Minorities in academic medicine: Review of the literature

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Given the considerable demographic changes occurring in the in the United States coupled with the urgent need for the field of medicine to continue to adapt to and better align with societal needs and expectations, a growing number of leaders in academic medicine have called for academic health centers to redouble their efforts to increase the diversity of students, faculty, and staff. Although it is laudable to call for increased attention and efforts to diversify, it is of paramount importance to review and distill what we have learned from past efforts so that future energy can be spent intelligently to ensure greater impact going forward. This article reviews the literature on both the barriers and facilitators for racial and ethnic minorities in academic medical careers and offers guidance for increasing the diversity of the nation's medical school faculty members and leadership. (J Vasc Surg 2010;51:53S-58S.)

MAKING THE CASE

The fact that only a small number of minorities serve as faculty members in the nation's medical schools is cause for serious concern. While the United States has become more diverse, with African Americans, Hispanics, and Native Americans comprising 25% of the total population, minority faculty in predominately white medical schools make up only 7.3% of all faculty (Fig).[1] Although there has been emphasis on, and some success in increasing the number of minorities entering and graduating from medical school over the last 40 years, much less emphasis and progress has been achieved in diversifying the faculty and leadership of the nation's medical schools.

In 2003, the Sullivan Commission on Diversity in the Healthcare Workforce was established by the Duke University School of Medicine through a grant from the W.K. Kellogg Foundation.[2] The goal of the commission was to make policy recommendations to bring about systemic change to address the lack of diversity in the health professions. In this groundbreaking report, *Missing Persons: Minorities in the Health Professions,* the commission emphasized that the current discussion in the literature on diversifying the health professions has focused narrowly on issues of recruitment and retention of students but that diversity must be considered in a broader context.[2] They pointed to the fact that it is the medical school faculty and administrative leadership who ensure that an institution's policies are aligned with its mission, set the direction of medical education and curricular reform, and oversee student and faculty recruitment, retention, and promotion. Therefore, it is not difficult to surmise that one of the most critical elements in the effort to diversify the health professions workforce is the development of appropriate faculty and leadership to "push" the agenda.[2]

Growing evidence suggests that increasing the diversity of the nation's medical student body, faculty, and leadership would have a major positive impact on the healthcare system in the United States. Recent reports have concluded that the continued under-representation of African Americans, Hispanics, and Native Americans in the health professions is having a profound negative public health effect.[2-4] Collectively these reports emphasize the need for and importance of having minority physicians working in a variety of clinical and academic settings.

Physicians have many career paths from which to choose. Since leadership roles of minority physicians has been identified as being central to enhancing the diversity of the overall medical profession, it is important to delineate factors that would lead to a career in academic medicine. A commitment to academic medicine is very different from a decision to enter the private practice of medicine. Medicine practiced in an academic setting such as a university or medical school usually involves research, teaching, and patient care—traditionally a combination of all three. Thus, the work of medical school faculty members is wide-ranging; however, their primary focus is to pass their knowledge and skills on to future practitioners. As such, proponents of increased faculty diversity posit that minority faculty members offer a different and important qualitative perspective on research and teaching and would provide more support to under-represented minority students in the form of academic guidance, mentorship, and role modeling.[5]

It has also been put forward that diversification of the faculty enhances the types of case studies and structured dialogues offered by minorities as teaching tools and may offer a different perspective.[6,7]

These principles, however, are not unique to medical education, but are more broadly applicable to education in general. Umbach, using data from a national study of 13,499 faculty at 134 colleges and universities, explored the impact of

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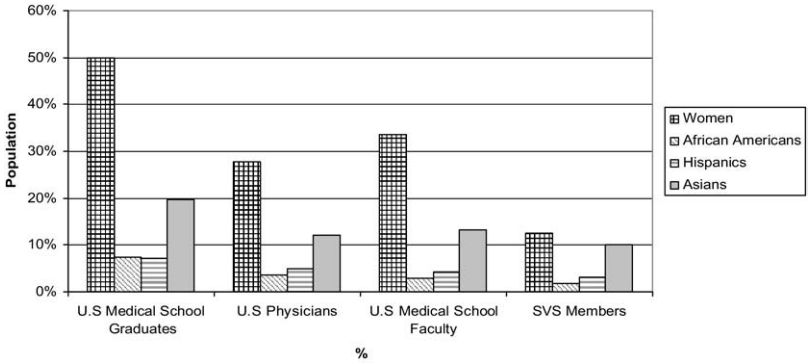

Fig. Proportion of women and minorities in medicine.

faculty of color on undergraduate education and found compelling evidence to suggest that they do provide an important contribution to undergraduate education.[8] The two primary areas of added value are in the use of a broader range of pedagogic techniques and more frequent interactions with students than their white counterparts.

