



Health Disparities Training in Residency Programs in the United States

Memoona Hasnain, MD, MHPE, PhD; Lisa Massengale, MLIS, MPH; Andrew Dykens, MD, MPH; Evelyn Figueroa, MD

BACKGROUND AND OBJECTIVES: Our objective was to review and summarize extant literature on US-based graduate medical education programs to guide the development of a health disparities curriculum.

METHODS: The authors searched Medline using PubMed, Web of Science, and Embase for published literature about US-based graduate medical education programs focusing on training residents to care for underserved and vulnerable populations and to address health disparities. Articles were reviewed and selected per study eligibility criteria and summarized to answer study research questions.

RESULTS: Of 302 initially identified articles, 16 (5.4%) articles met study eligibility criteria. A majority, 15 (94%), of reported programs were from primary care; one (6.25%) was from surgery. Eight (50%) programs reported longitudinal training; seven (44%) reported block experiences, while one (6.25%) described a one-time Internet-based module. Four (25%) programs required residents to develop and complete a research project, and six (37.5%) included community-based clinical training. All 16 programs utilized some form of evaluation to assess program impacts.

CONCLUSIONS: There are few published reports of graduate medical education programs in the United States that focus on preparing residents to address health disparities. Reported programs are mostly from primary care disciplines. Programs vary in curricular elements, using a wide variety of training aims, learner competencies, learning activities, and evaluation methods. This review highlights the need for published reports of educational programs aimed at training residents in health disparities and underserved medicine to include the evidence for effectiveness of various training models.

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and Prevention indicate that health care disparities continue to exist across diverse populations.⁵⁻⁷

The term “health disparities” is a concept that is broadly understood without an agreement over its exact meaning. It refers to population-specific differences in the presence of disease, health outcomes, or access to health care. These differences can affect how frequently a disease impacts a group, how many people get sick, or how often the disease causes death or disability. A common foundation of various definitions of health disparities rests on the notion that not all differences in health status between groups are disparities; differences that systematically and negatively impact less advantaged groups are considered disparities.⁸ Racial and ethnic minorities receive fewer routine medical procedures and experience a lower quality of health services, even when age, severity of medical conditions, income, and insurance status are comparable to other populations.⁹ In addition to racial and ethnic minorities, other populations, such as residents of rural areas, women, children, the elderly, or persons with disabilities are affected by disparities. Individuals who have the lowest incomes and

The increasing number of underserved and vulnerable populations in the United States call for developing and implementing educationally sound programs aimed at training health professionals,

particularly physicians, to provide quality care to these populations.¹⁻⁴ Evidence from leading national agencies, such as the National Institutes for Health, the Institute of Medicine, and the Centers for Disease Control

From the Department of Family Medicine (Drs Hasnain, Dykens, and Figueroa), Library of Health Sciences (Ms Massengale) University of Illinois at Chicago.

those who are the least educated are also the least healthy.¹⁰ Disparities exist at both national and local levels. Further, the reasons for these disparities are complex and not completely understood.⁶⁻⁷

Despite the increasing national calls to eliminate health disparities, the current system of graduate medical education does not produce a sufficient number of well-trained physicians who are able to actively address the multi-level factors influencing health disparities. Less than optimal numbers of health care providers and, more specifically, lack of access to primary care providers adequately trained to care for underserved patient groups is an important factor contributing to health disparities.^{1,6,10}

Further, for programs interested in developing or refining their curricula to provide health disparities training, there are limited published resources available. For many programs, there is insufficient time to develop these resources. The purpose of this paper was to review the published literature to identify curricular initiatives in graduate medical education in the United States aimed at training resident physicians to care for vulnerable and underserved populations and to address health disparities. The review was conducted to answer the following research questions: (1) What specific clinical disciplines have developed and published reports focusing on health disparities training in residency programs in the United States? (2) What are the curricular elements of these published programs? (3) To what extent do these programs have defined competencies? (4) For programs that specify them, what competencies are included, and are specified competencies explicitly linked to the core competencies¹¹ defined by the Accreditation Council for Graduate Medical Education (ACGME)? (5) To what extent have health disparities training programs instituted rigorous evaluation of their curricula? (6) For programs that define them, what

evaluation strategies or methodologies have been used to assess attainment of competencies? (7) What are the main outcomes reported by these programs?

