Summary Overview

Project Title: Physician Bias Education of Medical Students in providing culturally competent care for Lesbian, Gay, Bisexual and Transgender Patients (LGBT) Populations

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Project Description: The research study describes the methodology for establishing an evidence-based curriculum designed to reduce the effects of physician implicit bias among medical students to improve the provision of health care services to LGBT populations.

Research Description and Policy Relevance

Lesbian, gay, bisexual, and transgendered persons (LGBT) represent a vulnerable population that experiences a disproportionate burden of health disparities. They experience worse health outcomes relative to sexually transmitted infections including HIV. Men who have sex with men (MSM) have an anal cancer rate that is 9 times higher than their heterosexual counterparts. LGBT people have higher rates of disability, asthma, and cardiovascular disease. The LGBT population also experiences higher rates of mental illness and behavioral health problems including, obesity, substance abuse, and cigarette smoking. Several factors contribute to these disparities, one of which is low healthcare utilization.

Approximately 30% of the LGBT population lacks a regular health care provider and does not access care regularly, compared to only 10% of the heterosexual population. Sexual minority women have been found in several studies to report fewer lifetime Pap tests. MSM, particularly, Black MSM are much less likely to access preventive HIV care, less likely to be retained in treatment when they do, and less likely to have insurance to cover their health care than other MSM. Transgender (TG) youth lack access to both physical and mental health care. These disparities are compounded when combined with intersecting identities of race and living in rural versus urban settings, and the adverse effects of social determinants.

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LGBT persons also have reported experiencing discrimination in the health care environment\textsuperscript{22-24}. Shires & Jaffee\textsuperscript{25} in a large national cross sectional study found that 41.8\% of transgender persons experienced discrimination in a health care setting. One study found that 34\% of LGBT physicians report having witnessed discrimination in practice\textsuperscript{26}. Similarly, another study found that 26\% of LGBT patients in HIV care reported experiencing discrimination\textsuperscript{27}.

Experiences such as these are reflective of the failure of medical schools to address implicit bias towards LGBT patients and its deleterious impact on health and health disparities. A full 75\% of physicians indicated that sexual orientation should be covered more in medical school curricula\textsuperscript{25}, and a national survey of medical school deans indicated a mean of 2 hours of training regarding providing care to LGBT patients and further, these same deans indicated that the training was either "poor" or "very poor."\textsuperscript{17}

**Rationale**

This research project will assess how medical school curriculum addresses the education of students in addressing implicit bias towards LGBT populations and how it affects the provision of health care services and contributes to health disparities. Implicit physician bias has been examined most extensively regarding how race and sex of patients affect health care service delivery and disparate health outcomes in vulnerable populations. We also recognize that within LGBT populations there are many subpopulations that may have unique needs, including young MSM of color, homeless men, women, youth and children, and migrant workers and will attempt to identify how they are being addressed.

**Research Project Goals**

There currently is no consensus in the literature regarding best practices in teaching medical students how to be aware of and reduce implicit physician bias in working with LGBT populations. The goals of this research project are:

1. Conduct a systematic review of the literature on physician implicit bias in working with LGBT populations. (Short term Goal)
2. Conduct a survey of 141 US medical schools on how they teach students to address implicit physician bias in working with LGBT populations. (Short term Goal)
3. Develop an evidence-based, physician, implicit bias reduction curriculum for working with LGBT populations for medical schools. (Intermediate Goal)
4. Disseminate the evidence-based, physician, implicit bias reduction curriculum for working with LGBT populations to academic medicine audiences. (Intermediate Goal)
5. Medical students will reduce their level of implicit bias in providing health care services to LGBT populations. (Long Term Goal)
6. LGBT populations will display improved overall measures of health and a reduction in health disparities. (Long Term Goal)

**Hypothesis**

Medical students who receive education on the effects of physician implicit bias on provision of health care services for LGBT populations will be more likely to provide
culturally competent care which results in better health outcomes and a reduction in
disparities among this disadvantaged population.

**Geographic Coverage**
This project has a plan for national data collection involving the examination of all 141
U.S. medical school websites as well as contacting subject matter experts at these
schools directly.

**WORK PLAN**

**Goal 1. Conduct a systematic review of the literature on physician implicit bias in
working with LGBT populations.**

**Methodology**

1. **We will conduct a systematic review of the literature from 2005 until present**
   using Scopus, PubMed, Web of Science, EBSCOhost, Google Scholar and
   PsycINFO.

2. **We will use MeSH terms:** implicit physician bias training; LGBT bias training;
   physician bias education and training; cognitive physician bias; and explicit
   physician bias education and training.

