

Abstract

Significance: Medical students must attain the skills and knowledge necessary to provide exemplary clinical care to a diverse patient population. Currently, few medical schools have incorporated into their curriculum robust material on the impact of implicit bias and health disparities on individuals of different racial, ethnic, gender, neurodiverse, and religious identities. Students invested in developing a workforce capable of serving patients from all backgrounds are willing and able to research and design curricular components that address this need.

Methods: Students developed a preclinical elective that teaches medical students how to use Glassick's Criteria to design and implement a curriculum development project related to diversity and inclusion. Student leaders and faculty together assembled resources and developed modules to aid students in achieving their project goals. Faculty mentors were recruited to aid students with on-going and novel projects in curriculum design.

Results: First and second year medical students proposed projects that covered many themes in diversity education: LGBTQ+ health disparities, reproductive justice, interprofessional collaboration, microaggressions, cultural sensitivity, racial and ethnic health disparities, and minority student recruitment. Projects targeted various aspects of the curriculum including lectures, small group case-based learning, clinical skills practice, and clerkship training.

Student leaders who have experience working with curriculum and administration serve as mentors to connect students with faculty and facilitate project implementation. Most proposed projects are longitudinal, with a fixed mentor and rotating team of student leaders to conduct research, assess, and improve interventions over time.

Conclusions: It is clear that students have a vested interest in improving medical education for future medical students. Developing evidence-based curricula to improve the clinical knowledge, comfort, attitudes, & behaviors related to care for diverse patient populations is a key outcome of this work. Students are valuable assets in the effort to incorporate themes of diversity and inclusion in undergraduate medical education.

Introduction

There is a need for increased incorporation of diversity and inclusion topics in undergraduate medical education, including education about health disparities, implicit biases, cultural humility, and holistic care for patients of all backgrounds and identities. However, literature shows low inclusion of LGBTQ+ identities in medical curricula, low diversity of skin tones used to demonstrate the appearance of disease in books and course materials, and lack of confidence from students in how to address or connect with patients who are unlike themselves (1,2,3). As the medical workforce becomes more diverse, more medical students want to see these topics in the curriculum and are ready and willing to do the research to help design curricular components that address these needs.

We hypothesize that a longitudinal preclinical curriculum that teaches undergraduate medical students research skills for curricular development will:

1. Provide students with tools and peer/faculty mentorship that enables scholarly approach to curriculum development
2. Facilitate faculty-student collaboration that benefits the final product
3. Yield evidence-based educational tools and materials that address the need for diversity and inclusion education in medical school.
4. Provide a needed workforce for integration of diversity and inclusion themes in medical education

Methods and Materials

Our elective, titled Curriculum Development in Diversity Education, has five main components (Figure 1):

1. **Scholarship** taught with Glassick's criteria to instruct on scholarly design and implementation of a curriculum development project.
2. **Faculty Mentorship** of students to bring different perspectives, collaborate, and effectively implement or disseminate findings. Faculty will preserve the longevity of the project past the time medical students will be available to participate.
3. **Collaborative sessions** focused on peer mentorship and feedback. These sessions are hosted by students, for students to present their work, obtain feedback, learn about resources, and provide peer support and guidance.
4. **Modules** designed by students and faculty to teach scholarship, facilitate mentorship, explain curriculum structure, demonstrate need, and assist with dissemination. These include instruction on the IRB approval process, an overview of curriculum leaders, and a guide for the mentorship relationship between students and faculty.
5. **Focus on diversity and inclusion** topics to build a community with this goal in mind.

Students involved in the elective either developed their own project based on their interest/expertise or joined an existing project regarding diversity and inclusion.

This elective is pre-clinical and longitudinal, so students can join as early as their first year of medical school and must complete the elective requirements by the end of the second year of medical school. Many projects are longitudinal, so completion of the elective requires student involvement in the project of at least 30 hours and a written paper outlining the scholarly approach to their work. Students must also provide regular progress reports to the Office of Medical Education to track their progress.

