BRIEF
REPORTS

Development of a Multifaceted Health Disparities Curriculum for Medical Residents

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BACKGROUND AND OBJECTIVES: Health disparities education is required during residency training. However, residency program directors cite numerous barriers to implementing disparities curricula, and few publications describing successful disparities curricula exist in the literature. In this report, we describe the development, implementation, and early evaluation of a longitudinal health disparities curriculum for resident physicians. We provide resource references, process, and didactic toolkits to facilitate use by other residency programs.

METHODS: We used a standard, six-step model for curricular design, implementation, and evaluation. We assessed feasibility of curricular development including practicality (program cost and time requirements) and demand (resident engagement). We also assessed program and learner outcomes, including number of didactic and clinic sessions delivered and resident preparedness, attitudes, and skill in caring for vulnerable patients.

RESULTS: We designed, implemented, and evaluated our curriculum in less than 1 year, with no external funding. Time costs included 100 chief resident and 20 faculty hours for curricular development, followed by 20 chief resident and 16 faculty hours for implementation. In the first year of our curriculum, 21% of residents (16 of 75) participated. We created eight didactic sessions and delivered four as intended. Residents provided 84 free clinic sessions for uninsured patients and reported increased preparedness and skill caring for vulnerable patients in 15 of 20 measured domains. Residents also reported 20 commitments to change on themes that comprehensively reflected the content of our first curricular year.

CONCLUSIONS: It is possible to design a disparities curriculum, overcome cited barriers, and improve educational outcomes related to the care of vulnerable patients.

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Health disparities are a significant problem in the United States.[1] To ensure that future physicians are prepared to address health disparities, accreditation councils have mandated disparities education during residency training.[2-4] Disparities education is particularly important for future primary care physicians (PCPs), as the lack of PCPs skilled in caring for diverse populations is thought to contribute to disparities.[5] Unfortunately, residency program directors cite numerous barriers to implementing disparities curricula,[6] and a recent review notes few publications available to assist in developing this important aspect of training.[7] In this report, we describe the design, implementation, and early evaluation of a multifaceted disparities curriculum for medical residents.

Methods

We developed the Health Disparities Track (HDT) within the Tinsley Harrison Internal Medicine Residency Program at the University of Alabama at Birmingham (UAB). All postgraduate year (PGY) 2 and 3 residents were invited to participate. We began curriculum planning in April 2014 and implemented the HDT in July 2014. We used Kern's six-step model for curriculum design[8] as described below (Table 1). This study was exempt by the UAB Institutional Review Board.

We considered curricular, learner, and patient needs in our general needs assessment, which was conducted prior to curriculum implementation (Table 1). We asked all PGY2 and 3 residents to rate the usefulness of five educational tools

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in learning to care for patients of cultures other than their own. All five tools were considered "useful or very useful". Thus, we took a multidimensional approach to curricular design. We used publicly available resources created by experts in health disparities[9] and curricular design[10] to inform our goals, objectives, and educational strategies (Table 1).

Implementation

Two chief medical residents (AN, RW) and one faculty member (NR) created HDT didactic sessions using publicly available resources.[10-13] Didactics were delivered quarterly from 5 to 7:00 pm (Table 2). To offer residents clinical experience, we partnered with a neighborhood clinic for uninsured patients, MPower Ministries Health Center (MPower).[14] Based on availability, we were able to assign nine residents to MPower for one-quarter of their continuity clinic time; the remaining three-quarters were completed at a previously assigned UAB clinic site. For experiential learning, we assigned videos,[15,16] structured community exploration, and critical reflection.[10] We tasked HDT residents with dissemination of information on health disparities to their peers through development of a 1-hour lecture and community resource guide for clinical and social services available to low-income patients.

