economics and finance (Harley, 2006). "Diversity and inclusion" initiatives from already well-funded PWIs have heightened the competition for funding for Black medical schools. Additionally, while Black medical schools actively promote their programs to potential funders, their best efforts are superseded by PWIs that have reinvested millions of dollars into initiatives to acquire even more funding (Toldson, 2016). To better understand the challenges Black medical schools face financially, it is important to see what composes revenue for medical schools.

According to the AAMC, there are six components of medical school revenue: tuition and fees, state, local, and parent support, federally sponsored support, federal research grants and contracts, income from endowments, and medical services such as hospitals and clinics. As seen in Figure 1, the increasing main source of revenue for medical schools in America is medical services, which includes all funds from faculty clinical practices and hospitals supporting the medical program. These medical services are the locations of many scientific advances by students and faculty, and locations of disproportionate pro-bono care. Without policy interference, societal pressures to decrease healthcare costs for patients threatens not only these services, but also the academic mission of the programs. In combating the high cost of healthcare in America, policymakers should also be finding ways to financially protect the academic mission of medical schools.

Figure 1. Revenue by source as a % of total revenue for medical schools, FY 1977-2019 (AAMC, 2020).

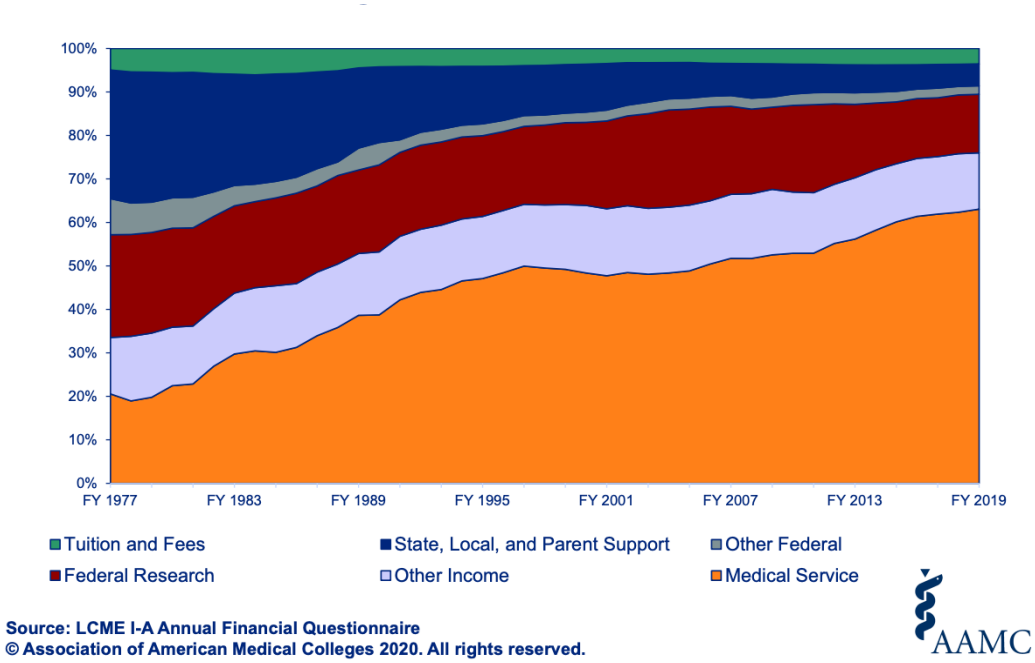

Table 2. Revenue supporting programs and activities at private U.S. medical schools, FY 2019 (AAMC).

Table 2:Revenue Supporting Programs and Activities at Private U.S. Medical Schools, FY 2019 ($ in Millions)			
	56 Private Schools		
Revenue Source	All Revenue	% of Total	Mean
Practice Plans*	$38,548	47.9	$688
Hospital Purchased Services and Investments	$14,766	18.3	$264
Government and Parent Support	$638	0.8	$11
Tuition and Fees	$2,819	3.5	$50
Endowment†	$1,803	2.2	$32
Gifts†	$1,578	2	$28
Miscellaneous Sources ‡	$2,309	2.9	$41
Total Grants and Contracts	$18,057	22.4	$322
Federal Research Grants and Contracts	$11,010	13.7	$197
Direct	$7,726	9.6	$138
Facilities and Administrative/Indirect	$3,285	4.1	$59
Other Grants and Contracts	$7,046	8.8	$126
Direct	$6,040	7.5	$108
Facilities and Administrative/Indirect	$1,007	1.3	$18
Total Revenues	$80,517	100	$1,438

