

Research Article

Exploring Barriers that limit African American and Rural Medical Students from Pursuing Academic Medicine Careers

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Abstract

As reported, the U. S. Census projects that by the year 2042 the racial minority will be the majority of the U. S. population. The Pew Research Center reported that white Americans would decrease from 85 percent of the population to 43 percent, while Black and Hispanic Americans will reach 45 percent of the population by 2060.1 with these statistics in mind, the client base across all health professions, including medicine and veterinary medicine, is changing. Results indicate that African Americans are an untapped resource of students interested in academic medicine as a career, while rural students are less attracted to this area.

Objectives

The objectives of this research project were to: (a) understand the barriers that deter African American and rural medical students from pursuing a career in academic medicine; (b) explore and identify African American and rural medical students' common and unique perceptions and opinions of academic medicine and academic physicians; and (c) identify and develop possible intervention strategies and programs to increase the number of African American and rural medical students entering academic medicine.

Theoretical Framework

As the population of racial and ethnic minorities continues to increase in the United States, the number of underrepresented minorities who hold faculty positions in academic medicine continues to be sorely underrepresented. According to the Association of American Medical Colleges' 2009 report titled, Striving Toward Excellence: Faculty Diversity in Medical Education, Black faculty comprise 3 percent of the total U.S. Medical School faculty (approximately 3, 714 faculty members); Hispanic/Latino faculty comprise 4.2 percent of the total U.S. medical school faculty (approximately 5,240 faculty members) and 0.1 percent of medical school faculty are Native American (approximately 143). In total,

these minority groups account for 7.3 percent of all US medical school faculties [1]. These numbers are inclusive of underrepresented minority faculty who serve in predominately minority serving institutions, (such as Historically Black College and Universities). As a consequence, the number of underrepresented minority faculty serving in predominately White institutions is considerably small. According to the report from the Association of American Medical Colleges, of the 738 faculty members at the University of Louisville Medical School, Black faculty comprise 4 percent (approximately 27 faculty members) of the total medical school faculty; Hispanic/Latino faculty.

Members comprise 3 percent (approximately 24 faculty members); and Native Americans comprise 0 percent (approximately 1 faculty member) of medical school faculty at the University of Louisville School of Medicine [1]. Despite the significant efforts and small gains in the recruitment and retention of underrepresented minority faculty. And students by the University Of Louisville School Of Medicine, this area continues to represent a tremendous challenge for the School of Medicine.

Similarly, the report show that of the 795 faculty members at the University of Kentucky College of Medicine, Black faculty comprise 1.5 percent (approximately 12 faculty members) of the total medical school faculty; Hispanic/Latino faculty members

comprise 3 percent (approximately 24 faculty members); and Native Americans comprise 0.25 percent (approximately 2 faculty members) of medical school faculty at the University of Kentucky College of Medicine [1].

Likewise, according to the report from the Association of American Medical Colleges, of the 391 total faculty members at Tulane University School of Medicine, Black faculty comprise 5.3 percent (approximately 21 faculty members) of the total medical school faculty; Hispanic/Latino faculty members comprise 3.5 percent (approximately 14 faculty members); and there were no Native Americans reported as being part of the faculty at Tulane University School of Medicine. According to the accreditation standards of the Liaison Committee on Medical Education (LCME), Diversity is identified an important goal for medical schools specifically states:

Each medical school must have policies and practices to achieve appropriate diversity among its students, faculty, staff, and other members of its academic community, and must engage in ongoing, systematic, and focused efforts to attract and retain students, faculty, staff, and others from demographically diverse backgrounds [2]. Therefore, it is imperative that US medical schools examine and develop institutional diversity policies and guidelines in line with the accreditation standard, and, more importantly, that they develop specific guidelines to create an environment where diversity is welcomed and included in the recruitment and retention policies for students, faculty and staff.

While these studies offer important insight into issues currently facing underrepresented minority faculty, what are the barriers that prevent currently enrolled underrepresented minority and rural medical students from pursuing a career in academic medicine? If diversity is an important goal of the American Association of Medical Colleges (AAMC) and its member medical schools and to the accreditation standards for medical schools, then it is important that diversity be reflected throughout the academic medical institution and therefore should include a diverse medical faculty. There has been very little research on the barriers that prevent underrepresented minority medical students from pursuing a career in academic medicine.

Rural Physician Shortage

Equally as important as the need to recruit underrepresented minority students to careers in medicine and additionally to careers in academic medicine, is the need for rural physicians even more acute. The disparity in physician practice locations between rural versus urban has been growing steadily with rural practice selection steadily decreasing. The need for rural health care physicians is further exacerbated by the unique issues associated with living in rural areas. Ricketts et al. note, "The rural environment...presents extraordinary threats to health. Among those threats named

are the use of pesticides and herbicides and other cancer causing agents used in farming and agriculture, use of dangerous equipment, and mining to name a few [3].

