THEME ISSUE: MOVING FROM INJUSTICE TO EQUITY
RESEARCH

Addressing Ethnic and Racial Diversity in Pharmacy Faculty Pipeline

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Objective. To analyze the ethnic and racial diversity of faculty in pharmacy, medicine and dentistry and suggest how pipeline for pharmacy academe can be diversified.

Methods. A retrospective analysis of the representativeness of faculty at colleges and schools of pharmacy was compared to that in medicine and dentistry. The range of ethnic and racial diversity across top schools of pharmacy, historically black colleges and universities (HBCUs) and newer schools of pharmacy were evaluated for both faculty and students for the year 2019-20. The ethnic and racial diversity in residency and fellowship programs along with graduation rates provided insight into the available pipeline for future pharmacy faculty.

Results. Faculty in pharmacy, medicine and dentistry demonstrated similarly low representation of underrepresented minorities (URM) compared to their composition in the US population. Dentistry has the largest percentage of URMs (13.9%) compared with 8.5% in pharmacy and 7.1% in medicine. Five HBCUs contribute 32.8% of the Black faculty, but have comparatively low residency match rates. Representation of URMs in post-PharmD and graduate training programs is lower than their representation in programs of pharmacy.

Conclusion. Lack of postgraduate residency or fellowship training is a major barrier to progression to pharmacy academe and impacts URMs more significantly. Removing or decreasing barriers to advanced training must be addressed to create the needed diverse pipeline for pharmacy academe. Without intervention, students in pharmacy programs will be primarily trained by non-URM faculty, which may impact how they provide care in an increasingly diverse patient population.

Keywords: faculty, race, diversity, pipeline, schools and colleges of pharmacy

INTRODUCTION

As once noted:

“Not everything that is faced can be changed, but nothing can be changed until it is faced,”

James Baldwin

It remains unclear how the US healthcare system will face its failed attempts to ameliorate racial and ethnic health disparities. The healthcare workforce encompasses medicine, dentistry, nursing, pharmacy and other allied health professionals. The presence of patient-provider concordance, in an integrated model of care, would be ideal. In addition to improving patient outcomes, having a diverse workforce can expand our investigation into disparities. Cohen et al argues that the personal, cultural and ethnic filters of investigators shape the research agenda of the US healthcare system.1 In pharmacy, clinical research conducted in practice environments only represents one piece of the puzzle. We must also rely on students and faculty in MS and PhD programs to conduct bench research and research that includes the economic and humanistic aspects of care. It is through these studies that African American distrust in medical research funded through the government was uncovered.1 Admitting students of underrepresented backgrounds into pharmacy programs can not only impact the educational experience of all persons in that program, but also can eventually determine their representation in both faculty and the healthcare workforce. The pipeline for healthcare professionals and the faculty that prepares them needs to be investigated to determine where additional support is warranted.

While diversifying educational and occupational spaces ensures representation of myriad perspectives and improves access to resources, there are costs to changing the landscape. Black faculty members that are recruited from diversity initiatives may be tokenized as the first or only Black faculty perspective in the history of the program.2 Untenable climates plus a lack of mentorship can create unforeseen barriers to promotion. The absence of shared perspectives might silence Black faculty voices, creating hostile work environments that hinders Black faculty retention.

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Expectations for under-represented minority (URM), (Black, Hispanic, American Indian/Alaska Natives, and Native Hawaiian/Other Pacific Islander) faculty to lead diversity efforts, advise URM students and serve on committees may impact work-life balance, decreasing career satisfaction. Research has determined that increasing the number of underrepresented faculty in the pipeline is necessary, but not sufficient, to increase the number of underrepresented students. Lebovitz et al found that over the last decade the enrollment of Black and Hispanic students remains relatively low; suggesting pharmacy needs to continue and sustain efforts to recruit, support and graduate these students. In medicine, while the number of advanced degrees awarded to URM students have increased over time, the number of faculty hired did not. Examination of underrepresented faculty in other health science disciplines allows pharmacy to determine their position in changing the educational landscape. As such, the objectives of this study are as follows:

1. Describe the representativeness of minority populations in the faculty of schools and colleges of pharmacy compared with the US census data.
2. Evaluate the representation of racial and ethnic minorities in HBCUs, newer Doctor of Pharmacy (PharmD) programs and top ranked pharmacy programs.
3. Compare the racial and ethnic diversity of faculty within pharmacy to faculty in colleges of medicine and dentistry.
4. Identify barriers and solutions to creating a faculty pipeline in schools and colleges of pharmacy.

