HHS Public Access

Author manuscript

Acad Med. Author manuscript; available in PMC 2020 January 09.

Published in final edited form as:

Acad Med. 2015 December ; 90(12): 1636–1640. doi:10.1097/ACM.0000000000000850.

The Evolution of an Elective in Health Disparities and Advocacy: Description of Instructional Strategies and Program Evaluation

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Abstract

Problem—Health disparities remain pervasive in the United States. Training future physicians to address health disparities requires attention to both systemic and provider causes of disparities, but comprehensive curricula are lacking.

Approach—Albert Einstein College of Medicine in Bronx, New York, offers a 13-session health disparities elective to first-year medical students. The curriculum covers three main content areas: background, provider contributions to health disparities, and systemic contributions to health disparities (i.e., social determinants of health). Teaching methods included didactic and multimedia presentations, reflective discussions, and skill-building seminars (e.g., addressing subconscious assumptions and advocacy training). The authors evaluated the course in 2010–2013 by comparing students' summary scores for knowledge, attitudes, and self-reported confidence on pre- and postintervention tests. They investigated associations between students' sociodemographic characteristics and changes in summary scores.

Outcomes—Scores increased significantly in each domain: Mean knowledge scores increased from 63.6 (± 10.0), out of 100, to 76.4 (± 12.8); mean attitudes scores increased from 16.7 (± 1.9), out of 20, to 18.2 (± 1.1); mean confidence scores increased from 10.7 (± 1.5), out of 16, to 14.4 (± 1.7). Younger students (< 24) had greater changes in confidence than older students. Other sociodemographic characteristics were not associated with changes in any domain.

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Other disclosures: None reported.

Ethical approval: This study was approved by the institutional review board of the Albert Einstein College of Medicine on January 28, 2014. Reference #: 001249.

Previous presentations: The abstract of an earlier version of this article was presented at the 2011 Annual Meeting of the Society of General Internal Medicine.

Next Steps—Exposure to health disparities instruction is important for medical students. The authors' experience provides insights for incorporating such material into the compulsory curriculum. Future evaluation of outcomes from similar curricula should include measures of clinical behaviors (e.g., through clinical examinations).

Problem

Health disparities based on sociodemographic factors have been well documented in the United States for decades[1]; however, effective interventions to reduce disparities remain elusive. Health disparities span the spectrum of human disease[1] and are therefore relevant to all practicing and future physicians. Professional organizations, including the Association of American Medical Colleges, have identified health disparities education as a key component of a physician's training.[2] We felt that by designing an innovative medical school curriculum that provides skills to address disparities in clinical practice and through health system change, we could prepare future physicians to reduce health disparities.

We describe the evolution of an innovation in health disparities education for first-year medical students at Albert Einstein College of Medicine (Einstein). Einstein is located in Bronx, New York, which is an ethnically and racially diverse borough with high rates of poverty and suboptimal health outcomes.[3] Previously reported curricula have enhanced students' knowledge regarding health disparities[4]; however, to our knowledge, whether health disparities curricula also enhance students' attitudes and skills has not been reported. Additionally, we are unaware of curricula that instruct students on reducing health disparities both within clinical practice and within their communities. To fill this gap, we designed an elective that aimed both to promote medical students' awareness of their own potential to contribute to health disparities and to provide them with clinical and advocacy skills to reduce systemic causes of health disparities. We sought to enhance students' knowledge, attitudes, and self-confidence in addressing health disparities.

Approach

In 2009, we developed an eight-session elective using the guidelines for health disparities education curricula, which were created by the Society of General Internal Medicine's Disparities Task Force.[5] In response to learner feedback from focus groups conducted after the initial elective offering,[6] we reworked several sessions to include skill-building exercises, and we added five sessions on practical advocacy skills. Subsequent to these revisions, the course structure has remained constant.

Course content

Overview—This lunchtime elective comprises thirteen 1.5-hour sessions over three months. Course goals are as follows:

1. To improve awareness of health disparities and knowledge of their multifactorial etiologies;
2. To recognize both the *systemic* (e.g., health care systems, social determinants of health) and *provider* (e.g., implicit bias)[2] contributions to health disparities;

3. To target *provider* disparities through improved student–patient and doctor–patient communication techniques that address implicit bias and patient mistrust; and

4. To target *systemic* disparities by developing practical advocacy skills.

Table 1 lists the session titles, learning objectives, and instructional strategies for each of the course's three sections (which we describe below).

