Disability and Ableism in Medicine: A Curriculum for Medical Students

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Abstract

Introduction: Individuals with disabilities (approximately 20% of the population) experience discrimination and health disparities. Medical school must equip students with expertise to care for patients with disabilities and to identify ableism. Yet, few schools provide curricula that offer a sociopolitical lens for understanding this topic. We developed a disability and ableism curriculum to address this gap.

Methods: We developed a mandatory 2-hour session for first-year medical students at University of California San Francisco. Activities included: privilege awareness, student-led discussions, and intervention brainstorming for overcoming health care barriers/biases. The session was evaluated through pre/postsurveys, as well as a follow-up survey 1 year later. Results: In feedback collected during 2018 and 2019, students described the session as meaningful and relevant. Faculty facilitators reported that the session provoked powerful student-centered learning, leadership, and widespread participation. On average the students rated the session 4.6 on a 5-point scale. Pre- and postsession data analysis indicated significant increases in students’ self-reported understanding of ableism (p < .001) and confidence in assessing barriers to care for patients with disability (p < .001). One year later, students reported that the session had influenced their conceptualization of providing care to patients with disabilities.

Discussion: Through innovative and participatory activities, this small-group session introduced students to important topics such as ableism, the social model of disability, disability history and culture, and health disparities. Our work suggested that creating curricula to equip students with structural frameworks for understanding disability—a topic underrepresented in medical curricula—stimulated student interest and commitment.

Keywords
Diversity and Inclusion, Health Equity, Health Policy/Health Care Reform, Reflection/Narrative Medicine, Flipped Classroom, Problem-Based Learning, Disability, Health Care Disparities, Prejudice, Ableism, Privilege, Bias, Intersectionality

Educational Objectives

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

1. Explain possible influences of disability on patient health and clinical encounters.
2. Compare and contrast the medical and social models of disability.
3. Discuss the meaning and manifestations of ableism in and beyond the health care context.
4. Identify the ways in which ableism contributes to health and health care disparities.
5. Generate solutions through which medical communities can address ableist norms and practices.
6. Reflect on their relationship to disability and how it could impact their future clinical practice.

Introduction

To understand and address today’s growing health disparities, physicians-in-training must develop a firm grasp on the social and structural determinants of health.1 One such topic in need of more attention within medical education is disability. Approximately 20% of Americans have a disability, representing a substantial population that experiences well documented disparities in health and health care, such as less access to health services, lower rates of screening for preventable diseases, and worse outcomes after being diagnosed with cancer as compared to people without disabilities.2 Indeed, in narratives shared by individuals with disabilities, a common theme is discriminatory and dehumanizing health care-related experiences.3,5

By offering future physicians opportunities to engage critically with issues related to disability and to consider strategies to improve care for this population, medical education can...
play a role in addressing our health care system’s failures to adequately serve patients with disabilities. Foundational to the understanding of disability is the concept of ableism, which is a dominant worldview that can lead to bias. Ableism values independence over interdependence, and perceives physical capability, able-bodiedness, and neurotypicality as the norm. This paradigm treats disabilities as deficits to be ideally overcome. Unfortunately, ableism can lead to significant prejudice, and its ideas have been deeply embedded in conventional understanding of disability.

In exploring the ways disability has been taught and understood in medicine, it is useful to employ two distinct conceptual models for disability: the medical model and the social model. The medical model of disability conceptualizes disability as arising from a nonfunctioning part of someone’s body, a characteristic inherent to the individual, wholly separate from environmental and social context. In contrast, the social model of disability provides an alternative framework, wherein disability arises not from the nonstandard body itself, but primarily from the social conditions that exclude and stigmatize individuals with nonstandard bodies.

Rather than identifying and working to dismantle ableism, traditional medical school curricula on disability may inadvertently perpetuate ableist norms through their reliance on a biomedical perspective, rather than applying a sociopolitical lens. Learning tends to center on simulating a disability or on describing specific impairments. While the goals of such activities may be to expand student perspectives and empathy, evidence shows that this approach is not only inadequate, but may also be detrimental to learners. In one study, undergraduate students participated in a disability simulation involving activities meant to mimic the experience of having dyslexia, hearing and vision impairments, and a mobility impairment. Evaluation of the curriculum showed that participants felt increased negative emotions and vulnerability to disability themselves following the simulation. However, participants did not report improved attitudes about interacting with individuals with disabilities. In sum, the authors suggested that simulation activities may distort the realities of living with a disability, fail to highlight structural factors that disempower individuals with disabilities, and offer a portrayal that excludes the richness of disability history, culture, and community.

