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ATTITUDES AND APPROACH OF FACULTY AND STUDENTS TOWARD RACIAL BIAS IN MEDICAL EDUCATION

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ATTITUDES AND APPROACH OF FACULTY AND STUDENTS TOWARD RACIAL BIAS
IN MEDICAL EDUCATION

By

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A capstone project submitted for Graduation with University Honors

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APPROVED

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ABSTRACT

Racial bias in the medical field is a prominent and systemic issue that may result in patients not receiving the care they need. This project aims to determine how racial bias in the medical field has been addressed and approached in medical school curriculum. We also hoped to gain insight into how the attitudes of students and faculty differ regarding race in the medical field. This was accomplished by surveying University of California, Riverside medical students and instructors. Overall, students and faculty responded to questions with similar answers. However, when comparing responses from faculty of differing experience levels with student responses, professors with fewer years of experience often answered most similarly to students. Faculty with fewer years of experience also tended to answer with more uncertainty than more experienced professors. In conclusion, we found that professors and students agreed that race was often described as a risk factor for disease. These insights may inform approaches to the way medical school curriculum is designed in the future to address race in a way that minimizes racial bias perpetuated through stereotyping.

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INTRODUCTION

In recent years, an increased emphasis has been placed on persisting racial bias in the medical field. It is essential to acknowledge implicit racial bias present in our current healthcare systems because it may lead to disparities in medical school admissions, patient care, faculty hiring, and opportunities for growth (Marcelin et al., 2019). Understanding how race is presented in medical education could elucidate how racial bias may be perpetuated. While it is critical to understand how to recognize different clinical presentations of diseases in diverse populations, it is important not to overemphasize the role race plays in the diagnostic process and susceptibility to disease (Lim et al., 2020). For example, automatic associations of diseases to certain racial groups may help medical students learn, but these stereotyped diagnoses may lead to increased misdiagnoses (Marcelin et al., 2019).

Another example of racial bias in medical education is the phrasing of questions in Step 1 of the United States Medical Licensing Examination. An analysis of the question bank for Step 1 of the USMLE determined that majority of the mentions of race referred to Whites, disproportionately to their percentage in the U.S. population (Ripp & Braun 2017). The authors of this study also explain that the phrasing of these questions frames whiteness as the norm and inaccurately attributes genetic mutations to specific races (Ripp & Braun 2017). Correlating a patient's race with their risk factor for disease can result in harmful stereotypes that reduce the quality of their care. One study conducted interviews with first and second-year medical students and found that race was often used as a "clue" to hint at the correct answer on board exam-style questions (Mosley et al., 2020). This resulted in students using race as a shortcut when answering test questions, which would not be practical in a real clinical setting (Mosley et al., 2020). This

method of categorizing and diagnosing patients based on race can result in essentialism in medical education.

The presence of essentialism in the medical field can oversimplify a patient's identity and experiences and result in poorer quality of care. Essentialism is defined by the principle that the best way to categorize groups is to look at their differences; any difference means that the group should be further subdivided (Fuller 2002). In the context of medicine, this approach is used to focus on any departure from what is considered "normal," but it is difficult to define what would be considered "normal" or "deviant" (Fuller 2002). Essentialism is often used when doctors attempt to associate race with susceptibility to disease for a more rapid diagnosis. One of the best examples of this is how sickle-cell anemia is often considered a "black" disease, irrespective of how susceptibility to this disease is actually associated with regions where malaria is prevalent (Fuller 2002). Additionally, physicians may assume a person's race incorrectly, which can result in an inaccurate diagnosis (Fuller, 2002). Fuller suggests that a more accurate and helpful diagnostic tool could be implementing ancestry forms rather than asking questions about race (2002). Medical students have also stated that assuming a patient's race was more convenient than confronting the subject because it had not been thoroughly taught in their curriculum (Mosley et al., 2020). This may be increasingly problematic because this essentialist perspective overlooks the increasing number of mixed-race individuals (Fuller, 2002). Fuller suggests that an ethnogenetic perspective that emphasizes a patient's ancestry instead of race or ethnicity allows physicians to understand a patient on a deeper level and may yield a more accurate diagnosis. This suggests that the way race is presented in medical education can influence the attitudes and biases of students and affect the way they practice medicine, which can lead to the spread of racial bias (Mosley et al., 2020).

