

## THEME ISSUE: MOVING FROM INJUSTICE TO EQUITY

### REVIEW

## The Evolving Role of Historically Black Pharmacy Schools in a Changing Environment

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**Objective.** The purpose of this article is to provide a comprehensive review of the trends in contributions between 2015 – 2019 of HBCUs producing a diverse pharmacist workforce and identify opportunities for future contributions. This is accomplished by 1.) analyzing contributions of HBCUs to African American pharmacy student enrollment in comparison to national pharmacy student enrollment population, 2.) analyzing contributions of HBCUs to underrepresented pharmacy student enrollment in comparison to national pharmacy student enrollment population, 3.) evaluating the overall pharmacy school enrollment changes and its impact on enrollment at HBCUs, and 4.) identifying areas of opportunity to enhance future contributions of HBCUs.

**Findings.** There are currently six pharmacy HBCUs. Although HBCUs represent only 4% of the total amount of pharmacy schools, they contributed an average 22.8% of the total African American student enrollment in pharmacy school over the five-year period. HBCUs have collectively contributed an average of 13.8% of the total UPOC population enrolled in all pharmacy schools since Fall 2015.

**Summary.** HBCUs have consistently made significant contributions to the total pharmacy school population of African Americans, as well as Native Hawaiian and other Pacific Islanders and American Indian and Alaska Natives. HBCUs have an opportunity to enhance their impact and serve as a conduit to produce the anticipated diverse workforce supply needed in the future. This can occur by making significant efforts to recruit LatinX pharmacy students and improving upon their current contributions with African Americans, Native Hawaiian and other Pacific Islanders, and American Indian and Alaska Natives.

**Keywords:** HBCUs, HBCU pharmacy schools, diverse health care workforce, African American pharmacists, underrepresented pharmacists, minority pharmacists

### INTRODUCTION

Underrepresented people of color (UPOC) represent 33.4% of the United States population and 12.5% of practicing pharmacists.<sup>1,2</sup> Between the years of 2015 – 2019, there were a relatively low amount of underrepresented students of color and more specifically African Americans in pharmacy school.<sup>3-7</sup> The U.S. Department of Health and Human Services (HHS) defines underrepresented as, “a lower representation of racial and ethnic group members in a health occupation relative to their numbers in the general population (p. 3).<sup>8</sup>” African Americans make up 10.5% of practicing pharmacists and 13.4% of the total U.S. population, deeming them underrepresented in the pharmacy profession.<sup>1,2</sup> Other UPOC identified in pharmacy schools include those who identify as LatinX, Native Hawaiian or other Pacific Islander, and American Indian.<sup>9</sup>

People of color (POC) are disproportionately impacted by chronic diseases and have the greatest need for attention from health care providers.<sup>10</sup> Despite efforts made to combat health disparities following the release of the Institute of Medicine’s (IOM) Unequal Treatment report in 2003, the 2018 National Health care Quality and Disparities Report notes that disparities in health care quality and outcomes continue to exist by income, race, and ethnicity.<sup>11,12</sup> A 2004 IOM report revealed that POC who are health care professionals have a higher likelihood of successfully treating patients from similar backgrounds, because patients tend to be more receptive to receiving treatment from someone similar to themselves.<sup>13</sup> Therefore, it is important to have racial and ethnic diversity in the health workforce to ensure a health care system that supports quality health care access for all.<sup>14</sup> In alignment with the IOM, the Accreditation Council for Pharmacy Education (ACPE) guides pharmacy schools to engage in an admissions process that fosters a diverse

student body.<sup>13,15</sup> Additionally, the American Association of Colleges of Pharmacy (AACCP) charges pharmacy schools with recruiting and admitting students with diverse backgrounds, perspectives, and experiences similar to the communities they will serve as pharmacists.<sup>9</sup>

In 2016, there were approximately 300,000 active pharmacists in the United States. The Health Resources and Services Administration (HRSA) predicts this number will grow by 36 % to 410,490 in 2030. However, if pharmacists do not change their practice model, the demand is expected to increase by only 19 % to 359,770, and if pharmacists change their practice model to adjust to the evolving health care system, demand is projected to grow by 29 % to 391,850 FTEs in 2030.<sup>16</sup> By the year 2060, POC are predicted to be the majority in the United States, with the proportion of African Americans slightly increasing and a significant increase in the amount of LatinX.<sup>17</sup> While HRSA 2030 projections identify an oversupply of pharmacists, current trends do not reflect that there will be a demographic representation of pharmacists to support the diverse population at that time.