Methods

The investigative team, which included an experienced medical librarian, developed a review protocol to guide the study process. The first step was to identify the need for the review by confirming whether or not a review had already been published recently. Next, in February and March of 2011, the authors systematically searched published literature in Medline using PubMed, Web of Science, and Embase for articles describing curricular initiatives aimed at health disparities training in residency programs in the United States. The following search terms were used: Education, Medical Graduate AND Social Justice; Education, Medical Graduate AND Health Status Disparities; Education, Medical AND underserved care; Education, Medical AND caring for vulnerable populations; and Education Medical AND Health Disparities. The search yielded 275 articles; the references of each article found were then examined to see if any additional citations could be located. From these searches, a total of 302 articles were identified, and a database of these articles was created.

An “article selection checklist” developed by the investigators was used to guide team members in determining eligibility of articles for inclusion in the review. The inclusion criteria were US-based graduate medical education programs, with clearly defined training focused on either health disparities or vulnerable and/or underserved populations, published in the English language, all specialties (single discipline or interdisciplinary) with block or longitudinal training.

The four-member research team divided the initial set of articles between them for first review and selection. Each article was evaluated individually by a team member and

ones that met the inclusion criteria, per the “article selection checklist” developed for the study, were discussed in team meetings to validate inclusion. Articles that were considered appropriate for inclusion after the team meetings were entered in a table and reviewed in depth to answer the study research questions.

Results

Of the original 302 articles from the search, 16 (5.3%) met the inclusion criteria. A summary of the reported programs is available in an Appendix posted at <https://stfm.org/Portals/49/Documents/Hasnain%20Appendix.pdf>. Of the 16 reported programs included in this review, six (37.5%) were from pediatrics, five (31.25%) from family medicine, four (25%) from internal medicine, and one (6.25%) from surgery. Of the six programs in pediatrics, one was a combination of pediatrics and internal medicine with a partnership with the National Center for Medical-Legal Partnerships. The programs included in the review varied considerably in curricular elements, used a wide variety of training aims, learner competencies, learning activities, and evaluation methods.

Learner Competencies

Nine (56%) programs had defined learner competencies, which included communication (four), cultural competency (four), research (two), and clinical skills (one). None of the programs explicitly linked their training elements to the core competencies for graduating residents specified by the Accreditation Council for Graduate Medical Education.¹¹

Training Format and Content

Eight (50%) programs had longitudinal training components that spanned across training years, seven (44%) programs had solely block experiences, while one (6.25%) program described a one-time Internet-based module. Four (25%) programs required residents to develop and complete a research project and six (37.5%) included community-based

clinical training. The majority of programs provided didactic sessions, demonstrations, and small-group discussions. One program offered graduate level courses in epidemiology and health policy.

Evaluation Methods and Outcomes

The reports included in our review presented a range of methods used for evaluation of curricular impacts and reported a variety of outcomes. All 16 (100%) programs reported one or more method(s) of evaluation to assess program impacts. Table 1 summarizes the variety of evaluation methods used and outcomes reported by programs.

Discussion

Nationally, there is a call for training future physicians to care for underserved and vulnerable populations in order to reduce health disparities.¹⁻⁴ In an effort to guide the development of a health disparities curriculum, we undertook a review of the literature. This review sought to answer questions related to the structure, content, process, and intended learning outcomes of graduate medical education programs in the United States aimed at training residents to care for underserved and vulnerable populations and to address health disparities. Our review found few reports in the published literature addressing this subject. The published reports focused on both training physicians to practice in underserved areas and training physicians to address health disparities; these are distinct yet overlapping elements, hence our discussion includes both.