Section 1: Epidemiology of health disparities—The first three sessions provide students with definitions and background information on health disparities, including evidence of disparities, descriptions of the social determinants of health, and examples of disparities affecting the Bronx. The background materials we provide have evolved over time in response both to learner feedback and to logistical issues (e.g., some Web pages are no longer accessible on the Internet). See Table 1 for a list of current materials.

Section 2: Provider contributions to health disparities—The second section (Sessions 4–6) focuses on provider contributions to health disparities. Faculty describe implicit bias and impart enhanced communication skills (e.g., remaining patient centered, recognizing the individuality of patients).

These three sessions have required revision because of the challenges of teaching about implicit bias. Originally, students took the Implicit Association Test (IAT)[7] and then participated in a "first thought" exercise, which presented a clinical scenario in which misleading assumptions could be detrimental to clinical care. Discussion focused on the potential consequences of such assumptions. In the next session, students identified strategies for culturally competent interviewing by discussing vignettes that originated from actual patient encounters in the Bronx.

The IAT proved to be provocative, an effective trigger for discussing bias, but some students were reluctant to publicly discuss their assumptions, so we revised this section in several ways. First, we introduced the concept of implicit bias earlier in the background section of the course, which provided more time to normalize or destigmatize the concept. When students did eventually take the IAT, they had background knowledge about implicit bias and were better able to discuss ways that assumptions can negatively affect clinical care. Second, we added nonclinical scenarios to the post-IAT discussion to reflect the ubiquitous nature of implicit bias, which further normalized the concept. Additionally, we intended for these nonclinical scenarios to reduce the emotional charge of discussions. After participating in this reflective discourse, students moved to the skill-building sessions.

The final skill-building session (Session 6) builds on students' previous identification of strategies for culturally competent interviewing (i.e., an open-ended, naturally inquisitive approach). This session incorporates a role-play exercise to further develop communications skills that could minimize the impact of implicit bias on clinical encounters. The role-play includes a vignette that describes a patient with AIDS and end-stage renal disease who refuses hemodialysis. Throughout this session, we emphasize that the classroom is a safe and respectful place. By debriefing after each performance of the role-play, we provide a

way for students to recognize their biases and strategize how to manage them in future clinical encounters. These changes to the elective seem to have increased students' engagement in the sessions.

Section 3: Systemic contributions to health disparities—The third section of the course (Sessions 7–12) provides instruction on advocacy skills. The first session (Session 7) focuses on community perspectives on health disparities to prepare learners to think broadly about health disparities and the health priorities of the community. The remaining sessions focus on advocacy skills—specifically, strategic planning, grassroots organizing, meeting with legislators, and media communications (Table 1). We have adapted materials for these sessions from the American Academy of Pediatrics, the National Physicians Alliance, and the Midwest Academy Manual for Activists.[8] Students produce a letter to the editor or op-ed piece, practice public speaking, and develop an advocacy plan to address a health disparity that they have recognized in their community. These sessions are similar to those used in a long-standing elective called "Research-Based Health Activism" that Einstein offers to fourth-year medical students (which others have previously described in more detail[9]).

Learner assessment and recognition

Students complete a 20-minute, 14-item test pre and post intervention that assesses their knowledge, attitudes, and self-reported confidence as they pertain to health disparities. We have tailored the test items to specific session learning objectives. We administer pretests on the first day of class, and posttests one to two weeks after the last instructional session (in the 13th wrap-up session). The pre/posttests are identical, and we link them by student using an anonymous four-digit identifier. We also collect student sociodemographic data.

Measures—The pre/posttest assesses knowledge, attitudes, confidence in applying knowledge, and confidence in skills (Table 2). We assess knowledge through five open-ended questions that require students to define and give examples of key concepts. We have developed a grading rubric for the free-text answers, and possible scores range from 1 (no knowledge) to 5 (complete knowledge). Two investigators, blinded to student and pre–post status, independently grade the free-text answers. When scores differ by one point, we average the scores. If they differ by two or more points, a third investigator determines the score.

We assess attitudes through four self-reported items, self-reported confidence in knowledge through three items, and self-reported confidence in skills through a single item. We score each of these nine items using a four-point, Likert-type scale with values ranging from 1 ("strongly disagree") to 4 ("strongly agree").