Program Evaluation

We assessed feasibility of curricular implementation,[17] as well as program and learner outcomes.[8] For feasibility, we assessed practicality (total time and cost required for curriculum implementation), and demand (resident engagement).[17] For program outcomes, we assessed number of didactic and clinic sessions delivered. For learner outcomes, we assessed changes in self-reported preparedness and skill, as well as attitudes regarding the care of vulnerable patients. For preparedness and skill, we used a previously published survey[18] asking residents to rate their preparedness in caring for 10 unique patient populations (1=very unprepared, 5=very well-prepared) and skill providing 10 unique aspects of cross-cultural care (1=not at all skillful, 5=very skillful). We administered the survey online in July 2014 (pre) and May 2015 (post). For attitudes, we evaluated resident commitments to change (CTC), which are validated self-assessment tools associated with learner behavior change.[19, 20]

Data Analysis

We collapsed preparedness and skill survey responses into categories of unprepared/unskillful (Likert answers 1-2) and prepared/skillful (Likert answers 3-5) as done by previous authors.[18] We analyzed pre- and post-test differences in preparedness and skill using chi-squared tests on Stata software, version 14. Two authors (AN, LW) independently organized commitments to change into themes.

Results

Feasibility

In the first year of our curriculum, we implemented all curricular activities (Table 1) with no external funding. We provided meals for didactic sessions, yielding an internal funding requirement of $300. Time costs included curricular development (100 chief resident and 20 faculty hours) and implementation (20 chief resident and 16 faculty hours). No UAB curricula were replaced by implementation of this curriculum. One faculty member (WC) provided care at MPower 1 half day each week; no additional funding was required for his supervisory time.

Twenty-one percent of eligible residents participated in the curriculum's first year (16 of 75), and attended an average of 2.1 (of 4) didactic sessions. HDT resident engagement in curricular activities varied, ranging from 38% (n=6) community explorations to 69% (n=11) critical reflections, 88% (n=14) viewing of assigned videos, and 100% (n=16) participation in dissemination of disparities information to peers.

Program Outcomes

We developed content for eight didactic sessions and delivered four in the first year, as intended. Residents who participated in MPower clinic provided 84 3-hour clinic sessions. Process (Table 1) and didactic (Table 2) toolkits are described here to facilitate external use by other residency programs.

Learner Outcomes

Ten HDT residents (63%) completed pre- and postsurveys. These residents improved in 15 of 20 measured domains, although the small sample size precluded statistical significance. Sixteen HDT residents (100%) made 20 CTC that comprehensively reflected material covered in the first year of didactic sessions (Table 3).

Discussion

Our study describes the design, implementation, and early evaluation of a longitudinal health disparities track for medical residents. Previous research has cited barriers to development of disparities curricula including lack of faculty expertise, time for curriculum development, and tools for assessing resident cultural competency.[6] However, with the help of supportive program leadership, chief resident and faculty champions, a community clinic with aligning priorities, and publicly available resources,[8-13, 15-18, 20] we were able to design, implement, and evaluate the HDT in less than 1 year without external funding.

This curriculum was designed in an internal medicine residency; however given the generalized resources used to create this curriculum, we believe that our experience is applicable to all graduate medical education programs. Our small sample size limited the evaluation of our program, as did the lack of control group and potential for social desirability bias and ceiling effects. Next steps include longitudinal evaluation of outcomes and qualitative assessment of key stakeholders' opinions to determine the best methods of curricular improvement and expansion.