METHODS

This retrospective study was considered exempt by the Belmont University Institutional Review Board. Population demographic data were obtained from the 2019 United States Census Bureau (USCB) and used as a baseline to compare the racial and ethnic composition of full-time faculty in schools of pharmacy, medicine, and dentistry. The definition of diversity utilized in this paper included the racial and ethnic categories utilized by the USCB. Faculty diversity within the academies of pharmacy, medicine and dentistry were compared as three healthcare professions that have profound potential to impact patient outcomes. Demographic data for pharmacy faculty were obtained from the American Association of Colleges of Pharmacy (AACP) Institutional Database, Profile of Pharmacy Faculty (2019-2020). Race and ethnicity data for faculty in individual schools is only available when a minimum threshold of five programs is requested. Data for medical school faculty were obtained from the American Association of Medical Colleges (AAMC) Roster of Medical School Faculty for the year 2019. Data for dental school faculty were taken from the American Dental Education Association (ADEA) website. AACP, AAMC, ADEA, collects individual faculty data from member schools but reports numbers in aggregate.

To assess the scope of diversity, the racial and ethnic makeup of all faculty at pharmacy programs was compared to that which occurs in the top colleges of pharmacy, HBCUs and newer schools of pharmacy. The top pharmacy programs were identified from the 2020 rankings of the US News and World Report on Best Pharmacy Schools. These published rankings were determined by peer assessment, HBCUs status is designated by the Department of Education. Newer schools of pharmacy were defined as those opening since 2010, per the Accreditation Council for Pharmacy Education (ACPE) website.

Institution specific demographic data for pharmacy students, residents and fellows were obtained from the AACP Institutional Database, reported in the Fall 2019 Profile of Pharmacy Students. The racial composition of pharmacy students was viewed in the same context as faculty. Residency match data is currently not characterized by race or ethnicity through American Society of Health-System Pharmacists (ASHP). The National Matching Service (NMS) administers the match on behalf of the ASHP and reports overall match rates for individual schools. Match rates were calculated as the percent of students matched compared to the number active on the list.

RESULTS

There has been a demographic shift in the racial and ethnic composition of URM populations within the United States. In 2019, Whites (non-Hispanic) make-up 60.1% of the US population, while Hispanics are the largest URM group. Asians are the fastest growing minority population, representing 5.7% of the US population. The percentage of Native Hawaiian/ Pacific Islanders has doubled since 2000, while American Indian/Alaska Native populations remained constant. Table 1 provides a comparison of racial/ethnic breakdown of the 2019 US population when compared to populations of full-time faculty in pharmacy, medicine and dentistry. The percent representation is consistent across all ethnic and racial groups in the faculty of the three health professions. Asians continue to be over-represented among full-time faculty in all three professions reaching levels that are 2-3.5 times their representation within the US population. Approximately 20% of medical school faculty are Asian. Whites were consistently the majority population within the faculty, with dentistry having the lowest representation. Dentistry had the largest percentage of Hispanic faculty, more than twice the percentage
found in pharmacy and medicine (8.5% vs 3.3% and 3.5% respectively) but less than half of their US population representation. Dentistry has the largest percent of URMs at 13.9% compared with medicine (7.1%) and pharmacy (8.5%).

In Table 2, URM faculty are represented to different degrees across different types of programs. In 2000, 5.1% of faculty were Black and in 2019, of 6362 pharmacy faculty, 323 (5.0%) are Black. One hundred six (32.8%) of these Black faculty are employed in five HBCUs. These HBCUs represent only 3.5% of the total number of colleges or schools of pharmacy. For the reporting five institutions, 57.2% of faculty are Black. The top programs of pharmacy employ the smallest percentage of Black faculty compared with HBCUs, and newly accredited pharmacy programs. As expected, the overall percent of URM faculty in all pharmacy programs is low, but in the top programs, these faculty are even fewer. Newer programs have done a better job at recruiting URM faculty, when compared to the overall academy and top programs, yet HBCUs continue to provide the greatest opportunities for URM faculty. Among science faculty in pharmacy, Asians are represented at 22% and Whites at 56%. Black and Hispanic faculty are underrepresented at 4.4% and 3.2% respectively.

