Structural competency curriculum in health sciences education: a scoping review protocol

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ABSTRACT

Objective: This scoping review aims to explore existing literature related to structural competency and how this concept is being implemented and evaluated in health sciences programs. Another aim is to examine and summarize any documented outcomes related to structural competency training.

Introduction: Structural competency is a concept that was introduced in 2014 to train pre-health and health professionals to understand the broader structures that influence health outcomes. Studies have shown structural competency training is beneficial to health science students. To address health outcomes at the population level, students should collaborate with other disciplines to address the larger structures that influence health.

Inclusion criteria: This scoping review will consider studies that include health science programs that implemented or evaluated structural competency training for undergraduate students, graduate students, and postgraduate trainees.

Methods: The key databases to be searched include MEDLINE (PubMed), CINAHL (EBSCO), Scopus (Elsevier), Embase (Elsevier), Europe PubMed Central (European Bioinformation Institute), and PsycINFO (EBSCO). The search for unpublished studies will consist of ProQuest Dissertations and Theses (ProQuest), PapersFirst (WorldCat), and OpenGrey (www.opengrey.eu/). Studies conducted in English, in any year, setting, and geographical location will be included. Two independent reviewers will perform retrieval of full-text studies and data extraction. The results will be presented in diagrammatic or tabular format with a narrative summary.

Keywords: curriculum development; health education; structural competency; structural determinants of health

Introduction

Having equal rights and equal opportunities is social justice, and this includes the right to be healthy. The term “social justice” has been used in relation to health and Braveman and Suarez-Balcazar suggest that social justice "encompasses several interrelated concepts which include equality, empowerment, fairness in their relationship between people and the government, equal opportunity and equal access to resources and goods."\textsuperscript{1,p.13} Along with social justice issues, the COVID-19 pandemic has also shed light on barriers related to meeting individuals’ health care needs.\textsuperscript{2} Although considered essential services, employees in positions such as fast food servers and grocery store attendants earn lower wages, have less access to affordable health insurance, and often live in situations that make social distancing difficult.\textsuperscript{2} Social inequities have been critical contributors to poor health for many years.\textsuperscript{2} The University of Wisconsin Population Health Institute describes how modifiable determinants of health (healthy behaviors, clinical care, the physical environment, and social and economic factors) contribute to life expectancy, risk factors, and how well one may live.\textsuperscript{3} Their model illustrates how policies and programs are at the foundation of how health is influenced by social and economic factors, health behaviors, the physical environment, and clinical care.\textsuperscript{3} On a global scale, the amount of influence social determinants have on health vary; however, countries are using different approaches to address health inequities.\textsuperscript{4} Researchers suggest it will take an interdisciplinary approach to tackle health
disparities in the United States, which are often linked with social, environmental, and economic disadvantages.5

Health science programs introduce students to social determinants of health, health disparities, implicit and unconscious bias, and cultural competency to expose them to differences in health care between groups and ways to mitigate the impact of this discrimination.6-10 Health care students and providers should be skilled in acknowledging how structures shape systems’ presentations and should collaborate with other disciplines to act on these structures to impact population-level outcomes.11 Health science students in educational programs, such as pharmacy, medicine, nursing, global health, postgraduate residencies/fellowships, dentistry, public health, occupational therapy, physical therapy, and others, are exposed to biological aspects of illness and disease. While taking required courses for these programs, it is unclear how much formal instruction students receive on social, environmental, or political issues and how they contribute to health.10,12 To highlight the influence these same issues have on health and health outcomes, various health science programs take different approaches to train students on structural competency and incorporating this concept into the curricula.5-9