Our curriculum is part of a recent shift within medical education to address the gaps in medical school curricula and to introduce students to ableism, the social model of disability, disability history and culture, and health disparities. Our session contributes to MedEdPORTAL, which at present, includes only one other preclinical curriculum covering topics related to disability history and culture. Another session by Rogers and colleagues centered on assembling a panel discussion of community members with disabilities. Our curriculum complemented their work by engaging students in highly participatory small-group activities based on challenging reading materials and provocative discussion questions. Further, our curriculum built on the structural competency curriculum published on MedEdPORTAL by Joshua Neff and colleagues, by grounding conversations about disability in social, economic, and political structural factors. Finally, our curriculum explicitly recognized that disabilities affect not only our patients, but also members of our medical community, and that medical school has historically been a difficult environment in which to be open about having a disability.

Methods

Curricular Context

The disability and ableism in medicine curriculum presented here is part of the University of California San Francisco (UCSF) School of Medicine, health and the individual (H&I) course, a 3-week social and behavioral foundational science block during the first year of medical school. It was designed to be delivered as a 2-hour seminar for groups of 12 students with one facilitator. Facilitators were faculty members, community clinicians, or senior student teaching assistants. Facilitators were recruited based on their interest in, and experience with, topics related to privilege, oppression, and bias in medicine. In preparation for the session, facilitators were strongly encouraged to read the presession reading assigned to students. Many of the facilitators for this small-group session also led other sessions during the 3-week H&I course which broadly focused on identity and social justice themes. Facilitators had a weekly orientation and debrief with the H&I course directors which included preparing for the disability and ableism session. The disability and ableism curriculum was successfully implemented for 3 years in the H&I course (2018, 2019, and 2020) for all first-year medical students at UCSF, with plans to continue including this session in future years of the course. This research was determined to be exempt by the UCSF Committee on Human Research.

Curriculum Development Process

After participating in the H&I curriculum as first-year medical students, authors Hannah Borowsky and Leora Morinis received funding from the UCSF Educational Sciences and Curriculum Development Fellowship, an 8-week intensive summer program aimed at supporting students to develop and implement curricular changes in partnership with a faculty mentor. For their
To ensure that the development of new curriculum was guided by student feedback, we began our project by analyzing previously collected student feedback on the 2017 H&I course. We used qualitative methods to code the survey data to identify characteristics of high-quality H&I small-group student experiences. Three central themes were identified, including the importance of evidence-based discussion; recognition of the complexity of patients’ lives; and acknowledgment of students’ personal connection to H&I topics. Course leadership was receptive to improving its disability curricula and to elevating student leadership in curriculum development.

Initially and throughout the development of this curriculum, we sought expert advisors in diverse fields including disability education, racial justice, HIV medicine, public health, and community trauma to share perspectives and review the curriculum. Several of the people involved in creating this curriculum identified as having a disability. All segments of the session were piloted with a small group of students and faculty before implementation.

Curriculum Content and Implementation
The session included three key components: (1) student presentations and group discussions on key topics; (2) a countering ableism in the medical field brainstorming activity, wherein students developed strategies for overcoming health care barriers and biases; and (3) a privilege awareness activity, based on an abled-privilege checklist. See the session outline below. The facilitator guide (Appendix A) described instructions for all activities in detail. The corresponding student in-session guide (Appendix B) provided guidance and note-writing space for students throughout the session.

Session Outline
1. Introduction (10 minutes).
2. Part 1: (1) Presentation preparation in small groups (15 minutes); (2) Student presentations (40 minutes).
3. Break (10 minutes).
4. Part 2: Countering ableism in the medical field activity and discussion (30 minutes).
5. Part 3: Abled-privilege checklist (15 minutes).

Prior to the session, students were asked to complete the presession assignment (Appendix C). The assignment included reading two foundational articles on ableism and the social model of disability in order to provide a shared language and framework for the session. In addition, 1 week in advance, students were instructed to sign up for one of four presentation topics and to complete the assigned reading for their chosen topic. The presentation topic online signup sheet was made available to students as an editable Google Spreadsheet (Appendix D), allowing students to identify their fellow group members prior to the session. The presentation topics were: health and health care disparities, disability history and policy, disability and intersectionality, and disabilities amongst medical professionals. By providing students with high-quality readings on their presentation topics and then empowering them to take ownership of teaching their peers, the didactic portion of the session became highly participatory and engaging. During their brief presentations, students were asked to summarize the readings and highlight provocative questions for the group. The format of the presentation was left up to students’ discretion, but every group member was encouraged to participate in the presentation in some way. Following each presentation, the other students had the opportunity to ask questions and share thoughts.

