

Nursing Program Admission Barriers in the United States

Considerations for Increasing Black Student Enrollment

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ABSTRACT

Background: The percentage of Black registered nurses (RN) is disproportionate to Black residents in the population, particularly in Southern states.

Purpose: This study's purpose was to identify the potential admission barriers for Black students in RN education in the South versus Midwest, Northeast, and West.

Methods: A cross-sectional design was used to compare admission criteria for 1597 accredited associate degree in nursing and bachelor of science in nursing programs by geographic region.

Results: Southern programs required a significantly higher count of academic metric criteria (multiple grade point average, standardized tests) and nonacademic criteria (proof of health insurance, background checks). Southern programs had a significantly lower count of holistic admissions review criteria (references, essays, volunteer work).

Conclusion: Approximately 50% of programs used academic metrics exclusively, and most programs using some holistic criteria assigned greatest weight to academic metrics despite evidence that this disadvantages qualified, underrepresented students. Access to RN education must be improved. Recommendations are discussed for transition to holistic admissions review.

Keywords: admission criteria, Black nursing students, EAM (Experiences Attributes Metrics) model, holistic admission, nursing program admission criteria, nursing education program

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Black Americans comprise 13.4% of the US population,¹ but only 7.8% of the country's registered nurses (RNs), a 5.6% gap.² In a study of 25 years of national workforce data, investigators found that states with the most Black residents had the widest gaps in Black RN representation, with some Southern states exceeding 20%.³ According to a survey of nurse leaders working in

Black communities, vacancies in nursing positions resulted in acute bed closures, delays in care, adverse events, and less ability to manage chronic health conditions.⁴ Health workforce diversity is critical to reducing racial health inequities,⁵ so it is important to identify factors associated with Black RN workforce underrepresentation.

According to a US Department of Health and Human Services report, 32.0% of certified nursing assistants and 23.1% of licensed vocational nurses were Black,⁶ an overrepresentation compared with the general population. This indicates sufficient interest in the field, but there is limited evidence to explain why more of these professionals do not complete RN programs.

Structural Racism and Barriers to Higher Education for Black Students

Structural racism is “the normalization and legitimization of historical, cultural, institutional, and interpersonal [dynamics] that routinely advantage Whites while producing cumulative and chronic adverse outcomes for people of color.”⁷ Affirmative action legislation enacted in the 1960s was intended to offset the effects of structural racism.

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After its ban in 1996, Black student enrollment substantially declined in the United States, particularly in public institutions.⁸⁻¹⁰

This could be associated with highly selective admission criteria used in public institutions, most pronounced in Southern states.¹¹ Because health professions programs tend to use selective admission criteria, and many states with the largest underrepresentation of Black students are located in the South, there could be a relationship between Black RN workforce underrepresentation and access to higher education. Despite goals to increase diversity in dental education, Black student enrollment was stagnant, increasing from 5.3% to 5.8% between 2010 and 2019. Only 9 of 66 dental schools enrolled 10% or greater of Black students; and in 2019, 10 schools admitted no Black students despite 236 applications.¹² These data suggest that significant gains are unlikely without an intentional strategy such as holistic admissions review (HAR).

Holistic Admissions Review

Holistic admissions review is an individualized approach to balanced assessment of a student's likelihood of collegiate success based on academic metric performance, life experience, and personal attributes.¹³ Mission-driven HAR is recommended to screen prospective applicants by applying the EAM model. Experiences (E) include community service, health care experience, or leadership roles. Attributes (A) include qualities such as race, ethnicity, or gender identity; and academic metrics (M) include grade point average (GPA) and standardized test scores. Experience and attribute evaluation adds value to the process as it allows the applicant to demonstrate relevant interpersonal qualities such as social skills, ethics, communication, and service orientation that are valuable traits for a health professional.¹⁴⁻¹⁶

Many HAR studies in health professional programs are based on evaluations of a single program implementation, but results are encouraging. Studies in nursing and medical programs successfully increased underrepresented student enrollment using HAR without a decline in academic performance or graduation rates.¹⁷⁻¹⁹ According to the American Association of Colleges of Nursing (AACN), nursing schools denied admission to more than 80 000 qualified applicants, many of whom could be underrepresented students.²⁰ Despite evidence suggesting that HAR increased acceptance of underrepresented students, it is unknown to what degree it was implemented within US schools of nursing. Although 32 of 34 programs that received Health Resources and Services Administration Nursing Workforce Diversity grants were required to implement HAR,¹⁶ this is a small subset of US nursing programs. This study's purpose was to identify potential admission barriers for Black students in RN education programs. Specific aims were to compare associate and baccalaureate degree programs by region with regard to general program characteristics and admission criteria using the EAM model as a framework with use of

experience and attribute criteria as a proxy for HAR implementation.