Our review found that among published programs, a majority were developed and implemented by residency programs in primary care, including pediatrics, family medicine, and internal medicine. This is a promising finding as primary care residency programs investing in training future physicians to address health disparities is both relevant and timely. Evidence indicates that training in health disparities

and underserved settings is likely to influence career choices; when physicians receive training in underserved settings, they are more likely in the future to choose primary care and to practice in underserved settings.^{12,13} In light of projected physician shortages,¹⁴ and more specifically primary care physician shortages,¹⁵ primary care disciplines need to be the front runners in developing and implementing programs for reducing health disparities. A variety of recruitment and training interventions have proven effective at retaining physicians to work both in primary care and in underserved areas.¹⁶⁻¹⁸ Crafting deliberate training elements grounded in health disparities concepts, principles, and competencies will likely contribute to these efforts.

Although there is general consensus on the need for health care professionals to learn about health disparities and participate in eliminating or reducing them,¹⁴ there is a lack of agreement on what such training should encompass. In other words, a significant gap in training of physicians to provide quality care for underserved and vulnerable populations is the lack of clarity about key curricular elements for training programs aimed at addressing health disparities. The findings of our review highlight the need for careful attention to both format and content of learning activities for health disparities curricula. While a substantial body of evidence underscores the importance of longitudinal training and community-based settings as instructional settings,^{2,19-20} as well as the need for providing opportunities for research participation for physician trainees,²¹⁻²³ a substantial proportion of programs in our review lacked these elements.

Finally, in the ongoing discussions about the structure and content of graduate medical education, greater emphasis has recently been given to clarifying the competencies that should be demonstrated by graduating physicians. The wide variation of curricular elements we

found in our review likely stemmed from the variation in intended learner outcomes or competencies. None of the programs reported in our review explicitly linked their training elements to the core competencies for graduating residents specified by the ACGME.¹¹ With the upcoming changes in accreditation systems for residency programs,²⁴ this is an extremely important time for residency educators to critically reflect on existing gaps and consider refinement of special curricular initiatives, such as health disparities education and their integration into overall residency training. Our review found that programs used a range of evaluation methods to assess curricular impacts and measured a variety of outcomes. Except for one program,²⁵ none reported tracking post-graduation career choices. Since increasing the number of primary care providers is a national priority, more programs need to track their graduates and utilize the information gathered to improve their programs.

Overall, the lack of standardization of curricular elements, including desired competencies, learning activities, evaluation methods, and measured outcomes across programs makes it problematic to compare curricular utility and effectiveness and creates hindrance for programs looking for prototypes to adapt for their settings.

Recommendations and Future Directions

Curriculum development in medical education should be a systematic process that addresses the needs of learners and the communities they will serve. To be effective, this process needs to build upon previous work and use guidance from educational principles.^{26,27} High-quality, sustained, learner-centered training to foster physicians' acquisition of the core attitudes, values, and competencies necessary for providing high-quality, patient-centered care to medically underserved and vulnerable patients and, ultimately, for reducing health disparities,

Table 1: Evaluation Methods and Outcomes

Outcomes	Evaluation Methods											
	Learner		Patient/ Community		Teacher						Other	
	Feedback About Program	Self- Assessment	Patient Feedback	Community Staff Feedback	Case-Based Discussions	Direct Observation	Written Assignments	Quizzes/ Survey	Videotaped Reflections	Attendance/ Project Completion	360 degree	PG Career Tracking
Zweifler ²⁸ None reported			x			x						
Takayma ²⁹ Learner CS					x							
Goleman ³⁰ Learner satisfaction	x						x					
Eddy ³¹ Learner satisfaction	x											
Jacobs ³² Learner and teacher satisfaction; Learner and community leader. K,S,A	x						x					
Thom ³³ Learner cross- cultural. K&S Patient trust, satisfaction, and clinical outcomes*			x									
Furin ³⁴ None reported									x	x		
DasGupta ³⁵ Learner and community staff satisfaction		x		x			x					
Wolff ³⁶ Learner. K, S						x						
Krajewsk ³⁷ Learner. K, S								x				
Gregg ³⁸ Learner K, S, A*							x	x	x			
Kutob ³⁹ Learner CC		x								x		
Cohen ⁴⁰ Learner K, A										x		
Kuo ⁴¹ Learner professional achievements	x											x
Klein and Vaughn ⁴² Learner K, S, A							x					