3. **We will also use terms specific to identified evidence-based physician bias
   training methods. These include:** mindfulness; intergroup contact; perspective
   taking; emotional expression; forcing functions; and counter-stereotypical
   exemplars. Should other terms be identified through this exhaustive search we
   will add them.

4. **We will establish a physician bias community of practice that works with LGBT
   populations.** After all relevant articles are collected using the search terms and
   sources above we will then assess them for eligibility. All abstracts and titles
   will be reviewed to determine relevance to the current review by two
   independent reviewers. Any articles that are irrelevant to this review (i.e. did
   not discuss cognitive bias regarding LGBT at all) will be excluded.

5. **We will also review the references of each of the selected articles to identify
   additional articles that may have been missed in the initial search. Full text
   articles will be assessed by the two independent reviewers and included based
   on several criteria including:** (a) being published in English; (b) address the
   topic of cognitive physician bias among medical students, residents, and
   practicing physicians; and (c) address physician bias related to the LGBT
   population. It should be noted that we do not anticipate a high number of
   empirical studies comparing training outcomes and as such will not limit
   inclusion in the review based on methodology.

6. **We will conduct meta-analysis for studies with compatible datasets where
   feasible and appropriate and provide a narrative review for other studies.

**Goal 2: Conduct a survey of 141 US medical schools on how they teach students
to address implicit physician bias in working with LGBT populations.**

**Methodology:**
We will develop a survey instrument to assess how medical school curricula address implicit physician bias in working with the LGBT population.

2. We will pilot test the survey with community of practice members and modify the instrument based on expert opinions.

3. We will disseminate the implicit physician bias survey to curriculum experts at all 141 medical schools to gather data regarding how their curriculum addresses implicit physician bias in working with LGBT populations.

4. We will make contact with medical schools during the data collection phase. This will serve two purposes, first it will allow us to discuss with educators currently conducting physician bias education, the feasibility and real world application of the training methods and curricula we recommend, and second to ensure these educators have access to the evidence base on training efficacy.

5. We will compare training methods reported by schools currently addressing implicit physician bias in their curricula with the best available evidence that is amassed through the narrative review and possible meta-analysis.

Goal 3: Develop an evidence-based, physician, implicit bias reduction curriculum for working with LGBT populations for medical schools.

1. We will frame the curriculum with the context of the AAMC competencies. By providing this resource to medical colleges we hope to better enable the implementation of physician implicit bias education into curricula expediently.

2. We will identify the core competencies of medical education curriculum that targets physician implicit bias in providing health care services to LGBT populations.

3. We will make recommendations for an evidence-based, LGBT, physician implicit bias, medical school curriculum.

4. We will evaluate the impact of the physician bias training curriculum in working with LGBT populations on medical school curriculum.

Goal 4: Disseminate the evidence-based physician, implicit bias reduction curriculum for working with LGBT populations to academic medicine audiences.

1. We will disseminate the physician implicit bias training curriculum in working with LGBT populations to AAMC, ACGME and other appropriate audiences at professional conferences.

2. We will disseminate the results of effective physician bias training curriculum in working with LGBT populations through a minimum of two scholarly publications.

3. We will provide training and technical assistance to schools implementing the recommended curriculum.

Limitations

Anticipated findings will be limited primarily by (1) problems inherent to the meta-analytic review (i.e., file drawer problem) and (2) and challenges in getting medical
schools to complete and return the surveys and arranging for phone consultations with subject matter experts at U.S. medical schools.

**Evaluation Plan:**

1. Develop a structured format for conducting a systematic review of the literature
   a. Identify key search “mesh” terms
   b. Identify repositories to be searched
   c. Identify timeframe for search
2. Conduct systematic review of literature
3. Finalize list of articles to be included in report
4. Apply evidence base review criteria to analyze final list of articles
5. Establish a community of practice on physician implicit bias in working with LGBT populations
6. Summarize evidence base for physician bias training for practicing physicians in working with LGBT populations
7. Summarize evidence base for physician bias training of medical school education
8. Summarize evidence base for physician bias training for post-graduate primary care education
9. Identify gaps in the literature
10. Conduct a survey of physician bias education for working with LGBT populations in medical school curricula
11. Conduct a survey of physician bias education for working with LGBT populations in post graduate primary care residency training program curricula
12. Develop a report of the need, evidence base, and current status of physician bias education for working with LGBT populations in medical school and post graduate primary care residency training program curricula
13. Disseminate report findings on physician bias training and medical education to medical school curriculum committees
14. Disseminate report findings on physician bias training to graduate medical education primary care program directors
15. Disseminate findings to general audience of primary care providers about reducing physician bias in providing health care services to LGBT populations