An additional benefit of diversifying the medical school faculty is to expand the nation's research agenda. There has been a growing amount of evidence documenting the inequalities of health care outcomes for minorities, even when controlled for income, insurance status, severity of illness, and age.[3,9] Since the nation's research agenda is primarily shaped by those who choose research as a career, and individual investigators usually conduct research on problems that are visible to and of interest to them, one can hypothesize that increasing the diversity of the researchers themselves will allow for an expansion of the nation's research agenda. That in turn will enhance patient care and broaden the range of potential solutions for eliminating health disparities.[10]

Given the rapidly changing demographics of the nation, it is evident that future health practitioners will be delivering care to patients from an even wider range of cultural and ethnic backgrounds. To provide optimal care, a health practitioner must have a firm understanding of how cultural biases, indigenous belief systems, ethnic origins, and many other culturally determined factors influence the way people experience illness, seek help, respond to treatment as well as their coping mechanisms.[10,11] Cultural competence in a health practitioner can be defined as having the knowledge, skill, behavior, and attitude to provide the best available care to individuals with backgrounds different from one's own.[10] Developing diverse cultural competent practitioners, however, cannot happen in homogeneous racial and ethnic environments. In an effort to develop cultural competence, health professionals must be educated in settings reflective of our diverse society. Therefore, diversity of the faculty, administration, and of one's peers in medical school is an important component of the learning that takes place both inside and outside of the classroom.[10]

In a 1998 editorial in the Journal of the American Medical Association (JAMA), Jordan J. Cohen, MD, then President of the Association of American Medical Colleges (AAMC) stated,

> As long as our medical school faculties have little more than token representation from many sectors of the richly diverse American culture, and as long as faculty advancement, for whatever reason, is grossly distorted by race and ethnicity, the medical profession cannot truly lay claim to the ethical and moral high ground it professes to occupy.[7]

HISTORICAL CHALLENGES

The history of minorities pursuing medical education is rooted in the legacy of segregation in the United States. One need not go much further back than 1910, when the famed Flexner report was released, to understand the historical barriers to diversification of the health professions. Abraham Flexner, an education theorist, was charged by the Carnegie Foundation for the Advancement of Teaching with the task of reviewing all 155 medical schools then in existence in the United States and Canada.[12] The resulting report was a critical expose of how medical education was conducted at the time. Flexner made many suggestions for change but a primary recommendation was an insistence that medical schools be affiliated with and integrated into an established university structure.[13] Although this and several other reforms recommended by Flexner are largely credited with raising the quality of American medical education and forcing many for-profit, inadequately financed, and/or poorly managed medical schools to close, there was a concomitant reduction in the number of physicians available to serve disadvantaged communities.[14] The report was particularly critical of the black medical colleges, which ultimately led to the closure of seven of the nine historically black medical schools. The remaining schools, Howard University School of Medicine and Meharry Medical College, became the two primary options for African Americans, thus limiting the opportunity for medical school attendance. The law of unintended consequences coupled with the brutal realities of segregation remained strikingly evident up until 1964 when 97% of all medical students in the United States were white.[15]

It was only four short decades ago that seminal social justice events occurred, resulting in an organized recruitment effort and policy of increasing enrollment of minorities by the nation's medical schools. The conditions of the Civil Rights Act of 1964 led medical schools to desegregate if they desired to receive federal funding for student financial aid and construction projects for new buildings. The following year bills creating Medicare and Medicaid were enacted, which had an immediate impact on the nation's hospitals because they were forced to integrate if they were to receive reimbursement for care.[15]

This confluence of events demanded a diversification of the physician workforce and prompted medical education to develop affirmative action programs (as did much of higher education) to increase minority enrollment in medical schools. In 1970 the AAMC recommended that medical schools achieve equality of opportunity by relieving or eliminating barriers and constraints to access to the medical profession.[10] Through aggressive affirmative action admission policies, enrollment in 1975 of underrepresented minorities (URM) climbed from 3% to 10% nationwide, at which level it remained until the early 1990s.[1] That stagnation in enrollment, combined with the continued growth of minority populations, stimulated the AAMC in 1991 to create its second major initiative to enhance diversity, entitled "3000 by 2000", which was a call to double the numbers of URM first year medical students to 3000 students by the year 2000.[16] Although the initiative fell well short of its goal, the effort helped increase minority enrollment to more than 12% by 1995.[1] Since 1995, however, there have been significant legal challenges to affirmative action through the courts and through a variety of state ballot initiatives, which continue to hamper the ability of educational institutions to diversify their student bodies. Despite the 2003 Supreme Court affirmative action decision in Grutter v. Bollinger et al[17] in which the compelling state interest of promoting diversity was upheld, the climate for using affirmative action as a tool to promote diversity remains fraught with obstacles.