For the three domains with multiple items (knowledge, attitudes, and self-reported confidence in knowledge), we determine a summary score by totaling the score of each individual item in that domain. The knowledge score is presented as a percentage for ease of interpretation.

Recognition—Initially, students received no recognition for completing the course. Currently, students who complete the course receive a distinction on their transcript for

completing the elective (and this recognition may increase motivation to participate in the elective).

Program evaluation

We aggregated learner assessments from 2010 to 2013 for the program evaluation. Each student completed a standard course evaluation form administered by our Office of Medical Education from 2011 to 2013. Students rated how well the course met the learning objectives on a scale of 1 (“not at all”) to 5 (“extremely well”), and they rated the course overall on a scale of 1 (“poor”) to 5 (“excellent”). Einstein’s institutional review board has deemed this program evaluation exempt research.

Outcomes

Scores

Over the evaluation period covered in this report (2010–2013), 48 students (a range of 9–16; an average of 12) participated in the elective annually. Attendance at each course session over the four years was approximately 80% to 100%, and all 48 students have completed the course; however, the data we present below are for only the 39 who completed both the pretest and posttest.

The median age of the 39 students was 25. Of these students, 24 (62%) were female, 15 (38%) non-Hispanic white, 11 (28%) Asian, 6 (15%) Hispanic, and 4 (10%) non-Hispanic black (percentages do not equal 100, and numbers do not equal 39 because some students did not answer, and others reported multiple races). As a comparison, over the same four years, the general student body at Einstein (total students = 741) had a median age of 27; 48% of the total student body were female, 60% non-Hispanic white, 27% Asian, 7% Hispanic, and 6% non-Hispanic black.

The college majors of the 39 students enrolled in the Health Disparities and Advocacy course who completed both the pre- and posttests were as follows: 29 (74%) majored in the natural sciences, 4 (10%) in the social sciences, and 6 (15%) in the humanities. Two students had MPH degrees at the beginning of the course.

The knowledge, attitudes, and self-reported confidence domains all showed a statistically significant increase (Table 2). Each individual knowledge question, except one about physicians’ assumptions, showed a statistically significant increase. In exploratory analyses, younger students (< 24) had a greater change in confidence than older students (≥ 25), but gender, race, and major in college were not associated with changes in any of the domains.

On standard course evaluations, students reported that the course met each learning objective either “moderately” or “extremely” well. The course received an overall rating of 4.3 (out of 5) in 2011, 4.75 in 2012, and 4.4 in 2013. Several students also commented in their formal course evaluations that major strengths were the opportunity to discuss issues of race and racism safely in a small-group setting and the focus on domestic (U.S.) health disparities.

Lessons learned

First, our teaching methods became more skills focused and experiential over time, which seemed to allay students' initial concerns that they were learning about health disparities without being prepared to confront them. Role-playing was a useful instructional strategy to have students recognize their implicit biases and develop strategies to manage them in future clinical encounters.

Second, we believe that having the vocabulary and background knowledge of health disparities created a foundation for the students to engage in higher-level discussion on health disparities and that this foundation led to a posttest increase in confidence.

Third, organizing the course as an elective provided the advantage of teaching motivated, self-selected students, but introduced several unique challenges. Faculty volunteered the time required to develop, teach, and lead the elective, which could affect sustainability. Students desired additional reading on complex topics, but reading for electives is not allowed because it could potentially distract from required course work. Piloting the elective in a small, friendly audience helped us revise and enhance it, which is a normal part of curriculum development; however, instructional strategies may require modification, and outcomes may differ if participation were mandatory and included more resistant learners.

Next Steps

Our outcomes included knowledge, attitudes, and self-reported confidence, but we did not observe students in clinical encounters (real or simulated) or in advocacy roles to assess practices. Our evaluation lacked a comparison group of students not participating in the elective, so we cannot assess what level of improvement may be associated with exposure to other medical student course work and experiences that are not attributable to the elective itself. We are unsure which sessions most contributed to increases in knowledge, attitudes, and confidence. Further research is needed in these areas.

Nonetheless, the data we have gathered to this point suggest that instruction in health disparities can move beyond knowledge, positively influencing attitudes and self-confidence, which in turn, could affect behaviors and skills in clinical practice. Next steps will include confirming these observations by assessing actual behaviors in Observed Structured Clinical Exams, which will require the development of an assessment for recognizing and managing implicit bias in standardized patient encounters.