* No measurable improvements

A—attitudes, CC—cultural competency, CS—communication skills, K—knowledge, PG—postgraduate, S—skills, TS—teacher satisfaction, LS—learner satisfaction

is timely, relevant, and needed. To develop educationally sound training programs aimed at preparing graduating physicians to be able to participate actively in reducing and eliminating health disparities, educational initiatives need to be carefully conceptualized, implemented, and evaluated. Graduate medical education programs in the United States would benefit from utilizing the Accreditation Council for Graduate Medical Education and the Institute of Medicine's Core Competencies Framework, as well as recommendations from the Society of General Internal Medicine Health Disparities Task Force.³

Recommended Essential Elements to Incorporate in Curriculum Planning

a. Clearly-stated desired attitudes, values and competencies for learners

Some of the key skills/competencies that the authors feel are needed to address health disparities, that are not part of the normal family medicine residency training program, include :

Graduating residents' ability to:

- Collect, analyze, and disseminate information in a systematic and scientific manner to improve health outcomes for patients and communities; participate in continuous quality improvement at the practice level to help ensure the consistent delivery of high quality care.

- Assess community linkages and relationships among multiple factors (determinants) affecting health of patients and communities; deliberately identify the needs of the populations their practice serves and work to address them.

- Utilize population-level data for patient and community-oriented advocacy, policy development, and program planning.

Note: a comprehensive list of competencies to address health disparities and how they relate to the ACGME core competencies is in development by our project team and will be presented in a follow-up report.

b. Multimodal and longitudinal didactic and experiential learning activities, including training in population-based health and community-based participatory research

c. Rigorous evaluation methodologies, both formative and summative, and follow-up of graduates' careers to assess long-term impacts

d. Faculty development—professional development of residency faculty to ensure quality of developed curricula

We also recommend existing and new programs to publish their curricula, including evaluation findings, for the purpose of knowledge sharing. National meetings that would integrate discussions addressing curricular development for programs meant to train physicians in health disparities would be an added resource.

Limitations of the Review

The most important limitation of this review is that it relied on published reports in the literature. There may be other current and emerging programs focusing on health disparities training that are not part of this paper for the above reason. Additionally, by focusing on graduate training only, we have not included important undergraduate medical education programs that can guide curricular development in this area.

Conclusions

Effective training in health disparities is a national priority to help train a health workforce that is able and ready to meet the needs and expectations of our evolving patient populations. Despite the recognized need for training future physicians to be able to provide health care for increasingly diverse patient populations, there is a lack of clarity about training elements that should be part of curricula designed to equip graduating residents with competencies to address health disparities. Carefully conceptualized curricula that are grounded in educational principles are essential for residency training to be meaningful and

effective. This review begins to provide a framework of existing curricular initiatives in graduate medical education and highlights the need for more robust dissemination of current and emerging programs as well as a national competency-based health disparities curriculum. The next steps in the authors' work include the development, implementation, and evaluation of a prototype health disparities curriculum for family medicine residents. This curriculum will be designed to engage residents in learning experiences that would facilitate the acquisition of core attitudes, values, and competencies related to providing high-quality, patient-centered, culturally appropriate care for all patients, particularly those who are underserved and vulnerable. The ultimate goal is to train primary care physicians to effectively provide health services in areas of unmet need and be leaders in reducing health disparities.

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CORRESPONDING AUTHOR: Address correspondence to Dr Hasnain, University of Illinois at Chicago, Department of Family Medicine (MC 663), 1919 W. Taylor Street, Chicago, IL 60612-7309. 312-996-8214. Fax: 312-996-2579. memoona@uic.edu.

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