An Academic Medical Center's Learners' Perceptions of Health Disparities

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Abstract

Introduction: Lack of health equity ultimately leads to unequal treatment of diverse patients and contributes to the growing disparities seen in national health. Academic medical centers should consider providing health care providers and biomedical researchers training on how to identify and address health disparities.

Methods: The authors led an introductory health disparities course for graduate students and research and clinical fellows at an academic medical center in the Midwest. We compared pre/postcourse assessments to determine changes in learners' perceptions and knowledge of health disparities using an unpaired analysis to permit inclusion of responses provided only at baseline.

Results: Sixty-two learners completed preassessment, with 56 completing the postassessment (90%). In the postcourse assessment, learners reported an increase in knowledge of disparities and had changes in their perceptions of health disparities linked to treatment of different patient groups based on demographic characteristics. There was a statistically significant difference in learners' perceptions of how patients are treated based on gender identity (P=0.02) and sexual orientation (P=0.04).

Conclusions: The results detail how an academic medical center can provide training on health disparities for diverse learners. This study underscores the influence of health disparities from the perspective of learners who conduct biomedical research and patient care. This course serves a model for introductory-level health disparities courses.

Introduction

Race, ethnicity, age, gender, sexual orientation, geographic location, and socioeconomic status are used to identify health disparities globally. The National Academy of Medicine, National Commission for Health Education Credentialing, Center for Disease Control and Prevention, Academy Health, Association of American Medical Colleges, and Accreditation Council for Graduate Medical Education are committed to reducing health disparities in their workforce, recommending academic medical centers and other institutions provide didactic training to their learners.

The importance of creating the best curricula to produce the best outcomes is pivotal to development of health disparities curriculum for diverse learners at academic medical centers. Traditionally, curricula in academic medical centers focused on health professions; there is not a unified model for curriculum delivery to health professionals.[1]

To address this gap, we created a standardized curriculum that considers health disparities routinely seen by health providers who are committed to eliminating heath inequalities.[2,3] The purpose of this paper is to provide context around teaching a one-credit health disparities course to diverse graduate learners at an academic medical center and evaluate the self-reported impact of the course on learners' understanding of disparities in the health care setting.

Methods

The Mayo Clinic Graduate School of Biomedical Sciences created a 6-week graduate course titled "Introduction to Health Disparities." Table 1 is an overview of the modules' content. The blended learning course used an online learning management system for lecture materials and communication with learners. Each class period lasted 90 minutes. The course learning objectives were: (1) define and identify health disparities and health equity commonly experienced in diverse communities; (2) identify and discuss how demographic characteristics influence study design, implementation, and dissemination; and (3) critique health disparities literature by responding with a letter to the editor and leading a class discussion of the selected course material.

A combination of didactic lectures with guest speakers provided the foundation for presenting content with a round table used to spark dialogue with the learners. A variety of andragogical teaching techniques like think-pair-share and carousel activities provoked discussion among learners, the course directors, and guest speakers about complex topics like discrimination, racism, and genderism as they relate to patient care and research. Learners consisted of students enrolled in a doctoral, master's, or certificate program in biomedical science.

Survey Design

Learners completed a pre/postcourse assessment on their knowledge and perceptions of health disparities. The assessment contained items from the National Physician Survey (NPS) that determined physicians' perceptions of disparities in the community.[4] The NPS survey had face validity with few details provided on the reliability and validity of the survey. For this study, we analyzed eight items that evaluated perceptions of how the health care system treats patients based on their individual demographics. Learners used a 4-point Likert scale (0=never to 4=very often) to rate items. One-tenth of the course grade was earned by completing the pre/postcourse survey. The Mayo Clinic Institutional Review Board determined the study was exempt.

The course content covered the definition of health disparities and their impact on the local community. Learners examined the literature and discussed the ramifications of patient demographics linked directly to discrimination, health care reform, and access to care. Additionally, learners categorized health disparities in their research areas and medical specialties.

We compared pre/postcourse assessments to determine changes in learners' perceptions and knowledge of health disparities, using an unpaired analysis to permit inclusion of responses provided only at baseline. Because of the ordinal nature of the items, a test for trend was used for each item in a separate logistic regression model. Analyses were performed in Stata statistical software version 11 (College Station, TX) with two-sided 5% type I error used to determine statistical significance.

Results

Over half of the learners were fellows (n=34, 55%) with the remaining identifying as faculty, graduate student, or allied health staff (Table 2). A total of 56 (90%) learners completed both assessments. Learners averaged 5 years of experience in research (range: 0-15 years); the mean age of learners was 35 years (range: 23-45 years).

We compared the pre/postassessment of learners (Table 3). There was a statistically significant difference in learners' perceptions of how patients are treated based on gender identity (*P*=0.02) and sexual orientation (*P*=0.04). A marginal effect was noted on learners' perceptions of how patients are treated based on whether or not a patient had a physical disability (*P*=0.06).

Conclusions

Academic medical centers are responsible for providing training that increases learners' knowledge of health disparities. Our curriculum focused on the prevalence of health disparities related to patient demographics such as race, ethnicity, age, gender, sexual orientation, geographic location, and socioeconomic status. We also took into account the complexity of social determinants of health, and biases that impact equity in health care.[5-10] After completing the course, learners' perceptions of health disparities changed overall. This increased knowledge has the potential to reduce health-related disparities, resulting in better care for patients. Our course serves as a model for an introductory-level course to increase awareness of health disparities in context of patient care and research.