We also anticipate incorporating this curriculum into the compulsory longitudinal medical school curriculum, which will require attention to engaging more resistant learners. A more ambitious goal is to assess the impact of this curriculum on medical students' behaviors during clinical rotations and future practices. We believe that the demonstrated improvements in knowledge and confidence regarding health disparities will aid students in interpreting, contextualizing, and acting on the disparities that they are likely to encounter; however, it will require additional research to determine whether health disparities instruction "inoculates" students from the negative effects of a "hidden curriculum" they may encounter during clinical rotations.[10]

We have offered a comprehensive health disparities curriculum as an elective for first-year medical students, and adapted the curriculum based on student feedback and performance. Overall, students have evaluated the elective positively, and classes have been well attended. Students have demonstrated an increase in knowledge, an improvement in attitudes, and an increase in self-reported confidence in areas related to health disparities.

Acknowledgments

The authors wish to thank Dr. Pablo Joo for his ongoing advising in curriculum development, Ms. Marilyn Deluna for administrative assistance, and participating faculty and the members of the Medical Education Affinity Group of the Department of Medicine for critical feedback.

Funding/Support: The Office of Medical Education funded the elective. C.M. Gonzalez was supported through D3 EHP16488-03 and later the Robert Wood Johnson Foundation Amos Medical Faculty Development Program. A.D. Fox was supported through K23 DA03454 and R25 DA023021. P.R. Marantz was supported through 1R25HD068835, 5UL1RR025750, 5KL2RR025749, and 5TL1RR025748

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Table 1

Session Topics, Learning Objectives, and Instructional Strategies for Health Disparities Elective Offered to First-Year Medical Students at Albert Einstein College of Medicine, Bronx, New York, 2010–2013

Session number: Topic	Learning objectives: Students will …	Instructional strategies
1: Course introduction and background on health and health care disparities	• Define health disparities in their own words • List specific examples of health disparities in three diseases • Define health care disparities in their own words • List specific examples of health care disparities in three diseases	• Interactive discussion using PowerPoint slides compiled from the Office of Minority Health and Health Disparities of the National Institutes of Health, from the Kaiser Family Foundation, and from the 15th Annual Summer Public Health Research Videoconference on Minority Health, University of North Carolina at Chapel Hill, June 9, 2009 (Resources: www.nyc.gov, www.minority.unc.edu)
2: Continued background on health and health care disparities and social determinants of health	• Define health disparities in their own words • List specific examples of health disparities in three diseases • Define health care disparities in their own words • List specific examples of health care disparities in three diseases • Describe social determinants of health in their own words	• Continuation of interactive discussion from session 1 • Interactive discussion of online video clips from Unnatural Causes PBS documentary series (http://www.unnaturalcauses.org/video_clips.php?&page=1)
3: Background discussion and introduction to implicit bias	• Define implicit bias in their own words • Describe the potential impact of the provider's implicit bias on medical decision making	• Interactive discussion of within-provider disparities as reported in the Association of American Medical Colleges report[2] • Discussion of trust after viewing segments of Educating Physicians on Controversies in Health video on American Medical Association Web site
4: Cross-cultural care case discussions	• Describe one effect of mistrust and communication styles/patterns on the patient's clinical outcome • Identify one possible strategy for discussing sensitive topics with patients from different cultural backgrounds and managing their own assumptions	• Case discussion from the Bronx Center to Reduce and Eliminate Ethnic and Racial Disparities (CREED) 2007 Teaching Cases Exploring Cross-Cultural Care entitled "Cambodian Rites and Rituals and Cross Cultural Care"[a]
5: Implicit bias (It happens to all of us)	• Define implicit bias in their own words • Describe the potential impact of the provider's implicit bias on medical decision making • Apply the concept of implicit bias to a clinical or nonclinical experience they have had	• Debrief on nonclinical vignettes taken from lay media (e.g., http://www.youtube.com/watch?v=-7flZEDMT6I) • Reflective discussion on students' implicit biases and the effects they can have on nonclinical situations as well as clinical care
6: Implicit bias (It happens to all of us, part 2)	• Apply the concept of implicit bias to a clinical or nonclinical experience they have had • Identify one strategy to manage their implicit biases as they develop their own style of patient-centered interviewing	• Role-play, debrief, and interactive discussion based on Case from Bronx CREED 2007 Teaching Cases Exploring Cross-Cultural Care entitled "Rejecting Dialysis: A Patient's Choice'[a] • Debrief after role-play to reinforce previous instruction on the impact of implicit bias on clinical care and its contributions to health disparities
7: Community perspectives of health disparities	• Describe at least two aspects of health disparities from the community's viewpoint • Identify one way to ascertain the needs of patients and the community	• Interactive discussion with community activist to discuss her perspectives and challenges with health disparities • Interactive discussion and any preferences the community activist has for interventions aimed at eliminating health and health care disparities
8: Planning an advocacy project	• List several examples of physician advocacy • Complete the "5 columns of strategy" chart for a campaign against gun violence	• Brief didactic lecture on advocacy campaigns • Small-group skill-building exercise on use of strategy chart
9: Case[a] study (Food justice: physician advocacy and public health interventions)	• List examples of public health interventions at local, state, and federal levels • List pros and cons of focusing on communities instead of patients	• Presentation of a public health intervention to improve access to healthful food • Group discussion on intervention, implementation, and working with the public health system

