Changing the Approach in Supporting and Advancing Underrepresented in Medicine (UIM) Medical Students

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Abstract

Introduction: Research has shown the importance of diversity in improving patient care. Medical students from backgrounds underrepresented in medicine (UIM) face unique challenges, including minority tax, stereotype threat, and expectations to be the sole representative of their identity group. Mentors must be aware of these challenges and develop skills to address them. **Methods:** We designed a 90-minute workshop about the challenges UIM students encounter in medical school and best practices in mentorship. Target audience and facilitators were undergraduate medical educators. Three videos and questions for case-based facilitated small-group discussion with medical school faculty and administrators were included. Using a retrospective pre-post design, we elicited participants' confidence level in recognizing and addressing issues UIM students may experience and plans to apply skills gained in the workshop. **Results:** Workshop participants (*N* = 57) reported a mean increase in confidence rating of 20-26 points out of 100 for recognizing, identifying, and applying skills related to optimal UIM mentorship (mean confidence: 53-60 preworkshop, 79-81 postworkshop). Participants also reported a mean of 82 in readiness to apply skills learned. Participants rated the workshop a 4.6 in overall helpfulness on a 5-point Likert scale (1 = *not helpful*, 5 = *extremely helpful*). **Discussion:** Health care professionals working with UIM medical students have an essential role in mentorship and support. This workshop provides a structured forum to discuss challenges and build awareness, comfort, and skills regarding engaging in meaningful discussions about race and the experiences of medical students, even when identities are incongruent.

Keywords

Case-Based Learning, Mentoring/Coaching, Diversity, Equity, Inclusion

Educational Objectives

By the end of this activity, learners will be able to:

- Discuss features, challenges, and strengths of current approaches of medical school underrepresented in medicine (UIM) mentorship across the US and Canada.
- 2. Analyze mentorship approaches that are strength based and can be applied cross-culturally.
- Identify ineffective or harmful practices in supporting UIM medical students.
- 4. Apply different strategies in mentoring UIM students throughout medical school.

Citation:

Knight A, Kind T, Dixon G, McKnight N, Rideout M. Changing the approach in supporting and advancing underrepresented in medicine (UIM) medical students. *MedEdPORTAL*. 2024;20:11438. https://doi.org/10.15766/mep_2374-8265.11438

 Identify steps that could be taken at home institutions to support UIM medical students and applied cross-culturally.

Introduction

In the medical field, diversity has been shown to help organizations improve the quality of patient care and outcomes.¹ However, medical students from underrepresented in medicine (UIM) backgrounds have unique needs while undergoing training. Along with the challenges of the rigorous curriculum, they often encounter racism, sexism/gender discrimination, microaggressions, and imposter syndrome when in unsupportive and noninclusive environments.²⁻⁵ As a result of contending with overt and implicit biases and a lack of diversity in medical schools, students from UIM, lower-income, and/or underresourced backgrounds are more likely to leave or face dismissal from medical school.⁶ Given these findings, mentorship is crucial for UIM students, especially when they are trying to reconcile personal identities with their developing professional identities and learning to navigate situations unique to their identities as UIM. 7 It is also crucial for faculty to identify ways they can promote larger system changes at their institutions to benefit all students. 8

Faculty and administrative staff are expected to provide support to UIM students with minimal guidance or formal training surrounding the unique challenges students may face during the various stages of their medical school curricula. There has been greater focus on implicit bias training in recent years to target systemic inequities; however, data have not shown that these interventions have been effective or led to sustained improvements.⁹ There have been multiple recent publications on developing successful mentor-mentee relationships and encouraging UIM individuals to consider academic careers.^{10,11} These publications focus on educating UIM individuals about possible challenges related to their identities and educating mentors on how to engage mentees with increased cultural sensitivity. However, there is a lack of curricular content that specifically addresses the unique ways UIM medical students should be mentored using methods that have been successful with diverse groups.^{12,13} Other publications have recommended steps institutions can take to educate with an antiracism and equity lens,^{8,14} but few focus on developing skills in identifying and advocating for institution-level changes related to UIM student support.

