NEW EDUCATIONAL METHOD

Racism in medicine: A qualitative study on the impact of discussion among medical students [version 1; peer review: awaiting peer review]

Sara Saymuah Stone\textsuperscript{1}, Capricia Bell\textsuperscript{1}, Ashleigh Peoples\textsuperscript{1}, Manvir Sandhu\textsuperscript{1}, Suma Alzouhayli\textsuperscript{1}, Katherine G. Akers\textsuperscript{2}

\textsuperscript{1}School of Medicine, Wayne State University, Detroit, MI, 48201, USA
\textsuperscript{2}Shiffman Medical Library, Wayne State University, Detroit, Michigan, USA

\textbf{Abstract}

\textbf{Background:} This study evaluated the impact of the Racism in Medicine Summit on student perceptions of various topics related to racism in medicine. The Summit was organized at the Wayne State University School of Medicine (WSUSOM) to educate students, faculty and staff on how structural racism affects the residents of Detroit and the historical relationship between healthcare and vulnerable populations. The Summit aimed at providing context for what students in Detroit will encounter as physicians-in-training and the skills they will need to master while working within similar communities.

\textbf{Methods:} Qualtrics surveys were created and distributed via email to attendees before and after the event. Responses were obtained via Likert scale and open-text questions.

\textbf{Results:} A total of 342 out of 445 participants (77\%) completed both the pre- and post-survey. Quantitative analysis in post-survey responses revealed more familiarity among participants regarding specific instances of racism in the history of medicine, greater extent of thinking the history of racism impacts present-day Detroit residents, greater extent of thinking that racism influences medical care and/or medical outcomes, and belief that racism is reflected in medical research, compared to pre-survey responses (p < 0.001). Participants also reported more often considering racial or societal influences when studying medicine and more knowledge of what they can do to combat racism as a student and physician (p < 0.001).

Qualitative analysis revealed seven themes among participants: the history of racism in medicine, personal reflection, racism in research, bias and microaggression, actions to take against racism, resources for anti-racist education, and racism in medical education.

\textbf{Conclusions:} Demonstrable changes in medical student attitude and awareness surrounding topics of racism and healthcare were
achieved after the Racism in Medicine Summit. This can serve as a model for other medical schools to raise awareness about racism in medicine.

**Keywords**
racism, medicine, education, diversity, inclusion
Introduction
The COVID-19 pandemic and Black Lives Matter (BLM) movement have revealed the persistent health disparities underlying the healthcare system’s failure to care for underserved and marginalized communities. In the fall of 2020, the American Medical Association recognized racism as a threat to public health, and began working towards providing appropriate healthcare and progressing towards health equity. The integration of social determinants of health and cultural competency into medical education has been a goal for many medical schools since the addition of these concepts to the Liaison Committee on Medical Education (LCME) guidelines in 2000. Many medical schools have worked to embed these concepts into their curriculum, and a handful have designed scholarly programs for students as an addition to curricular training. Systematic efforts to improve matriculation of a diverse student population has also been successful as the number of women and black matriculants have significantly increased from 49.0% to 50.4% and 6.8% to 7.3%, respectively, from 2002 to 2017. Despite two decades of medical education advancements, a majority of medical school curriculums continue to have gaps in education pertaining to the impact of racism as a public health crisis.

Wayne State University School of Medicine (WSUSOM) is a medical school operating in Detroit, Michigan. As of 2019, 78.3% of Detroit residents identified as Black or African American, with 35% of residents meeting poverty criteria. Historically racist practices such as housing discrimination in Detroit have resulted in lasting impacts on the community with detrimental effects on population health. Studies on the Detroit community have revealed the persistent health disparities under the paradigm. The Summit aimed to provide context for the historical relationship between healthcare institutions and vulnerable populations of Detroit and introduce skills that physicians-in-training should develop while working in this community to provide equitable healthcare. This study examined whether this direct intervention improved the social awareness of physicians-in-training, which may potentially lead to improvements in effectively caring for underserved and marginalized populations.

Methods
Ethics and consent
This study was considered exempt from approval from the Wayne State University IRB because the data was recorded such that the participants’ identities cannot be readily ascertained and there will be no contact with or attempts to re-identify participants (IRB-20-10-2795-B3 Expedited/Exempt-EXEMPT).

