Two Sides of the Same Coin

Addressing Racial and Gender Disparities Among Physicians and the Impact on the Community They Serve

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KEYWORDS

• Racial bias • Gender bias • Female physicians • Minority physicians • Race • Ethnicity • Gender • Academic medicine

KEY POINTS

- Race has been identified as an independent risk factor associated with increased morbidity and mortality for some of the leading causes of acute critical illnesses.
- Overall, African Americans have higher death rates than Caucasians for all-cause mortality in all age groups less than 65 years old.
- Racial health disparities involve multiple factors with contributors on both the community/individual end and within the hospital system itself.
- Both gender and racial concordance between physicians and patients have been associated with improved outcomes.
- Female physicians and those of minority race remain under-represented in critical care medicine. There is a paucity of systemic data pertaining to reasons behind this disparity.

Racial and gender disparities among licensed physicians in the United States have been widely prevalent, persisting long after the matriculation of Drs David Peck and Elizabeth Blackwell, the first African American and female physicians, respectively, to graduate from an American medical school.[1–4] Studies link this lack of diversity to poorer patient outcomes, which has bolstered the implementation of programs designed to recruit,

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train, and retain members of these minority groups in the medical field.[5,6] To better reflect and treat our increasingly diverse patient population, we must address the systemic obstacles that deter minorities from earning admission into medical school. Furthermore, factors hindering the successful appointment of minority physicians to leadership positions needs to be investigated to tackle them in a systematic fashion.

GENDER IMBALANCE IN CRITICAL CARE MEDICINE

Under-Representation of Female Physicians in Critical Care Medicine

The last 50 years have seen a dramatic increase in the number of women physicians. In the United States, Canada, Europe, and Australia, the percentage of women graduating from medical schools reached 50% during the 1990s and early 2000s.[1,2,7,8] As a result, one-half of the physician positions in several medical specialties are currently occupied by women. Although the number of female specialists in critical care medicine has also steadily increased, it has not grown proportionately to the number of women graduating from medical schools.[2] For example, 40% of critical care medicine specialists were women in the United States between 2011 and 2015.[8] In 2015, women comprised approximately 30% of the intensivists in Britain[10] and 19% of the critical care workforce in Australia.[7] A survey of the World Federation of Societies of Intensive and Critical Care Medicine from 2018 broadly estimated the number of female critical care medicine physicians to be 37 $\pm$ 11% (range, 26%–50%).[8]

Under-Representation of Female Physicians in Critical Care Medicine Leadership

Although approximately 30% of critical care medicine specialists are women in most developed countries, women comprised only 8% of the European Society of Intensive Care Medicine board and 7% of the council of the World Federation of Societies of Intensive and Critical Care Medicine in 2017.[8] Between 2000 and 2017, none of the presidents of the European Society of Intensive Care Medicine or the College of Intensive Care Medicine of Australia and New Zealand were women.[8] A review of invited lecturers at 4 leading critical care medicine symposia acknowledged that female faculty on average represented 22% of speakers in 2017, at best.[8] Only 8% of the editorial board members of the 5 highest ranked critical care journals were women.[9] Finally, a review of the authorship of critical care guidelines published between 2012 and 2016 found that only 13% of the authors were women.[10] A comprehensive database was used to look at the role of gender in faculty ranking in US medical schools. Even when adjusted for specialty, experience, research productivity, and age, women were significantly less likely to be full professors as compared with men.[11] This disparity in achieving faculty ranking in academic institutions trickles down into leadership opportunities as well. Even when taking into account medicine in general, although women account for about one-third of the full academic faculty in US medical schools, the percentage of women who are full professors (21%), chairs of departments (15%), or medical school deans (16%) are alarmingly low.[12]

Why More Female Physicians Are Needed in the Critical Care Medicine Workforce

There are at least 2 compelling reasons why gender equity should be actively pursued in critical care medicine. First, for the sake of diversity itself: men and women often bring different attitudes and perspectives to the care team, distinctive tactics to problem solving, and unique solutions. This diversity of approaches sharpens a team's performance, promotes innovation, and creates greater success.[13] Therefore, from a purely business standpoint, creating a diverse team enriched with representatives of different genders is a smart decision. Second, there is an advantage