Metzl and Hansen define structural competency as the ability to recognize how clinical symptoms, attitudes, or diseases are a result of implications caused by structures such as health care, zoning laws, food delivery systems, or how illness and health are defined.9 Structural refers to “clinical interventions above the level of the individual patient and in collaboration with community organizations, non-health sector institutions, and policy makers,”11(p.279) Five core skills are incorporated in the approach referred to by Metzl and Hansen9 as structural competency: i) recognizing structures that shape clinical interactions, ii) developing an extraclinical language of structure, iii) rearticulating “cultural” presentations in terms that are structural, iv) having the ability to observe and imagine structural interventions, and v) cultivating structural humility. Some studies have suggested that culturally competent health care providers could improve health disparities.13,14 Cultural competency has been taught in health professional programs for many years and helps students recognize how clinical decisions are made due to stigma and bias.9 Hansen et al.8 argue, however, that cultural competency does not adequately address systemic intervention. Emphasizing social structures, as well as economic and political conditions that influence health inequalities, early in the educational process can be beneficial for students if they are taught this while they also learn about disease processes.10

In 2014, Metzl and Hansen suggested structural competency training would complement traditional medical education8 and that structural competency could expand efforts to promote recognition of those environmental and social factors that may come up in conversation during students’ clinical encounters.9 Vanderbilt University’s Medicine, Health, and Society program faculty reshaped the curriculum in 2013 to include social, cross-cultural, racialized, and gendered determinants of health.10 The courses focused on complex social issues and their impact on health, health care, and health policy.10 Neff et al.15 implemented a structural competency curriculum in an effort to fill the gap identified by the Accreditation for Graduate Medical Education (ACGME) to find innovative ways for medical students and residents to identify and address health care disparities as well as methods to decrease or eradicate them. The ACGME’s “shortcomings” were motivators for Castillo et al.16 in their pursuit to “change institutional structures that drive health and social inequities”(p.1819) for graduate medical education by presenting a new competency with three subthemes: structural competency (knowledge), structural action (skills), and social responsibility (attitudes). In medical education, structural competency has not only been suggested in the classroom setting, it has been used in simulation-based scenarios.17 In their weekly inter-professional simulations, the pediatric emergency team at Columbia University added structural competency elements to their learning objectives.17 No information has been identified on structural competency training in international medical programs.

In addition to medical and pre-health programs, psychology, pharmacy, social work, global health, and nursing educators are also considering ways to incorporate structural competency in curricula.18,19 Nursing students should be exposed to structural competency in their courses.7 Orr and Unger19 implemented a training program for graduate and undergraduate students in nursing that focused on professional practices. Suggesting nurses have an
ethical responsibility to pay attention to the structural forces that can impact the health of their patients, Orr and Unger\textsuperscript{19} recognized this as a gap in training.

Studies have found that students in health science programs benefit from structural competency training; however, teaching this construct can be challenging.\textsuperscript{12,15-20} Using this approach is recommended to benefit a variety of health science students and interdisciplinary teams. However, there is a gap in the literature related to how this has been instituted and evaluated across health science programs. The purpose of this scoping review is to explore how health science education programs are implementing and evaluating structural competency models to address health-related social justice issues. Additionally, the purpose is to determine any outcomes reported with this update to their curricula. It would be beneficial for educators associated with preparing undergraduate, graduate, and professional health science trainees to have a broader view of how structural competency has been integrated and evaluated in a variety of curricula.

A preliminary search was conducted in MEDLINE (PubMed), Cochrane Database of Systematic Reviews, JBI Database of Evidence Based Practice (Ovid), and PROSPERO on February 17, 2021. No systematic reviews or scoping reviews were found related to structural competency in health science education.

**Review questions**

- How has structural competency been implemented in health sciences education curricula?
- How has structural competency been evaluated in health sciences education?
- What outcomes have been reported with structural competency in health sciences education?

**Inclusion criteria**

**Participants**

This review will consider studies that include health science education students. Health science education includes, but is not limited to, pharmacy, medicine, nursing, global health, postgraduate residencies/fellowships, social work, dentistry, public health, occupational therapy, physical therapy, and undergraduate courses that prepare students for admission to health science programs.

**Concept**

This scoping review will consider studies that report on how structural competency has been implemented (integrating concepts into current courses/skills training, incorporating art into curricula to increase empathy, using structural competency as a training framework, adding courses as electives, or developing new models) and/or evaluated by using the Structural Foundations of Health Survey, focus groups, post-tests, or other methods in health science education. This scoping review will also consider studies that include outcomes reported with the use of structural competency curriculum. Outcomes may include but will not be limited to: an increased ability to identify structural factors, improved ability to articulate structural factors with deeper understandings, and reframing practice.