It is imperative that mentions of race within medical education are accompanied by explanations and context for its relevance to avoid essentialism. The literature suggests that while race can be important for epidemiology and diagnosis, its presentation in medical education without social contextualization may lead to further stereotyping and a misunderstanding that health disparities in these populations are due to biology and nothing else (Tsai et al., 2016). This is important to consider because generalizations like these may result in students developing a skewed perception of race and its relevance in a clinical setting. For example, the association medical students form between race and susceptibility to diseases like sickle cell anemia, sarcoidosis, and cystic fibrosis is used as a proxy for gauging ancestry and genetics that may increase the risk of developing these diseases (Nieblas-Bedolla et al., 2020). This association also fails to consider variables outside of a patient's race that may increase their susceptibility to disease (Nieblas-Bedolla et al., 2020). Overall, it seems that the literature on this topic agrees that the way race is presented plays a significant role how medical students and future physicians will associate race with disease.

Although the method through which race is presented in medical education can impact the way students perform and practice medicine, it can also alienate students if professors have a drastically different perspective than students. For example, some medical students can feel uncomfortable with how statistics about health outcomes for different races are presented in the curriculum (Mosley et al., 2020). While the professor may be focused on teaching the curriculum as efficiently as possible, they may be unaware of how students feel when hearing these jarring statistics. For example, one study found that several Black women in medical school felt overwhelmed when hearing statistics about poor health outcomes for Black female patients, while professors seemed unphased by these cases and did not linger on the subject (Mosley et al., 2020).

This is a clear demonstration of how physicians and medical school professors can have a different perspective on race than students. This variation is critical to understand so that the curriculum can be adjusted in the future to address race in medicine in a way that is accurate and relevant to the discussion.

This study was designed to elucidate how racial bias and discussions of race are framed in medical school curriculum. This was accomplished by surveying University of California, Riverside medical students and instructors. Comparing responses from these two populations conveys their attitudes toward race in the medical field and how these attitudes compare between groups of differing experience levels. Although there were numerous topics covered in these surveys, this report specifically discusses the use of race as a risk factor for disease in medical education. Based on previous literature, this may be harmful if provided in a setting without context. The future impact of studying this topic may lead to changes in the way medicine is taught and practiced so patients can receive a higher quality of care, regardless of their racial background.

METHODS

Participants

Students and faculty from the University of California Riverside School of Medicine were recruited through their institutional emails and given a link to the survey entitled “Race In Medicine,” which was hosted on the Qualtrics platform. Only the fully completed survey responses were considered for the student survey ($N = 25$) and the faculty survey ($N = 90$) analyses. The 2021-2022 academic year during which this survey was conducted had 328 students enrolled. In addition, the UCR School of Medicine has about 1,200 community faculty, although no specific number is listed publicly.

Survey Development

These qualitative surveys were developed to understand how racial bias is perpetuated in the medical field by surveying the attitudes of medical students and professors. A literature review was performed to understand the impacts of implicit bias and racial bias in medicine and possible solutions to these systemic issues. The current literature demonstrated the importance of considering how race is approached in the curriculum. Survey questions were developed in multiple rounds and narrowed down to ensure the survey would be concise while still providing insight into participants' attitudes. We developed questions that asked professors and students to give their opinion on race and its relevance to diagnostic practices, clinical trials, social determinants of health, and other factors. For the full list of questions used the student and faculty surveys, refer to Appendix A and Appendix B, respectively.

The student survey contained 29 questions, while the faculty survey had 24 questions. The questions used 5-point Likert scales, which indicated the level of importance or agreement with several statements and check all that apply questions to clarify their responses further. Topics ranged from questions about the medical school curriculum, opinions about race in the medical field, and more general questions about medical school unrelated to race. The survey questions are similar between both versions of the survey; however, some questions centered more around the students' experience in medical school and faculty teaching methods. The Institutional Review Board at the University of California, Riverside approved both surveys and methods before the publication of the survey. Responses from students and professors were also compared to assess if the attitudes of these groups are similar or different. Answers between faculty of different

experience levels were also compared to student responses to elucidate how attitudes toward race might change over time.

