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Impact of Race on the Professional Lives of Physicians of **African Descent**

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Background: Increasing the racial and ethnic diversity of the physician workforce is a national priority. However, insight into the professional experiences of minority physicians is limited. This knowledge is fundamental to developing effective strategies to recruit, retain, and support a diverse physician workforce.

Objective: To characterize how physicians of African descent experience race in the workplace.

Design: Qualitative study based on in-person and in-depth racially concordant interviews using a standard discussion guide.

Setting: The 6 New England states in the United States.

Participants: 25 practicing physicians of African descent representing a diverse range of primary practice settings, specialties, and

Measurements: Professional experiences of physicians of African descent.

Results: 1) Awareness of race permeates the experience of physicians of African descent in the health care workplace; 2) racerelated experiences shape interpersonal interactions and define the institutional climate; 3) responses to perceived racism at work vary along a spectrum from minimization to confrontation; 4) the health care workplace is often silent on issues of race; and 5) collective race-related experiences can result in "racial fatigue," with personal and professional consequences for physicians.

Limitations: The study was restricted to New England and may not reflect the experiences of physicians in other geographic regions. The findings are meant to be hypothesis-generating and require additional follow-up studies.

Conclusions: The issue of race remains a pervasive influence in the work lives of physicians of African descent. Without sufficient attention to the specific ways in which race shapes physicians' work experiences, health care organizations are unlikely to create environments that successfully foster and sustain a diverse physician workforce.

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iversifying the physician workforce is a national pri-Ority (1). However, despite efforts to increase the numbers of minority physicians (2-6), people of African descent represent only 2% to 3% of practicing physicians in the United States (7). Furthermore, this proportion has not changed substantially during the past 30 years (1, 8). Understanding how race influences the work experiences of physicians of African descent is fundamental to developing effective strategies to recruit and retain a diverse physician workforce.

Evidence indicates that physicians of African descent face considerable challenges because of their race. Most minority physicians report that they have experienced racial or ethnic discrimination at work (9-12), and rates of reported racial discrimination are highest among physicians of African descent (10, 11). Studies of physicians in academic medicine show that medical school faculty of African descent have lower job satisfaction (11, 13) and are promoted less frequently (14, 15) than their nonminority counterparts who have similar productivity and similar academic accomplishments.

Although this evidence documents the substantial prevalence of race-related challenges for physicians, qualitative information to understand how physicians of African descent experience race in the workplace is lacking. The design of interventions to successfully attract, integrate, and support a diverse workforce depends on a clear understanding of the role of race in the professional lives of physicians. Therefore, we sought to characterize these experiences through in-depth interviews with physicians of African descent practicing in academic and nonacademic settings and across a range of clinical specialties. We used qualitative data analysis techniques to identify the unifying and recurrent themes that show how race shapes the work experiences of physicians of African descent.

METHODS

Study Design and Sample

We conducted a qualitative study by using in-depth interviews with 25 physicians who identified themselves as being of African descent and who practiced in 1 of the 6 New England states. People of African descent include Africans and African Americans and those from other regions of the African diaspora, such as African Caribbeans. We did not interview physicians of other races because we only studied how physicians of African descent experience race at work.

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Figure. Standard interview guide.

- 1) How do you think race influences your experiences at work?
- 2) Can you think of a negative work-related experience you had or you know of that was attributed to race? Tell me about that experience.
- 3) Can you think of a positive work-related experience you had or you know of that was attributed to race? Tell me about that experience.
- 4) How have race and your experiences during training influenced your career path(s)?
- 5) Is there anything else you can share with me that might help me better understand the influence of race in your work-related experiences?

We chose a qualitative approach to explore a complex and potentially sensitive topic involving social and cultural interactions that are difficult to measure quantitatively (16, 17). On the basis of principles of grounded qualitative research, we aimed to generate hypotheses from the data as opposed to testing prespecified hypotheses (16-20). We recruited an information-rich and purposeful sample (16, 17) of physicians of African descent from the 6 New England states. We excluded physicians in training. We identified potential participants from the membership roster of the New England Medical Society (an organization of minority physicians); the Web-based African American physician locator, which uses membership data from the National Medical Association; community-based organizations; and regional academic institutions. We randomly selected physicians from among those who responded to an invitation to participate within the first 2 weeks. In addition, using the snowball technique (16, 17), we asked study participants to provide names of other physicians of African descent in the region. All invited physicians agreed to participate. We interviewed practicing physicians until no new themes emerged from successive interviews, that is, until thematic saturation was achieved. The research protocol was approved by the Human Investigation Committee of the Yale University School of Medicine, New Haven, Connecticut. We obtained verbal informed consent from participants.