Among the 60,594 enrolled pharmacy students in Fall 2019, Whites were under-represented at 48% and Asians were over-represented at 24% compared to their relative composition in the US population, both overall and in the 20-34 age group which theoretically represents the pool from which professional degree program applicants are drawn. In the US, URM populations account for 33% of the population, however among all students enrolled in PharmD programs constitute only 17%. As was seen with faculty, URM representation was lowest in top programs (15.4%), greater in newer programs (24%), and greatest in HBCUs (58.7%). HBCUs, top programs and newer programs train 3.2%, 9.9% and 9.7% respectively of all pharmacy students. HBCUs educate 19.2% of all the Black pharmacy students nationally, and Black students account for 56% of the student body at HBCUs. Newer programs and top programs educate 15.2% and 6.25% respectively of all Black students. Hispanic students were represented in a greater percent in newer programs.

A post PharmD residency or fellowship is often the minimum qualification required of clinical pharmacy faculty. The racial and ethnic representation of students in residency programs affiliated with a PharmD program reflects a continuing pattern of worsening representation for Blacks and Hispanics. (See Table 3). PharmDs in a residency or fellowship not associated with a pharmacy program is not reported by ASHP. Institutional match rates were highest for top programs (76.4%), while newer programs and HBCUs matched at 44% and 33.2% respectively.

PhD programs often create the pipeline for pharmaceutical science faculty. According to AACP, the disciplines that contribute the most to overall diversity include the biological/biomedical sciences (43.7% non-white), medicinal/chemistry/pharmacognosy (43.3% non-white), pharmaceutics (57.8% non-white) and pharmacology/toxicology (44.2% non-white). When comparing all science-based faculty to pharmacy practice, Black and Hispanic faculty are found to have roughly equal representation (46% to 54%); Asian faculty are found more predominantly in the science disciplines when compared to pharmacy practice (68% versus 32%).

Figure 1 creates a visual representation of the pipeline for pharmacy practice faculty. When compared to non-URM (White and Asian) populations, the URM pipeline starts out close in representation then narrows significantly at the PharmD level, and continues to decrease, perhaps due to issues with progression to degree, residency opportunities and retention, as they move through to becoming a practice faculty member. Conversely, the pipeline for Whites and Asians continues to expand at nearly every stage in the pathway to academia, truly illustrating the over-representation of these populations in pharmacy programs.

**DISCUSSION**

In comparison to the US Census, representation of Black (5.0%) and Hispanic (3.2%) pharmacy faculty are woefully inadequate and have not changed despite 20 years of initiatives dedicated to changing this. The pipeline to a practice faculty position is traditionally viewed as a residency or fellowship-trained PharmD graduate. The pipeline for pharmaceutical, social and administrative science faculty is typically drawn from science technology engineering and math (STEM) graduates. It is clear that from our analyses, the current pipeline will not increase the number of underrepresented faculty at a consistent enough rate to meet population demographics. In order to address issues in the pipeline, several strategies will be addressed in Table 4 and below.

Residency programs tend to be where our clinical pharmacy practice faculty pipeline receives training. ASHP pharmacy residency programs do not report the race/ethnicity of applicants or individuals who match and complete residency programs. In 2000, the Final Report of the Ad Hoc Committee on Affirmative Action and Diversity for AACP recommended the Board of Directors work with ASHP, American Pharmacist Association (APhA), and National Pharmaceutical Association, (NPhA) to establish a tracking system for minority students in fellowships and residencies, yet 20 years later, this has not been done. The lack of such data hides the realities but not the consequences.
HBCUs, which generate the largest percentage of Black graduates, have much lower match rates. This troubling disparity seems indicative of a glass ceiling, which further narrows the pipeline to a faculty position. Residency programs should examine and report racial and ethnic composition, while making intentional efforts to increase numbers of URM residents. Faculty hiring criteria should be modified to include other factors such as years of experience, or demonstrated expertise in an area, particularly as competition for residency increases. Diversity within residency directors (RPDs), fellowship and pharmacy preceptors are likewise warranted.

ACPE has no accreditation standards related to broadening diversity among students. In 2020, Campbell et al reported that racial disproportionalities still exist between pharmacy students and the population of patients surrounding the pharmacy programs themselves. A review of pharmacy programs by accreditation status posted by ACPE, echoes the Flexner Report of 1910, which closed Black medical schools. In the past year, one HBCU lost accreditation and one Predominantly Black Institution (PBI) is on probation, both due to issues with student progression. HBCUs and PBIs educate 21% of the Black pharmacy student population. Failure of any of these programs results in a major loss to the academy as they are a major source of Black pharmacists, and potentially Black faculty.