Intervention design
Creation of the summit. The intervention task force consisted of four second-year medical students and one fourth-year medical student. The Executive Learning Community (LC) Coordinator collaborated with the president of the Black Medical Association and elected leaders of the IJI Committee as a self-assembled task force to create, organize, and execute the Racism in Medicine (RiM) Summit. At WSUSOM, LCs allow individual members of each medical class to join a smaller community of their peers to foster social engagement, professional development, mentorship, and professional identity.

Approval was received from Wayne State University School of Medicine to designate the Summit as a component of the LC curriculum. As such, the event was designated as a required curricular event for first-year medical students, with optional attendance for other students with the opportunity for service-learning credit. The Summit was deemed a component of the LC curriculum by the administration due to the alignment of the Summit with the LC’s mission of centering discussions regarding Detroit’s top health disparities and issues that physicians face in Detroit and more widely. Information about the Summit was made available to the broader WSUSOM community via the weekly electronic and alumni newsletters produced by the communications department.

In June 2020 we reached out to WSUSOM clinical faculty and community physicians with expertise in different aspects of racism in medicine, including community research, Detroit historical events, social justice policy, and psychiatry. Panelists were approached via email and subsequent Zoom meetings took place between June and October 2020 to discuss content and their involvement. In the interest of time during the RiM Summit, four African American female physicians were
confirmed as final panelists. The student task force and confirmed panelists held three group meetings via Zoom between August and September 2020 to agree on content and establish an agenda for the event. The final agenda included an opening statement of welcome, defining a safe space, an introduction to the historical context of racism in Detroit, a call to action for medical education, a discussion of issues of research and racism, and finally opportunities for advocacy within the community. The Summit was moderated by a first-year student and former intern at the WSUSOM Office of Diversity and Inclusion.

Description of the summit. The two-hour Summit took place on October 5th, 2020 via a Zoom webinar format. Invitations to the Summit were emailed to the WSUSOM student body and participants were asked to register online, with 480 participants attending the Summit in total. During the Summit, the panelists were visible to the participants by video, but participants’ video and audio features were disabled. Students were encouraged to use the question-and-answer and chat features to interact with panelists and one another to engage in discussion, with moderation by a first-year medical student. Panelists’ PowerPoint presentations were shared during the event via the screenshare feature but were not provided to students in advance to encourage attendance and live discussion.

The agenda began with an opening statement designating the Summit as a “safe space” and encouraging students to step away from the event if they experienced emotional distress. Breaks were incorporated throughout the agenda to provide students opportunities to digest content and decompress. We also provided a “Dialogue Circle” session facilitated by trained administrators from WSUSOM’s Office of Diversity and Inclusion the following evening. The Dialogue Circle session was created as an option for students to debrief and discuss information from the Summit with peers in a safe and supportive environment.

After the Summit opening statement, the first panelist, a pediatrician and affiliate of the Charles H. Wright African American History Museum, discussed the history of racism and its consequences in Detroit, followed by a question-and-answer session and a short break. The remaining panelists continued to discuss racism through the lens of medical education and clinical practice, the role of research and effects of racism, and community and advocacy. The Summit ended with a call to action through voting, continuing to self-educate on the topics discussed, and translate the discussion into persistent and tangible results.

Intervention evaluation

Participants were asked to complete a pre-survey before the event to gauge attitudes toward and awareness of racism in medicine and a post-survey composed of the same questions to measure change in these responses\(^6\). Answers were affiliated with a unique WSU SOM username for comparison of pre and post responses; data were extracted without usernames after data collection to ensure anonymity during data analysis.

The pre- and post-surveys were created in Qualtrics using 5 and 3-point Likert scale items and distributed via email to attendees before and after the event\(^6\). For the familiarity item, the scale ranged from 1 = extremely familiar to 5 = not familiar at all. For the extent and frequency items, the scale ranged from 1 = all the time to 5 = never. For the knowledge item, the scale consisted of 1 = yes, 2 = somewhat, and 3 = no. The post-survey also included a free-text question asking participants to name one to two new things they learned from the Summit. Copies of the survey can be found in the Extended data\(^6\).

We analyzed the survey responses from participants who completed both the pre- and post-surveys. Likert scale responses were analyzed with Wilcoxon Signed Ranks Tests using SPSS version 22. Free-text responses were analyzed using thematic analysis; two independent researchers coded the responses into themes derived from the data, any discrepancies between the two researchers were discussed and resolved via consensus. Excel was used for the free-text analysis and each free-text response could be coded under more than one theme. Differences among different types of respondents (e.g., medical students vs. physicians) were not analyzed due to insufficient sample sizes. The dataset for this study can be found in the data availability statement\(^6\).