Data Collection

One of the researchers conducted in-person, in-depth interviews (21). Interviews were racially concordant and consisted of the interviewer and an individual participant. The average length of the recorded interview was 40 minutes. Professional transcriptionists transcribed interviews, and the interviewer reviewed the transcriptions to ensure accuracy. Interviews (Figure) began with a broad question: "How do you think race influences your experiences at work?" Specific questions addressed negative and positive work experiences attributed to race and the influence of race on the physician's career trajectories. Probes were used to encourage participants to clarify and elaborate on their statements as necessary.

Statistical Analysis

In the first stage of analysis, codes were created and defined as concepts that emerged from the data in an inductive fashion (21, 22). The coding team independently coded transcripts line by line and, as needed, met as a group to reach consensus. Using the constant comparative method of qualitative analysis (21, 22), we compared coded text to identify novel themes and expand existing themes, refining the codes as appropriate until we reached a final coding structure that comprehensively defined all codes (22, 23). Using this final coding structure, the researchers independently coded 3 previously uncoded transcripts. The calculated intercoder agreement was 80%, which is considered acceptable by qualitative research standards (24). One researcher then used the final code structure to recode all transcripts. We used qualitative analysis software (ATLAS.ti 5.0, Scientific Software Development, Berlin, Germany) to facilitate data organization and retrieval (25). As recommended by experts in qualitative analysis (23), participants reviewed a summary of the data and endorsed the content of the themes after the analysis was complete.

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The funding sources had no role in the design, analysis, or reporting of the study or in the design to submit the manuscript for publication.

RESULTS

Physician participants represented a range of practice settings, specialties, and ages (Table). Five recurrent themes characterized how physicians of African descent experienced race in the health care workplace: 1) awareness of race permeates the experience of physicians of African descent in the health care workplace; 2) race-related experiences shape interpersonal interactions and define the institutional climate; 3) responses to perceived racism at work vary along a spectrum from minimization to confrontation; 4) the health care workplace is often silent on issues of race; and 5) these experiences can result in what we term "racial fatigue," with personal and professional consequences for physicians. We provide verbatim quotations to illustrate each theme.

Awareness of Race Permeates the Experience of Physicians of African Descent in the Health Care Workplace

All participants described race as pervading their identity and experiences in the health care workplace. Physicians offered several examples of how race often influenced their professional experiences. A general surgeon at an academic institution commented on his perception of how he is viewed by others at work: "I think race permeates every aspect of my job; so . . . when I walk onto a ward or on the floor, I'm a black guy before I'm the doctor. I'm

		ported constant awareness of
Characteristic	Value	the workplace. However, take the focus off of race
Median age (range), y	45 (35–79)	medicine subspecialist work

Characteristic	value
Median age (range), y	45 (35–79)
Women	14 (56)
Medical training at historically black college or university+	7 (28)
Born outside of the United States‡	6 (24)
Years since medical school graduation	
5–9 y	5 (20)
10–20 y	11 (44)
>20 y	9 (36)
Board-certified physician	22 (88)
Specialty	
Anesthesiology	1 (4)
Family medicine	4 (16)
Internal medicine (general)	5 (20)
Internal medicine (subspecialty)	4 (16)
Obstetrics and gynecology (general)	2 (8)
Obstetrics and gynecology (subspecialty)	2 (8)
Pediatrics (general)	2 (8)
Psychiatry	2 (8)
Surgery (general)	2 (8)
Surgery (subspecialty)	1 (4)
Primary work setting	
Academic	10 (40)
Community health center	4 (16)
Hospital-based practice	4 (16)
Private practice	5 (20)
Public health	2 (8)
Racial composition of colleagues and staff§	40 (70)
Predominantly white	18 (72)
Predominantly people of color	2 (8)
Racially diverse	3 (12)
Racial composition of patients	C (24)
Predominantly white	6 (24)
Predominantly people of color	2 (8)
Racially diverse	16 (64)
Not applicable	1 (4)

Table Characteristics of the 25 Study Participants

* Data are expressed as number (%), unless otherwise noted.

still a black guy before I'm the guy in charge, before I'm the attending of record, so that permeates everything."