in the interest of improved patient outcomes. Several studies, largely based in non-acute settings, suggest there are differences in the way women and men practice medicine, and that such variations may have important implications for patient outcomes.[14–16] As an example, a recent study found that elderly hospitalized patients treated by female internists have lower 30-day mortality and readmission rates compared with those cared for by male internists.[17] Furthermore, they found that sicker patients were more likely to have a better outcome when they had a female physician. The findings from this particular study are consistent with results from prior investigations on process quality measures, showing that female physicians are more likely to adhere to clinical guidelines and evidence-based medicine, to practice patient-centered interviewing, and to offer prevention advice.[15,16] Two recent publications make the strong argument for improved patient outcomes when female providers lead the care team in acute settings too. A study from 2018 showed that patients with acute myocardial infarction are more likely to survive when cared for by female physicians.[18] Another report in 2019 reviewed outcomes after cardiac arrest based on the gender of the physician leading the resuscitation efforts, and found that patients whose resuscitation team was led by a female physician had a significantly higher likelihood of return of spontaneous circulation and survival to discharge.[19] In conclusion, there is growing evidence to support the notion that creating a nonhomogenous, gender-balanced workforce team is not only a savvy business decision, but also a requirement when the goal is to provide high-quality, effective care for all patients.

Reasons for the Under-Representation of Female Physicians in Critical Care Medicine

There is a paucity of systematic data evaluating the reasons behind the under-representation of women in critical care medicine. In a 2016 survey of Australia and New Zealand's female critical care medicine specialists, 37% of respondents felt disadvantaged as a female specialist in intensive care.[7] Only 50% of respondents stated that their work–life balance was satisfactory. The challenges of balancing a career in medicine with parenting included a lack of flexibility to attend to family responsibilities, difficulties arranging childcare, and the impact of maternity leave on their advancement.[7,11,20,21] Multiple studies show that, although female physicians are likely to have a partner who works full time, male physicians with children are more likely to have a partner who does not, placing them at an advantage compared with their female peers.[22–24] Although these issues have not been explicitly investigated within the specialty of critical care medicine, the high acuity demands of the intensive care unit are likely to pose even more challenges for female intensivists with children.

The survey mentioned elsewhere in this article also found that about 25% of respondents lamented gender-based discrimination in the intensive care unit and difficulties with academic advancement.[2] Several female intensivists commented on the limited numbers of women speaking at critical care medicine forums, attributing this to a lack of time to conduct research that would facilitate career advancement owing to familial obligations. A 2016 survey of the trainees of the College of Intensive Care Medicine of Australia and New Zealand[26] found that 12% experienced discrimination (defined as unjust or prejudicial treatment, especially on the grounds of race, age, or sex) and that discrimination was twice as high among women. Three percent of respondents reported sexual harassment (defined as the making of unwanted sexual advances or obscene remarks), the prevalence of which was 3 times higher in women compared with men.

Notably, there are no systematic investigations examining the reasons why female critical care medicine specialists are poorly represented in leadership positions. However, numerous studies have addressed the larger issue of under-representation of women in leadership roles in the field of medicine as a whole. For example, a study interviewing medical leaders in Australia to elicit their perspectives on the barriers to women advancing and taking on leadership roles was conducted in 2015.[20] The majority of interviewees noted several gender-related barriers impinging on the ability of women to achieve leading roles in academia. On an individual level, self-doubt and the tendency of women not to promote themselves as leaders may both play a role. At an organizational level, limited support for pathways that allow women to stay on a track of academic advancement despite an interruption in their career continues to be a challenge. Moreover, the pipeline theory of women not being in the system long enough still exists. On a cultural level, the assumption that family responsibilities lead women not to seek leadership roles, in addition to the perception that more "feminine" traits are stereotypically inconsistent with strong leadership, continue to be perpetuated. It is unclear whether and how these challenges apply to female physicians working in the intensive care unit, because no data pertaining to critical care medicine are available. However, there is no apparent reason why female intensivists should be uniquely exempt from the challenges lamented by a wide range of women across numerous other medical specialties.

Strategies to Remedy the Under-Representation of Female Physicians in Critical Care Medicine

The attainment of gender equality will require ad hoc and sustained efforts at the level of medical departments, hospitals and health care organizations, critical care medicine societies, boards of critical care medicine journals, and planning committees of intensive care meetings.

The first step should be regular publication of data on female representation in critical care medicine. This step will increase the visibility of the gender gap and help to evaluate the efficacy of strategies implemented to mitigate it.[25] Institutions should use and enforce a zero tolerance approach to gender-based discrimination in the workplace.[7] Mandatory institutional gender bias training may also prove helpful to increase awareness with regard to unconscious gender bias.[9] Additionally, systematic research on the reasons behind female under-representation is imperative.