These historic and continuing challenges, coupled with the paucity of minority students pursuing and graduating from schools of medicine, severely hamper the efforts to increase the numbers of these students pursuing careers in academic medicine. Importantly for the students who do choose academic medicine as a career path, there is a lack of mentors and role models. This circle of causation has created a deficit of awareness and opportunity concerning potential leadership roles that would further amend the imbalance.

CURRENT CHALLENGES FOR MINORITIES IN ACADEMIC MEDICINE

The barriers to success for minority students entering careers in academic medicine are less overt than in years past, but they are no less challenging. The accumulative disadvantaged position in which minority faculty members find themselves compared with whites has developed through years of systematic segregation, discrimination, tradition, culture, and elitism in academic medicine.[18] That in turn has adversely influenced the recruitment, retention and career progress of African Americans and other underrepresented minority groups.[19] Several studies have illuminated the impact of the paucity of minorities pursuing careers in academic medicine.[20,21] These studies documented feelings of loneliness and isolation of the current minority faculty, leading to a lower level of career satisfaction. Palepu et al[20] discovered, through a stratified random sample of 3013 full-time faculty at 24 US medical schools, that racial and ethnic disparities in faculty promotion existed, and found that minority faculty members received tenure at lower rates than white faculty. African American faculty were found to be the least likely of the URM groups to hold senior faculty rank compared with white faculty. These findings remained consistent even when controlled for factors that typically influence promotions, such as years as a faculty member or measures of academic productivity.

Palepu and her colleagues highlight that previous researchers speculated that greater debt burden may partly explain the fact that minority faculty members are spending more time on clinical activities and less time on research activities, with the result that more minorities are on a clinical track in which it generally takes longer to achieve promotion.[20] However, even after controlling for the percentage of time on clinical responsibilities, Palepu and her colleagues found that minority faculty members were still less likely to be promoted. The authors conclude that discrimination against minorities that permeates society may play a possible role in the lack of promotion in academic medicine: in other words, stereotypes of minorities as inferior may exist in academic medicine.

Moreover, they suggest that cultural differences may cause minority faculty to feel excluded from certain opportunities or to not participate in the informal information sharing that takes place in an academic setting. While the phrase "social capital" is not used,[22] the authors question whether cultural and other historical factors may make some minority faculty reluctant to "network" at the divisional or departmental level, thus reducing their opportunity to forge personal and professional relationships with nonminority colleagues. To gain a better understanding of the factors that minority faculty perceive as barriers to advancement, Palepu and her colleagues suggested that much more research is needed.

Building upon the Palepu study, Fang et al[21] compared promotion rates of minority and white medical school faculty in the United States, using data provided by the AAMC's Faculty Roster System, which is the official data tracking system for medical school faculty. This quantitative study used a retrospective cohort design to illuminate any disparities between minority and their non-minority peers. Through a sample size of 50,145 full-time US medical school faculty members who became assistant or associate professors between 1980 and 1989, the authors findings were consistent with the Palepu findings: that racial and ethnic minority faculty, at both the assistant and associate professor rank, are lagging in rates of promotion

compared with white faculty, even though their representation in academic medicine has increased.[21] Additionally, faculty research productivity was measured using receipt of National Institutes of Health awards, as these awards are purported to weigh heavily in faculty promotion decisions. The authors hypothesized that a major cause for lack of promotion could be that minorities publish less frequently than white faculty. They concluded with a call for further study, stating that they did not believe the differences in promotion rate were due to lack of desire or commitment.[21] Taken together these studies are instructive concerning the difficulties minority faculty face in career progression and satisfaction in academic medicine due to an accumulated inheritance of disadvantages.

As troubling are the findings by Peterson and her coauthors.[23] Through a 177-item self-administered survey of 1979 full-time medical school faculty members working at 24 randomly selected medical schools in the United States, Peterson and her colleagues found that URM faculty members were substantially more likely than majority faculty members to perceive racial/ethnic bias in their academic career and that faculty with such reported experiences had lower career satisfaction scores than other faculty. The authors stated that: "the high frequency of perceived racial/ethnic discrimination among minority faculty is concerning, however; understanding the reasons for this and addressing the causes is both a moral and social issue for medical schools and teaching hospitals."[23] This study was not able to capture the experience of minority faculty who had already left academic medicine. As the authors note, to the extent that discrimination contributes to a faculty member's departure, this study's findings could have underrepresented the frequency of racial/ethnic bias and therefore underestimated its impact. As the study suggests, the recruitment and retention of minority faculty members in academic medicine is important, but too little is known about the experience of minority faculty members, especially with regard to racial and ethnic discrimination and how such experience affects their career satisfaction and academic success.