RESULTS

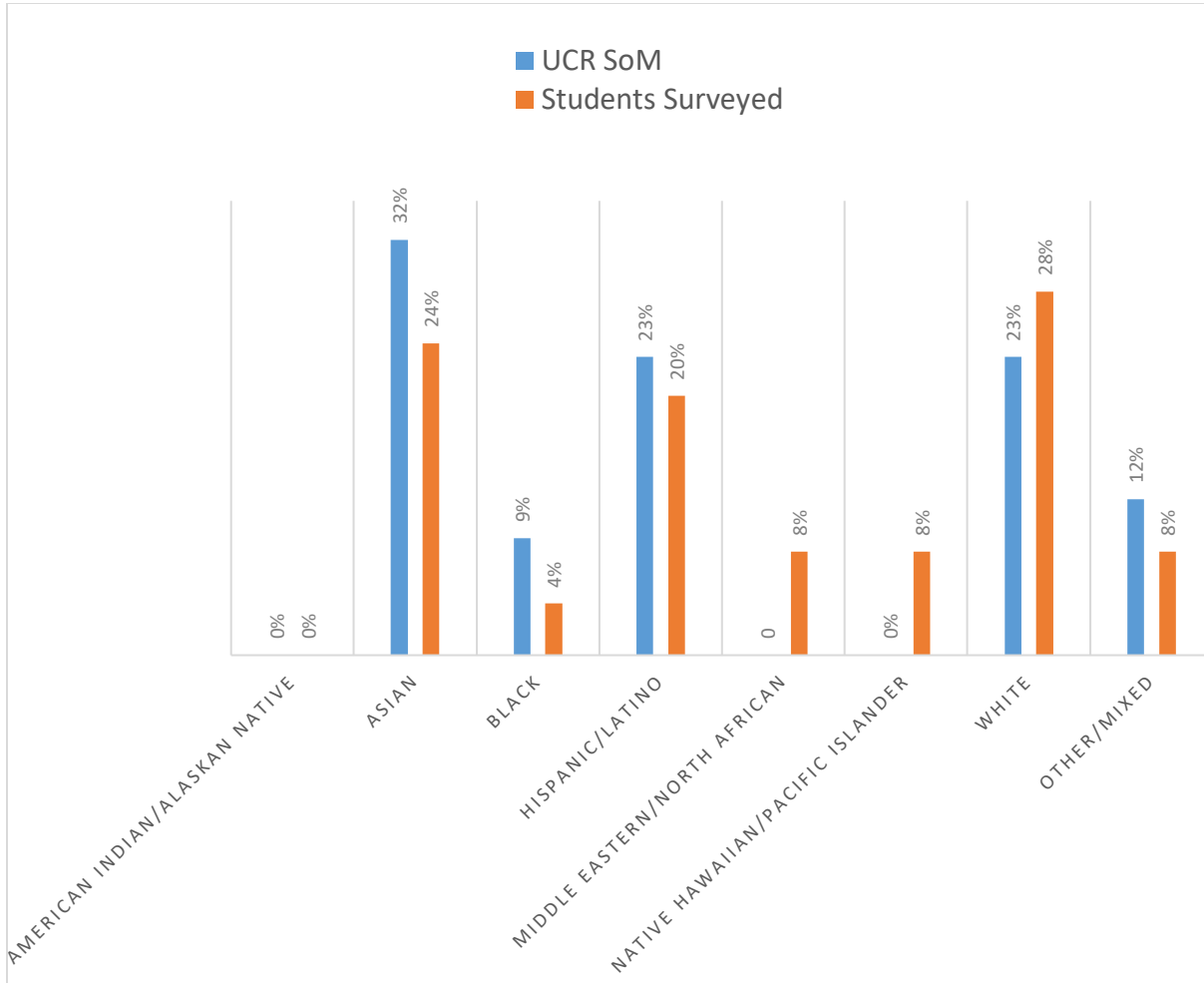
Demographics

The student participants make up 8% of the total students enrolled in the University of California, Riverside School of Medicine during the 2021-2022 academic year. Participants were primarily female (64%) and non-white (72%). It is important to note that the University of California Riverside student population is highly diverse compared to the student populations of medical schools across the United States. According to the Association of American Medical Colleges, during the 2021-2022 academic year, 42% of matriculations were White, while only 23% of the student population at the UCR School of Medicine identified as White. In general, the demographics of the student population at the UCR School of Medicine are not representative of the racial or ethnic distributions of students in medical schools across the United States.