Methods

Design

This study used a cross-sectional design. Data were collected between March and December 2020.

Sample

The sample included accredited associate degree in nursing (ADN) and bachelor of science in nursing (BSN) programs in 50 states and the District of Columbia. Included programs were listed on the AACN, Accreditation Commission for Education in Nursing, and National League for Nursing websites. Excluded programs were located in Puerto Rico, practical nurse to ADN programs at schools without an entry-level practical nursing program, RN to BSN, and second degree programs. Per university policy, because this study did not meet the federal definition of research involving human subjects, institutional review board submission was not required.

Data Sources

The research team manually searched institutional websites for documents pertaining to program admission criteria. The AACN provided website links. Other program sites were located using Google and names were cross-referenced with city and state to verify program identity.

The most recently published documents were used for admissions data and included the following sources: nursing student handbooks and/or university catalogs (most frequently used), nursing program and admission department webpages, and admission rubrics. Data were grouped into 5 categories: experience, attributes, academic metrics, a fourth category labeled other preconditions, and general program characteristics (see Supplemental Digital Content, Table 1, <http://links.lww.com/NE/A976>, for variables and operational definitions). Each admission criterion was recorded as a dichotomous variable to indicate if it was considered in the admission process. Counts were calculated within each admission category. US News & World Report²¹ was used to determine public, private, or religious affiliation. In rare cases, Google was used to identify other sources for affiliation, typically the university website or a similar college information database.

QuickFacts was used to obtain US Census Bureau data. Zip codes were searched to identify the percentage of local Black residents, local median income, and state median income.¹ The National Sample Survey of RNs (N = 50 273), conducted approximately every 4 years, was accessed to extract the percentage of Black RNs in each state and the District of Columbia.² The gap in Black RN representation was calculated using these data.

Procedures

The research team included 4 investigators and 5 research assistants, trained by the principal investigator. Accredited

programs were divided and team members worked independently to gather data in an Excel spreadsheet. Biweekly meetings were used to communicate and promote data collection consistency and integrity. Datasets were merged and each entry was validated for accuracy by at least 2 team members. Range checks were conducted, and descriptive data were inspected to reconcile inconsistencies, errors, and missing data points.

Analysis

Data were analyzed descriptively using IBM SPSS Statistics (Version 27.0, Armonk, New York). Frequencies and percentages were calculated for categorical variables, and means and standard deviations, for continuous variables. Crosstabs analyses were used to compare categorical variables for programs in the South with those in the Midwest, Northeast, and West, and analysis of variance (ANOVA) was used to compare continuous variables by region, with post hoc Tukey tests.

Results

There were 776 ADN and 771 BSN programs ($N = 1\,547$). The 7 academic metric, 5 experience, 5 attribute, 5 other preconditions criteria, and general characteristics are listed in full in Supplemental Digital Content, Table 2 <http://links.lww.com/NE/A977>. Overall, 63.2% of ADN and BSN programs were public. There was no significant difference in the percentage of public ADN programs (82.7% vs 85.0%; $P = .43$), but BSN programs in the South were more likely to be offered in public institutions compared with other regions (51.4% vs 36.8%; $P < .001$). Most (60%) ADN and BSN programs used a 2-step admission process, and the remaining admitted at least a portion of students directly from high school. Bachelor of science in nursing programs in the South were significantly more likely to use a 2-step process compared with other regions, and only 14.0% of mission statements included a statement regarding diversity, equity, or inclusion of students ($P > .05$).

The mean total for ADN and BSN admission criteria was 4.19 ± 1.81 . Academic metrics and other preconditions were the most frequently used criteria. Overall GPA (81.0%), standardized tests (60.5%), and multiple GPA requirements (34.3%) were the most common academic metrics. Background checks (35.4%) and drug screens (24.6%) were most common among other preconditions. Attribute and experience criteria were infrequently used, and 49.9% of programs used academic metrics exclusively.