Faculty and administrators working with medical students should have the necessary skills to support them to ensure that the physician pathway continues to diversify in a way that has a meaningful impact on an increasingly diverse pediatric patient population. We aimed to develop a workshop to create a space for reflection and discussion about the experiences of UIM students in their journey through medical school and to provide instruction on best practices for UIM student mentorship. Using brief didactics, video case vignettes, and discussion prompts for facilitated small groups, we promoted rich discussion in a safe environment, acknowledging that discussing these topics often could be uncomfortable. We utilized Kern's framework for curriculum development,¹⁵ identifying needs of learners through individual assessments of issues at our own institutions and through discussions at a national meeting. We developed learning objectives, identified strategies for interactive teaching, and solicited feedback to improve our approach.

This workshop identified skill gaps that contribute to worsening outcomes for UIM students and provided tools to build culturally aware mentoring skills. Workshop participants also identified how faculty and administrators at institutions can guide, counsel, and address discriminatory events that may affect UIM medical students. Dissemination of this workshop can allow institutions to deliver similar sessions and improve the medical school experience for UIM medical students nationally.

Methods

Facilitators

The idea for this workshop developed out of conversations between educators at a national conference. While specific mentorship needs of UIM students at their respective institutions were being discussed, the need for wider education to specifically address some of these issues became clear. Additional facilitators from the diversity, equity, and inclusion committee of a national education organization joined in workshop planning. Each facilitator had experience mentoring learners from diverse backgrounds, including learners identifying as UIM. All facilitators held leadership positions in education and had experience facilitating workshops and facilitating group discussions. Of the five facilitators, two identified as Black. one identified as Black and Asian, and two identified as White. The group of facilitators was intentionally diverse in race and ethnicity as well as in age, geography, and experience. While the value of the UIM facilitators' lived experiences is not to be understated, we felt that having non-UIM facilitators also sharing their experiences would support a safer space for some workshop attendees. Moreover, having White facilitators speak knowledgeably about this topic provided an opportunity to role model for White participants. Our goal was to have at least one facilitator for each discussion group.

Target Learners

The workshop was designed for faculty and administrators working with UIM medical students so they could better partner with and provide mentorship and advising to medical students from diverse backgrounds. We anticipated that participants would have diverse identities and varied levels of experience with this type of discussion, so we developed videos and prompts relevant for any level.

Setting

We used a large room with eight to 10 tables to accommodate small-group discussions with six to eight participants per group. At least one screen was easily viewed from the tables, and we used a flip chart to make notes during the large-group debriefing.

Curriculum Design and Delivery

The overall workshop aims were to engage participants in important dialogue, empower individuals to participate in discussions at their home institutions, and advocate for systemic changes. As described above, we developed this workshop in accordance with Kern's six steps for curriculum development.¹⁵ In disseminating the workshop, we hope to make it easier for others to lead similar sessions. We believe this method can foster learning and behavior change because participants are required to address real student issues in small-group settings, identify systemic changes for their institutions, and commit to engaging in future learning.

The workshop consisted of an introduction using a PowerPoint slide deck containing background material reviewing different types of mentorship and the unique aspects of mentoring relationships with UIM students (Appendix A) followed by three discussion sections. Each of the three discussion sections consisted of a short video clip followed first by a small-group discussion using short prompts and then by a large-group debrief section. The video clips were intended to provoke discussion, not to serve as models for ideal communication. They were videotaped to provide varied media within the session and to allow for ease of delivery of the curriculum across settings. All necessary consents for recording and disseminating the videos featuring the portrayals of the Narrator, Crystal, Dr. O, and Dr. G have been secured, and permission for broad distribution through MedEdPORTAL has been obtained. Small groups consisted of six to eight participants with one facilitator. When there were more groups than facilitators, available facilitators joined multiple groups at different points in the discussions. By intentionally joining small groups, facilitators helped to guide and deepen discussions when needed and to modulate imbalances in participation. We created and utilized a facilitator guide (Appendix B) to identify key points that would stimulate smallgroup discussion and to outline workshop timing. Facilitators should be comfortable leading difficult discussions around issues that individuals from underrepresented groups face, and the facilitator guide could be a useful adjunct for facilitators to review prior to discussions.