Participants also described the importance of race in influencing their self-view in the workplace. For some physicians, the influence of race on self-view was shaped by the participant's country of origin. A general internist at an academic institution who is from the United States reflected: "I am your classic African American. What I mean by that is that I think about race all the time. At least 50 times a day. . . . I wouldn't say race has influenced me. It defines me. It defines what I do. [It defines] everything."

In contrast, a physician practicing family medicine at an academic institution who immigrated to the United States as an undergraduate student stated: "Race influences the personalities of Americans much more deeply than for Africans or other people not born in this country. As an African, my primary mode of identification is not race. Still, most people [in this country] see me and for them it's race. . . . [S]o it definitely affects what I do. It's probably the most important thing."

Regardless of where they were from, participants reof their racial minority status in physicians sometimes tried to in the workplace. An internal king at a hospital-based practice reflected: "Growing up as I did in this country, however, I am perpetually aware of race with every individual that I meet, my cofaculty, my patients, the other health care workers here, but I think I have tried to take an approach that to whatever extent possible, I try to take race out of the equation."

Regardless of whether participants focused on the influence of race at work, they reflected on the intersection of authority and race in their work lives. A pediatrician at an academic institution said the following: "It is hard being a physician of color because you have the issue of race and the issue of power. When you are a physician, you have a power position that other people don't have, whether they are of the same race or different race or whatever. So, sometimes it is tricky. Are you annoyed that I am in the position that I am in or [are you] annoyed about my position because of my race?"

Race-Related Experiences Shape Interpersonal Interactions and Define the Institutional Climate

Race influenced the professional lives of all participants. They described the effect of race on their relationships with patients, staff, and colleagues and its effect on their roles in the broader health care institutional environment. Although some effects of race were perceived to be positive, most were perceived to be negative.

When asked directly about positive race-related experiences at work, no participant described a positive experience within a health care institution. However, some physicians commented on positive experiences with individual colleagues. A family medicine physician at an academic institution stated: "I was an intern, and the white male attending would ask me, 'How do you know that?' every time I answered any of his questions. And a fellow, a white woman, came up to me and told me that the attending was a racist jerk, and she would write me any letters of recommendation I needed from that rotation. That really stuck with me. I didn't feel as isolated at that moment."

All physicians discussed the role of race in patient care. Physicians described positive influences of race in which race concordance was often viewed as helping to develop trust, rapport, and communication among physicians and minority patients. A physician in a surgical subspecialty at an academic institution shared the following: "With patients of color, that degree of connection can often break an impasse . . . just by having people see me as more than a doctor or professional, but they see me as a human being who is potentially a member of their community, a member of their church."

Furthermore, physician participants discussed the pride that patients of color often expressed during their

[†] Historically black college or university includes undergraduate medical education at a historically black college or university, or graduate medical education at an institution affiliated with a historically black college or university, or both.

[‡] Physicians who immigrated to the United States as adults.

[§] Excludes patients.

encounters. They described these experiences as being beneficial to the patient and the physician. A general internist at an academic institution stated: "After you see black patients, you get your energy for the next year to keep going because there is that real, you know, acknowledgment that still there is a history in this country of racism and oppression to a degree that others have not experienced. It is humbling, but it is nurturing, and it continues to feed me in my activities on a regular basis; it's very powerful."

In contrast, participants also discussed negative patient care experiences that they attributed to race. They described instances when patients, occasionally using racial slurs, refused care from physicians of African descent. An internal medicine subspecialist at a hospital-based practice stated the following: "Patients rejecting my care is ... fairly overt. We have just met and they want someone else. I do not think that most patients want to discriminate against me because I am African American, but patients sometimes expect us not do a good job or not to do as well as somebody else would do."

