To train competent, compassionate future physicians who are equipped to care for diverse patients and actively work to reduce health disparities, osteopathic education values awareness and understanding of cultural and social aspects of health and medicine. This is reflected in several core competency areas. Beyond this existing foundation, medical educators and students are increasingly calling on medical education to both reevaluate how race is portrayed in the broader curriculum, as well as to innovate specific curricular content related to diversity, equity, and inclusion (DEI).

To be effective, these efforts require distinct educational approaches compared to other curricular content in medical education. For example, DEI education that is focused on cultural competency, offered in a traditional lecture format, and assessed based on learning cultural profiles may have the unintended effects of perpetuating stereotypes and enhancing categorical between-group differences and ethnic nationalism.

Increasingly, DEI coursework aims to emphasize an iterative, lifelong process of cultural humility, intersectionality of diverse identities, and the role of a provider's own assumptions and biases. Further, consistent with increased national attention to the intersection of structural factors and the field of medicine, these courses must move beyond individual-level interventions to address ways to advocate for systemic changes addressing root causes of persistent health disparities. Future research must meet the distinct educational needs of diverse learners—from students from marginalized groups to those with limited personal or educational exposure to this content—in an accessible and individualized manner.

**The Present Study**

We updated an existing one-credit, pass-fail, required course in our first-year pre-clinical osteopathic curriculum to address these needs. We examined student response through pre-course and post-course surveys.

The course used a cultural humility perspective, emphasizing individualized lifelong learning. It departed from a traditional knowledge-dripped lecture format and included small-group learning communities, experiential contact-based learning, and self-directed learning. Together, these distributed and diversified the sources of instruction and increased student autonomy in learning.

Synchronous remote delivery was utilized due to the COVID-19 pandemic.

Content was organized around four overarching themes relevant across an array of intersectional patient identities (e.g., race, ethnicity, gender identity, sexual orientation, able-bodiedness, veteran status). The four themes were: 1) Identity, 2) Communication, 3) Bias, and 4) Epidemiology.

Within each theme, core learning experiences included:

- Small group discussion (faculty-led)
- Interactive dialogue with local community members from diverse sociocultural backgrounds
- Self-directed learning e-modules supporting student selection of: a) contemporary, open-source audiovisual content (e.g., podcasts and video series from the New York Times, Seattle Times, and TED talks), and b) individualized action steps for deeper learning (e.g., attending community or campus DEI events, completing online trainings, reviewing research)

Additional course components included: faculty lecture, physician guest lecture, and a communication workshop.

Assignments included formative reflections, a health disparities data assignment, and a summative Equity & Inclusion Plan and Presentation documenting development and identifying remaining growth areas and action steps for ongoing learning. OMS-2 teaching assistants served as senior peer mealers, facilitating community member dialogues and providing student support.

**Participants**

All OMS-1 students (N=219) were enrolled in pre- and post-course Qualtrics surveys as a course self-assessment. Students had the option to consent for their responses to also be used for this IRB-approved research project. Survey responses were not linked to students’ identities and were collected as anonymous, voluntary course credit or incentive. Robust research enrollment rates were obtained pre-course (90.8%, N=199) and post-course (88.0%, N=192). Average age was 24.46 years (SD=1.74, range 22-31). All identified as cisgender, with 51% male. Students predominantly identified as White/European American (56.3%), with 23.6% Asian/Asian American, 11% African American, 3.4% Hispanic/Latinx, 2.3% Multiracial, 1.4% Black/African American, 1.4% Hispanic/Latinx, and 1% Other/Prefer not to Answer.

**Pre-course measures** indicated that the majority of students explicitly valued cultural awareness, yet generally did not report feeling well-prepared to work clinically with these cultural differences. Post-course measures demonstrated significant increases across each AOA competency area, documenting increased self-efficacy in applying content in real-world patient care. Additional measures supported our goals of increased perception of relevance, beliefs, and stereotypes to patient care, and increased motivation for further action to support lifelong DEI learning and advocacy for systemic change.

As expected, there was a wide range of emotional responses to course content, highlighting that the same content can affect learners quite distinctly. We noted the common experience of students feeling “awkward,” “uncomfortable,” or “uncomfortable” during some parts of the course. However, in conjunction with descriptions of “safe” and “valuable,” we contend that courses such as these should not strive to be free of discomfort as long as they are safe learning spaces. These emotional responses can be part of the process of developing cultural sensitivity and discussing intentionally challenging topics.

A limitation of the assessment of AOA competencies was reliance on student self-assessment. Although it is not feasible in these OMS-1 pre-clinical students, observing behavioral outcomes would offer enhanced understanding of the course’s impact on skills and future practice. For the qualitative analyses, the data came from multiple open-ended prompt responses without ability to distinguish repeated responses from the same student. As such, the qualitative data is not suitable for inter-rater reliability analysis and has no power to comment on thematic shifts over time.

Our results may inform other osteopathic institutions of promising curricular practices for DEI education. Our course exemplifies the identity of implementing a required course in the preclinical curriculum, offering richer educational opportunities than more limited DEI workshop or elective curricular offerings can achieve.

Future directions include ongoing analysis of optimal course assessment methods and best practices for integration with co-curricular high stakes courses. We also plan to extend our self-directed learning e-modules to continue to offer contemporary, relevant audiovisual content.

**Common themes in student responses**

Increased awareness of the impact of DEI coursework on students and faculty.

Increased understanding of the course’s impact on skills and future practice.

Increased perception of relevance, beliefs, and stereotypes to patient care.

Increased motivation for further action to support lifelong DEI learning and advocacy for systemic change.

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**Post-course assessments** indicated that the majority of students explicitly valued cultural awareness, yet generally did not report feeling well-prepared to work clinically with these cultural differences. Post-course measures demonstrated significant increases across each AOA competency area, documenting increased self-efficacy in applying content in real-world patient care. Additional measures supported our goals of increased perception of relevance, beliefs, and stereotypes to patient care, and increased motivation for further action to support lifelong DEI learning and advocacy for systemic change.

**Analytic Approach**

Quantitative analyses: For repeat assessments, paired samples t-tests were utilized with a significance cutoff of p<0.05. Cohen's d effect sizes were calculated (d≥0.20=small, d≥0.50=medium, and d≥0.80=large). Descriptive statistics were calculated for demographic information and the post-course motivation to change question.

Qualitative analyses: Post-course open-ended question responses were analyzed for themes that recurred across survey responses. We identified keywords and phrases, recorded respective occurrence counts, and noted reference in a positive or negative context. Additionally, we noted students’ emotional and personal reactions included in open-ended responses and recoded trends by occurrence counts of keywords.

**Quantitative analyses**

There were statistically significant pre-post course improvements in self-efficacy for each of the 19 competencies. For example, Figure 1 displays the average improvement across all 19 competencies. Additional post-course pretest assessment data indicated significant increase in perception of relevance of one's attitudes, beliefs, and stereotypes to patient care (CMQ scale; (174) t=7.52, p<0.001, Cohen's d=0.57). The course also aroused motivation to change in students, with 82.7% endorsing a moderate to great degree of this feeling after the course (Figure 2; M=3.26, SD=0.79).

**Qualitative analyses**

Common themes in student responses included a desire for in-person learning and positive reactions to the community member dialogues. Students often described these dialogues as providing real-world experiences and applications of course content. Personal and emotional responses to the course varied greatly. As represented by the word cloud (Figure 3), both positive reactions such as “safe,” “valuable,” “fun,” and “engaging,” as well as negative reactions such as “awkward,” “afraid,” and “uncomfortable” were present in student responses.