The sample of students who responded to the survey has some racial or ethnic groups that are overrepresented compared to the overall population of students at the UCR School of Medicine. White and Native Hawaiian or Pacific Islander groups are overrepresented (Figure 1). Additionally, Asian students are underrepresented in this sample, with 24% of participants identifying this way, compared to the 32% in the population (Figure 1). Finally, the students who selected Other or Mixed are slightly underrepresented in this study, with only 8% of participants identifying this way compared to the 12% of students in the population (Figure 1). It is important to note that the UCR School of Medicine demographics does not have a category for individuals that self-identify as Middle Eastern or North African, these students might fall under the category

of Other or White, but this is unclear when looking at the demographics for the School of Medicine where these individuals are included.

Figure 1: Comparing demographics of UCR School of Medicine student population and students from the sample



The professors that participated in this study were mainly clinical faculty (97%). In contrast to the student participants, most of the participating faculty are male (57%). While non-white faculty (70%) outnumber White participants (30%), the largest racial subcategory of participants were Asians (36%) and Whites (30%). It is important to note that the percentage of participants

increased as experience increased, with a large majority of the faculty having more than 20 years of experience (49%). This may suggest that the overall portion of the professors at the UCR School of Medicine are more experienced, and the curriculum they were taught during their medical education may be different from that of current students.

Table 1: Demographics Information of Student Participants

Total Participants	25	
Characteristic	# of Participants	% of Participants
<i>First Year</i>	8	32%
<i>Second Year</i>	3	12%
<i>Third Year</i>	8	32%
<i>Fourth Year</i>	6	24%
<i>American Indian/Alaskan Native</i>	0	0%
<i>Asian</i>	6	24%
<i>Black</i>	1	4%
<i>Hispanic/Latino</i>	5	20%
<i>Middle Eastern/North African</i>	2	8%
<i>Native Hawaiian/Pacific Islander</i>	2	8%
<i>White</i>	7	28%
<i>Other/Mixed</i>	2	8%
<i>Male</i>	9	36%
<i>Female</i>	16	64%
<i>Other</i>	0	0%

Table 2: Demographics Information of Faculty Participants

Total Participants	90	
Characteristic	# of Participants	% of Participants
<i>Practicing for < 5 years</i>	11	12%
<i>Practicing for 6 - 10 years</i>	14	16%
<i>Practicing for 11 - 20 years</i>	21	23%
<i>Practicing for > 20 years</i>	44	49%
<i>American Indian/Alaskan Native</i>	0	0%
<i>Asian</i>	32	36%
<i>Black</i>	7	8%
<i>Hispanic/Latino</i>	9	10%
<i>Middle Eastern/North African</i>	9	10%
<i>Native Hawaiian/Pacific Islander</i>	0	0%
<i>White</i>	27	30%
<i>Other/Mixed</i>	6	7%
<i>Male</i>	50	56%
<i>Female</i>	38	42%
<i>Other</i>	2	2%
<i>Clinical faculty</i>	87	97%
<i>Basic sciences faculty</i>	3	3%

Expectations

Before distributing the survey, we developed specific questions about the potential responses to these surveys. Our purpose in developing these survey questions was to uncover if there would be a discernable difference in the attitudes of doctors and students. Additionally, we hoped to understand how the faculty's experience level might influence their attitudes toward race. We predicted that professors with fewer years of experience would agree more with students than other groups because they may have experienced similar education about topics like race in medicine than professors that attended medical school decades ago.

Qualifying Race as a Risk Factor for Disease

Several questions in both the student and faculty surveys aimed to understand if race was established as a risk factor for disease in the medical school curriculum and if opinions about this question were similar between faculty and students. Although some questions directly asked if participants believed race was a risk factor for disease, some were phrased more indirectly to gauge whether race was important for diagnostic purposes and disease susceptibility.