In the next activity, inspired by an activity created by the Unitarian Universalists Association Accessibility and Inclusion Ministry, students worked in groups of three to four to brainstorm interventions to address well documented barriers and biases that perpetuate disparities for patients with disabilities. For example, in considering one barrier, “Physician assumes patient with physical disability is not sexually active and does not take a sexual history when indicated,” students brainstormed interventions at multiple levels like clinic-wide standardization for sexual history taking, comprehensive training in medical school on sexual health, and conducting research on sexual health for individuals with a range of different disabilities.

The final activity was intended to draw awareness to able-bodied privilege. It was adapted from an exercise developed by Lydia X. Z. Brown, a disability justice writer and activist. Students were given a few minutes to read a 22-item checklist, which included statements like, “My type of body is not used as a metaphor for brokenness, suffering, mediocrity, or ignorance,” and, “Strangers will generally not ask me personal, invasive medical questions.” As they read the list, they were asked to reflect on the statements and consider which applied to themselves, to people they knew, or to patients they had met.

Following the session, students were provided with a document of key points in order to solidify educational objectives (Appendix E).
The design of the small group aimed to address each educational objective. The student-led presentations focused on educational objectives 1-4. The countering ableism in the medical field activity and discussion focused on objective 5, and the abled-privilege checklist activity focused on objective 6.

Evaluation Strategy
We evaluated students’ experiences of the curriculum through pre- and postsession surveys (Appendices F and G) conducted for 2018 and 2019. Additionally, we conducted a follow-up survey of participants in the first year of the curriculum approximately 1 year after they participated in the session in order to evaluate longitudinal impact (Appendix H). We also solicited informal feedback from faculty facilitators following the session.

All surveys were created on Qualtrics, an electronic survey software, and disseminated to students in a variety of ways including within the session materials, by email, and on the class’s Facebook page. Survey questions utilized a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) to assess students’ perceptions on disability in general and their understanding and confidence around the topic. The postsession survey also included questions about the quality of learning during the small group session and a free response question, allowing students to share additional comments. Survey participants utilized a unique, anonymous ID to complete the survey so that pre- and postsession survey responses could be linked. Our analysis included comparisons of the average pre- and postsurvey data from all participants using a two-tailed independent-samples t test (p < .05), as well as a paired samples t test (p < .05) to compare the mean scores from the students who completed both surveys.

Results
Over the first 2 years of implementation (2018 and 2019), the response rate for the presession survey was 40% (n = 121) and postsession survey was 28% (n = 86). Approximately 13% of students (n = 41) participated in both the pre- and postsession survey. The remaining students completed only one of the surveys.

Overall, students reported the session’s content to be exceptionally valuable to their medical education (M = 4.6; Table 1). Students strongly endorsed the importance of physicians understanding the influence of disability on patient health and clinical encounters in both presession (M = 4.9) and postsession (M = 4.9) surveys. Before the small-group session, students reported a moderate understanding of the concept of ableism (M = 3.8) and a low level of confidence in their own abilities to assess barriers to care for patients with disabilities and determine interventions to address these barriers (M = 2.9). Following the small-group session, students reported higher levels of understanding (M = 4.4) and confidence (M = 3.9). For the average scores of the pre- and postsession surveys, the independent-samples t test indicated a statistically significant increase in students’ understanding (p < .001) and confidence (p < .001; Table 1). Analysis of data from the 41 students who completed both pre- and postsession surveys similarly indicated a significant increase in understanding of ableism (p < .001) and confidence in identifying and addressing barriers to care (p < .001) before versus after the session. Representative student and faculty comments about the session can be found in Table 2.

In the postsession survey, students rated the session’s activities to be highly effective in meeting the educational objectives (M = 4.4; Table 1). Although each educational objective was not assessed individually, students reported an increased level of understanding of ableism, which suggested successful fulfillment of educational objectives 3 and 4. Likewise, students reported increased confidence in their abilities to assess barriers to care for patients with disabilities and determine interventions to address these barriers, which suggests successful fulfillment of educational objectives 1 and 5. Student written comments included comparisons of the average pre- and postsession data from all participants using a two-tailed independent-samples t test (p < .05), as well as a paired samples t test (p < .05) to compare the mean scores from the students who completed both surveys.