Adding to the evidence concerning the influence of bias on career satisfaction, Price and her colleagues concluded that visible dimensions of race/ethnicity, gender, and foreign-born status often provoke bias and result in cumulative advantages or disadvantages in the workplace that have an impact on faculty recruitment, promotion, and retention.[24] Utilizing qualitative methods such as focus-group and semi-structured one-on-one interviews, Price and her colleagues interviewed 29 faculty members of different ethnicities who were on the tenure track at Johns Hopkins School of Medicine. Minority interviewees stated that they faced additional challenges in residency training and as current faculty, due to subtle manifestations of bias in the promotion process.[24]

PERCEIVED FACILITATORS

It is widely believed that faculty development programs that encourage and foster mentoring are important facilitators to a successful academic career.[25] In 1998 the AAMC charged its membership with beginning concerted and systematic efforts to establish effective mentoring and faculty development programs for minority faculty. In his charge to the membership, President Cohen stated that "racially and ethnically diverse faculty, fully empowered by the equitable presence of minorities within all ranks of the academy, is the only conceivable bridge to a diverse physician workforce and culturally competent health care system."[7]

Jackson et al[26] determined, through interviews with 16 medical school junior faculty members, that having a mentor in academic medicine is critical to one's success. They chose a qualitative method to gain a deeper understanding of mentoring by exploring lived experiences of medical school faculty members. The authors posit that the mentoring relationships are key to developing productive careers in academic medicine; but such alliances are ambiguous. The various themes identified in this study were finding a mentor, characteristics of the mentoring relationship, recognizing potential, supportive/enabling actions, special challenges of gender and race, being without a mentor and finally, troublesome mentoring relationships. Mentoring during the early stages of a career has been associated with high career satisfaction and may guide development of professional expertise. Unfortunately, little is known about pre-professional mentoring and socialization experiences in academic medicine. The small sample size in this study limited the generalizability of their findings. However, a significant finding they underscored was that it is important for mentees to be diligent in searching for mentors and that institutions must recognize and encourage mentors.

In an attempt to discern the impact of mentoring on recent medical school graduates, Ramanan and colleagues explored mentoring relationships among internal medicine residents and examined the relationship between mentoring and perceived career preparation.[27] They designed and administered a survey mailed to all interns and residents enrolled in five independent internal medicine residency training programs affiliated with Harvard Medical School. Of the 329 respondents (65% response rate), 93% reported that it is important to have a mentor during residency training, but only half identified themselves as having a current or past mentor. Significantly, under-represented minority residents were less likely to establish a mentoring relationship than their peers. Mentored residents were nearly twice as likely to describe excellent career preparation. The findings in this study demonstrate the importance of mentoring and its perceived outcome on career preparation. Additionally, the findings highlight the difficulty faced by URM students in developing the kind of career guiding relationships offered by mentors.

In the 1970s, in recognition of the importance of diversifying the matriculates and graduates from health professions schools, federal agencies such as the Health Resources Services Administration (HRSA) began to fund the development of programs and initiatives aimed at in-

creasing the participation of groups historically underrepresented in medicine. However, programs geared to address issues of faculty diversity are a more recent phenomenon. In 1993 HRSA, a division within the United States Department of Health and Human Services (DHHS), created the Center of Excellence (COE) program, which was designed to lead the nation's effort to expose, recruit and train underrepresented minorities for faculty careers at medical schools across the country.[28] In the Northeast there are four institutions designated as Centers of Excellence in minority faculty development: the University of Pennsylvania School of Medicine, the Mount Sinai School of Medicine, Albert Einstein College of Medicine of Yeshiva University, and the University of Medicine and Dentistry of New Jersey.

In 1998, Johnson et al[28] published an article describing their comprehensive COE program at the University of Pennsylvania, School of Medicine. The program they describe is unique in that it encompasses four levels of trainees: premedical students, medical students, post-graduate students (residents), and current faculty. The authors conclude that preparation must begin during the undergraduate years and continue through medical training if there is to be an increase in the numbers of minorities pursuing careers in academia. They state that it is important to retain those who have decided on the career path of academic medicine, but it is of paramount importance to develop the pipeline of those interested in faculty careers. Thus, having a better understanding of the motivating factors that lead minorities to aspire to faculty careers is critical to the successful development of interventions.