A limitation of the course is that it was only 6 weeks in duration, with a small sample size. During online data collection, we noted a problem and switched from online to paper survey. Another limitation is pre/poststudy design because maturation effect and temporally concurrent factors were not considered. Notably, the unpaired analysis permitted us to include all learners, so no individuals were excluded due to having data only at the pretest. An unpaired analysis is considered statistically conservative, because it is less likely to achieve statistical significance than the paired analysis in which each person serves as his or her own control.

Our next steps are to shorten our assessment and to change questions based on updated health disparities literature. Another step is evaluating learners' use of the information over an extended period beyond the course in clerkships. We may also compare learners to a cohort not enrolled in the course to determine the impact on application of the course material.

Tables and Figures

Table 1: Overview of Course Modules and Learning Objectives

Module Delivery	Lecture Topics and Readings	Learning Objectives
Precourse online	**Precourse work** • Precourse survey to determine learners baseline perceptions and knowledge of health disparities • Watch online health disparities overview before class	• Provide an overview of health disparities • Determine the connection to health disparities and health research
1. Didactic traditional lecture	Discussion of Health Disparities and Health Equity and Impact on Research	• Understand the course requirements and objectives • Describe health disparities, health equity, and social determinants to health • Classify the levels of prevention • Discuss opportunities for learners to become involved in health disparities research
2. Didactic traditional lecture	Research Implications: Ethnicity, Race and SES and Bias in Research	• Discuss the connection of race, ethnicity and social determinants of health • Provide an overview of difference between race and ethnicity • Determine the impact of race, ethnicity, and socioeconomic status on health disparities • Discuss health disparities research study design
3. Discussion and round table	Research and Health Disparities: Ethical Considerations Note: In partnership with Biomedical Ethics Research Program	• Overview of biomedical research ethics as it relates to diverse communities • Discussion of protection of human subjects • Review of current ethical cases linked directly to the prevalent health disparities
4. Panel discussion	Research Implications Panel: Health Disparities in Your Local Community: A Panel Discussion	• Extrapolate trends in health disparities research in the local community • Address microaggressions and implicit bias in context of health disparities research • Propose solutions to addressing health disparities through using diverse biomedical research appropriate
5. Didactic traditional lecture	Research Implications: Gender and Sex	• Define and differentiate "sex" and "gender" • List factors and mechanisms contributing to sex differences in disease • Identify a paradigm shift in thinking about research design • Identify examples of how attending to sex and gender differences will advance medicine and science
6. Discussion and round table	Reflection/Next Steps—Discussion	• Review key course concepts related to health disparities research • Discuss the integration of health disparities in current research program • Evaluate the course delivery for improvement for the next offering of the course
Postcourse online	**Postcourse work** • Postcourse survey to determine learners perceptions and knowledge of health disparities	

Table 2: Selected Demographic Characteristics of Mayo Clinic Learners in Health Disparities Course (N=62)

Characteristic	n (%)
Appointment Type	
Faculty	18 (29)
Fellow	34 (55)
Graduate students	5 (8)
Allied health	5 (8)
Faculty Rank	
Yes	20 (32)
Faculty Rank	
Instructor	2 (11)
Assistant professor	15 (79)
Associate professor	2 (11)
Currently Principal Investigator	
Yes	21 (34)
Race	
Asian	16 (26)
Black	5 (8)
White	33 (53)
Did not disclose	8 (13)
Hispanic or Latino	
Yes	5 (8)
Sex	
Male	24 (39)
Female	35 (57)
Did not disclose	3 (5)
Mean Age in Years (Range)	35 (23-45)
Mean Years in Research (Range)	5 (0-15)

Table 3: Comparison of Mayo Clinic Learners' Perceptions of Health Disparities Before and After a Health Disparities Course

Generally speaking, how often do you think our health care system treats people unfairly based on...	Precourse Survey N (%) of 62*	Postcourse Survey N (%) of 56*	*P* Value**
Whether or not they have health insurance Very often Somewhat often Rarely Never	33 (53) 24 (39) 5 (8) 0	30 (54) 22 (39) 4 (7) 0	0.91
How much money they have Very often Somewhat often Rarely Never	26 (42) 20 (32) 14 (23) 2 (3)	27 (48) 21 (38) 7 (13) 1 (2)	0.21
How well they speak English Very often Somewhat often Rarely Never	19 (31) 31 (50) 9 (15) 3 (5)	21 (38) 29 (52) 5 (9) 1 (2)	0.19
How well educated they are Very often Somewhat often Rarely Never	18 (29) 31 (50) 9 (15) 4 (6)	14 (25) 32 (57) 9 (16) 1 (2)	0.79
What their race or ethnic background is Very often Somewhat often Rarely Never	14 (23) 29 (47) 15 (24) 4 (6)	17 (30) 28 (50) 10 (18) 1 (2)	0.12
Their sexual orientation--that is, if they are gay or lesbian Very often Somewhat often Rarely Never	6 (10) 26 (42) 21 (34) 9 (15)	12 (21) 26 (46) 13 (23) 5 (9)	0.04
Whether or not they are physically disabled Very often Somewhat often Rarely Never	12 (19) 23 (37) 20 (32) 7 (11)	21 (40) 11 (21) 18 (35) 2 (4)	0.06
Whether they are male or female Very often Somewhat often Rarely Never	6 (10) 18 (29) 25 (40) 13 (21)	10 (18) 23 (41) 18 (32) 5 (9)	0.02

* Percentages may not sum to 100 due to rounding.
**P value from test for trend.

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