The U.S. Department of Education (1991) recognizes Historically Black Colleges and Universities (HBCUs) as higher education institutions that were established to provide African Americans access to a postsecondary education when they were denied access at White institutions.<sup>18</sup> HBCUs have been historically identified as a underutilized resource to achieve health equity.<sup>19</sup> There are currently six HBCUs with Doctor of Pharmacy degree programs.<sup>3</sup> Consistent with their history, three of the HBCUs specifically identify African Americans as a target population in their mission statements. Additionally, three include language that address having a multicultural/ethnically diverse environment, and three include language to develop practitioners that address underserved populations/critical and urban issues/health disparities. Only one HBCU does not include similar language in its mission statement, however, it includes cultural proficiency in its values.<sup>20-25</sup>

## OBJECTIVES

Utilizing data from the annual AACCP Profile of Pharmacy Students between the 2014 - 2015 and 2018 – 2019 admission cycles, the purpose of this article is to provide a comprehensive review of the trends in contributions of HBCUs producing a diverse pharmacist workforce and identify opportunities for future contributions. This will be accomplished by the following:

- 1.) Analyzing the contributions of HBCUs to African American pharmacy student enrollment in comparison to the national pharmacy student enrollment population,
- 2.) Analyzing the contributions of HBCUs to underrepresented pharmacy student enrollment in comparison to the national pharmacy student enrollment population,
- 3.) Evaluating the overall pharmacy school enrollment changes and its impact on enrollment at HBCUs, and
- 4.) Identifying areas of opportunity to enhance future contributions of HBCUs.

## FINDINGS

During the 2014 – 2015 admissions cycle, there were 76,525 applications submitted to 133 entry-level Doctor of Pharmacy degree programs. UPOC submitted 17% of the applications with 11.5% from African American and 5.1% from LatinX applicants. The remaining percentages are minimally attributed to Native Hawaiian or other Pacific Islander, and American Indian applicants. During this same period, UPOC represented 13.6% of students enrolled in PharmD programs with African Americans contributing 7.9% and LatinX making up 5.0%.<sup>26</sup> The 2018 – 2019 applicant pool was significantly smaller than the 2014 – 2015 admissions cycle with 50,842 applications submitted to 143 pharmacy programs. Despite this decrease, there was a notable increase in the percentage of applications received from UPOC representing 22.9% of the applicant pool. This included 13.5% African Americans and 9.2% LatinX. There was an additional increase in the percentage of UPOC enrolled in PharmD programs at 17% with 9.3% attributed to African Americans, up by 1.4%, and 7.2% attributed to LatinX students, up by 2.2%.<sup>27</sup> Although there was a decrease in overall applications and enrollment in pharmacy school, the percentage of UPOC who submitted applications and who were enrolled increased.

Table 1 displays African American student enrollment in all pharmacy schools and HBCUs. Although the amount of pharmacy schools accepting admissions applications increased nationally from 133 in 2014-2015 to 143 in 2018-2019, the amount of HBCUs remained constant at six. During this same period, the number of African Americans enrolled went from 5,031 to 5,624 with a 1% gain in their percentage representation in all pharmacy schools. Additionally, HBCUs went from contributing 27% of the total enrollment of African Americans in 2014-2015 to 19% in 2018-2019. Although

HBCUs represent only 4% of the total amount of pharmacy schools, they contributed an average 22.8% of the total African American student enrollment in pharmacy school over the five-year period.<sup>3,7</sup>

The enrollment of the number of African Americans in HBCU pharmacy schools declined from 2015 (1,342) to 2019 (1,080), while there was an increase in all pharmacy schools nationally from 2015 (5,031) to 2019 (5,624). When evaluating enrollment at individual HBCUs, they consistently have an African American student population of roughly 35% or more (see Table 2). Although their total student population accounts for 3% of the total amount of students enrolled in all pharmacy schools, their African American enrollment accounts for roughly 20% or greater of the total African American enrollment.<sup>3</sup> Tables 1 and 2 demonstrate increases nationwide in the amount of African Americans in pharmacy schools from 2015 to 2019.<sup>3-7</sup> This increase seemingly reflects the impact of new pharmacy schools and more schools making efforts to increase diversity in admissions classes.