Session number: Topic	Learning objectives: Students will …	Instructional strategies
10: Legislative advocacy, skill-building workshop	• Describe the process of meeting with an elected representative • Write, call, or meet with a legislator to advocate	• Group discussion on scheduling and conducting legislative visits • Role-play exercise with "legislators" holding differing stances on advocacy issue (e.g., oppositional, uninformed)
11: Telling your story (Skills practice session on public speaking and media outreach)	• Gain confidence in creating effective messages on health disparities • Gain confidence in communicating with media	• Brief didactic lecture on messaging with tips specific to writing and interviews • Participation in a simulated television interview • Small-group exercise producing a letter to the editor or op-ed piece
12: Coalition building	• Define grassroots advocacy • List strategies for development of a cohesive advocacy coalition	• Group discussion on community outreach and working with grassroots organizations • Presentation by a community health care activist
13: Wrap-up, assessment, and course evaluation		

[a]Cases available upon request.

Table 2

Changes in Knowledge, Confidence, and Attitudes Among Participants of the Health Disparities Elective (N = 39[a]) at Albert Einstein College of Medicine, Bronx, New York, 2010–2013

Domain and items	Posttest, mean score (± SD)	Pretest, mean score (± SD)	*P* value[b]
Knowledge			
Define health disparities + list three examples	3.4 (± 1.1)	4.1 (± 0.9)	< .01
Define health care disparities + list three examples	2.8 (± 0.9)	3.5 (± 1.2)	< .01
Describe how physicians' assumptions affect clinical encounters	3.4 (± 0.9)	3.9 (± 1.0)	.08
Describe how physicians' assumptions may lead to health disparities	2.8 (± 0.8)	3.6 (± 1.0)	< .01
List examples of social determinants of health	3.7 (± 1.2)	4.4 (± 0.8)	< .01
Total knowledge score	15.9 (± 2.5)	19.1 (± 3.2)	< .01
Total knowledge score (percentage)	63.6 (± 10.0)	76.4 (± 12.8)	< .01
Self-reported confidence			
Knowledge: Defining health disparities	2.8 (± 0.5)	3.5 (± 0.5)	< .01
Knowledge: Describing the social determinants of health	2.8 (± 0.6)	3.6 (± 0.6)	< .01
Knowledge: Defining implicit bias	2.2 (± 0.6)	3.6 (± 0.6)	< .01
Skills: Treating patients different than myself	3.0 (± 0.7)	3.6 (± 0.5)	< .01
Total confidence score	10.7 (± 1.5)	14.4 (± 1.7)	< .01
Attitudes			
Physician bias contributes to health care disparities	3.2 (± 0.6)	3.7 (± 0.5)	< .01
Mistrust influences patient–physician encounters	3.8 (± 0.8)	3.9 (± 0.3)	.25
Health care access is commensurate to community needs[c]	3.0 (± 0.8)	3.1 (± 0.8)	.72
Community representation is necessary to design interventions to reduce health disparities	3.5 (± 0.6)	3.9 (± 0.3)	< .01
Total attitudes score	16.7 (± 1.9)	18.2 (± 1.1)	< .01

[a] Although 48 students enrolled in and completed the course between 2010 and 2013, only 39 participants completed both the pre- and postcourse tests.

[b] Wilcoxon matched pairs signed-rank test performed on median values; mean values presented for clarity.

[c] Reverse coded.