Table 2 highlights the breakdown of revenue for the 56 accredited private medical schools surveyed in America, which includes Black medical schools Meharry, Howard, and Morehouse, in addition to a variety of elite private PWIs. Of the total revenue produced from these schools, only 3.5% resulted from tuition and fees. 48% of revenue in Fiscal 2019 resulted from practice plans, which are the medical and clinical services developed by these educational programs (AAMC, 2020). Though the revenue trends are similar across private medical colleges, statistics such as Table 2 hide the challenges in achieving funding for Black medical schools, whose core funding systems have disadvantaged them to this day. While Black medical schools may be able to attain relative revenues compared to their PWI peers, there is inequitable access to these funding streams between Black medical schools and PWIs. For instance, when looking at revenues from medical and clinical services, PWIs are disproportionately the major

destinations for tertiary, specialized care, reaping greater revenue while Black medical schools have been historically excluded from opportunities to develop similar subspeciality-oriented programs (Norris, 2009). The effects of systemic racism that financially challenge Black medical schools has accumulated into a set of adverse factors crippling medical care for marginalized communities. Black medical schools overwhelmingly treat low-income and underinsured communities in the medical services, which cites the need for increased financial support to provide these underfunded schools and their medical facilities with the necessary resources to continue treating these marginalized communities. Increased monetary support can also help develop the subspecialty programs that PWIs have historically monopolized in order to attract more students.

The inequities continue as each revenue source is taken into account. Although philanthropy and endowments only account for 2.2% of total revenue (of 56 private medical schools surveyed), the institutional racism constructed into society has allowed PWIs to develop wealthy alumni bases and receive large donations from wealthy donors who receive care at these private tertiary case facilities (Norris, 2009). Meanwhile, Black medical schools have alumni bases and patients with less disposable wealth, limiting the potential of these schools to offer the same level of advanced, subspeciality care as PWIs. Additionally, since Black medical schools graduate a disproportionate amount, relative to PWIs, of medical professionals that end up practicing in marginalized communities, the overall level of income and disposable income is lower despite possessing the same degrees as graduates from PWIs.

Long-term financial plans for sustainable operations have included decreasing dependence on tuition. In FY 2019, tuition only accounted for 3.5% of revenues for private medical school (AAMC, 2020), but it is the primary financial burden for medical students

themselves. Financial aid for students is administered in loans, employment, and scholarship from various federal, private, and school sources. PWIs are typically able to offer more aid due to having more monetary reserves while financial aid at Black medical schools is more uncertain and competitive due to more students vying for less aid opportunities. For institutions that have played a vital role in educating and treating low-income and first-generation populations, Black medical schools often lack the resources to develop robust university financial aid programs without compromising their revenues needed to stay afloat. While PWIs have recently developed specific initiatives to improve financial aid for underrepresented-minority (URM) students, this is the priority mission of Black medical schools – to provide equal education to students who otherwise do not possess the generational wealth that would privilege them the ability to pay full tuition.

Instead of relying on tuition, medical schools in the past few decades have increasingly focused on obtaining federal research grants and contracts. PWIs with developed research facilities possess a significant advantage in revenue growth since more alumni or philanthropies are investing in the research of these institutions, allowing PWIs to depend less on core operational finances such as tuition. Improving research programs would shift Black medical schools to a more sustainable financial model.

Further data and research is needed to confirm the revenue disparities between specific Black medical schools and PWIs. However, it can be concluded that while PWIs have thrived from centuries of alumni and philanthropic support, this has not been reciprocated for Black medical schools, even though they are expected to educate students and update facilities to the same standards as PWIs. While PWIs pick from their array of wealthy donors, Black medical schools will continue exhausting their revenues to satisfy evaluation standards, leaving less

money to develop the additional programs, positions, equipment, and technology that could attract more funding sources. The role of Black medical schools has only become more vital in attenuating health disparities, and it is imperative that changes in policy and funding occur to aid Black medical schools.