Table 1: Six-Step Method of Curricular Design for the Health Disparities Track

Steps for Curricular Design in Medical Education	Application to the Health Disparities Track Curriculum	
Step One: Problem identification and general needs assessment	Curricular needs	Accreditation Council for Graduate Medical education (ACGME) states residents must learn sensitivity and responsiveness to a diverse patient population.[3] The CLER program evaluates how institutions engage residents in the discussion of health disparities.[4]
	Learner needs	Learners gain knowledge[21] with health disparities training and feel better prepared to care for patients of cultures other than their own.[22]
	Patient needs	Patients report improved satisfaction with providers who have been trained in cross-cultural care.[23]
Step Two: Needs assessment for targeted learners	Targeted learner needs	All second and third-year internal medicine residents at UAB were asked to complete a survey by Joel Weissman et al[18] adapted, with permission, to evaluate their perceptions on the effectiveness of various teaching methods regarding the care of diverse populations.
	Targeted patient needs	Partnership was sought with a local clinic for the uninsured.[14] This clinic needed new providers and had space to accommodate up to nine resident physicians in their primary care practice.
Step Three: Defining goals and objectives	Defined by the Society of General Internal Medicine Health Disparities task force[9]	Increase knowledge on the existence and magnitude of health disparities as well as solutions required to diminish or eliminate them Examine and understand attitudes such as mistrust, subconscious bias and stereotyping which practitioners and patients may bring to clinical encounters. Acquire skills needed to effectively communicate and negotiate across cultures, languages, and literacy levels.
Step Four: Educational strategies	Obtained from *Curriculum for Culturally Responsive Health Care: The Step-by-Step Guide for Cultural Competence Training*[10]	- Attention grabbers (openers, brainstorming, best-worst warm-up) - Skill builders (formal presentation, use of BATHE and Q2 mnemonics) - Catalysts (group quizzes, think-write-share, and imagery exercise) - Intensifiers (reflective writing, debriefing, resident presentations)
Step Five: Implementation	Curriculum participants	Curriculum was offered to residents in the second and third years of internal medicine training at the University of Alabama at Birmingham.
	Curriculum design YEAR ONE: Introduction to health disparities, social determinants of health, environmental determinants of health, patient-provider interactions. YEAR TWO: Language/ acculturation, disparities in research, special populations, provider advocacy.	Didactics: Two-hour sessions were developed using publicly available resources. Didactics were delivered quarterly in a curriculum that rotates every 2 years. Experiential learning: Between didactic sessions, residents were assigned to view videos,[15,16] evaluate literature, explore the community, and write critical reflections. Clinical practice: Nine HDT residents were assigned to partnering clinic for the uninsured during one-quarter of their continuity clinic time. Teaching activities: All HDT residents disseminated information on health disparities to other residents through development of a one-hour lecture and guide for local resources available to low-income patients in the community.
Step Six: Evaluation and feedback	Feasibility[17]	Practicality: time/ cost requirements; demand: will residents participate?
	Program outcomes[20]	How many didactic sessions created? Clinical sessions delivered?
	Learner outcomes[20]	How prepared will residents feel to care for patients of other cultures? How skillful will they be in providing cross-cultural care? Will resident attitudes change?

Table 2: The Health Disparities Track Didactic Curriculum

	Session I	Session II	Session III	Session IV
Year One	**The Language of Health Disparities** - Group think: what is culture? - Think pair share: reflection on own autobiography[10] - Didactics: definitions of disparity, equity, bias, discrimination, stigma - Imagery exercise[10] - Didactics: strategies to reduce bias	**Social Determinants of Health** - Group think: define social determinants - Case-discussions: health system characteristics, health insurance and access - Didactics: current trends in racial and socioeconomic disparities - Group think: reasons for these disparities? - Group discussion: the chronic stress model	**Environmental Determinants of Health** - Group think: describe our city's environmental determinants of health from a patient perspective. - Didactics: the history of segregation in Birmingham and PLACE MATTERS report[24] - Case-discussion: impact of food insecurity[12] - Skill builder: BATHE (Background, Affect, Trouble, Handle, Empathy) and Q2 (What do you think made you sick? What do you think could help you get better?) mnemonics.[10]	**Patient-Provider Interactions** - Group think[10]: Even if patients overcome social and environmental determinants of health, they can still find racial and gender differences in treatment in clinic. What could be contributing? - Didactics: • *Provider considerations*: Revisiting bias and discrimination • *Patient considerations*: Trust, "Preferences" • *Patient-provider interactions*: Communication
	Assignment: Watch *Unnatural Causes In Sickness and In Wealth*[16] Readings for next lecture: - Marmot MG, Rose G, Shipley M, Hamilton PJ, Employment grade and coronary heart disease in British civil servants. J Epidemiol Community Health. 1978;32(4):244-249. - Marmot MG, Smith GD, Stansfeld S, et al. Health inequalities among British civil servants: the Whitehall II study. Lancet. 1991;337(8754):1387-1393.	**Assignment**: Neighborhood study[10] Readings for next lecture: - White K, Haas JS, Williams DR. Elucidating the role of place in health care disparities: the example of racial/ethnic residential segregation. Health Serv Res. 2012;47(3 pt 2):1278-1299.	**Assignment**: Prepare resource guide Readings for next lecture: - Kressin NR, Petersen LA. Racial differences in the use of invasive cardiovascular procedures: review of the literature and prescription for future research. Ann Intern Med. 2001;135(5):352-366. - Katz JN. Patient preferences and health disparities. JAMA. 2001;286(12):1506-1509. - Ashton CM, Haidet P, Paterniti DA, et al. Racial and ethnic disparities in the use of health services: Bias, preferences, or poor communication? J Gen Intern Med. 2003;18(2):146-152.	**Assignment:** Prepare noon conference

