# Mixed Methods Analysis of Diversity and Equity Education: Perspectives from Third Year Medical Students

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## Introduction

Delivering culturally and socially responsive healthcare is an important part of being a physician. It is also imperative that healthcare professionals understand diversity and equity in healthcare. Unfortunately, these topics are not always seen in practice. Previous studies have found that Black patients are prescribed less opioid pain relievers in comparison to White patients[1]. Additionally, when not addressed, food insecurity, housing instability, and other social determinants of health (SDOH) have been found to interfere with healthcare[2]. To address this need, first-year medical students at Des Moines University are required to take a one-credit, pass/fail course, known as Foundations of Physicianship 1B (FOP 1B) through 2021 and known as Physician as Professional B thereafter.

Although FOP 1B has been delivered at DMU since 2017, it was updated substantially for the spring 2021 term for the DO 2024 class. Previously, the course included more emphasis on specific cultural profiles. In response to evolving practices in medical education and student needs and feedback, the course was updated to increasingly emphasize cultural humility, broader themes, and applicable skills across intersectional identities. The updated course also aims to increase student autonomy and individualized learning. FOP 1B now has four main themes: identity, communication, bias, and epidemiology. Within each theme, students engage with the content through community member panels, small group discussions, self-directed learning modules, and individual engagement activities. Other additions to the course included changing the format of community member panels, involvement of second-year teaching assistants, and a deeper emphasis on the impacts of racism and social determinants on health and healthcare.

The course includes a pre- and post-course survey to assess students' changes regarding providing culturally and socially responsive healthcare. In spring 2023, we expanded our longitudinal assessment to assess third-year medical students' (OMS-3) experiences in these areas and use of course elements during clinical rotations. OMS-3 students invited to participate in this research were from the DO 2024 class and were the first students to experience the updated FOP 1B course outlined above. Through a qualitative analysis of the survey responses, we hope to continue to shape the FOP curriculum to better fit the needs of medical students, overall improving culturally and socially responsive healthcare.

## Methods

**Participants**
All DO 2024 OMS-3 students (N=215) were invited to complete a Qualtrics survey at the end of their third year. Survey responses were not linked to students' identities, and students were compensated $5 for completion of the survey.

The research was reviewed by the DMU IRB and deemed exempt. Robust research enrollment rates were obtained for the OMS-3 survey (71.63%, N=154). The average age was 24.46 (SD=1.74, range 22-31). All participants identified as cisgender, with 51% male (N=101). Students predominantly identified as White/European American (66.5%), with 24.1% Asian/Asian American, 3.3% Middle Eastern/North African, 2.4% Multiracial, 1.4% Black/African American, 1.4% Hispanic/Latinx, and 0.9% Other/Prefer not to Answer.

**Analytic Approach**
Qualitative analyses: OMS-3 open-ended question responses were analyzed for recurring themes. Responses were keyed by two different student researchers. Differences in classification were discussed and resolved.

Quantitative analysis: OMS-3 ratings of their experiences in clinical rotations and how the FOP course prepared them were analyzed using SPSS. Valid percentages were calculated.

## Results

The OMS-3's open-ended responses yielded a few recurring themes upon qualitative analysis. Students:
- Used skills including communication and listening, motivational interviewing, and addressing the SDOH.
- Reported feeling unprepared in knowing which resources to provide patients, interacting with patients with a language barrier, and working with a preceptor.
- Would have preferred learning more about culture-specific information and exploring culturally responsive healthcare through practice scenarios.
- The quantitative data analysis showed that during their clinical rotations, OMS-3 students recognized the importance of the SDOH in patient care, encountered patients with an identity different from their own, and were prepared by FOP to provide culturally and socially responsive care

How Students Applied Course Content

Most Frequent → Least Frequent

| The Patient Encounter | Culturally and Socially Responsive Healthcare | Medical Student Self-Awareness | Course-Specific Feedback |
|---|---|---|---|
| Communication and Listening | LGBTQ+ Care | Checking One's Biases | Course Not Helpful |
| Language Barriers | Social Determinants of Health | Making Assumptions | |
| Kindness and Respect | Culturally Sensitive Care | | |
| Health Literacy | Veterans | | |

Figure 1: Students were asked how they applied course content in their clinical experiences. This displays the most endorsed responses, categorized by themes (top row) and subtopics (below). Subtopics highlighted communication and listening, LGBTQ+ care, and language barriers