The three videos follow a hypothetical medical student named Crystal through three different stages of her medical school journey. We carefully chose the subject of each video after extensive discussion regarding the personal experiences of the facilitators and their mentees. We also felt it was important to highlight major transition points, as these are pivotal moments for mentorship: transition to medical school, transition to clerkships, and preparation for residency. Initially, Crystal was a new medical student, and she questioned whether she really belonged. In small groups, participants discussed prompts related to imposter syndrome and isolation, and in the large-group debrief, facilitators shared the concept of "distance traveled" in relation to the case. The second video case showed Crystal receiving difficult feedback from one of her preceptors. In small groups, participants discussed issues related to feedback that were unique to UIM students, including the potential for less constructive feedback and missing instances of bias when identities were not shared between mentor and mentee. In the large-group debrief, facilitators reviewed techniques to help guide individuals in providing difficult feedback, particularly related to UIM-sensitive concerns. In the last case, Crystal met with a mentor to discuss her fourth-year schedule and whether she should participate in a funded elective at another institution. Small-group participants discussed concerns related to away electives, including finding safe and inclusive environments, as well as professionalism standards and how to navigate them. In the large-group debrief, facilitators discussed concepts of in-group favoritism and cultural fit. During the final section of the workshop, a facilitator summarized the main content and reviewed the learning objectives.

At the conclusion of the workshops, facilitators distributed a paper survey (Appendix C) asking participants to report their overall level of confidence related to UIM student mentorship on a 0-100 scale (Kirkpatrick level 2).¹⁶ It also requested participants to report their level of confidence in specific aspects of UIM mentorship both prior to and following the workshop on a 0-100 scale (Kirkpatrick level 2). Additionally, the survey asked participants to report one thing they would implement from the workshop within the next year, as well as to provide overall feedback about the workshop using a standard 5-point Likert scale (1 = not helpful, 5 = extremely helpful). Facilitators used feedback from the first workshop to make improvements to the second workshop, most notably adding closed-captioning to the videos. We chose not to collect demographic information to create assurance that responses would be anonymous and to keep the survey short. We chose to use the 0-100 scale for more specificity in pre-post confidence ratings.

To analyze the data, we compared mean scores pre- and postworkshop using paired *t* tests. We also compared scores using the nonparametric Wilcoxon signed rank test to account for variables without a normal distribution. Lastly, we used a mixed multilevel linear model, with the evaluation as the dependent variable, whether it referred to pre- or postworkshop as the main independent variable, and random effects at the person and workshop levels to account for variability between the two workshops.

Results

Facilitators presented the workshop at the Council on Medical Student Education in Pediatrics (COMSEP) Annual Meeting in

Cincinnati, Ohio, and the Pediatric Academic Societies (PAS) Annual Meeting in Denver, Colorado, in spring 2022. The same leaders facilitated the 90-minute workshop at both meetings. There were 57 total participants, 18 at COMSEP and 39 at PAS, and the overall survey response rate was 81% (100% at COMSEP and 72% at PAS). Facilitators identified participants as encompassing faculty in medical education, learners (medical students and residents), and clerkship administrators and representing diverse backgrounds, with no significant differences observed between the two conference groups.

Results of the survey showed a statistically significant increase in self-reported confidence from pre- to postworkshop on all questions, as reported in Table 1, including confidence in identification and discussion of challenges UIM individuals encounter, as well as in application of related skills. As shown in Table 1, preworkshop levels of reported confidence in knowledge, skills, and behaviors of participants were in the 50s and increased approximately 20 points following the workshop on a 100-point scale. Participants provided a mean self-rating of 82.2 on a 0-100 scale regarding how ready they felt to apply the skills and resources from the workshop. For each of the five items, the reported increase in confidence levels was statistically significant (Figure). Because the Wilcoxon sign rank test and mixed multilevel linear models performed for sensitivity analyses did not yield additional insights compared to the confidence level analysis, these findings are not presented separately. Finally, participants rated the overall helpfulness of the workshop as 4.6 (n = 33) on a 5-point Likert scale.

Thirty-three participants provided comments regarding what they had learned from the workshop and planned to implement within the next year. We categorized the comments into the following areas: ideas for types of mentorship, learning about institutional policies, ideas for faculty development, and other strategies to support students, such as helping them find funding, acknowledging their identities, providing culturally respectful support, and strengthening safety during clerkships. Key findings from each category are included in Table 2. In response to the second open-ended question seeking other input or feedback for presenters, most comments were laudatory. Following the first workshop, one participant recommended including closedcaptioning for the videos to increase accessibility; this suggestion was incorporated in the second workshop. Some respondents noted that they would benefit further from a longer workshop.