Table 1. Disability and Ableism in Medicine Seminar: Student Evaluation Data 2018 and 2019

| Statement                                                                 | Presession M (SD) | Postsession M (SD) | p    |
|---------------------------------------------------------------------------|------------------|--------------------|------|
| I believe it is important for physicians to understand the influence of disability on patient health and clinical encounters. | 4.9 (0.4)        | 4.9 (0.3)          | .30  |
| I understand the concept of ableism and how it may affect patient care.  | 3.8 (0.8)        | 4.4 (0.5)          | < .001
| I am confident in my ability to assess barriers to care for patients with disability and determine interventions to address these barriers. | 2.9 (1.0)        | 3.9 (0.8)          | < .001
| The content covered in this small group session was valuable to my education as a medical student. |                  | 4.6 (0.5)          |      |
| The activities in this small group session helped me meet the session's learning objectives. |                  | 4.4 (0.7)          |      |

*Rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).
*121 students completed the presession survey.
*86 students completed the postsession survey.
*Indicates statistical significance (p < .05).
Table 2. Disability and Ableism in Medicine Seminar: Student Postsession Written Feedback and Facilitator Comments

| Participant | Theme | Comment |
|-------------|-------|---------|
| Student     | New understanding of disability. | "Disability is a much more complex issue than I thought." |
|             |       | "One major takeaway was the perspective that society is not well equipped to accommodate individuals with disabilities, not the other way around. I can also use the materials from the session for quick reference." |
|             |       | "I wasn’t familiar with the concepts of ableism and disability as it pertains to health care, so I found this session to be very informative and helpful." |
| Small-group session design. |       | "The disability small group was done really well—it incorporated ideas from students and pushed us to prepare for the session beforehand." |
|             |       | "I’m happy we have time and space to discuss disability and ableism and feel that it should have a bigger part of the curriculum." |
|             |       | "We had a very thoughtful and rich discussion, and I learned a lot from my peers." |
|             |       | "It was really cool to learn from classmates especially because people chose topics they had some personal interest/experience in." |
| Self-reflection and inquiry. |       | "The disability and ableism in medicine small group led me to deeply reflect on the privilege I have held being an able-bodied individual. That is something I will be cognizant about moving forward as I hope that the awareness helps me provide better care to future patients." |
|             |       | "An amazing small group and an eye-opening experience." |
|             |       | "I really liked the privilege exercise and thought the different topics we presented on were so thought-provoking." |
|             |       | "It helped me to learn more about what I don’t know I don’t know.” |
| Facilitator  | Effective learning strategies. | "It was definitely student centered learning—and it worked!” |
|             |       | "I appreciated the multiple angles you took to cover the learning objectives and the overall learning was very effective." |
|             | Engaging discussions. | "The student presentations were thoughtful and insightful, with excellent discussions after each presentation." |
|             |       | "Each session seemed to hit all of the important points in their small group presentations and the discussion was very engaging and positive." |

(Table 2), particularly on the theme of “self-reflection and inquiry,” suggested successful fulfillment of educational objective 6. Educational objective 2 was not formally assessed, but information regarding the medical and social models of disability were explicitly covered in the required prereading and then discussed during the student presentations. The key points (Appendix E) further underscored information pertinent to the educational objectives.

To assess longer lasting impacts of the curriculum, we surveyed participants from the first year of the curriculum 1 year later (Table 3). Survey questions were modeled after the original pre- and postsession surveys. The survey response rate was 13% (n = 20). When asked if the disability and ableism small-group session had influenced the way they think about providing care to patients with disabilities, the average student response was 4.2 on a 5-point scale. On average, students rated their understanding of ableism and confidence in their abilities as higher 1 year later as compared to before participating in the curriculum. However, the difference did not reach statistical significance.

Discussion

We developed a well received 2-hour small-group seminar for first-year medical students on disability and ableism in medicine. Through innovative and participatory activities, the session introduced students to a number of topics, including ableism, the social model of disability, disability history and culture, and health disparities. Evaluation of the curriculum through survey data indicated significant increases in students’ self-reported understanding of ableism and confidence in assessing barriers to care for patients with disabilities.