Physicians reported other negative race-related experiences that made them feel devalued. For instance, all physicians described feeling invisible at work or routinely being mistaken for maintenance, housekeeping, and food service employees. Such mistakes were made not only by patients but also by coworkers with whom the physician was acquainted. This is illustrated in the following quotation from a female internal medicine subspecialist at an academic institution: "As a black physician you keep getting mistaken for other people. . . . Some of my white female [colleagues] were always getting mistaken for nurses and everyone thought that was funny. But I was always mistaken for the person who brought the trays or the janitor person. So I think the things for which they mistake us is much more disparate for black women."

In addition, physicians of African descent reported that they were held to higher performance standards than their nonminority peers. They described feeling isolated and lacking of supportive mentors. For instance, participants stated that their work was ignored or undervalued compared with the work of their nonminority colleagues. They also described being frequently omitted from key information networks and social situations. An internal medicine subspecialist at a hospital-based practice stated: "I do not see us in those leadership pipelines and that is what makes a tremendous difference in terms of diversity. We won't get invited to the picnic or to the dinner parties ... and that is where those jobs come up. . . . We're not in the corridors of power. . . . We are not in those pipelines, and it has nothing to do with intellectual capacity or ambition."

Physicians commonly described difficulties when trying to identify and engage role models and mentors. Furthermore, when mentors were available, some made assumptions about the physicians' career goals on the basis of race. For instance, participants described that some mentors presumed that they wanted to work directly in underserved communities of color rather than pursue academic careers or administrative and leadership positions. A physician practicing in an internal medicine subspecialty described this experience: "[My mentor] wanted me to be medical director of a community health center. He kept telling me about those types of opportunities. . . . That has never been my career goal. He said, 'Well, you relate to the community.' I asked him, 'Has anyone from the community told you so? I doubt that.' . . . So, that was . . . very frustrating. . . . I thought that was racially biased."

Participants also described being involuntarily "cast" into race-based roles in the workplace. Casting refers to situations in which physicians were asked or assigned to perform certain activities at work because of their race. Examples of casting included helping with minority physician recruitment, serving on numerous diversity committees, intervening in difficult situations with minority colleagues or trainees, and assisting nonminority colleagues in the care of minority patients. Although some participants were pleased to contribute in these ways, others physicians viewed casting as offensive and isolating, especially when these roles were unrewarded professionally. An internal medicine subspecialist at a hospital-based practice stated: "At work . . . whenever they want to diversify something, they call me. When they don't need that, when they would need someone purely for individual intellectual capacity, I am not the first person they think about."

Responses to Perceived Racism at Work Vary along a Spectrum from Minimization to Confrontation

Physicians reported a range of responses when dealing with situations in which they perceived racism. In some instances, physicians dismissed what they viewed as potentially racist behavior at work. A surgical subspecialist at an academic institution stated: "We gotta have a thick skin. Things are not always fair. Look, you cannot let these things at work get to you. Just like if someone is rude to you in a store or something, you've gotta brush it off and just . . . move on."

Physicians sometimes used race-related conflicts as an opportunity to educate coworkers about race and racism. A surgical subspecialist at an academic institution shared the following: "I use all of these experiences in my educational campaign with everyone that I interact with. And I make a point . . . of interjecting the importance of race and culture and cultural competence in how we interface with patients especially. I do that in a myriad of ways, [mostly] through humor, and I try to break down the biases."

Physicians also described incidents in which they openly and immediately confronted the situation. Participants were most likely to respond in this way when they perceived the occurrence as being overtly biased, as in this account in which a pediatrician at a hospital-based practice challenged her department chairperson for interviewing a 4-year-old black girl alone during grand rounds: "I asked

him if he had asked her parents [for permission]. And he said, 'No, the nurses will tell them.' I told him, 'If I ever see that again, I'm going . . . 'And he apologized [B]ut it wouldn't have happened if she were white. And that kind of thing happens all of the time. You have to speak up."

Although some participants had 1 dominant response style, their reactions varied depending on circumstances. All participants described a process of assessing each experience and making a conscious decision whether to challenge or to ignore a race-related issue or conflict, as an anesthesiologist at a hospital-based practice described: "Each of these experiences is like a stone. It is up to you if you put these stones on your back and carry that weight always or if you are going to take each stone and place it on the curb. But it is absolutely challenging."