An abbreviated table with statistically significant regional differences is provided in Table 1. Compared with other regions, Southern ADN programs used prerequisite GPA, standardized tests, placement tests, interviews, and drug screens more frequently, and nursing assistant certification and volunteer experience less frequently than other regions. Southern BSN programs used 2 or more GPA requirements, strict limits on prerequisite repetition, proof of health insurance, liability insurance, and background checks more frequently and essays and references less

frequently than other regions. A limited number of programs ($n = 6$; 0.3%) reported using a lottery system (West = 3 and 1 each in South, Midwest, and Northeast) to randomly select students from a pool of applicants who meet minimum criteria for admission.

There were 59 historically Black college and university (HBCU) nursing programs, with 88.1% located in the South (76.3% public, 47.5% 2-step admissions processes). A t test was conducted to compare HBCUs with non-HBCUs. The only significant difference was that HBCUs had a lower total count of experience criteria compared with non-HBCUs (0.08 ± 0.27 vs 0.26 ± 0.53 , $P = .04$; see Supplemental Digital Content, Table 3 <http://links.lww.com/NE/A978>).

For the ANOVA, data regarding ADN and BSN programs were combined. The assumptions for ANOVA were examined, and overall, no violations were found. The mean percentage of Black residents in the school's local area, Black RNs, and gap in Black RN representation in the South significantly exceeded that of all other regions (see Supplemental Digital Content, Table 4 <http://links.lww.com/NE/A979>). There were significant regional differences between programs in the South and other regions with regard to totals for academic metric, experience, attribute, other preconditions, and total EAM plus other preconditions (Table 2). Post hoc analyses revealed that the total count of academic metrics and other preconditions in the South significantly exceeded those of all other regions. Experience and attribute criteria in the South were significantly lower than 2 of 3 regions.

Discussion

Using experience and attribute criteria as a proxy for HAR, the findings of this study indicate that nursing programs in the United States have not widely adopted its use. As a result, it is possible that admission criteria that are heavily reliant on academic metrics could, in part, explain the disproportionate gap in Black RN workforce representation in the South. There are several factors identified that could disadvantage Black applicants.

Academic Metrics

Programs in the South were more likely to be offered in public institutions and to use a 2-step admission process. Two-step admission processes not only involve more criteria but also expose students to bias at 2 stages (high school entry and again after prerequisite courses are completed). Highly selective public programs that heavily weight academic metrics at 1 or both points could disadvantage Black students because of economic factors and grading bias.

The “achievement gap” is associated with systems-level effects of school funding deficits, wealth gaps, and health disparities in majority Black communities but manifests as poorer grades and standardized test performance for Black compared with White students.²² In a study of 2157 dental school applicants, reliance on academic metrics alone favored

Table 1. Admission Criteria for ADN and BSN Programs: South Versus NE, MW, and W Combined

Variable	ADN (n = 776)			BSN (n = 771)		
	South (n = 330) Yes (%)	NE, MW, and W (n = 446) Yes (%)	P	South (n = 284) Yes (%)	NE, MW, and W (n = 487) Yes (%)	P
Academic metrics						
Prerequisite GPA	131 (39.7)	141 (31.6)	.02	59 (20.8)	86 (17.7)	.29
≥2 GPA requirements	127 (38.5)	151 (33.9)	.20	112 (39.4)	141 (29.0)	.003
Prerequisite repeat limits	22 (6.7)	28 (6.3)	.88	32 (11.3)	23 (4.7)	.001
Standardized test required	317 (96.1)	403 (90.4)	.003	249 (87.7)	404 (83.0)	.10
Placement test	89 (27.0)	63 (14.1)	<.001	3 (1.1)	8 (1.6)	.76
Experiences						
Nursing assistant certification	38 (11.5)	88 (19.7)	.002	13 (4.6)	22 (4.5)	1.00
Attributes						
Interview	38 (11.5)	26 (5.8)	.005	35 (12.3)	52 (10.7)	.48
Reference	21 (6.4)	41 (9.2)	.18	54 (19.0)	150 (30.8)	<.001
Volunteer work/life experience	9 (2.7)	43 (9.6)	<.001	17 (6.0)	40 (8.2)	.32
Other preconditions						
Health insurance	33 (10.0)	40 (9.0)	.62	24 (8.5)	15 (3.1)	.002
Liability insurance	14 (4.2)	19 (4.3)	1.00	14 (4.9)	9 (1.8)	.03
Background check	174 (52.7)	206 (46.2)	.08	83 (29.2)	85 (17.5)	<.001
Drug screen	143 (43.3)	135 (30.3)	<.001	59 (20.8)	44 (9.0)	<.001

Abbreviations: NE, Northeast; MW, Midwest; W, West.