**Human Subjects Research:** This project does not involve human subjects.

**Key Staff Qualifications and per cent of time on research project:**

R. Lyle Cooper, PhD (PI), has been a Licensed Clinical Social Worker since 2005. Dr. Cooper has worked with the LGBT population since 1999 when he began his work as an HIV outreach worker funded through the NIDA Indigenous Street Outreach Worker Model Study. He presently serves as PI on an NIAID sub award from the Tennessee Center for AIDS Research examining the role of stress (as measured through salivary cortisol) related to racial and sexual orientation discrimination and HIV related stigma among Black men that have sex with men (MSM), and the role of this stress in HIV disease progression. He is also the PI on a SAMHSA funded study to reduce HIV risk behaviors and substance abuse among young Black MSM. He is also

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an experienced educator with 14 years of teaching experience. He has served on curriculum committees, and developed two specializations, the Spalding University Alcohol and Drug Counseling Specialty Certificate, and the University of Tennessee, College of Social Work's Doctorate in Clinical Social Work program, where he worked on the committee that developed the program.

Matthew Morris, PhD (Co-PI), has been licensed as a clinical psychologist with Health Service Provider designation in the state of Tennessee since 2013. Dr. Morris is PI of an ongoing NIMH-funded project examining neuroendocrine and psychosocial risk factors for posttraumatic stress disorder and major depressive disorder in young adult women recently exposed to physical or sexual assault (K01 MH10143). He has expertise in the assessment of trauma exposure and trauma-related psychopathology through semi-structured psychiatric interviews and in the measurement of hypothalamic-pituitary-adrenal axis and sympathetic nervous system diurnal secretion and stress reactivity through saliva (i.e., cortisol and alpha-amylase levels) and hair samples (i.e., cortisol concentrations). In addition, Dr. Morris has conducted health disparities research on racial differences in pain sensitivity in African-American and Non-Hispanic White youth and has expertise in the implementation of experimental pain protocols.

Paul D. Juarez, PhD, Program Director is Vice Chair for Research in the Department of Family and Community Medicine and Director of the Health Disparities Research Center of Excellence at Meharry Medical College and serves as the Director of the Tennessee Area Health Education Center (AHEC). Dr. Juarez also is PI of a research grant to increase PrEP uptake and adherence among young black MSM in Memphis, TN and previously served as the PI of the Nashville Urban Partnership Academic Center of Excellence to Prevent Youth Violence.

Mohammad Tabatabai, PhD, Director, Statistical Methods, is a Professor of Biostatistics at Meharry Medical College. Dr. Tabatabai current research is in cancer modelling, premature death, diabetes in Mid-Cumberland region of Tennessee, and HIV/HCV co-infection. He is a member of the research team preparing to analyze the combined Meharry-Vanderbilt data on HIV/HCV coinfection. He is also a member of the Biostatistics and Biomedical Informatics Core (BBIC) for the Tennessee Center for AIDS Research (TN-CFAR) assisting HIV researchers with the design and analysis of their research proposals. The BBIC provides statistical and biomedical informatics support to HIV/AIDS investigators at Meharry Medical College, Vanderbilt University, and the Tennessee Department of Health. He has recently joined the Research Design, Biostatistics and Clinical Research Ethics (DBRE) Core of the Meharry Clinical and Translational Research Center (MeTRC). He has done extensive research in breast, brain, prostate cancer as well as modeling tumor growth such as glioblastoma multiform type IV, hypertabastic survival analysis and their applications in medical genomics, robust linear and nonlinear regression models including logistic, probit and multinomial regression models and cellular growth models. Dr. Tabatabai has recently been honored with the prestigious Professor of the Year Award by the Meharry Medical College pre alumni association.

Content Expert Consultants:
Pat Matthews-Juarez, PhD, Project Director
Meharry Medical College
National Center For Evidence-Based Research Studies on Vulnerable Populations/ Academic Administrative Units/Cooperative Agreement

Leandro Mena, MD, Associate Professor, Internal Medicine, University of Mississippi and Jackson State University.
Tom Arcury, PhD, Professor and Vice Chair for Research, Family and Community Medicine, Wake Forest University

Other resources needed to carry out the research:
One research assistant, under the supervision of Drs. Cooper and Morris, will carry out the literature searches, abstract reviews, study coding, and will be responsible for contacting U.S. medical schools.
Literature cited:


25. Shires & Jaffee