Although there has been an approximate 11% increase in the number of African Americans enrolled in pharmacy schools nationally over the past five years (5,031 in 2015 vs 5,624 in 2019), they still only represent an estimated 9% of the total pharmacy school population, reflecting only a one-point gain.<sup>3</sup> Given the 2020 Census projections of African Americans being 13.4% of the United States population, they are still considered underrepresented in pharmacy schools.<sup>2</sup>

As noted in Table 3, HBCUs not only provide a significant contribution of the African American student enrollment in pharmacy school, but also offer notable contributions of other UPOC. Except for LatinX students, HBCUs have consistently contributed a larger percentage of UPOC than the total percent in all pharmacy schools. In the past five years they have contributed 6.6% of the total American Indian and Alaska Native population in comparison to the national average of 0.3%. Additionally, HBCUs have contributed 2% of the total Native Hawaiian and other Pacific Islander in comparison to the 0.3% national average. Conversely, HBCUs have contributed 1.6% of the LatinX student population in comparison to the 5% national average of LatinX students enrolled in pharmacy school.

Despite only representing 3 – 4% of the total amount of pharmacy schools, HBCUs have collectively contributed an average of 13.8% of the total UPOC population enrolled in all pharmacy schools since 2015. However, Table 3 reveals that their contributions to UPOC in pharmacy is trending downward. When comparing the contribution trend to the number of pharmacy schools, the data reveals there is a converse relationship; as the amount of pharmacy schools increase, the contribution of HBCUs to the UPOC student population decreases.

When comparing current student enrollment demographics to future United States census projections, there is the potential for a continued disparity in populations that are currently underrepresented in pharmacy school (see Table 4). When evaluating current UPOC in the profession, it is predicted that the largest growth will occur in the LatinX population followed by African Americans. African Americans are predicted to increase by 0.4% by 2030 and increase by 1.6% by 2060. However, the LatinX population is predicted to grow by 2.6% in 2030 and by 9% in 2060.

There are minimal projected census changes for the American Indian and Alaska Natives, as well as the Native Hawaiian and other Pacific Islanders with a growth of 0.1% in both groups by 2030 and 2060. Nevertheless, there is still opportunity to increase the amount of American Indian and Alaska Native student enrollment to ensure it is consistent with the U.S. population trends.

Pharmacy HBCUs currently exceed the general population with their contributions to African American (19% vs 13.4%), American Indian and Alaska Native (2% vs 1.3%), and Native Hawaiian and other Pacific Islander (4% vs 0.2%) populations. For the same populations, pharmacy HBCUs also exceed the current total pharmacy school enrollment percentages. However, HBCUs do not contribute a comparable percentage of LatinX students when comparing their enrollment with the United States population (1% vs 18.5%) and the collective pharmacy school enrollment threshold (1% vs 7.2%).

Of note, a group that has started being monitored in recent years and has indicators for being classified as underrepresented now and in the future are students who identify as two races or more. They currently represent 2.8% of the United States population with a predicted growth of 0.8% by 2030 and 3.4% by 2060. However, they are currently only 2% of the pharmacy school enrollment with HBCUs contributing to 2% of that enrollment.

## DISCUSSION

Although there has been an increase in the amount of pharmacy schools, the AACCP Profiles of Pharmacy Students published between 2015 – 2019 reveal a downward trend in total pharmacy school applications with an upward trend in degrees conferred. These same AACCP Profiles also reveal that while there is an increase in the number of African Americans graduating from and enrolling in pharmacy schools, their percentage distribution has only slightly increased. Although their total student population accounts for 3% of the total students enrolled in all 143 pharmacy schools, HBCUs

have contributed between 19% - 27% of the African American pharmacy student enrollment and 11% - 17% of the underrepresented student enrollment over the past five years.<sup>3-7</sup> These findings are consistent with those of HBCU medical schools, whereas less than 3% of medical schools are HBCUs yet they contribute 14% of the African American enrollment in medical schools.<sup>28</sup> As more pharmacy schools enter the market and there is a greater focus on diversity initiatives, the competition for African American and other underrepresented students increases.

To ensure there are an adequate number of pharmacists of color to care for the predicted demographically diverse population in 2030 and beyond, it is essential that schools of pharmacy continue to make efforts to increase the diversity of its students.<sup>17</sup> This review reveals the collective effort by pharmacy schools to target UPOC for admissions has resulted in an increase in the number of underrepresented students enrolled. However, HBCUs have seen a decrease in the number of students of color attending their institutions. This implies that students that may have previously attended an HBCU for pharmacy school are either opting to attend a non-HBCU or not choosing pharmacy as a profession.