All students surveyed agreed to some extent that race was mentioned frequently and often discussed in terms of being a risk factor for disease (Table 3). Similarly, in the faculty survey, when asked to indicate their level of agreement with the statement that race is a risk factor for disease, 87% of participants agreed or strongly agreed that this is the case. This result demonstrates consistency between the responses of both professors and students because the emphasis on race being a risk factor for disease can be seen directly in both surveys. It is also important to note that professors that had less than five years of experience were more undecided about this issue than

the professors that had more experience. This outcome is a trend observed throughout their responses to questions in this study, with less-experienced faculty being more unsure than those with more than 20 years of experience (Table 4).

Table 3: Questions relating to presenting race as a risk factor for disease in the curriculum from the student survey

	<i>How frequently has race ever been listed as a potential risk factor for a disease in your medical school education?</i>		<i>How frequently is race brought up for diagnostic purposes in your medical school curriculum?</i>	
<i>Never</i>	0	0%	0	0%
<i>Rarely</i>	0	0%	4	16%
<i>Sometimes</i>	10	40%	11	44%
<i>Often</i>	13	52%	9	36%
<i>Always</i>	2	8%	1	4%
	How important is it to connect race with susceptibility to disease?			
<i>Very Unimportant</i>	0		0%	
<i>Unimportant</i>	1		4%	
<i>Neither Important/Unimportant</i>	5		20%	
<i>Important</i>	10		40%	
<i>Very Important</i>	9		36%	
	Medical treatment should be adjusted based on a patient's race.			
<i>Strongly Disagree</i>	2		8%	
<i>Disagree</i>	3		12%	
<i>Undecided</i>	13		52%	
<i>Agree</i>	6		24%	
<i>Strongly Agree</i>	1		4%	

Table 4: Faculty responses based on experience level to the prompt *Race is a risk factor for disease*

	<i>Practicing for < 5 years</i>	<i>Practicing for 6-10 years</i>	<i>Practicing for 11-20 years</i>	<i>Practicing for > 20 years</i>
<i>Strongly Disagree</i>	0	1	1	3
	0%	7%	5%	7%
<i>Disagree</i>	1	0	0	1
	9%	0%	0%	2%
<i>Undecided</i>	3	1	0	1
	27%	7%	0%	2%
<i>Agree</i>	2	7	13	19
	18%	50%	62%	43%
<i>Strongly Agree</i>	5	5	7	20
	45%	36%	33%	45%

When participants were asked how frequently race was brought up for diagnostic purposes in their medical school curriculum, 80% of participants answered that it was sometimes or often discussed. The faculty responses to the statement, “A patient’s race should be taken into account during the diagnostic process,” showed that 75% of professors agreed or strongly agreed that this should be done. This result aligns with the prediction that faculty attitudes toward race in medicine would be present in the curriculum and could possibly influence students. These responses are similar to the question asking directly about race being portrayed as a risk factor for disease. This pattern of responses also represents internal consistency between students’ responses regarding this topic. In addition to this, almost all students agreed that race should be included in the curriculum. Furthermore, 96% of the participants agreed that it is included in the curriculum to account for racial disparities in medicine and social determinants of health (Table 5).

Table 5: Additional questions relating to presenting race as a risk factor for disease in the curriculum from the student survey

<i>Questions</i>	<i>For diagnostic purposes</i>	<i>To account for racial disparities in medicine</i>	<i>To account for different clinical outcomes</i>	<i>To account for disease susceptibility</i>	<i>To take into consideration social determinants of health</i>	<i>Race should not be considered</i>
<i>Why might the subject of a potential patient's race be included in curriculum?</i>	18	24	19	21	24	0
	72%	96%	76%	84%	96%	0%
<i>(Medical treatment should be adjusted based on a patient's race) If so, in why should treatments be adjusted?</i>	11	12	16	14	19	1
	44%	48%	64%	56%	76%	4%
<i>Please provide an example of an instance when race was included as part of the curriculum in your medical education</i>	16	25	18	23	23	0
	64%	100%	72%	92%	92%	0%

Students and faculty had similar responses concerning the importance of connecting race to the susceptibility to disease; however, the professors' responses seem to emphasize this more than students (Table 3 & Table 6). This is important because it highlights another instance where the attitudes of faculty toward race may potentially influence the attitudes of students. However, it is interesting that faculty with fewer than five years of experience were the most unsure, with 27% of participants undecided about the importance of connecting race with disease susceptibility. This is yet another instance where more inexperienced faculty are more undecided or unsure about the topic being discussed than more experienced professors.