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Table 2, continued

	Session I	Session II	Session III	Session IV
Year Two	**Language, Acculturation and Immigrant Health** - Precourse work: watch *Becoming American*[15] - Video debrief - Didactics: introduction to immigrant health,[11] discussion of the Alabama immigration climate (Alabama HB 56), and Language considerations: Enhanced National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (CLAS)[25] - Skills-based practice: ETHNIC mnemonic[10] (Explanation, Treatment, Healers, Negotiate, Intervention, Collaboration) **Assignment**: Skim *Examining Tuskegee*	**Disparities in Research** - Brainstorming: What are some disparities issues pertinent for research? - Didactics: J Marion Sims, A Kligman, and the Tuskegee experiments - Small group discussions: What if you were the… MD, RN, patient …involved in these experiments? - Large group discussion: What bioethical issues do we need to consider given the power dynamic between patients and providers? **Assignment**: Prepare your "train the trainer"	**Special populations** - Student groups of two or three will give 15-minute talks on • Epidemiology and unique health considerations • Supporting literature • Current health care policies (eg, legal, ACGME, AMA) For one of the following groups OR a group of their choosing. Specific chapters[11] are available for discussions on disparities relating to: • The elderly • Women's health • LGTBQI patients • Individuals with mental illness • Individuals with disability • Individuals who suffer from substance abuse • Homeless individuals • Individuals with a history of incarceration **Assignment**: Homeless shelter group tour and reflection, "A day in the life"	**Patient Advocacy** - Skills-based practice: LEARN[10] mnemonic (Listen, Explain, Acknowledge, Recommend, Negotiate) - Didactics: What is advocacy? Types of advocacy, and core elements of successful physician advocacy[12] - Group discussion: In what ways do you want to advocate for your patients? Is it your responsibility to advocate? **Assignment**: Reflection on course goals and review of previous assignments

Table 3: Health Disparities Track Resident Commitments to Change (n=16*)

Theme	Didactic Session	No. of Residents	Commitments
Improve communication	IV	5	Ask/ determine barriers to health care and "what do you think caused your illness?"[#] Ask Q2 questions! (Q2: What do you think made you sick? What do you think could help you get better?) [#] Ask each patient about their perception of their illness.[#] Ask what can I do…to make your life/ illness easier rather than what they can do for me or themselves. Have the same conversations with all patients despite their backgrounds.

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Table 3, continued

Theme	Didactic Session	No. of Residents	Commitments
Utilization of community resources	II III	5	Be more mindful of the $4 [prescription] list. Consider medications and cost based on insurance/lack of when discharging patients from the hospital. Continue to learn more about my patients options for health insurance. Find community resources to give to patients. Bring patients back sooner and have appointments strictly to address resource barriers.[†]
Solicitation of patient perceptions	IV	4	Try to recognize the worldview that patients have and may bring with them to every medical / patient encounter. Ask Q2 questions! (Q2: What do you think made you sick? What do you think could help you get better?) [†] Ask each patient about their perception of their illness.[†] Ask/ determine barriers to healthcare and what do you think caused your illness?[†]
Identification of personal bias	I	4	Question myself regarding biases. Be more conscious of how my treatment plans may be affected by my stereotypes. Identify personal bias to mitigate. Minimize stereotypes and bias.
Management of health care barriers	II III	4	Tear down barriers to my patients healthcare (mistrust, helping families, other issues) as best I can. Be more aware of barriers to resources (food, medications, etc.) and screen my patients for them. Bring patients back sooner and have appointments strictly to address resource barriers.[†] Ask/determine barriers to healthcare and what do you think caused your illness?[†]
Awareness of patients' culture	I	2	Become more aware of cultural differences. Become more aware of the culture patients bring with them to clinic/ medicine.
Recruitment of minorities into medical education	IV	1	Continue to recruit minorities into medicine.

* Sixteen residents made the 20 unique commitments to change listed in this table.
[†] Some commitments are listed multiple times as they touched on multiple themes.

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