White candidates; but upon, further analysis, investigators found that marginally lower performance from qualified underrepresented students was significantly associated with the number of employment hours worked, indicating that economic privilege could have influenced the difference in student achievement, rather than aptitude.²³ Furthermore, a study of 8150 students from a national dataset reported that, on average, White students scored 40 points higher on the Scholastic Aptitude Test than Black students did and that differences were associated with family income, parental education, and greater use of private tutoring and test preparation courses.²⁴

Similarly, grading bias can impact Black students' GPAs. More than 1500 teachers asked to rate equivalent writing samples by Black and White students rated the Black students' writing as "at grade level" less frequently than White students (30.6% vs 35.3%), with wider discrepancies among White (30.1% vs 38.1%) and female (32.1% vs 39.4%) teachers.²⁵

In nursing education, research on admission criteria is limited, but 2 studies found that only science GPA, science course repetition, 1 nursing specific standardized test, and family income were effective predictors of graduation and licensure examination pass rates.^{26,27} The results indicate that student success, although predicted by some academic metrics, was also influenced by nonacademic factors such as

income. Furthermore, test scores and GPAs reached a point of diminishing returns where higher performance above a certain level yielded no additional benefits. They also revealed that many frequently used admission criteria, such as overall GPA, were not predictive.²⁷ Using science GPA minimums for prerequisite coursework (or the previous 2 years for high school entry programs) to establish a pool of qualified applicants might reduce structural barriers to RN education for Black students.

Experiences and Attributes

Total experience and attribute means for every region were lower than 1.0. Within these categories, programs in the South were significantly less likely than other regions to consider references and volunteer or life experiences and to require nursing assistant certification yet were more likely than other regions to require interviews. In a program evaluation of an admission policy change in a BSN program, the process included a baseline minimum GPA, faculty admissions team training, and applicant interviews with faculty.²⁸ As a result of the change in admission policies, rates of Latinx students increased significantly, but there was no increase in Black student admission. As Black RN representation is lowest in the same region that most frequently uses interviews, it is possible that face-to-face interviews could subject Black students to additional bias.

Table 2. Total Admission Criteria: ANOVA (N = 1547)

Variable	Region (n)	Mean (SD)	Min-Max	F	P	95% CI Lower Limit	95% CI Upper Limit
Total academic metrics (M)	S (614)	2.79 (0.92)	0-6	14.13	<i>P</i> < .001		
	MW (281)	2.45 (0.87)				0.17	0.51 ^a
	NE (415)	2.51 (0.91)				0.13	0.43 ^a
	W (237)	2.47 (0.99)				0.14	0.50 ^a
Total experience criteria (E)	S (614)	0.23 (0.52)	0-3	15.34	<i>P</i> < .001		
	MW (281)	0.11 (0.37)				0.02	0.22 ^b
	NE (415)	0.31 (0.53)				-0.17	0.002
	W (237)	0.39 (0.62)				-0.27	-0.06 ^a
Total attribute criteria (A)	S (614)	0.52 (0.83)	0-4	12.93	<i>P</i> < .001		
	MW (281)	0.84 (0.97)				-0.49	-0.17 ^a
	NE (415)	0.52 (0.82)				-0.14	0.14
	W (237)	0.76 (0.92)				-0.41	-0.07 ^b
Total other preconditions (O)	S (614)	0.90 (1.13)	0-4	17.26	<i>P</i> < .001		
	MW (281)	0.44 (0.93)				0.27	0.65 ^a
	NE (415)	0.57 (0.89)				0.17	0.50 ^a
	W (237)	0.83 (1.05)				-0.13	0.27
Total EAMO	S (614)	4.43 (1.85)	1-10	12.42	<i>P</i> < .001		
	MW (281)	3.84 (1.63)				0.26	0.92 ^a
	NE (415)	3.91 (1.74)				>24	0.82 ^a
	W (237)	4.46 (1.91)				-0.37	0.34

Abbreviations: CI, confidence interval; S, South, MW, Midwest; NE, Northeast; W, West.
^aTukey post hoc analyses .001.
^bTukey post hoc analyses .01.

Written essay responses in which race is blinded or random selection lottery systems could more effectively promote admissions equity for Black students.