HBCUs can continue to be impactful in producing underrepresented students of color and remain aligned with their mission statements. Trends indicate there has been an average increase in underrepresented students in pharmacy schools of 1% annually, with African Americans and LatinX students having the greatest impact on the changes. Given the predicted demographic make-up in 2030, there is a need for this change to increase at a greater rate. Additionally, the data indicates an opportunity for HBCUs to target LatinX students. With HBCUs falling below the national percentage and total pharmacy enrollment percentage trends of LatinX students, HBCUs have the opportunity to gain a competitive edge through this population. However, it is also imperative they continue targeting African Americans to secure their positioning as leaders in producing African American pharmacists.<sup>3-7</sup> HBCUs must also work to increase recruitment of American Indians and Alaska Natives, and Native Hawaiians and other Pacific Islanders.<sup>3-7, 20-25</sup>

According to a Gallup study in 2015, African American HBCU graduates are more likely to thrive in social (54%) and purpose (51%) well-being in comparison to their counterparts who graduate from predominantly white institutions (PWIs). This finding is interpreted to mean African American HBCU graduates generally have social connection, are motivated, and enjoy what they do. Further findings from this report reveal African American HBCU graduates are significantly more likely to have felt supported while in college and be thriving upon graduation in comparison to their Black peers from PWIs. They additionally are more than twice as likely to recall a time where they felt supported by a professor than their PWI peers.<sup>29</sup>

These findings have some alignment in a study by Bush investigating the experiences of UPOC in pharmacy school at PWIs. Bush reports that underrepresented students of color recount negative experiences including a lack of diversity, feeling unwelcomed, and concerns about cultural competency and group work challenges. However, the presence of underrepresented faculty members was impactful causing students to report feeling motivated by underrepresented faculty members, self-efficacy, and a sense of purpose. These collective findings imply that African American students who attend an HBCU for pharmacy school are more likely to feel supported during their matriculation.<sup>29,30</sup> Given the ability of HBCUs to create a supportive environment for African American students, HBCUs are poised to be responsive to the needs of other underrepresented students of color.

During the most recent election cycle, there was much attention given to the role of HBCUs in educating African Americans with specific attention to the recently elected Vice President of the United States graduating from one of the six HBCUs with a pharmacy school.<sup>31</sup> Additionally, a growing movement in the past year with the Black Lives Matter protests surrounding police brutality of African Americans created in a renewed sense of pride to attend HBCUs. This resulted in some HBCUs seeing an increase in enrollment and some prominent athletes transferring from PWIs to HBCUs and highly recruited high school athletes graduating changing their commitments to HBCUs.<sup>32</sup> This attention has also resulted in increased philanthropic giving to HBCUs.<sup>33</sup> These movements indicate an opportunity for HBCUs to capitalize on the attention being gained and work to recruit students to their pharmacy schools.

HBCUs have a history of having a significant impact on the production of African American and other underrepresented pharmacists and continue to make contributions in this regard. As the demographics shift in the country, HBCUs can continue to make an impact and significantly contribute to the production of a diverse workforce. As competition grows they must examine their recruitment practices to ensure they are effective in achieving their missions in a changing environment. Pharmacy HBCUs must conduct in-depth analyses to determine the root cause of shifts in enrollment trends and identify strategies that can be implemented or enhanced to secure their positioning as producers of UPOC pharmacists and continue contributing to the health care demands of an increasing population of color.

A limitation of this review article is the data presented is based on information from the AACP Profile of Pharmacy Students which includes some self-reported information from students. Additionally, the comprehensiveness of

the data is dependent on information that was reported to and from institutions. During 2016, there were 138 pharmacy schools, however only 137 reported application information.<sup>7</sup> Subsequently, in 2017 there were 142 pharmacy schools, but only 140 reported application information.<sup>6</sup> As a result, the information during these two years is lacking. However, this discrepancy may be due to the inclusion of institutions with precandidate accreditation status.<sup>15</sup>

The data presented is based on the total population of pharmacy school enrollment and not a sample. Therefore, it is generalizable to the pharmacy school population. However, since the review is based specifically on pharmacy school enrollment, it is not generalizable to other health profession schools, such as medical or dental.