In addition, innovative models of mentoring are being developed. One such program is the peer-onsite-distance (POD) model, developed and introduced at the College of Medicine at the University of Arkansas for Medical Sciences. The program is a targeted, multilevel mentoring prototype that is tailored to the unique needs of URM medical school faculty. The mentee's individual needs for guidance related to career goals, resources, and the content and interaction skills that are known to be critical to successful academic careers are targeted for development. The multilevel approach provides a network of peer and faculty mentors who provide site-specific career guidance. Also in the network are leaders in their fields who can provide access to accurate information, cautions, predictions, and announcements of future resources or potential restrictions in academic medicine. Mentor commitments are clearly defined and time contributions are maximized. The POD model aims to promote retention and advance the careers of URM faculty by wrapping them in a protective cushion of interpersonal support. The authors suggest the flexibility of the design allows for adaptation to any institution's unique structure and mission. There are no data as yet to substantiate the assertions of the authors. However, anecdotal evidence suggests that this model may be transferable to other institutions.[29]

There is no question that minority faculty development programs and their mentoring components are an important mechanism to begin to address the feelings of isolation discussed in the literature concerning minority faculty. However, there are limited data to measure additional outcomes of these programs such as career progress or satisfaction. This reflects, in the part, the limited length of time that most of these programs have been in existence, since longitudinal studies have not been conducted. Sambunjak and colleagues[25] concluded after a systematic review of the literature that mentoring is perceived as an important part of academic medicine; however, supporting evidence of that perception was not strong. Reviewing a total of 39 studies, they noted that the weakness of study design in the reviewed studies contributed importantly to their inability to correlate mentoring with career development success. The authors were able to discern that women perceived more difficulty in finding a mentor than did their male colleagues. Several additional authors have noted that mentorship is reported to have an important influence on career choice, research productivity and grant procurement success.[30,31]

Unfortunately, unlike the Harvard and Penn faculty development programs, most minority faculty development programs tend to focus their efforts at the post graduate medical level. Most do not reach as far back as medical school; but at least one study has suggested that students are already forming their aspirations for faculty careers as early as the undergraduate years of college.[32]

Hallock[32] attempted to discern the perceptions of academic culture and faculty life of under-represented minority undergraduates who held aspirations of becoming faculty. Her study found that these students in the early career-forming stages have already developed coping mechanisms to deal with their negative perceptions of academia. This study examined how 17 students, who were participating in either the Alliances for Graduate Education and the Professoriate or the Ronald E. McNair Post Baccalaureate Achievement Programs, understood and experienced academic life. The primary coping mechanism discussed was termed "separating the personal," which is described as reconciling the values of merit and individual achievement with experiences of discrimination or marginalization. These students acknowledged having to navigate and negotiate the expectation of academia while recognizing the risk inherent in explicitly expressing their personal opinions of academic norms. Hallock[32] suggests that early exposure by prospective minority faculty members to careers in academia may offer important benefits to later career satisfaction.

In 2004, Joann Moody published a book entitled *Faculty Diversity: Problems and Solutions* in which she described best practices for diversifying the nation's college and university faculties.[33] Through a comprehensive review of the literature she delineated the causes for the disappointing numbers of minorities in the professoriate, such as high barriers to minorities' entry into and success in academia. However, she flatly rejected the notion that the there is an undersupply of qualified candidates. She carefully refuted those claims by highlighting the increasing

numbers of minority students attending college and pursuing graduate education. Rather, Moody suggests minority students are witness to the challenges faced by minority faculty across academia of isolation and lack of socialization. They are alert to the perception that minority faculty are disproportionately burdened with tasks such as committee assignments, student mentoring, and being perceived as the voice for all minorities on campus. These factors are believed to be serving as a deterrent to minorities pursuing careers as faculty members. Therefore, as Moody[33] puts forth institutions must be cognizant of their overall climate and treatment of their minority faculty member while attempting to develop new initiatives aimed at recruiting.

This is one of the few comprehensive reviews of the literature pertaining to the barriers and facilitators for minorities pursuing careers in academic medicine. As has been reviewed, the available evidence indicates that there are several efforts to increase the pipeline of minorities pursuing careers in academic medicine. These efforts are important as they address both the historical and current perceived barriers. However, limitations in assessing their pertinence for designing future programs exist due to the uneven level of evaluation and lack of duplication of findings. Given the importance that can be inferred from this review concerning the need to diversify the health professions leadership, it is paramount to extend, amplify, and validate the existing data that can provide guidance to that end.

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