Discussion

This workshop provides a unique opportunity for participants to develop UIM-specific mentoring skills to better address issues students encounter throughout medical school. Our results show it was an effective session; following the workshop, participants reported feeling significantly more confident in identifying mentorship strategies useful for students from diverse backgrounds and strategies that were potentially harmful. Most importantly, participants reported leaving the session with concrete tools that could be utilized at their home institutions to effect systemic changes supporting UIM students. Sufficiently training educational leaders and administrators to navigate concerns that UIM students face in a manner that accounts for their unique mentorship needs is essential to ensuring that UIM students succeed. Through this workshop, faculty and administrators gain skills and are better equipped to support UIM medical students.

In developing this workshop, leaders engaged in discussions about the experiences of UIM individuals in medicine, including how UIM-specific mentorship strategies could improve their experiences and how non-UIM specific strategies could

Table 1. Survey Responses by Workshop Component (N = 46)

Survey Item ^a	Preworkshop <i>M</i> (95% CI)	Postworkshop M (95% CI)	Pre-Post Difference M (95% CI)	p
Discussing features, challenges, and strengths of current approaches of medical school UIM mentorship across the US and Canada	57.1 (51.2-63.0)	78.7 (75.2-82.3)	21.6 (17.8-25.4)	<.001
Practicing mentorship approaches that are strength based and can be applied cross-culturally	58.1 (51.5-64.6)	78.2 (74.0-82.3)	20.1 (15.7-24.5)	<.001
Identifying ineffective or harmful practices in supporting UIM medical students	59.6 (52.9-66.2)	81.4 (77.2-85.6)	21.8 (17.0-26.6)	<.001
Applying different strategies in mentoring UIM students throughout medical school	52.9 (47.2-58.6)	78.9 (74.7-83.1)	26.0 (21.5-30.5)	<.001
Identifying steps that could be taken at home institutions to support UIM medical students that can be applied cross-culturally	54.5 (48.1-60.9)	80.9 (77.8-84.1)	26.4 (20.7-32.1)	<.001

Abbreviations: CI, confidence interval; UIM, underrepresented in medicine.

^altem rated on a 0-100 rating scale (0 = not at all confident, 100 = extremely confident).



Figure. Reported increase in participants' confidence levels. Asterisk (*) indicates p < .001. Error bars indicate 95% confidence interval. Abbreviation: UIM, underrepresented in medicine.

potentially cause harm. These conversations were helpful for providing non-UIM leaders with insight and context to facilitate conversations more effectively with both UIM and non-UIM participants. We developed a facilitator guide from these discussions to further assist less-experienced facilitators. Although the workshop can be run by UIM leaders, non-UIM leaders, or a combination, we found that having facilitators from different backgrounds was helpful to address various perspectives and also to inspire non-UIM participants to engage in this important work. Video prompts and discussion questions led to robust conversation, and participants often shared aspects of their personal experiences that enriched discussions. When there were groups of mostly non-UIM participants, we found it important for facilitators to help guide the discussion to a greater degree to help participants deepen the dialogue around UIMspecific mentorship strategies and ways to advocate for systemic change. Since the topic of racism in medicine is often not openly discussed, especially among non-UIM individuals, we noticed some discomfort at times and feel that a safe and nonjudgmental learning environment is essential to fully engage participants. To assist with workshop delivery, we created an instructional video (Appendix D) that facilitators can utilize in planning.

It is notable that participants reported a moderately high baseline confidence level (50-60) for all items yet still had a statistically significant increase in confidence following the workshop. A potential explanation for the relatively high baseline ratings could be that participants were a self-selected group of faculty

Table 2. Free-Text Responses to "What Is One Thing You Plan to Implement From This Workshop Within the Next Year?"

Category	Key Findings		
Mentorship	 "Research strength-based mentoring programs." 		
	 "Intentional mentoring assignments." 		
Institutional policies	 "Refresh myself in institutional practices and policies re: mistreatment from patients." 		
	• "Update professionalism policy to include diverse expectations and advocacy."		
Faculty development	 "Strategy for approaching difficult feedback." 		
	 "Faculty development case-based scenarios." 		
Other strategies to support students	 "Providing more culturally respectful support for UIM mentees." 		
	 "Centering the students and their needs." 		
	 "Work to identify organization culture problems and make changes." 		