The Health Care Workplace Is Often Silent on Issues of Race

Every physician participant reported that the relevance of race is generally not acknowledged, and informal and formal structures to discuss race in the workplace are typically nonexistent. Although participants witnessed and personally experienced the influence of race on interpersonal interactions and the work environment, their focus was more often on the subsequent silence and normalization than with the details of the actual event. A pediatrician at a hospital-based practice stated: "I was [removed from] taking care of a [white] individual. We talked later, the division chief and I. The parents were uncomfortable with me taking care of their child. . . . [T]hey told him they didn't think I would be capable because of race. That ended our conversation. What about next time?"

Physicians were often hesitant to discuss race at work because they were unsure how to initiate the conversation, and they believed that their nonminority colleagues also shared this uncertainty. An anesthesiologist at a hospitalbased practice stated the following: "I don't talk about race here—not here, but outside. I talk a lot about these issues with my husband and colleagues at other institutions, but not here at work. There is no one and no way to discuss that here. If I felt I could, I would. But I don't." A family medicine physician practicing at a public health institution stated: "We have, as a society, figured out ways to systematically deny that racism exists. And that structure is in the medical institutions that train us. There is no way to have a discussion about it because it has been decided that it doesn't exist."

These Experiences Can Result in Racial Fatigue with Personal and Professional Consequences for Physicians

Participants described the stress associated with enduring unaddressed race-related issues at work as exhausting. They sometimes became tearful or frustrated while conveying their experiences during the interview. We developed the term "racial fatigue" to characterize the potential emotional and psychological sequelae of feeling isolated in a work environment in which race regularly influences behavior but is consistently ignored. A subspecialty surgeon in an academic setting shared the following: "It is a drain to carry this burden. My burden is to deal with the pressure of whatever stereotypes people may have about race ... and it is a daily stress at work. It's exhausting."

Although participants relied on a strong belief in their own abilities and support structures that are external to the workplace, they spoke of the constant effort required to navigate issues of race in their professional lives. A physician practicing family medicine in a private practice stated that "[t]here really is nobody addressing these issues, because nobody knows how to ... and so you are left processing it by yourself. . . . So that often just causes internal conflict that one has to manage in order to get the work done."

Among participants, racial fatigue contributed to professional dissatisfaction and unexpected changes in career trajectory. Participants' changed residency programs, specialties, geographic location, practices, hospitals, academic institutions, and career paths in search of more supportive work environments. An internal medicine subspecialist at a hospital-based practice stated that "[m]edicine [hasn't been] challenging intellectually but challenging emotionally....[S]o it is good when people acknowledge that there is stress related to being black and doing this work. That it is a different experience from other colleagues. . . . I have changed my career path completely. . . . Race closed doors at my institution. I kept running into deadends, so I left academics."

DISCUSSION

We found that race-related experiences were pervasive in the professional lives of physicians of African descent and that silence on race issues in the workplace intensified these mostly negative experiences. All participants stated that issues of race are important to them at work. Although previous research has documented the prevalence of perceived discrimination among physicians of African descent (9-11, 13-15, 26, 27), our findings characterize the many and complex ways in which race plays a role in the work experiences of these physicians. Some participants described the influence as being positive, especially in supportive relationships with some colleagues, minority patients, and staff. However, most participants described the influence as being negative. They communicated feelings of being devalued and isolated, held to different performance standards, and cast into race-defined roles.

Our findings suggest that the accepted workplace silence on issues of race results in a normalization of racebased challenges, compounding the effect of discriminatory experiences. Participants described their perceived inability to discuss race-based issues openly in their workplaces as stressful and burdensome. The experiences of perceived racism without adequate systems to address conflicts can result in racial fatigue, a concept we introduce to describe

the emotional and psychological stress of navigating the tension surrounding issues of race at work. Such experiences can have important consequences for physicians of African descent, including professional dissatisfaction and unplanned changes in career trajectories. Although they were not explicitly asked to provide possible solutions, participants recommended starting a professional dialogue about the influence of race in the health care workplace and increasing workforce diversity as the necessary first steps toward improvement.