Health disparities in Kentucky exist primarily between rural and urban populations due to income and economic status. *Ninety eight* of the state's 120 counties (82%) are classified as rural/ non---metropolitan. More Kentuckians (50%) live in rural communities than do Americans as a whole (21%). Lower incomes, higher rates of poverty, lower educational attainment and higher unemployment are more common in rural areas.

Louisiana reports that of the 4, 443 licensed physicians in the state, only 569 or 12.8% practice in rural areas. Yet, Louisiana has one of the higher rural population rates than most states. In the U.S., the rural population makes up 20 percent of the population, whereas in Louisiana, the rural population is at 25 percent [4]. Louisiana's 4.2 million residents are particularly vulnerable to the downward trend in rural physicians.

Louisiana's three medical schools graduate 400 new doctors a year. Yet, projections of these new doctors' future field of practice, using their residency choice and nationally published data on attrition from primary care practice to subspecialty fields predict that fewer than 10%, or only about 35, are likely to actually enter primary care practice in all of Louisiana.

In Louisiana, the patient to physician ratio in rural areas is 1925:1, while in urban areas of Louisiana the average physician to population ratio is 870:1. In addition, it is reported that almost 20 percent (877,472) of Louisiana residents live below 100% of the federal poverty line. In Louisiana's rural areas, 23.7% of residents live below 100% of the federal poverty level. Rabinowitz and colleagues report the physician shortage in rural areas is not a new problem but is one that has existed for many years and further contend that the rural physician workforce is likely to decline in the future due to the extremely low statistics of medical students planning to work in rural areas [4]. Chen et al. reports that even with intense efforts to increase the number of physicians in rural areas there is still a disproportion between rural and urban physicians [5].

Important predictors found in identifying pre medical and medical students who might practice in rural locations has been attributed to a rural upbringing, more specifically, as spending the majority of one's childhood in a rural location, more than 10 years in a rural location or calling a rural areas home "is the strongest predictor of rural practice choice. Other important predictors influencing medical students' selection of rural practice location demonstrates the of medical school can play to rectify the situation [6]. For instance, medical schools with curricula devoted to rural health issues and concerns in conjunction with student having rotations and experiences in rural practice locations has also been

a predictive factor in students selecting rural practice locations. Residency practice training that includes a rural health or family practice focus has also been a significant predictor in students' decision to practice in rural areas. Also reports that "the presence and duration of rural rotations appear to be the best predictors of retention in rural areas" which is an important part of the recruitment phase [7].

Study Population

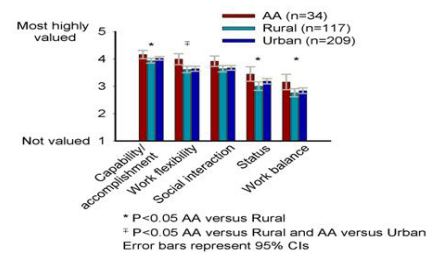
The study population consisted of three separate medical school based pools of medical students forming a total of 360. All students were recruited from a list generated and provided by the Associate Deans for Student Affairs at each institution. An email and recruitment letter was sent to all targeted students for participation in the study.

Methods

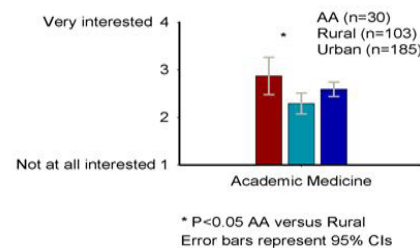
The objectives of this research project were to:

		Freq	(%)
Group	AA	34	(9.4)
	Rural	117	(32.5)
	Urban	204	(58.1)
Race	African American	34	(9.4)
	Asian /Pacific Islander	30	(8.3)
	Caucasian	249	(69.2)
	Hispanic	2	(0.6)
	Other	0	(0.0)
	Missing	45	(12.5)
Medical School	University of Louisville	159	(44.2)
	University of Kentucky	76	(21.1)
	Tulane University	96	(26.7)
Gender	Female	175	(48.6)
	Male	151	(41.9)
	Missing	34	(9.4)

(A) Understand the barriers that deter African American and rural medical students from pursuing a career in academic medicine;



(B) Explore and identify African American and rural medical students' common and unique perceptions and opinions of academic medicine and academic physicians;



(C) Identify and develop possible intervention strategies and programs to increase the number of African American and rural medical students entering academic medicine.

The investigators at each institution acquired IRB approval to collect data. The study consisted of an invitation to students to participate in an online questionnaire developed and approved by all research investigators involved in this study that was emailed to participants using Survey Monkey®. The survey focused on students' career plans, previous educational background, and basic demographic information.

Results

Results indicate that African Americans are an untapped resource of students interested in academic medicine as a career, while rural students are less attracted to this area. Compared to rural students and the majority control group, African Americans who are interested in careers in academic medicine should be cultivated and nurtured for faculty positions. The major barrier for African Americans is a lack of role models and mentors in academic medicine and medicine in general. Academic physicians can mentor African Americans by emphasizing how a career in academic medicine can accommodate the student's desire for accomplishment, status, work flexibility and balance. Rural student's lack of interest in an academic career may be a positive because of the severe need for physicians in rural communities.