## SUMMARY

Despite increases in the total amount of African Americans enrolled in pharmacy schools since 2015, they still only represent approximately 9% of the total pharmacy school population and continue to be considered underrepresented in the profession.<sup>1-7</sup> Nonetheless, HBCUs have consistently made significant contributions to the total pharmacy school population of African Americans, as well as Native Hawaiian and other Pacific Islanders and American Indian and Alaska Natives despite only representing 3% of the total pharmacy student enrollment population. While HRSA 2030 projections identify a sufficient supply of pharmacists, current trends do not reflect there will be a sufficient demographic representation of pharmacists to support the historically underserved populations experiencing the greatest health disparities.<sup>16</sup> Therefore, pharmacy schools must continue to ensure the pipeline for underrepresented pharmacists is sufficient for future population projections. HBCUs have an opportunity to enhance their impact and serve as a conduit to produce the anticipated diverse workforce supply needed. This can occur by making significant efforts to recruit LatinX pharmacy students and continuing and improving upon their current contributions with African Americans, Native Hawaiian and other Pacific Islanders, and American Indian and Alaska Natives.

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Table 1. African American Pharmacy School Enrollment<sup>3-7</sup>

	2015		2016		2017		2018		2019	
	Amount AA	% Total	Amount AA	% Total	Amount AA	% Total	Amount AA	% Total	Amount AA	% Total
Total AA	5031	8	5308	8	5673	9	5719	9	5624	9
Nationally										
Total AA at HBCUs	1342		1296		1295		1188		1080	
% AA HBCU Contribution		27		24		23		21		19
Total Enrollment	63,460		63,464		63,087		62,504		60,594	

AA = African American; HBCU=Historically Black College and University

Table 2. African American Pharmacy School Enrollment at HBCUs<sup>3-7</sup>

	2015		2016		2017		2018		2019	
	AA	% Total	AA	% Total	AA	% Total	AA	% Total	AA	% Total
HBCU-A	176	68	172	70	191	72	151	65	165	67
HBCU-B	464	67	457	67	438	67	415	70	330	71
HBCU-C	189	74	179	73	166	72	146	73	107	76
HBCU-D	219	36	209	34	241	40	239	41	279	46
HBCU-E	203	45	183	44	169	43	156	44	137	43
HBCU-F	91	49	96	52	90	53	81	53	62	44
Total AA at HBCUs	1342		1296		1295		1188		1080	
Total AA Nationally	5031	8%	5308	8%	5673	9%	5719	9%	5624	9%

AA=African American; HBCU=Historically Black College and University

Table 3. Underrepresented Student Enrollment Contribution of HBCU Pharmacy Schools<sup>3-7</sup>

Race and Hispanic Origin	2015		2016		2017		2018		2019	
	All schools %	HBCU contr. %	All schools %	HBCU contr. %	All schools %	HBCU contr. %	All schools %	HBCU contr. %	All schools %	HBCU contr. %
Black or African American alone	8 n=5,031	27	8.4 n=5,308	24	9 n=5,673	23	9.1 n=5,719	21	9.3 n=5,624	19
American Indian and Alaska Native alone	0.3 n=194	8	0.3 n=192	10	0.3 n=218	9	0.4 n=228	4	0.4 n=219	2
Native Hawaiian and other Pacific Islander alone	0.4 n=231	0	0.4 n=235	1	0.2 n=105	3	0.2 n=133	2	0.2 n=124	4
Hispanic or LatinX	5 n=3,185	2	5.3 n=3,391	3	5.8 n=3,675	1	6.5 n=4,049	1	7.2 n=4,361	1
All UPOC	13.6 N=8,641	17	14.4 N=9,126	15	15.3 N=9,671	14	16.2 N=10,129	12	17 N=10,328	11
Total pharmacy schools	133		137		140		143		143	

HBCU=Historically Black College and University; UPOC=Underrepresented People of Color; contr.=contribution

Table 4. Future U.S. Population Projections and Pharmacy HBCU Enrollment Contribution<sup>2-7,17</sup>

Race and Hispanic Origin	2019 U.S. Pop. %	2030 U.S. Pop. %	2060 U.S. Pop. %	2019 Pharmacy schools N=60,594 %	2019 Pharmacy HBCUs contribution %	2019 UPOC in profession
Black or African American alone	13.4	13.8	15	9	19	X
American Indian and Alaska Native alone	1.3	1.3	1.4	0.3	2	X
Asian alone	5.9	6.9	9.1	24	2	
Native Hawaiian and other Pacific Islander alone	0.2	0.3	0.3	0.2	4	X
Two or more races	2.8	3.6	6.2	2	2	
Hispanic or LatinX	18.5	21.1	27.5	7	1	X
White alone and not Hispanic or LatinX	60.1	55.8	44.3	48	1	