Research outside of pharmacy provides potential solutions. When examining motivators of biomedical science PhD students to pursue faculty careers, personal values played a key role. Motivators of Non-URM biomedical scientists include research freedom, while women and URM scientists were motivated to research health problems facing their community. URM faculty placed a high value on impacting students through mentorship. In addition, diversity, equity and inclusion initiatives are left to the URMVs to do. If such aspects are not valued by promotion and tenure committees, then this type of work is marginalized, and represents a barrier for URM faculty retention.

When federal funding and dissemination of research in peer-reviewed journals are used as benchmarks for promotion, bias is already built into the system. Reviews of NIH R01 funding found that Black applicants were less likely to receive funding. To address this barrier, criteria used in faculty promotion should be as free from bias as possible and should be revised to reflect this reality. Ginter et al, indicated that faculty who worked at the 30 most highly funded NIH institutions were found to have a higher probability of funding regardless of ethnic identity, which makes it difficult to move to these institutions from outside these institutions. This may explain the low number of URM faculty in the top-ranked research pharmacy programs. In addition, URM females face additional barriers related to the marginalization of their scholarship, negative student interactions and evaluations, and higher service loads. These structural biases must be acknowledged and be fundamentally dismantled to see any progress in the number of underrepresented faculty at these institutions.

Another strategy utilized includes adding diversity/inclusion in the mission and vision statements of schools and colleges. While this is a necessary first step, institutions must go further. A recent report on the use of strategic planning for faculty diversity in medicine found no relationship between having a strategic plan and the percent change in the proportion of full-time URM faculty presence from 1998-2015.

Our analyses suggest that there are other factors to consider if we want to address the URM pipeline to faculty ranks. The commitment to increasing the representation of Blacks and Hispanics in pharmacy programs must be agreed upon by all faculty in a program. Leadership for this goal must come from the senior faculty and must be fully supported by them in tangible ways. Recognition that the motivations to enter a faculty career for young scientists and healthcare students may be different from their mentors or other non-URM students in training. Showing how these values can be achieved in a faculty career is important to attract URM graduates to the academy. Rather than trying to mold URMs to fit into a system that was not developed with them in mind, programs need to develop environments that are flexible, welcoming and open to new ways of thinking and new ways of rewarding faculty efforts.

The competitive nature of professional training programs can be very unattractive to prospective students who want to contribute to healthcare by serving society. Competition is in direct opposition to this goal. The dominant culture in the US can be categorized as a zero-sum game, one of winners and losers. We must learn new ways of thinking by valuing what our URM colleagues have to offer. We must seriously rethink the criteria used to recruit and admit students to our healthcare training programs and promote and retain URM faculty. We must value a diverse faculty and student population for integration and learning (new ideas, different ways of thinking, challenges to the status quo) rather than for marketing purposes (attracting more students) or to feel good about ourselves (doing the right thing). We must examine all aspects of our organization (power differentials, implicit and explicit bias, etc.) to determine if the working environment in our programs is hostile, demotivating or unattractive. Future research is needed to investigate the experiences of URM students and faculty within our schools/colleges of pharmacy.

The findings of this study are limited by the availability of data. To overcome this limitation, we used data from a variety of sources that mirrors our current reality. The effects of the COVID-19 pandemic on higher education are unclear and have the potential to make the goal of diversifying faculty even harder to achieve. It also has the potential to create incentives to address the dream of living in a just society. Finally, backlash must be anticipated, for any solution which
threatens the current status quo is subject to charges of bias. It is our contention that framing solutions as ones that benefit one group at the expense of another misses the point and goes nowhere in targeting the underlying problems we are trying to redress.25

CONCLUSION

Pharmacy has made no progress in the representation of URM faculty in its programs within the last 20 years, despite the formation of task forces, ad hoc committees and studies to address diversity in the academy.14,26-31 The lack of representativeness of ethnic and racial minorities among pharmacy faculty is also seen in medicine and dentistry to varying degrees.32,33 Post graduate training in a residency, fellowship, or an MS/PhD program, is the current acceptable pipeline for pharmacy faculty. To address the faculty pipeline, a multimodal approach needs to be implemented. First and foremost, dismantling structural barriers and by tracking, funding and promoting the representation of ethnic and racial minority groups into residencies, fellowships, and post graduate training programs must occur. The time is right for pharmacy schools, residency programs, accreditation bodies, and pharmacy organizations to go beyond laudable position statements to the implementation of specific, measurable diversity equity and inclusion measures.