Our findings have important implications for creating and sustaining a diverse physician workforce. Efforts to increase recruitment of minority medical students are unlikely to be successful in diversifying the physician workforce unless concurrent efforts address the role of race as it permeates professional interactions with patients, staff, and colleagues in the health care setting. The work of caregivers, such as physicians, and caregiving organizations is inherently stressful (28). Our findings suggest that physicians of African descent bear additional stress because of racial silence and racial fatigue. Organizational leadership has the capacity to create settings in which all members of a multiracial workplace can endeavor to reduce this stress (29, 30). Although some physicians may not consider their race in daily experiences in their work environments, it can affect everyone's interactions at work. Addressing the experiences of physicians of African descent should be a collective responsibility. Organizations should acknowledge the unique experiences of physicians of African descent, identify ways to promote constructive dialogue about how to address grossly discriminatory behavior of colleagues or patients, and offer formal ways for physicians of African descent to participate in stress-relieving activities.

Although several novel themes emerged from this research, our findings should be interpreted in light of several considerations. We interviewed physicians of African descent in the 6 New England states, and findings may not be generalizable to physicians in other geographic regions. Physicians of other racial and ethnic minority backgrounds may also have different experiences. We designed our qualitative study to generate hypotheses about the potential influence of race on the professional lives of physicians of African descent and, therefore, exclusively focused on interviews of physicians in this minority group. Future quantitative studies of physicians from different racial groups and different parts of the country are needed to describe the prevalence of these race-related work experiences to test the statistical association of the experiences with career trajectories.

Nevertheless, our research has several strengths. We interviewed a diverse group of physicians from a range of academic and nonacademic work settings, clinical specialties, and ages. Of importance, and despite this diversity, these physicians shared common experiences, which are reflected in the recurring and unifying themes reported in our paper. Every physician invited to participate in the study agreed to do so. In-person, 1-on-1 interviews with a race-concordant physician-researcher probably facilitated open and candid participant responses. The racial, ethnic, and professional diversity of the coding team is another strength of the research. In addition, we used several recommended strategies (23) to ensure the reliability of the data, including consistent use of the discussion guide, audio-taping interviews, independent preparation of transcripts, standardized coding and analysis of the data, maintenance of an audit trail to document analytic decisions, and participant confirmation of the findings.

With a national emphasis on increasing diversity in the physician workforce pipeline, our research highlights the influence of race in the work settings of physicians. Participants perceived that race substantially influenced their professional lives, largely in negative ways. These perceptions reflect their reality and are indicative of the need to initiate a dialogue on race and diversity in the health care workplace. Efforts to develop and sustain a diverse physician workforce are unlikely to be successful without acknowledging the influence of race, recognizing the phenomenon of racial fatigue, and developing ways to constructively discuss issues of race inside health care organizations.

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References

- 1. Smedley BD, Bulter AS, Bristow LR, eds. In the Nation's Compelling Interest: Ensuring Diversity in the Healthcare Workforce. Washington, DC: National Academies Pr; 2004.
- 2. Nickens HW. The rationale for minority-targeted programs in medicine in the 1990s. JAMA. 1992;267:2390, 2395. [PMID: 1564783]
- 3. Nickens HW, Ready TP, Petersdorf RG. Project 3000 by 2000. Racial and ethnic diversity in U.S. medical schools. N Engl J Med. 1994;331:472-6.
- 4. Tekian A. A thematic review of the literature of underrepresented minorities and medical training, 1981-1995: securing the foundations of the bridge to diversity. Acad Med. 1997;72:S140-6. [PMID: 9347767]
- 5. Thomson WA, Denk JP. Promoting diversity in the medical school pipeline: a national overview. Acad Med. 1999;74:312-4. [PMID: 10219196]
- 6. The Sullivan Commission on Diversity in the Healthcare Workforce. Missing