The case for more Black medical schools: the cost if Black medical schools cease to exist

In the early 20th century, the developments suggested by the Flexner report led to a significant reduction in Black medical schools, with only Meharry and Howard surviving. Campbell (2020) examined the long-awaited question concerning how the medical professional workforce would be today if the early Black medical schools continued to operate. Using AAMC records to determine the number of graduates from these closed schools, Campbell focused on five medical schools that closed soon after the Flexner report: Flint, Knoxville, Leonard, Louisville National, and the University of West Tennessee College of Medicine and Surgery – Memphis. It was determined that these five medical schools would have trained an additional 27,773 graduates (steady expansion model) and 35,315 graduates (rapid expansion models) by 2019. In other words, if these schools remained open, there would have been a 29% increase in the number of Black American graduates from medical schools. The study suggests that even though Black medical schools already disproportionately graduate Black medical professionals, these professionals are still underrepresented in the entire medical workforce, and hence investing in creating additional Black medical schools would have positive effects on the size and diversity of medical professionals. Even with PWIs taking steps to recruit and graduate more Black American students, it is still not significant enough of an expansion to recover the racial disparities in the workforce. This study modestly hypothesizes the effects that five closed Black medical schools would have had if they remained operational when in fact, almost a dozen Black

medical colleges closed in the early 20th century. Since minority medical professionals overwhelmingly treat underserved communities, adding to the existing body of minority medical professionals by increasing the number of Black medical schools will significantly support this demand and work towards decreasing healthcare disparities.

This study indicates the major contributions that the few Black medical schools have made in the past century after the destructive effects of the Flexner Report. The unrecognized potential held for many early Black medical colleges has had generational effects on the stagnant diversity growth in the medical workforce. Despite significant efforts to diversify the healthcare workforce, Black Americans only make up "8.2% of physicians/surgeons, 12.3% of registered nurses, and 10.6% of nurse practitioners" (Whitt-Glover, 2019). Without adequate diversity in the healthcare workforce, which depends heavily on the ability of Black medical schools to continue functioning, it is difficult for many underserved populations to expect optimally effective care from an overwhelmingly white medical workforce. In other words, when a homogenous workforce is solely responsible for a diverse group of patients, the quality of care is biased, which is dangerous and generates mistrust in healthcare among minorities. Diversity throughout the medical workforce promotes more meaningful representation and well-rounded treatment of patients. These efforts will collectively work towards dismantling the intergenerational trauma and exploitation that many Black American patients have experienced from racial bias in healthcare.

Conclusion

Black medical schools continue to supply a disproportionate percentage of Black medical professionals, strengthening the case for increased financial support to maintain their operations. Campbell's study highlights the significant contributions that closed Black medical schools could

have made to the healthcare workforce and in providing care for patients marginalized by inequities within America's healthcare system. Black medical schools have a social mission that includes teaching, research, technology innovation, and care for the underserved and underrepresented. Diversification across Black medical schools and PWIs has increased the number of non-Black students learning from Black faculty and peers about sensitive issues underlying the persistence of health disparities, and therefore, more graduates that can promote inclusive healthcare behaviors. In light of this progress, Black medical institutions remain essential and need sustainable financial equity and social support.

The need for more financial support to either expand Black medical schools or create new ones is imperative because Black medical practitioners are still underrepresented in the medical workforce, and it is necessary to repair the generational fallouts of the Flexner Report that have limited equitable care to this day. After a history of mistreatment and exploitation, Black communities have and continue to need practitioners that can understand their unique concerns and perspectives of the healthcare system. Black medical schools are integral to meeting this demand but being underfunded and facing competition from PWIs limits the attention and resources they can focus to attracting more Black medical candidates (Gasman, 2017). Increasing diversity among healthcare professionals can dismantle the barriers and hesitation that patients face when seeking medical care. And diversity in professionals starts from the educational environment. In a globalized society, it is more than necessary for medical students to simultaneously practice medicine and develop a competence to understand the diverse populations they will encounter. Significant changes to health education funding and policies "are needed to ensure Black medical schools…can continue producing high-quality and diverse

health professionals necessary to maintain the health of an increasingly diverse nation" (Norris, 2009, p. 7).

The question now turns to who is responsible for increasing funding for Black medical schools. Should partnerships between Black medical schools and PWIs be forged to eliminate a factor of competition for resources? Will these partnerships guarantee equity in access to financial resources to support Black medical schools? Norris (2009) suggests that federal funding is key to preserving the mission of Black medical schools, that if the federal government initiates funding, donors and funding agencies may follow. Black medical schools lack the legacy of large endowments and philanthropic contributions that PWIs have benefited from for centuries, and the government can take steps to develop the "requisite environment for philanthropy" (Norris, 2009, p. 6), that can spark additional funding packages from independent donors and agencies. The next level of support comes from state and municipal governments and includes developing new public-private financial relationships that reciprocate the care that Black medical schools provide for underserved communities. Overall, legislation itself is not sufficient. It will take the work of institutions in and out of medicine to combat the systemic funding challenges that Black medical schools continue to face. With the aid of internal and external support to increase revenues, Black medical schools can expand their potential to train more Black and minority medical professionals, contributing to a more diverse and equitable healthcare system.

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