REFERENCES

2. Avant N, Davis RS. Navigating and supporting marginalized identities in dominant pharmacy spaces, 2018; 9 (4): Article 8. doi: https://doi.org/10.24926/iip.v9i4.1033


<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>US Census(^6) n=328,239,523</th>
<th>US Census Ages 20-34(^a) n=81,943,066</th>
<th>Pharmacy(^7) n=6,532</th>
<th>Medicine(^8) n=179,238</th>
<th>Dentistry(^9) n=5,139</th>
</tr>
</thead>
<tbody>
<tr>
<td>White (%)</td>
<td>60.1</td>
<td>60.2</td>
<td>65.0</td>
<td>63.5</td>
<td>56.3</td>
</tr>
<tr>
<td>Black (%)</td>
<td>13.4</td>
<td>12.6</td>
<td>5.0</td>
<td>3.6</td>
<td>4.9</td>
</tr>
<tr>
<td>Hispanic (%)</td>
<td>18.5</td>
<td>17.5</td>
<td>3.2</td>
<td>3.3</td>
<td>8.5</td>
</tr>
<tr>
<td>Asian (%)</td>
<td>5.9</td>
<td>5.7</td>
<td>15.7</td>
<td>19.9</td>
<td>13.3</td>
</tr>
<tr>
<td>American Indian/Alaska Native (%)</td>
<td>0.9</td>
<td>1.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Native Hawaiian/Pacific Islander (%)</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

\(^6\)US Census Data 2019
\(^a\)Age demographic chosen to represent traditional pool of applicants for professional degree programs
\(^7\)Data from 2019-20 Profile of Pharmacy Faculty
\(^8\)Data from 2019 Association of American Medical Colleges Faculty Roster
\(^9\)Data from American Dental Education Association Faculty
| Table 2. Comparison of Pharmacy Faculty Demographics in Selected Program Types |
|--------------------------------------------------|--------|--------|--------|--------|----------------|----------------|
|                                                   | White | Black | Hispanic | Asian | Native Hawaiian | American Indian/|
|                                                   | %     | %     | %       | %     | Pacific Islander | Alaska Native |
| US Census⁶                                        | 60.1  | 13.4  | 18.5    | 5.9   | 0.2            | 0.9            |
| n=328,239,523                                    |       |       |         |       |                |                |
| Pharmacy Faculty⁷                                  | 65    | 5     | 3.2     | 15.7  | 0.2            | 0.1            |
| n= 6,362                                         |       |       |         |       |                |                |
| HBCU                                             | 13.5  | 57.2  | 2.2     | 16.7  | 1.6            | 0              |
| n=5 programsª                                     |       |       |         |       |                |                |
| Top 10 Programs¹⁰                                 | 71.3  | 3.7   | 2.5     | 18.7  | 0.1            | 0.1            |
| n=10 programs                                    |       |       |         |       |                |                |
| New PharmD Programs¹                             | 59.5  | 6.6   | 2.4     | 18    | 0.3            | 0.1            |
| n=23 programs                                    |       |       |         |       |                |                |

⁶US Census Data 2019
⁷AACP 2019-2020 Profile of Pharmacy Faculty National Report.
HBCU=Historically Black Colleges and Universities
ªHoward, Florida A& M, Xavier, Maryland Eastern Shore, and Texas Southern. Hampton University was non-reporting

<table>
<thead>
<tr>
<th>Table 3. Comparison of Student Demographics by Selected Program Types and Post Graduate Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>All PharmD Programs n=60,594 (%)</td>
</tr>
<tr>
<td>HBCU n=1,928 (%)</td>
</tr>
<tr>
<td>Top 10 PharmD Programs n= 6,013 (%)</td>
</tr>
</tbody>
</table>
Table 4. Strategies for Improving Pipeline for URM Faculty