**Context**

This review will consider studies that include any undergraduate or graduate health science program in all geographic locations.

**Types of sources**

This scoping review will consider quantitative, qualitative, and mixed methods study designs for inclusion. In addition, systematic reviews and text and opinion papers will be considered for inclusion in the proposed scoping review.

**Methods**

The proposed scoping review will be conducted in accordance with JBI methodology for scoping reviews.\textsuperscript{21}

**Search strategy**

The search strategy will aim to locate both published and unpublished primary studies, reviews and text, and opinion papers. An initial search of MEDLINE (PubMed), Cochrane Database of Systematic Reviews, JBI Database of Evidence Based Practice (Ovid), and PROSPERO has been conducted to identify articles related to this topic. The text words listed in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for MEDLINE (PubMed; see Appendix I). The search strategy, including all identified keywords and index terms, will be adapted for each included information
source. The reference lists of the studies selected will be screened for additional papers. A reference librarian trained in JBI methodology assisted with the included search strategy and will assist with the search strategy for each of the databases listed.

Due to lack of translation services, only articles published in English will be included. No date limit will be set on publications due to the limited amount of research on this topic. Articles published from database inception to the present will be included to find all sources of evidence. The databases to be searched include MEDLINE (PubMed), CINAHL (EBSCO), Scopus (Elsevier), Embase (Elsevier), Europe PubMed Central (European Bioinformation Institute), and PsycINFO (EBSCO), and Education Resources Information Center (ERIC). The search for unpublished studies will consist of ProQuest Dissertations and Theses (ProQuest), PapersFirst (WorldCat), and OpenGrey (www.opengrey.eu/).

Study selection
Following the search, all identified records will be collated and uploaded into EndNote v.20 (Clarivate Analytics, PA, USA) and duplicates will be removed. Following a pilot test of 25 studies, titles and abstracts will then be screened by two independent reviewers for assessment against the inclusion criteria for the review. Potentially relevant papers will be retrieved in full and their citation details imported into the JBI System for the Unified Management, Assessment and Review of Information (JBI SUMARI; JBI, Adelaide, Australia). The full text of selected citations will be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of full-text papers that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion or with a third reviewer. The results of the search will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for Scoping Reviews (PRISMA-ScR) flow diagram.

Data extraction
Data will be extracted from papers included in the scoping review by two independent reviewers using a data extraction tool developed by the reviewers. The data extracted will include specific details about the population, concept, context, and key findings relevant to the review questions. A draft data extraction tool is provided (see Appendix II). The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included paper. Modifications will be detailed in the full scoping review. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer. Authors of papers will be contacted to request missing or additional data, where required.

Data presentation
The extracted data will be presented in a diagrammatic or tabular format that aligns with the objective and questions of this scoping review. The tables and charts will report on authors, title, year of publication, source/journal, concept, population, study methods, context and setting, and key findings related to how structural competency has been implemented and evaluated in health sciences education, and what outcomes have been reported when structural competency has been implemented in health sciences education. Findings for pharmacy, medicine, nursing, global health, postgraduate residencies/fellowships, social work, dentistry, public health, occupational therapy, physical therapy, and undergraduate courses that prepare students for admission to health science programs will be presented. A narrative summary will accompany the tabulated and charted results and will describe how the results relate to the review objective and questions. The findings will be discussed as they relate to practice and research and all authors will determine how to present the results after reviewing the findings.

Acknowledgments
Elizabeth Hinton, MSIS, AHIP, librarian, for guiding the search strategy.

This scoping review will contribute toward a doctor of nursing practice degree for VG.

References


Appendix I: Search strategy

MEDLINE (PubMed)
Search conducted on July 28, 2021

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## Appendix II: Data extraction instrument

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<td>Context</td>
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### Key findings

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<td>How has structural competency been evaluated in health sciences education?</td>
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