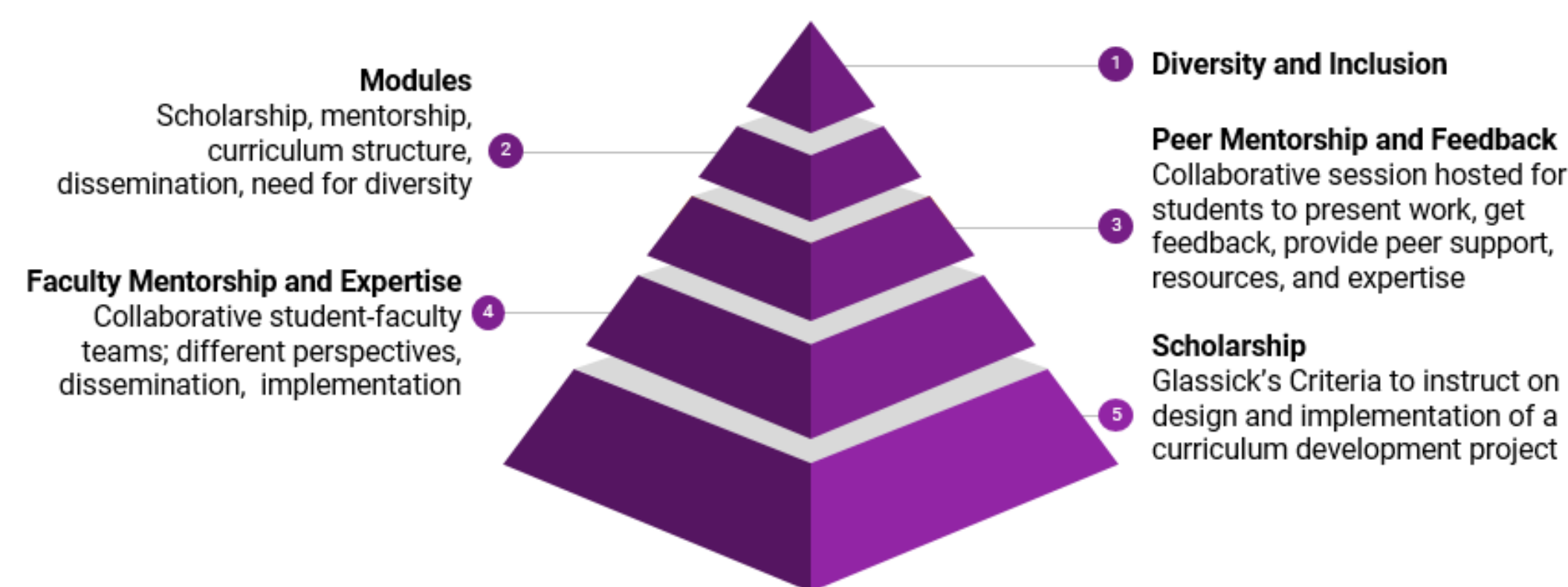


Figure 1. Elective Framework

Results

In the first iteration of the elective, 21 students registered as individuals or teams for 10 projects. We also had 14 registered faculty mentors. Four second-year medical students (the authors) were the leaders of the elective and participated in projects.

Many of the registered projects were already underway and were able to connect with faculty mentors and curriculum leaders via the elective. First year students who were just joining a project were able to learn research and scholarship skills and build relationships with faculty upon joining their projects.

The projects addressed multiple themes including: LGBTQ+ health disparities, reproductive justice, interprofessional collaboration, microaggressions, cultural sensitivity, racial and ethnic health disparities, and minority student recruitment (Table 1). They also used multiple teaching modalities including lectures, small group case-based learning, clinical skills practice, and clerkship training.

Table 1. Projects and Themes

Project Title	Project Theme
Longitudinal Incorporation of LGBTQ+ Health Into Medical Education	LGBTQ+ Health Disparities, Health Needs, and Interventions in Year 1 and 2 Lectures LGBTQ+ elective courses and clinical skills practice
CP I TBL - Implicit Bias, Equity & Inclusion	Year One Team Based Learning on Implicit Bias
Development of a Values Clarification Exercise in the Context of Reproductive Justice	Small Group Discussion on Reproductive Justice and Women's Health
M3 Microaggressions Workshop + eBook	Addressing Microaggressions in Clinical Practice
Racial/Ethnic Diversity & Representation in Pre-Clinical Lecture Material	Racial and Ethnic Health Disparities in Year 1 and 2 Lectures
Tuesday Seminar Facilitator Training	Sustained Dialogue Training for small group facilitators (Year 1 and 2)
Cultural Sensitivity and Diversity Lecture (TS for M1s)	Cultural Sensitivity, Diversity, Structural Racism in lecture and small group
Improving Skills in history Taking and Physical Diagnosis in Diverse Patient Populations	Diverse Patient Identities in Clinical Skills Practice (Year 1 and 2)
Incorporation of Diverse Skin tones in Preclinical Dermatology Curriculum	Assessing Diversity of Skin Tones in Dermatology Lectures
The Effect of Curricular Structure on the Recruitment of Underrepresented Minorities in Medicine to CWRU SOM	Recruitment Strategies for URIM Students Related to Curriculum

Most projects are ongoing but a few successfully completed curricular integration and are now assessing the effectiveness of the intervention on student learning.

One project example was Collaborative Practice (CP) I Team Based Learning Project which was a collaboration between a second year medical student and multiple interprofessional faculty in the Medical, Dentistry, Nursing, and Physician Assistant programs. A Team-based learning exercise was developed to teach students to identify and address their implicit biases. This session was held this past year and will be re-implemented next year.

Challenges

- **Project Tracking:** Methods for tracking multiple projects need to be developed in collaboration with curriculum leadership. Next year, we will implement a quarterly progress report template which is required for any curriculum development project to determine a timeline for each project. This will help track project progress and identify any issues that can be addressed by curriculum leadership or administrators.
- **Student Recruitment:** Many first year medical students are unaware of medical education research opportunities. Early recruitment of medical students must include education or orientation regarding medical education and the value of a medical education project. Recruitment was also impaired by physical distancing during the 2020-2021 academic year.

Conclusions

- Students have vested interest in improving medical education for future medical students to provide improved care for diverse patients.
- Curricula are being developed and implemented to improve clinical knowledge, comfort, attitudes, and behaviors related to care for diverse patient populations.
- Faculty-student teams combine faculty expertise with student experience, interest, and diversity, enabling projects to be conducted effectively with faculty support for implementation and longitudinal continuation after student graduation.
- Students are valuable assets in the effort to incorporate themes of diversity and inclusion in undergraduate medical education.

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References

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