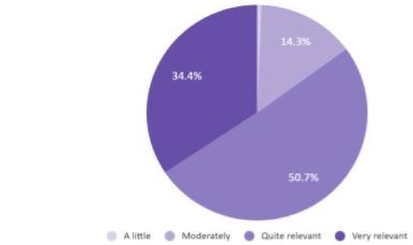
What Students Felt Unprepared For

Most Frequent → Least Frequent

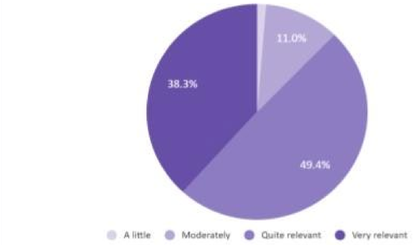
| The Patient Encounter | Resources | Preparedness | Culturally and Socially Responsive Healthcare | Empathy and Emotion | Working with a Preceptor |
|---|---|---|---|---|---|
| Patient Interaction | Providing Resources | Felt Prepared | Culturally Sensitive Care | Understanding from a Patient Perspective | Communicating with Preceptors |
| Trust | Language Barriers | Need more Real-World Experiences | LGBTQ+ Care | Emotional Toll | Working with Discriminatory Preceptors |
| Medical Jargon | Social Determinants of Health | | | | |
| Patients Resistant to Change | | | | | |

Figure 2: Students were asked what they felt unprepared for in their clinical experiences. This displays the most endorsed responses, categorized by themes (top row) and subtopics (below). Subtopics highlighted patient interaction and feeling prepared.

Student Perspectives of the Relevancy of the Social Determinants of Health to their Patients' Health/Health Care




How Often Students Encountered a Patient with an Identity Different from their Own




How Valuable FOP was in Preparing Students to Provide Culturally and Socially Responsive Care

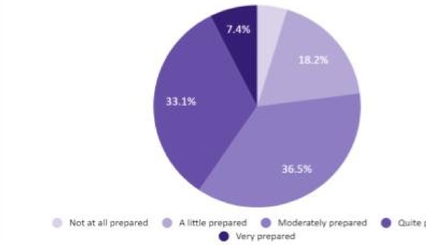



Figure 4: Students were asked to rate 1) How relevant the social determinants of health were to their patient encounters, 2) How often they encountered patients with an identity different from their own, and 3) how valuable FOP was in preparing them to provide culturally and socially responsive care.

## Discussion

We asked students to consider a specific time during a clinical encounter on rotations that involved working with a patient with an identity different from theirs and asked them to comment on: 1) How they applied something learned from FOP course in this encounter, 2) What they felt unprepared for in this encounter, and 3) What would have been helpful to learn in FOP to better prepare them for culturally and socially responsive care on rotations. Qualitative analysis of the OMS-3 students' open-ended responses showed that while many students felt well-prepared to provide culturally and socially responsive healthcare, other students acknowledged that real-world experiences are needed to improve on this area. Many students were comfortable communicating with and listening to their patients, caring for LGBTQ+ individuals, working with language barriers, and understanding the SDOH.

Our results highlight the need for more hands-on experiences, including working with individuals from various backgrounds and using an interpreter during patient interactions. This could perhaps include more standardized patient experiences or simulated experiences during pre-clinical education.

A few students expressed wanting more education on the health and daily life practices of specific religions and cultures. While this desire for specific guidance is understandable, this is intentionally not emphasized in the course, as updated practices in medical education have moved away from a culture-specific or cultural competency approach due to its limited ability to reflect interindividual differences and its potential for increased stereotyping. Rather, one of the goals of this updated course is to provide students with a framework to develop cultural humility for ongoing learning about each patient's intersectional individual preferences, to deliver personalized culturally and socially responsive healthcare.

Quantitative analysis of student ratings regarding their experiences in clinical rotations yielded that most students felt prepared and able to provide culturally and socially responsive healthcare. However, there is still room for improvement to prepare more students for their clinical rotations.

One limitation to this study includes the reliance on student-reported data and perceptions through survey methods. While a more ideal measure would be directly observing clinical interactions, this was unfortunately not feasible.

## Conclusion

The qualitative analysis of open-ended responses by third year medical students yielded multiple themes, providing information on how to better shape the existing first-year course as well as broaden DMU curricular efforts to enhance medical students' abilities in providing culturally and socially responsive healthcare throughout their training. This includes continuing education on communication while creating more hands-on practice and helping students identify resources to give patients.

Quantitative analysis of the four prompts showed that most students felt prepared and able to provide culturally and socially responsive healthcare. These results are helpful for course directors to ensure that more students feel prepared for their rotations.

Future work on this project may include providing this feedback to faculty to consider ways to embed this feedback into clinical education. Other areas of work could include surveying future OMS-3 students to identify any differences based on the online format of this cohort's FOP curriculum due to the COVID-19 pandemic. It also could be important to survey students longitudinally throughout their second and third years to better understand timing and patterns of changes in attitudes regarding culturally and socially responsive healthcare. Lastly, it is worth considering including an evaluation in competence in these areas as part of preceptors' clinical evaluations. This could be yet another method to help identify the educational needs of students during rotations.

## References

[1]Morden, N. E., Chyn, D., Wood, A., & Meara, E. (2021). Racial inequality in prescription opioid receipt—role of individual health systems. *New England Journal of Medicine*, *385*(4), 342-351.
[2]Wilder, M. E., Kulie, P., Jensen, C., Levett, P., Blanchard, J., Dominguez, L. W., ... & McCarthy, M. L. (2021). The impact of social determinants of health on medication adherence: a systematic review and meta-analysis. *Journal of general internal medicine*, *36*, 1359-1370.

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