At a hospital level, on-site childcare that accommodates early, long working hours, and child illness, as well as flexibility with regard to working through pregnancy and choosing accommodating shifts, should be available. On an institutional level, flexible academic advancement options, with part-time opportunities, time out for raising a family, a smooth reentry into clinical duty, and extended timelines to reach the criteria for promotion need to be incorporated into the structure of academic medicine. As eloquently pointed out by Dr Angell in her editorial commentary, "female physicians who work flexible times to raise their children are performing a highly useful function for society [therefore] choosing flexible work pathways should be not only possible, but respectable."[26]

Transparent selection processes should be enforced[20] and selection panels should be blinded to gender whenever possible. Gender-based quotas should be considered within departments, health care organizations, journal editorial boards, and critical care medicine scientific committees.[7] Quotas may help to increase the number of women in leadership roles with decision-making promotion responsibilities, which will in turn facilitate greater upward mobility of female peers and support the achievement of gender parity.

Institutions should foster mentoring and leadership training specifically tailored to women, as well as encourage participation in peer female support groups.[7] Because gender bias can negatively impact mentor–mentee relations, the effectiveness of junior female faculty mentorship should be evaluated and regularly compared against that of male peers.[27]

UNDER-REPRESENTATION OF ETHNIC MINORITY GROUPS AS PHYSICIANS

There is an abundance of literature that points toward better provision of health care and improved outcomes with the elimination of gender, racial, and ethnic disparities. When we look at factors affecting diversity in anesthesiology or medicine in general, the intersectionality of race and gender is an important factor to consider.

Where Does the Disparity Begin?

Ethnic minority groups face unique obstacles in pursuit of higher education that challenge the trajectory of success, including financial limitations, psychological stressors, and lack of exposure/mentorship in fields of interest. Studies show that, despite comparable educational achievement, African Americans with a 3.5 GPA or better are more likely to attend community college in comparison with Caucasians. Furthermore, African Americans are the only racial group more likely to discontinue enrollment in undergraduate studies, but despite doing so, still accumulate substantially more debt.[28] Besides financial pressures, minority college students report subjection to microaggression, overt racism, and social isolation as emotional stressors complicating their educational achievements.[29]

These complexities likely contribute to the skewed demographics of applicants accepted into medical school, as well as those of medical school graduates. Medical school admission rates differ along racial lines, with Caucasians having admission rates of 40% in comparison with lower rates of acceptance for African Americans at 34%. There is an even greater degree of disproportion when comparing medical school graduation rates, with Caucasians composing 51.2% in comparison with 5.7% for African Americans graduates.[30] Similar to college students, African American medical students and residents report psychological strain as they are exposed to environments in which they are in an even smaller minority, thereby increasing their exposure to race-related prejudices.[31,32] Perhaps the emotional cost is best evidenced by the fact that minority residents are 8 times more likely to take a leave of absence than their Caucasian counterparts and are 30% more likely to withdraw from residency.[32] These influences, when taken together, likely account, at least in part, for the disparities with regard to ethnic minorities among practicing physicians.

The Current State of Affairs

Women and ethnic minorities comprise 51% and 32% of the US general population respectively. These percentages put the data provided in the Association of American Medical Colleges Document on Diversity in the Physician Workforce from 2014 into perspective. Approximately 8.9% of physicians identify as African American, American Indian, Hispanic, or Latino. Although African Americans constitute 13% of our nation's population, they account for only about 4% of the physician workforce. Interestingly, among this group of young minority physicians, women constitute a greater percentage (52%) as compared with their male counterparts (48%).[30]

Looking specifically at the field of anesthesiology, Toledo and colleagues[33] published a survey evaluating the diversity in the demographics of the American Society

of Anesthesiologists leadership. The results of this survey revealed that women (21%) and ethnic minorities (6%) were underrepresented in the American Society of Anesthesiologists leadership as compared with their representation within the general physician workforce (women 38%, ethnic minorities 8.9%). Similar results were found by Yu and colleagues[34] following retrospective analysis of the Association of American Medical Colleges data on faculty at US medical schools from 1997 to 2008. They focused on the influence of race and gender on the rate of academic advancement and leadership positions. Over a 12-year study period, they noted that 84.76% of professors, 88.26% of chairpersons, and 91.28% of deans were Caucasian, highlighting a gross disparity and underrepresentation of women and minorities in academic medicine. Although there was a minimal increase in the percentage of minority physicians in academic medicine over time, it is inadequate. In fact, they noticed that African American physicians have made the least progress over this time. This lack of progress is also evident in that ethnic minorities are also less likely to undergo promotion and more likely to receive lower compensation.[32] A systematic review conducted in 2014 puts forth evidence that racism, as well as funding and promotion disparities, in addition to a lack of mentorship, affect minority faculty members in academic medicine.[3] This finding further solidifies the notion that we need to implement proven pipeline strategies to increase the representation of these members. Rodriguez and colleagues[4] investigate another important concept of the under-represented minority in medicine responsibility disparity—commonly referred to as the minority tax. This term refers to the additional responsibilities in multiple areas, including efforts to create a diverse workplace, clinical responsibilities, mentorship, and promotion, that are conferred on the under-represented minority in medicine faculty in the name of diversity. These additional responsibilities tend to take time away from these faculty members, limiting their ability to engage in meaningful activities that could contribute to their promotion. Perhaps this reality contributes to the dwindling numbers of underrepresented minority in medicine at the department chair level, with women of color representing only 3% in academic medicine.[30] This finding underlines the fact that diversity efforts in institutions have to be a unified initiative.