Through this work, we learned a great deal that can be applied to future efforts to incorporate disability education into medical school curricula and, more generally, to other social and educational settings.

Table 3. Disability and Ableism in Medicine Seminar: 1 Year Follow-Up Evaluation Data for 2018 Cohort*

|                              | Presession M (SD) | 1 Year Later M (SD) | p   |
|------------------------------|-------------------|---------------------|-----|
| I believe it is important for physicians to understand the influence of disability on patient health and clinical encounters. | 4.9 (0.3)        | 4.7 (0.9)        | .23 |
| I understand the concept of ableism and how it may affect patient care. | 3.9 (0.8)        | 4.2 (0.4)        | .12 |
| I am confident in my ability to assess barriers to care for patients with disability and determine interventions to address these barriers. | 3.0 (1.0)        | 3.5 (0.8)        | .055|
| The disability and ableism in medicine small group influenced the way I think about providing care for patients with disabilities. | | 4.2 (0.8)       |     |

*Rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

50 students completed the presession survey in 2018.

20 students completed the 1 year follow-up survey.
behavioral health curricula. First, designing small-group seminars that prompted students to take ownership of content can provoke meaningful participation from all students. As it applied to this curriculum, a number of facilitators noted how impressed they were with the quality of the student presentations, which ranged from PowerPoint presentations to question and answer discussions. Similarly, students noted how inspired they were to be learning from each other’s expertise, since each presentation group was responsible for delving into a different topic. Second, readings and activities that link individual experiences of disability to structural determinants of health (i.e., policies, social hierarchies, economic systems) can offer students a valuable lens to think about medicine and advocacy. Additionally, the success of this small-group session, developed by second-year medical students, supported the value of near-peer curriculum development. As recent participants in H&I small-group sessions themselves, the authors were especially well positioned to choose readings and create activities that would be appropriate for and relevant to students. Finally, this work was evidence that building a curriculum informed by the wisdom of content experts in diverse fields can enrich medical education and connect medical schools more deeply to their surrounding community context.

Our project was not without limitations. The session was limited by its 2-hour timeframe; students and faculty reported wanting more time to cover the material. Further, longitudinal engagement throughout medical school in disability-related curriculum would be preferable to a one-time session. Additionally, content must be regularly updated to reflect the status of disability in contemporary culture. There were also limitations to our evaluation of the curriculum. Our evaluation data measured aspects of students’ experience of the curriculum but did not directly assess fulfillment of the educational objectives. In order to assess lasting impacts and long-term outcomes, additional evaluation of this curriculum should track students later in their medical career after having more clinical experience. There was also a low evaluation response rate and, thus, survey data may not be representative of the entire class. Finally, recruiting numerous facilitators with expertise to lead sessions on difficult and emotionally charged topics like this one remains a challenge, but is also an opportunity to forge new connections with community clinicians with unique expertise.

The goal of our curriculum was to equip medical students with a structural and human rights framework for understanding disability—a topic largely underrepresented in medical school curricula. We hope that our curricular approach can guide future efforts to incorporate social and structural determinants of health more comprehensively and rigorously into medical training. At our own institution, this curriculum has served as a template for other sessions on social and behavioral science topics, including drug pricing and LGBTQIA+ curricula. Such training can empower future clinicians to attend to, and work to ameliorate, health disparities—changing our health care system to better care for populations which have historically been poorly served.

Appendices
A. Facilitator Guide.docx
B. Student In-Session Guide.docx
C. Presession Assignment.docx
D. Presentation Topic Online Sign-Up Sheet.xlsx
E. Key Points.docx
F. Presession Survey.docx
G. Postsession Survey.docx
H. Follow-Up Survey.docx
All appendices are peer reviewed as integral parts of the Original Publication.
Informed Consent
All identifiable persons in this resource have granted their permission.

Prior Presentations
Borowsky H, Morinis L (joint first authors), Garg M. Disability and ableism in medicine: a curriculum for first-year medical students. Poster presented at: Courage to Lead: Equity, Engagement, and Advocacy in Turbulent Times. Society for General Internal Medicine 2019 Annual Meeting; May 8-11, 2019; Washington, DC.

Borowsky H, Morinis L (joint first authors), Garg M. Disability and ableism in medicine: a curriculum for first-year medical students. Poster presented at: AAMC Western Group on Educational Affairs Collaborative Spring Conference; March 28-31, 2019; Reno, NV.

Ethical Approval
The University of California San Francisco Committee on Human Research approved this study.

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