Results

A total of 341 out of 445 participants (77%) completed both the pre- and post-survey. Of these 341 participants, 224 were first-year medical students, 107 were second-year medical students, 5 were upper-level medical students, 1 resident, an attending physician, and 4 staff/faculty members.

Participants reported more familiarity with specific instances of racism in the history of medicine after the Summit (median 2, mean 2.4) compared with before the Summit (median 3, mean 3.3; W = 712.00, p < 0.001; Figure 1).

After the Summit, participants reported a greater extent of thinking that the history of racism in Detroit impacts present-day residents of Detroit (before: median 2, mean
2.0; after: median 2, mean 1.7; W = 1383.50, p < 0.001; Figure 2A), thinking that racism influences medical care and/or medical outcomes (before: median 2, mean 2.3; after: median 2, mean 2.0; W = 1868.00, p < 0.001; Figure 2B), and the belief that racism is reflected in medical research (before: median 3, mean 2.9; after: median 2, mean 2.4; W = 2221.00, p < 0.001; Figure 2C). Participants also reported considering racial or societal influences when studying medicine more often after the Summit (before: median 3, mean 2.5; after: median 2, mean 2.2; W = 3014.00, p < 0.001; Figure 2D).

Furthermore, after the Summit, participants reported having more knowledge of what they can do to combat racism as a student and physician (before: median 2, mean 2.0; after: median 1, mean 1.3; W = 274.50, p < 0.001; Figure 3).

98% of participants provided a response to the free-text prompt to ‘Name 1-2 things you learned from the Summit’. Qualitative analysis revealed seven common themes in the responses (Table 1).

Most participants reported learning about the history of racism in medicine in general and within Detroit, historical examples of racism or racial bias, or consequences of racial bias. Many respondents reported feeling motivated to continue learning about racism in medicine while some participants reported learning about racism in medical research.

Many participants also described personal reflections during the Summit and opportunities for continued personal growth. Some participants reported learning about implicit bias and microaggressions and comprehending the consequences of microaggressions within healthcare.

Finally, a few participants reported learning about racism in medical education, including identifying racist elements within medical schools, the curriculum, and clinical training. Representative quotes from the RiM Summit post-survey are provided:

“I learned about the specific cases of Henrietta Lacks and the Tuskegee experiment. It was eye-opening to learn about examples like this and to think about the lasting impact that racism in medicine has on patients today.”

“I learned that in medicine it’s important to not only be not racist but that we must all be actively anti-racist. Medicine still has so much to do and improve on in terms of racial competence and as medical students we are in the driver’s seat for making those changes.”

Figure 2. Percentage of participants’ (n=342) responses to the questions (A) ‘To what extent do you think the history of racism in Detroit impacts present-day residents of Detroit?’, (B) ‘To what extent do you think racism influences medical care and/or medical outcomes?’, (C) ‘How often is racism reflected in medical research?’, and (D) ‘How often do you consider racial or societal influences when learning medicine?’ before and after the Summit.
Studies on the implications of racism in medicine argue that an effective and important measure for healthcare equity involves educating medical professionals through integrating a race-conscious curriculum into medical education. Although a common suggestion for intervention, literature searches yield no studies that explore the outcome of formally introduced racism education curricula on patient health. Medical education research agrees, however, that formal curricular intervention can effectively address a gap in medical education and should be implemented widely.

Research demonstrates student-led interventions mimic a flipped-classroom approach resulting in higher yields of learning improvement among students. Indeed, although the Summit featured physician panelists, the chat feature of our Zoom saw medical student participants engaging in discussion to educate and learn from one another. The student-led Summit intended to initiate a conversation among peers while gauging the attitudes of medical students regarding racism as a public health crisis. As such, the participation at the RiM Summit and the results of pre- and post-surveys revealed student engagement and the desire for further education and discussion surrounding the topic. Although research supports the use of peer-led interventions and teaching styles as a useful tool for productive conversation and teaching, it is not as effective as instructor-led teaching. While the conversation was generated through student leadership and continued among the student body, it is imperative for administration and faculty to engage with active participation and support to sustain effective curricular change throughout the pre-clinical and clerkship years.