Why Do We Need More Minority Physicians in the Workforce?

A large body of evidence suggests that we need to have a physician workforce that demonstrates equity with respect to gender, race, and ethnicity. Several studies report that patients from ethnic minorities have lower levels of trust in providers as well as lower satisfaction with their health care. A research initiative, supported by The Commonwealth Fund, has shown that patient–physician race and ethnic concordance produce better outcomes of health care processes, better communication, and improved patient satisfaction scores.[5] Traylor and colleagues[35] demonstrated that race concordance for African American patients was associated with adherence to all their cardiovascular medications. Furthermore, in 2018 Alsan and colleagues[36] hypothesized that race concordance among African Americans could lower the mortality associated with heart disease by upwards of 19% for African American men. This conclusion was reached after finding these subjects sought more preventative services when treated by African American physicians. Patients have reported more participatory decision-making styles in physicians with whom they have race-concordant relationships. Moreover, there is strong evidence that shows that minority physicians are more likely to care for minority patients, patients in underserved areas or in places that have shortage of physicians, and patients with a socioeconomic disadvantage. In simple terms, patients relate better to physicians who come from a cultural background similar to their own. Having more minority physicians in the

workforce would be invaluable in establishing more solid patient–doctor rapport and would have a great impact on health care outcomes in general.

What Can We Do?

Looking at the current state of racial disparity, it is clear that we must take an active effort to recruit, retain and advance these groups of physicians, with the goal of reducing health care disparity. The Association of American Medical Colleges has initiated several programs to increase diversity and to increase the representation of marginalized communities, including American Indians and Alaskan natives, who represent less than 0.5% of the physician workforce. Despite institutions and organizations making efforts to increase equity, the numbers of such faculty in academic medicine are disappointing. Kaplan and colleagues[6] explored the reasons behind difficulty in recruiting, retaining, and promoting racially and ethnically diverse faculty. They engaged senior faculty leaders, members in the Group on Diversity and Inclusion and the Group on Women in Medical Sciences at the institutions they surveyed. In addition to noting that the general climate was described as neutral or positive, a few common challenges were noted including the continued lack of a critical mass of minority faculty, the need for coordinated programmatic efforts for retention and promotion, and the need for a senior leader champion.

Strategies for Change

1. Early education (K–12) and medical school
   a. Early exposure of grade school and high school students to explore career options in the medical field
   b. Medical school curriculum including coursework in gender medicine, health disparities, and the impact on patient outcomes
2. Health care system
   a. Training for students and clinical and nonclinical staff to acknowledge and confront both implicit and explicit biases
   b. Cultural competency training for all health care professionals
   c. Development of diversity efforts engaging all clinicians
3. Support systems for minority students, residents, and faculty
   a. Mentorship and support for minority students, residents, and faculty
   b. Programmed efforts by appointment committees to advance minority faculty members
   c. Ensuring diverse selection committees for leadership positions
   d. Identification and elimination of psychological stressors identified by minority students, residents, and faculty
   e. Financial support, tuition relief, and expanded scholarships for socioeconomically underprivileged minorities

SUMMARY

The historical norms of the United States were based in the systematic oppression of racial minorities and women. These beliefs, once held as truths, had far-reaching consequences and helped to shape the demographics of practicing physicians we see today. Fortunately, we are able to learn from our past and, through the pooling of our minds, create a better future. With studies demonstrating improved patient outcomes with physician patient race and gender concordance, encouraging diversity should be the objective not only of minority physicians, but of all members of the medical community.[17–19,35,36]

DISCLOSURE

E. Hilton is a co-founder of a medical consulting firm, GoodStock Consulting, LLC, where our mission is based on addressing racial health disparities.

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