Abbreviation: UIM, underrepresented in medicine.

and administrators with interest and possible experience in the topic of UIM-specific mentorship, impacting their perceived level of confidence in knowledge, skills, and behaviors both pre- and postworkshop. The participants in our workshops may not represent future workshop participants across all settings, and it is expected that participants will have varying levels of experience with the topic. Nonetheless, having workshop leaders with a baseline comfort level with the topic and skill in small- and large-group facilitation is important for success.

There have been several narrative reviews^{7,17-19} and research studies^{20,21} regarding the experiences of UIM medical students, but few in workshop format²² have provided the opportunity for structured, facilitated discussion. While many studies about various mentorship models for UIM students, trainees, and junior faculty exist,^{23,24} there are limited tools to foster discussion about the experiences of UIM trainees to build awareness and thus promote more effective mentorship. Awareness of the importance of building community for UIM students and trainees is growing,^{25,26} and alternative models such as peer and proximal peer mentoring^{12,27,28} are gaining recognition as essential to UIM student and trainee success. This workshop adds to the growing body of literature supporting the experiences of UIM medical students and trainees.

Our workshops were open to all participants who attended the pediatric conferences, had availability during the workshop time slot, and opted to participate. One potential limitation for delivery of this workshop is the limited number of diverse faculty members available at some institutions to cofacilitate it. The facilitator guide is designed to help facilitators who may have less experience in the topic become more comfortable leading discussions. Moreover, we feel that the subject matter is crucial to discuss, and if an institution has predominantly non-UIM faculty members, the benefits of engaging in discussion, even with non-UIM leaders, is preferable to not discussing this important area. One constraint on the workshop itself was the limited time allotment of 90 minutes; some participants commented that they would have liked it to be longer to allow more time for discussion and exploration of systemic issues. The choice to not collect demographic data about workshop participants may have limited our full understanding of the data, since insights related to specific demographic groups may have been missed. Another limitation to data interpretation is the small sample size. Also, we did not conduct a follow-up survey to explore if participants followed through with reported plans to apply skills and implement proposed changes at their home institutions. Lastly, this workshop was implemented at national conferences where participation was self-selected. There may be differences

in level of engagement and subsequent confidence if done at local institutions, particularly if attendance is mandatory.

This workshop aims to build awareness of the learning climate for UIM students and the issues they may face. It also describes the need for mentorship models specifically addressing the needs of UIM students, regardless of whether mentors are from shared backgrounds or not. Non-UIM and UIM-identifying faculty and administrators can and should provide resources, experience, and help navigating the system, and UIM faculty mentors can provide shared knowledge of othered-ness within the medical system. It is our hope that this workshop will help bring people of all backgrounds together for discussions about how to optimally support and mentor UIM medical students. Moreover, since the concepts discussed are also highly applicable to UIM residents and junior faculty members, the videos and prompts could be used as a starting point for discussions about issues faced not only in medical school but also in residency and beyond.

Appendices

A. Changing the Approach.pptx

- B. Facilitator Guide.docx
- C. Survey.docx
- D. Instructional Video.mp4

All appendices are peer reviewed as integral parts of the Original Publication.

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Disclosures

None to report.

Funding/Support

None to report.

Prior Presentations

Knight A, Rideout M, Kind T, McKnight N, Dixon G. Changing our approach to the system to help change the system: best practices in supporting and advancing underrepresented in medicine (UIM) medical students. Presented at: Council on Medical Student Education in Pediatrics Annual Meeting; March 30, 2022; Cincinnati, OH.

Knight A, Dixon G, McKnight N, Rideout M, Kind T. Changing the system: best practices in supporting and advancing underrepresented in medicine (UIM) medical students. Presented at: Pediatric Academic Societies Meeting; April 23, 2022; Denver, CO.

Dixon G, McKnight N, Rideout M, Kind T, Sharif M, Knight A. Changing the approach: best practices in supporting and advancing underrepresented in medicine (UIM) medical students. Presented at: Pediatric Academic Societies Meeting; April 30, 2023, Washington, DC.

Ethical Approval

Reported as not applicable.

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Received: July 25, 2023 Accepted: April 25, 2024 Published: September 20, 2024