- Persons: Minorities in the Health Professions. Washington, DC: Sullivan Commission; 2004. Accessed at www.amsa.org/advocacy/Sullivan_Commission.pdf on 9 November 2006.
- 7. American Medical Association. Physician Characteristics and Distribution in the U.S., 2006 Edition. Chicago: American Med Assoc Pr; 2006. Accessed at www.ama-assn.org/ama/pub/category/12930.html on 6 August 2006.
- 8. Byrd MW, Clayton LA. An American Health Dilemma: Race, Medicine, and Health Care in the United States 1900-2000. vol. 2. New York: Routledge; 2001.
- 9. Coombs AA, King RK. Workplace discrimination: experiences of practicing physicians. J Natl Med Assoc. 2005;97:467-77. [PMID: 15868767]
- 10. Corbie-Smith G, Frank E, Nickens HW, Elon L. Prevalences and correlates of ethnic harassment in the U.S. Women Physicians' Health Study. Acad Med. 1999;74:695-701. [PMID: 10386100]
- 11. Peterson NB, Friedman RH, Ash AS, Franco S, Carr PL. Faculty selfreported experience with racial and ethnic discrimination in academic medicine. J Gen Intern Med. 2004;19:259-65. [PMID: 15009781]
- 12. Price EG, Gozu A, Kern DE, Powe NR, Wand GS, Golden S, et al. The role of cultural diversity climate in recruitment, promotion, and retention of faculty in academic medicine. J Gen Intern Med. 2005;20:565-71. [PMID: 16050848]
- 13. Palepu A, Carr PL, Friedman RH, Ash AS, Moskowitz MA. Specialty choices, compensation, and career satisfaction of underrepresented minority faculty in academic medicine. Acad Med. 2000;75:157-60. [PMID: 10693848]
- 14. Fang D, Moy E, Colburn L, Hurley J. Racial and ethnic disparities in faculty promotion in academic medicine. JAMA. 2000;284:1085-92. [PMID: 10974686]
- 15. Palepu A, Carr PL, Friedman RH, Amos H, Ash AS, Moskowitz MA. Minority faculty and academic rank in medicine. JAMA. 1998;280:767-71. [PMID: 9729986]
- 16. Malterud K. The art and science of clinical knowledge: evidence beyond measures and numbers. Lancet. 2001;358:397-400. [PMID: 11502338]

- 17. Patton M. Qualitative Research and Evaluation Methods. 3rd ed. London:
- 18. Glaser BG. Basics of Grounded Theory Analysis: Emergence vs. Forcing. Mill Valley, CA: Sociology Pr; 1992.
- 19. Strauss AL, Corbin J. Basics of Qualitative Research: Grounded Theory Procedures and Techniques. Newbury Park, CA: Sage; 1990.
- 20. Strauss AL, Corbin J. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. Thousand Oaks, CA: Sage; 1998.
- 21. Britten N. Qualitative interviews in medical research. BMJ. 1995;311:251-3. [PMID: 7627048]
- 22. Glaser BG, Strauss AL. The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago: Aldine Publishing; 1967.
- 23. Mays N, Pope C. Rigour and qualitative research. BMJ. 1995;311:109-12. [PMID: 7613363]
- 24. Miles M, Huberman AM. Qualitative Data Analysis: An Expanded Sourcebook. 2 ed. Thousand Oaks, CA: Sage; 1994.
- 25. Muhr T. User's Manual for ATLAS.ti. 5.0 [computer program]. Version 5. Berlin, Germany: Scientific Software Development GmbH; 2004.
- 26. Bullock SC, Houston E. Perceptions of racism by black medical students attending white medical schools. J Natl Med Assoc. 1987;79:601-8. [PMID:
- 27. Dipboye RL, Colella C. Discrimination at Work: The Psychological and Organizational Bases. vol. 22. Mahwah, NJ: Lawrence Erlbaum Associates; 2005.
- 28. Bright CM, Duefield CA, Stone VE. Perceived barriers and biases in the medical education experience by gender and race. J Natl Med Assoc. 1998;90: 681-8. [PMID: 9828583]
- 29. Alderfer CP, Sims AD. Diversity in organizations. In: Borman WC, Ingen DR, Klimoski J, Weiner IB, eds. Handbook of Psychology, Industrial and Organizational Psychology. vol. 12. New York: Wiley; 2003:595-614.
- 30. Kahn W. Holding Fast: The Struggle to Create Resilient Caregiving Organizations. New York: Brunner-Routledge; 2005.

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