Conclusions

Underrepresented minority faculty encounter difficulties in academic medicine that are similar to those confronted by minority students during their medical education. Common barriers include isolation, stereotyping and/or racism, lack of mentoring, as well as financial struggles, and institutions being inadequately structured for minority faculty advancement [8]. Similarly, the Association of American Veterinary Medical Colleges-American Veterinary Medical Association (AAVMC-AVMA) reports that underrepresented veterinary students may experience a less welcoming social and academic climate on their campus as a result of overhearing hearing intolerant language, lacking mentors, and experiencing discomfort in diverse learning environments [9]. Such experiences may dissuade these student trainees from pursuing faculty positions. What can institutions do to nurture minority graduates to pursue academic careers? The AAMC contends that academic health centers can enhance the number of underrepresented minority faculty by 1) creating an environment that allows for a more balanced personal life, 2) supporting community-based initiatives, 3) encouraging interdisciplinary work and 4) rewarding quality teaching efforts [10]. These are recommendations that both veterinary and academic medical health centers should seriously consider developing.

Significance of the Study

As the number of racial and ethnic minorities continues to increase in the United States, the number of underrepresented minority faculty members in health professions education continues to be sorely underrepresented. According to Diversity in Medical Education: Facts and Figures published by the AAMC, the total number of Black academic medical faculty in US Medical schools were 3, 945 or 2.9% of the total US faculty in medical education. The total number of Mexican Americans teaching in U.S. Medical Schools was 678 or 0.5% of the teaching population; Puerto Rican faculty comprised 999 or 0.7% of the total faculty; those who were identified as "Other Hispanic" constituted 3, 474 or 2.5% of the total number of faculty while those who identified as "Multiple Hispanic" comprised 246 or 0.2% of the total U.S. Medical School faculty. 2 These numbers include minority faculty serving in predominately minority serving institutions. Therefore, the number of underrepresented minority faculty serving in predominately White institutions is considerably smaller.

The problems of low numbers of underrepresented minority faculty in academic medicine have been raised and underscored in several studies and publications. For instance, The Mount Sinai Journal of Medicine [4] dedicated an entire issue to a discus-

sion of the importance of underrepresented minorities in academic medicine which signifies the complexity and wide spread issues involved in keeping and having a diverse faculty [11-16].

References

1. American Association of Medical Colleges (2009) striving toward excellence: Faculty diversity in medical education.
2. LCME Accreditation Standard (2010).
3. Nivet MA, Taylor VS, Butts GC, Strelnick AH, Herbert-Carter J, et al. (2008) Diversity in academic medicine no. 1 case for minority faculty development today. Mount Sinai Journal of Medicine 75: 491-498.
4. Butts GC (2008) Diversity in academic medicine: call to action. Mount Sinai Journal of Medicine 75: 491-498.
5. Daley SP, Palermo AG, Nivet M, Soto-Greene ML, Taylor VS, et al. (2008) Diversity in academic medicine no. 6 successful programs in minority faculty development: ingredients of success. Mount Sinai Journal of Medicine 75: 6.
6. Strelnick Hal A, Lee-Rey, Elizabeth, Soto-Greene, Maria L, et al. (2008) Diversity in Academic Medicine 2. History of Battles Won and Lost. Mount Sinai Journal of Medicine. 75: 499-503.
7. Ricketts TC (2000) the changing nature of rural health care. Annual Review Public Health 21: 639-657.
8. Louisiana Department of Health and Hospitals (2003) Issue Brief on Rural Health. Bureau of Primary Care and Rural Health.
9. Rabinowitz HK, Diamond JJ, Markham FW, Wortman JR (2008) Medical school programs to increase the rural physician supply: A systematic review and projected impact of widespread replication. Academic Medicine 83: 235-243.
10. Chen F, Fordyce M, Andes S, Hart LG (2010) Which medical schools produce rural physicians? A 15-year update. Academic Medicine 85: 594-598.
11. Brooks RG, Walsh M, Mardon RE, Lewis M, Clawson A (2002) The roles of nature and nurture in the recruitment and retention of primary care physicians in rural areas: A review of the literature. Academic Medicine 77: 790-798.
12. Hancock C, Steinbach A, Nesbitt TS, Adler SR, Auerswald CL (2009) Why doctors choose small towns: A developmental model of rural physician recruitment and retention. Social Science & Medicine 69: 1368-1376.
13. Anderson DM, Whitler ET, Johnson AO, Elam CL, Wilson EA, et al. (2009) Increasing the medical school applicant pool: A key to training more rural physicians. J Ky Med Assoc 9: 355-360.
14. Tulane University Rural Medical Education Program (2010).
15. Thompson D (2013) the Atlanta. The 33 Whitest Jobs in America.
16. Campbell KM, Rodriguez JE (2013) Minority faculty face challenges similar to those of minority college students. Acad Medicine 88: 1056-1057.