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residency Training</td>
<td>Truck and report the race/ethnicity of residency applicants, interviews offered, positions obtained and completed</td>
</tr>
<tr>
<td></td>
<td>Provide funding on an as needed basis for students who may not have the resources to pay for travel, clothing or other necessities for interviewing purposes</td>
</tr>
<tr>
<td></td>
<td>Increase the diversity of residency and fellowship directors</td>
</tr>
<tr>
<td></td>
<td>Apply the “Rooney Rule” to the pharmacy residency program interview process: deliberately include a diverse pool of applicants to be interviewed for available positions*</td>
</tr>
<tr>
<td>MS/PhD/Fellowship Training</td>
<td>Don’t assume as a mentor you have all the answers, but be willing to engage with your mentees regarding their interests and values</td>
</tr>
<tr>
<td></td>
<td>Provide funding to support URM interest in and completion of post graduate training</td>
</tr>
<tr>
<td>Accreditation Standards</td>
<td>Add diversity goals with measurable outcomes to the standards</td>
</tr>
<tr>
<td></td>
<td>Expand pharmacy curriculum to go beyond cultural competency</td>
</tr>
<tr>
<td></td>
<td>Incorporate structural racism throughout the curriculum and its impact on outcomes such as health inequities, health disparities and social determinants of health</td>
</tr>
<tr>
<td></td>
<td>Assessment criteria (in preparation for NAPLEX, MJPE, other) that focus on the patient first and disease state second</td>
</tr>
<tr>
<td>Pharmacy academy</td>
<td>Hire more than one URM faculty member at a time</td>
</tr>
<tr>
<td></td>
<td>Value diversity for what it brings to the academy (new ideas, challenge the status quo, different ways of thinking)</td>
</tr>
<tr>
<td></td>
<td>Revise and update promotion and/or tenure guideline to reflect more creative ways to evaluate faculty contributions</td>
</tr>
<tr>
<td></td>
<td>Assess institutional climate and institute programs to address deficits and assets and make adjustments as necessary</td>
</tr>
</tbody>
</table>

HBCU = Historically Black Colleges and Universities.

*Howard, Florida A&M, Xavier, Maryland Eastern Shore, and Texas Southern. Hampton University was non-reporting


American, Marshall B. Ketchum, West Coast, Larkin, South Florida, PCOM-GA, Roosevelt, Rosalind Franklin, Manchester, Maryland Eastern Shore, Western New England, William Carey, Farleigh Dickinson, Binghamton, High Point, Cedarville, Presbyterian, South-TN, North Texas, Texas at Tyler, Marshall, Concordia, and Medical College of WI.

*Reflects Managed Care & Community residency and fellowship data from AACP only for post graduate training programs that are associated with a College/School of Pharmacy
Set goals for diversity and inclusion for each faculty with appropriate assessments for tracking Evaluate all policies and procedures for potential structural barriers that inhibit student and faculty success Partner with programs that enroll high numbers of URMs to increase awareness of pharmacy as career

Pharmacy students
- Expand the use of holistic admissions processes
- Sponsor early research mentorship grants to URM pharmacy students currently enrolled in pharmacy school
- Expose URM students to academic career paths through programs such as the Walmart Scholar program
- Encourage URM students to select academic-focused elective courses and academia APPE elective rotations
- Support the entire student in a holistic manner (social, emotional, academic, financial, length of time in the program, etc.)
- Investigate experience of students with respect to aspects of the educational environment that may be hostile

Pharmacy Faculty
- Address unconscious bias
- Utilize resources for antiracist pedagogy through the centers for teaching and learning at your institutions
- Include best practices regarding the incorporation of culturally accurate patient information without perpetuating stereotypes
- Self-educate and acknowledge racial trauma of students and colleagues
- Address curricular gaps by being intentional in course design
- Create an inclusive and affirming classroom environment
- Encourage faculty to better understand the lived experiences of their students
- Create mentorship programs for junior URM faculty and assess outcomes of such efforts
- Investigate experience of faculty with respect to aspects of the work environment that may be hostile

*NFL communications
URM= Underrepresented minority
APPE= Advanced Pharmacy Practice Experience

Figure 1. Pipeline for non-URM Practice Faculty versus URM Practice Facultya 6,7,12

- Pipeline for non-URM Practice Faculty
  - % Practice Faculty: 80.7%
  - % PGY1 Residents: 75.4%
  - % PharmD Graduates: 75.4%
  - % PharmD Students: 72%
  - % age 20-34: 60.9%
  - % US Census: 66%

- Pipeline for URM Practice Faculty
  - % Practice Faculty: 45.5%
  - % PGY1 Residents: 12.8%
  - % PharmD Graduates: 14.8%
  - % PharmD Students: 17.00%
  - % age 20-34: 31.5%
  - % US Census: 33%

a URM includes Black, Hispanic, Native Hawaiian/Pacific Islander, and American Indian/Alaska Native. Asians are considered to be adequately represented in pharmacy education.