Our study also supports the importance of recognizing racism as an isolated contributor of health disparities in underrepresented, underserved communities. Previous and current guidelines in medical education have grouped racism with the terms cultural competency or diversity. In the 2020–2021 guidelines, the LCME failed to specifically mention the term “racism” but rather broadly listed “cultural competency” and “diversity.” A majority of medical school curriculums continue to have gaps in education pertaining to the impact of racism as a public health crisis. This may partially explain, despite two decades of integrating cultural competency and diversity, the continued disproportionately poorer health outcomes in Black and urban communities.

The ambiguity of broad terms like “cultural diversity” makes it challenging to teach and for students to become familiar with sensitive, new, and difficult concepts such as culture, diversity, and racism. In addition, many medical students believe that racism is a factor outside of their influence. Our study provides a starting point for medical schools to integrate the influence of racism in their curriculum by emphasizing historical context, its influence on research, and actions that can be taken to tackle these issues.

**Limitations and future directions**

We acknowledge that this event is a single point pre-post measurement of participant knowledge and attitude using a...
self-reporting tool. Long-term retention of knowledge and progressive improvement in attitude was not studied.

This initiative was conducted by student leaders at WSUSOM in accordance with long-term goals to enhance the integration of diversity and inclusion in the medical curriculum. Although this Summit was a successful start to incorporating short-term improvement in the education of racism’s influences on medicine and community health, it is imperative that, moving forward, institutional leadership commit to financial and consistent effort to continue these initiatives on a regular basis with collaboration from community experts.

Dr. Tervalon writes that the effort to integrate the study of culture and racism in medical education is multifaceted and a necessary standard for all future clinicians. She further states that a scaffold approach with information given on an iterative basis is more aligned with the emphasis on patient-centered care taught on day one of medical school. We posit that a one-time session does not contribute sufficiently to long term memory and signals a perceived lack of importance of this topic in physician training.

Our reach with the Summit was limited in that it was required only for a select group of students. For those who were not required, they chose to attend out of professional and personal interest. With leadership investment, these concepts can also become priorities to those who are resistant to them, which allows a reach beyond a self-selecting group and pushes the conversation forward. This assertion is reflected by a cohort of medical education senior leaders who developed recommendations on eliminating racism in medical education for the AAMC.

Armed with the curricular recommendations from the internal needs assessment and the success of RiM Summit, WSUSOM students developed the Social Justice in Medical Education Coalition to address multiple facets of social justice education. The collaboration of student leaders with faculty and administration reflects a team approach that will address student concerns with the faculty expertise in implementing this curricular change. Engaged student involvement is integral to effective buy-in and sustainable change among the student body, and involving faculty in curricular revisions ensures longevity in anti-racist medical education.

The RiM Summit initiated a student-led discussion of racism as a public health crisis. The results indicated a strong reception among peers and highlighted a desire for further action and education surrounding the topic as an intervention with the utility and capacity for sustainable change. The onus of continued education and curricular integration belongs to medical education curricular leaders. As medical education begins to rise to the occasion of training compassionate and socially aware physicians, medical faculty and administration must include racism and action against racism as a regular topic when teaching social determinants of health.

Data availability
Underlying data

This project contains the following underlying data:
Post-Survey_Racism_in_Medicine_and_Detroit_Summit_2.csv (responses to the post-survey distributed after the Racism in Medicine Summit)
Pre-Survey_Racism_in_Medicine_and_Detroit_Summit_1.csv (responses to the pre-survey distributed before the Racism in Medicine Summit)
RiM_Curated_Data_1.csv (all data from pre- and post-surveys included, with qualitative analysis coding results for free-text responses)

Extended data

This project contains the following extended data:
Post-Survey_Racism_in_Medicine_and_Detroit_Summit_1_3.docx (post-survey questionnaire distributed to all participants after the Racism in Medicine Summit)
Pre-Survey_Racism_in_Medicine_and_Detroit_Summit_1_1.docx (pre-survey questionnaire distributed to all participants before the Racism in Medicine Summit)

The presentations used in the Racism in Medicine Summit cannot be shared publicly due to copyright restrictions on the images, but are available upon request. To request access to the presentations, please contact the corresponding author, Sara Saynuhah Stone, at sara.saynuhah2@med.wayne.edu with your name, institution, and intent for access.

Data are available under the terms of the Creative Commons Attribution 4.0 International license (CC-BY 4.0).

References
4. Boatright DH, Samuels EA, Cramer L, et al.: Association Between the Liaison Committee on Medical Education's Diversity Standards and Changes in Percentage of Medical Student Sex, Race, and Ethnicity. JAMA. 2018; 320(21):
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