When asked to agree or disagree with the statement that medical treatment should be adjusted based on a patient's race, student responses were largely undecided, with 52% of participants choosing this answer. In contrast, faculty responses indicated they mostly agreed with this statement, with 63% of participants answering that they either agreed or strongly agreed (Table 3 & 6). However, when comparing responses between faculty of different experience levels in the medical field, 27% of faculty with less than five years of experience and 20% of faculty with more than 20 years of experience were undecided on this issue. This level of undecidedness is less than that of the students, but it may suggest that faculty opinions may influence students' flexibility or undecidedness about this topic. We predicted that more inexperienced faculty would have attitudes similar to those of students, which appears to be the case for several questions in this study. It is also noteworthy that student attitudes could also be influenced by more experienced faculty, which results in these groups having similar attitudes.

Table 6: Questions relating to presenting race as a risk factor for disease in the curriculum from the faculty survey

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
<i>Race is a risk factor for disease.</i>	5 6%	2 2%	5 6%	41 46%	37 41%
<i>Medical treatment should be adjusted based on a patient's racial background</i>	8 9%	10 11%	15 17%	43 48%	14 16%
<i>A patient's race should be taken into account during the diagnostic process</i>	5 6%	6 7%	12 13%	51 57%	16 18%
<i>It is important to connect race with susceptibility to disease</i>	3 3%	4 4%	11 12%	57 63%	15 17%

DISCUSSION

Limitations of this Study

This study uses a convenience sample, which may result in bias because it would not be representative of the overall population of medical school students and faculty across the United States. As previously mentioned, the demographics at the University of California, Riverside are more diverse than those of the broader populations across the U.S. Thus, responses to these surveys may not be generalized to the entire population. Additionally, the sample sizes of this study are not large enough to perform statistical analyses of the responses to determine if there is any statistically significant difference between faculty and student responses.

Conclusions

This study provides a qualitative description of attitudes of faculty and students about race in medical education, specifically regarding race being described as a risk factor for disease. Although the sample size of this study was smaller than we hoped, valuable patterns can still be seen throughout the participants' responses. From both student and faculty responses, it is clear that race is framed as a risk factor for disease in the medical school curriculum. While not asking the same direct questions about race being framed as a risk factor for disease, we could still discern a pattern where race is connected to disease susceptibility and used for diagnostic purposes. It is also important to note that there is a clear difference between the responses of faculty and students when it comes to adjusting medical treatment based on race. Student responses to this were largely undecided about this idea. This result demonstrates a possible flexibility in medical student attitudes or mindsets about clinical practice that could be helpful if future changes to the curriculum were made to alter how race is portrayed as a potential risk factor for disease.

Further Research and Adjustments to Curriculum

In future studies on this topic, adjustments can be made to better understand the attitudes toward race in medicine. A larger sample taken from populations of medical students and faculty from several medical schools would allow for more robust statistical analyses to demonstrate significant differences between responses. Making this adjustment may also allow for the sample to be more representative of the demographics of students and faculty at medical schools across the United States. Further research with larger sample sizes would also allow us to analyze how responses might differ between different racial groups and if there was any statistically

significant difference in responses. Overall, the premise and goals of this study, paired with a larger sample size, would allow for a more unambiguous interpretation of how attitudes of faculty and students about race in the medical field are related.

As previously noted, the literature states that implementing race as a risk factor for disease without the proper context could result in increased stereotyping. Cultural competency training is a standard solution to the plight of racial bias in medicine and is often required in many organizations (Shepherd 2019). However, much of the literature on this topic suggests that outcomes of cultural competency and racial sensitivity trainings do not yield the desired results. Some argue that while cultural competency trainings are often held with the hope of reducing racial biases in the medical field, they can result in more harm than good. These trainings, while well-intentioned, do not yield significant improvements in cross-cultural interactions between patients and healthcare providers and over-generalize cultures (Shepherd 2019). The content of these workshops can actually reinforce negative stereotypes about minority groups and perpetuate the idea that these patients are an “exotic other” (Fuller 2002). These ideas can imply that white patients and doctors are considered the “default”; this notion is becoming outdated as the diversity of medical professionals and students increases and the fact that the majority of patients in the United States would be considered “nonwhite” (Krishnan et al., 2019). Understanding how physicians and students are trained to view race may affect how they interact with patients and affect health outcomes.