Other Preconditions

Many nursing programs required 1 or more criteria in the other preconditions category. These criteria were unrelated to the EAM model.¹⁴ Proof of health insurance, background checks, and drug screens were most commonly used. According to the Kaiser Family Foundation,²⁹ 11.4% of Black adults lack health insurance compared with 7.8% of White adults. Requiring health insurance that is not offered as part of student fees can impose a significant economic barrier to students who might lack coverage.

Furthermore, results revealed that background checks were more likely to be required at admission in the South, rather than before clinical coursework as in most programs. This could serve as a deterrent or disqualify students before application because of higher arrest rates for Black youth in schools. Black students made up only 15.5% of the overall US student population but accounted for 33.4% of school arrests.³⁰ Although Black and White students engage in

similar behaviors, fights in primarily White schools are typically managed by separating children and providing mediation, whereas both students are often arrested in primarily Black schools.³¹ Of states with the highest rates of school arrests, 5 are located in the South.³⁰ One or more encounters such as this in a student's history could permanently disenfranchise them from health careers that require background clearance before education or employment.

Strengths and Limitations

This study examined admission practices in US schools of nursing based upon published information collected directly from college and university sources. It included 1597 programs accredited by 3 professional nursing organizations and contributes valuable knowledge regarding HAR adoption. However, this study included only accredited nursing programs. Nonaccredited programs could use criteria that are not reflected in these data. Furthermore, it is possible that published documents did not reflect admission policies accurately. However, program handbooks and university catalogs that are updated annually were the most frequent source of data, and when unavailable, multiple sources were

cross-checked to obtain the most comprehensive and current information.

Also, a program's use of experience and attribute criteria might not fully represent HAR use. Few programs published the relative weight of each admission criterion, and most that did assigned the greatest weight to academic metrics. Therefore, it is likely that more programs rely primarily on academic metrics than these data were able to capture. However, the identification of regional differences in admissions policies was the purpose of this study and was clearly demonstrated in the data.

Finally, data collection took place in the midst of the COVID-19 pandemic. As a result, some programs changed standardized test policies. All changes identified as COVID-related temporary changes were recorded using the previous year's test policy. When datasets were merged in November and December 2020, all entries were checked for accuracy.

Implications for Nursing Education

Although other factors contribute to the disproportionate gap in Black RN workforce representation, this study's results indicate that admission criteria could be a factor. Future research should include state-by-state analyses, as well as investigate other barriers to RN education for Black students. In the interest of aligning nursing admission policies with HAR best practices, we propose 8 strategies for US schools of nursing (see Supplemental Digital Content, Table 5 <http://links.lww.com/NE/A980>).

Conclusions

Admissions for ADN and BSN programs are gatekeeping systems that determine the composition of the future nursing workforce. Nursing faculty control this process. More research is needed to evaluate HAR adoption barriers and change over time. Individual efforts championed by a single institution or program in isolation will be insufficient to counter the power of structural racism. In an essay, Thompson Ford³² stated, "race-neutral policies, set against a historical backdrop of state action in the service of racial segregation...[will] predictably reproduce and entrench racial segregation and the racial caste system that accompanies it."^(p450) Meaningful change will require a deliberate effort led by nursing's professional organizations to effectively increase Black RN representation in the workforce. Admission policy is a place to start.

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TEACHING TIP

Oral Health Exemplar for Interprofessional Education and Practice

To reinforce the interprofessional education and practice trends in contemporary curricular standards, traditional undergraduate and accelerated nursing students read *Teeth*¹ in their senior-level population-based health care course. Assigned in weekly installments, the 288-page book was used in both a 16-week and an 8-week course format. Students reflected on their reading in weekly, reflective journal submissions. The readings prepared students for a guest lecture midsemester from a mobile dental hygienist outreach team. Students heard about regional oral health disparities and learned to apply fluoride varnish and to take digital oral health images to support the dental referral process from the primary care setting. Next, students participated in a Head Start health screening clinic with the dental hygiene team to practice their new skills and provide needed services in a health care provider shortage area. During the final face-to-face class, the course instructor facilitated a group discussion of the reading based on students' summative reflections and experiences. Policy implications were explored because RNs in most states can apply fluoride varnish but can rarely be reimbursed. Every student found the reading informative and relevant to their future practice. All students stated their intention to use their new knowledge to provide better holistic care to clients and families.

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