In contrast to cultural competency training, some medical students propose changes to the curriculum that may alter the way race is approached, thus affecting clinical outcomes. For example, student researchers have proposed that race not be used as a hint for pathology to help diagnose disease (Krishnan et al., 2019). They also suggest incorporating more case images that

depict patients of different minority backgrounds that do not relate to the pathology of the patient (Krishnan et al., 2019). Using these strategies may yield better results than cultural competency training because they serve to change the way race is approached in the curriculum to broaden the conversation surrounding race in medicine.

Various strategies can be utilized to combat racial bias in the medical field. In terms of framing race as a risk factor for disease, many minor adjustments to training and the curriculum can be made to decrease this association which may lead to stereotyping and misdiagnosis. In conclusion, the results of this study show that race is discussed as a risk factor for disease in the curriculum at the UCR school of medicine. However, it is important to recognize that there does seem to be context as to why race is brought up in the course material, which may help avoid specific cliché associations between race and disease. Finally, the pattern of uncertainty among faculty with less experience shows room for flexibility in discussing these topics and may indicate that adjustments to the curriculum would be possible in the future.

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Appendix A. Full listing of student survey questions and answer choices

<i>Question</i>	<i>Answer Choices</i>
<i>What year of medical school are you currently in?</i>	First Year, Second Year, Third Year, Fourth Year
<i>What ethnic/racial group do you identify with?</i>	American Indian or Alaskan Native, Asian, Black, Native Hawaiian/Pacific Islander, White, Other/Mixed, Hispanic/Latino, Middle Eastern/North African
<i>What gender identity do you identify with?</i>	Male, Female, Other
<i>How frequently is race brought up for diagnostic purposes in your medical school curriculum?</i>	Never, Rarely, Sometimes, Very Often, Always
<i>Please provide an example of an instance when race was included as part of the curriculum in your medical education. Check all that apply.</i>	For diagnostic purposes, Discussing racial disparities in medicine, To account for different clinical outcomes, To understand disease susceptibility, To take into consideration social determinants of health, Race has not been included as part of the curriculum
<i>Why might the subject of a potential patient's race be included in curriculum? Check all that apply.</i>	For diagnostic purposes, To account for racial disparities in medicine, To account for different clinical outcomes, To understand disease susceptibility, To take into consideration social determinants of health, Race should not be considered
<i>How important is it to include mentions of race in medical school curriculum?</i>	Very unimportant, Unimportant, Neither Important/Unimportant, Important, Very Important
<i>How important is it to connect race with susceptibility to disease?</i>	Very unimportant, Unimportant, Neither Important/Unimportant, Important, Very Important
<i>How frequently do medical school textbooks and curriculum feature images of diverse skin tones, specifically for understanding how to diagnose diseases.</i>	Never, Rarely, Sometimes, Very Often, Always

<i>How frequently do symptoms of diseases present differently on darker skin tones. (ex: diagnosing a melanoma, jaundice, etc.)</i>	Never, Rarely, Sometimes, Very Often, Always
<i>How frequently has race ever been listed as a potential risk factor for a disease in your medical school education?</i>	Never, Rarely, Sometimes, Very Often, Always
<i>How frequently do you encounter a patient that feels they may have been treated unfairly due to their race?</i>	Never, Rarely, Sometimes, Very Often, Always
<i>How frequently was an attempt made to address the patient's feelings made?</i>	Never, Rarely, Sometimes, Very Often, Always
<i>Medical treatment should be adjusted based on a patient's race.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>If so, in why should treatments be adjusted? Check all that apply.</i>	For diagnostic purposes, To account for racial disparities in medicine, To account for different clinical outcomes, To account for disease susceptibility, To take into consideration social determinants of health, Treatment should not be adjusted based on race
<i>Live lectures are better for medical school education than virtual lectures.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Certain racial or ethnic groups are less cooperative when it comes to receiving treatment.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Measures that prevent cheating on tests results in lower test scores due to the increased difficulty of taking an online assessment.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>It important to include different racial groups in clinical trials.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree

<p><i>Why might different racial groups be included in clinical trials? Check all that apply.</i></p>	<p>For diagnostic purposes, To account for racial disparities, To account for different clinical outcomes, To account for disease susceptibility, To take into consideration social determinants of health, Different racial groups should not be included in clinical trials</p>
<p><i>Why do you think patients may be distrustful of healthcare system? Check all that apply.</i></p>	<p>They had a bad experience in the past, Someone they know had a bad experience in the past, They are naturally skeptical, Profit motives in the healthcare system, Government regulation in the healthcare system, Historical treatment of minority groups, Don't know</p>
<p><i>Is their wariness justified?</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>
<p><i>Premed requirements during an undergraduate degree adequately prepare students for medical school.</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>
<p><i>A patient's racial identity can affect the quality of care they receive.</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>
<p><i>A student's ethnic background can influence the likelihood that a student will be admitted to medical school.</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>
<p><i>The implementation of virtual lectures changed the quality of the curriculum that is taught.</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>
<p><i>Medical students of color experience discrimination within the medical field.</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>
<p><i>As a patient, have you ever felt that your pain or symptoms were not taken seriously by healthcare professionals?</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>
<p><i>Taking classes outside of the STEM field results in a more well-rounded medical student.</i></p>	<p>Strongly Disagree, Disagree, Undecided Agree, Strongly Agree</p>

Appendix B. Full listing of faculty survey questions and answer choices

Question	Answer Choices
<i>How long have you been practicing medicine?</i>	Less than 5 years, 6-10 years, 11-20 years, More than 20 years
<i>What type of educational position do you hold?</i>	Clinical faculty, Basic sciences faculty
<i>What ethnic/racial group do you identify with?</i>	American Indian or Alaskan Native, Asian, Black, Native Hawaiian/Pacific Islander, White, Other/Mixed, Hispanic/Latino, Middle Eastern/North African
<i>What gender identity do you identify with?</i>	Male, Female, Other
<i>How important is it to have inclusivity of different races is important for clinical trials?</i>	Very unimportant, Unimportant, Neither Important/Unimportant, Important, Very Important
<i>Measures that prevent cheating on tests results in lower test scores due to the increased difficulty of taking an online assessment.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Race is a risk factor for disease.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>The process of entering medical school been more difficult in recent years compared to previous years.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>If so, what measures have made it more difficult? Check all that apply.</i>	Socioeconomic background, More difficult coursework, Clinical experience requirements
<i>The implementation of virtual lectures changed the quality of the curriculum that is taught.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Teaching methods should be adjusted based on the racial diversity in the student population.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>There are disparities in access to technology that could potentially hinder some medical students</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Medical treatment should be adjusted based on a patient's racial background.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree

<i>If so, how should treatment be adjusted? Check all that apply.</i>	For diagnostic purposes, To account for racial disparities in medicine, To account for different clinical outcomes, To account for disease susceptibility, To take into consideration social determinants of health, Treatment should not be adjusted based on race
<i>A patient's race should be taken into account during the diagnostic process.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Live lectures are better for medical school education than virtual lectures.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Certain racial or ethnic groups are less cooperative when it comes to receiving treatment.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>If so, why might this phenomenon occur? Check all that apply.</i>	They had a bad experience in the past, They don't understand the treatment plan, They are naturally uncooperative, Other
<i>Why do you think patients may be distrustful of healthcare system? Check all that apply.</i>	They had a bad experience in the past, Someone they know had a bad experience in the past, They are naturally skeptical, Profit motives in the healthcare system, Government regulation in the healthcare system, Historical treatment of minority groups, Don't know
<i>Is their wariness justified?</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Premed requirements during an undergraduate degree adequately prepare students for medical school.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>It is important to connect race with susceptibility to disease.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>A patient's racial identity can affect the quality of care they receive.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree
<i>Taking classes outside of the STEM field results in a more well-rounded medical student.</i>	Strongly Disagree, Disagree, Undecided Agree, Strongly Agree