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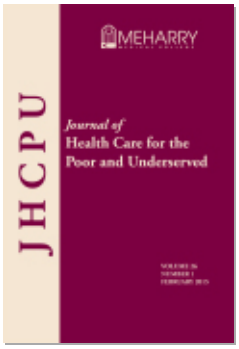

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Health Disparity Intervention through Minority Collegiate Service Learning

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Summary: In Tennessee, African Americans suffer significantly from infant morbidity, sexually transmitted diseases, and deaths from vascular disease and cancer. The Meharry Medical College Wellness Project addresses these health disparities with a service learning curriculum focused on community-based research. Trained minority undergraduates have conducted 355 Institutional Review Board-approved community intervention projects statewide.

Key words: Health disparities, service learning curriculum, community-based participatory research.

Many health outcomes associated with population health disparities can be traced to social determinants negatively affecting minorities and the underserved, where patient-based health issues mirror those of the residents of their surrounding ethnic and racial communities.[1] In Tennessee, according to Behavioral Risk Factor Surveillance System data, African American women achieved less than 90% of national health-related benchmarks (www.healthypeople.gov) for infant mortality; sexually transmitted diseases other than HIV/AIDS (i.e., Chlamydia, syphilis, and gonorrhea infections); and deaths from heart disease and stroke.[2,3] Nationally, Tennessee ranks fourth-highest in cancer deaths per 100,000 citizens in African American men and women.[4]

Ideally, local communities in Tennessee would work with public health and health care professionals to reduce health disparities. Community-based participatory research (CBPR) entails a partnership of research methodology with community resources to determine practical utility of inventions where stakeholders live and work.[5] Such research incorporates residential, employment, economic, and educational factors into clinical research and outcomes,[6] an ideal construct for addressing health disparities. Health centers have used culturally-oriented community organizations, including historically Black colleges and universities (HBCUs), to bridge divides between researchers and racial/ethnic minority groups for meaningful CBPR.[7,8] Through HBCUs, CBPR can be

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particularly effective since the intervention personnel themselves often have history with the health problems being addressed.[9]

Producing more minority professionals across all health care fields is another mechanism to reduce health disparities,[10] a process that might be facilitated through service learning projects during students' undergraduate years. Service learning employs non-traditional education methods that incorporate didactic presentations, student reflection, and community outreach experiences;[11] this method has been proven effective in many health profession educational programs.[12] Integrating service learning into CBPR allows students to incorporate their subjective experiences meaningfully by navigating local interventions.

The Meharry Medical College (MMC) HBCU Wellness Project is a service-learning based CBPR undergraduate training program designed to address health disparities in Tennessee. The MMC HBCU Wellness Project has trained undergraduate students primarily from Fisk University (Nashville), Knoxville College, Lane College (Jackson), and LeMoyne-Owen College (Memphis). As a first step to developing more minority professionals, a service learning-based curriculum was implemented that presented these collegians with CBPR fundamentals to develop Institutional Review Board (IRB)-approved health disparity interventions

Curriculum Program Components

HBCU campus staff and community partners. The four HBCU campuses each receive funding (from the State of TN) for campus student coordinator and community outreach positions. The primary duties of the campus coordinators are administration of daily campus project operations, student recruitment as student health ambassadors (SHAs), organization of health and wellness activities on campus and surrounding communities, and supervision of SHA project outcome completion, including prior campus IRB approvals. The community outreach worker operates closely with the campus coordinator to provide community partnerships for the SHAs' interventions. Potential SHAs are required to complete an application and interview process. Student health ambassador inclusion criteria across all HBCUs are: 1) American citizenship, 2) full-time academic enrollment, 3) completion of at least one English composition class, 4) reasonable unscheduled time to devote to SHA training, and 5) a two-year service commitment. The exclusion criteria are: 1) inability to maintain a 2.0 grade point average and 2) any present MMC employment. Student health ambassador applicants are not required to have pre-existing health or science majors.

SHA training program. Once selected, SHAs are required to receive formal instruction through an annual service leaning training program. The HBCU Wellness Project defines service learning as a structured educational experience that combines evidence-based content, individual reflection, and a service activity with community groups and stakeholders. Through service learning, SHAs can understand the real-world context in which service is provided, the connection between their service and other academic course work, and their roles as American citizens. Service learning also emphasizes the CBPR tenet that all outreach participants can learn from each other. Citizenship skills are emphasized to enforce the ability of individual citizens to affect social change.

The curriculum also offers epidemiology instruction related to key health disparities (breast cancer, prostate cancer, human immunodeficiency virus [HIV] infection, infant mortality, and obesity), the basic tenets of wellness and disease prevention and social determinants, and the fundamentals of writing and executing ethical community interventions. These five general health disparities were chosen to focus SHAs' proposals and make community organization for campus staffs more concentrated. Training presentations incorporate cultural competency, a key element in the translational CBPR. The HBCU Wellness Project defines cultural competence as a set of behaviors, attitudes, and policies that combine in a system or agency to allow effective operation in defined multi-ethnic/multi-religious/multi-generational contexts. Cultural competence is the integration and transformation of knowledge about these groups into specific policies, practices, and attitudes in appropriate social and professional settings to improve service outcomes.

This curriculum develops student community health advocacy. Once training is completed, the students should have the basic skills necessary to plan, implement, and evaluate a health disparity project targeting actual community needs. The curriculum consists of discrete modules that address individual competencies. Appropriate faculty members with expertise in specific areas are recruited to present didactic presentations on module topics. Lecturers and workshop leaders are experienced and trained in public health, nursing, medicine, law, epidemiology, biostatistics, clinical research, health education, and health promotion.

The first modules focus on service learning and civic engagement (www.nationalservice.gov/) to provide a context for personal growth in protocol development. The next module provides a background on the five targeted health disparities and their causes; topics include public and community health and social determinants of health (*Healthy People 2020* [www.healthypeople.gov]). The third module describes human subject research, specifically CBPR, so prescribed topics include human subject research definitions, the IRB, Collaborative Institutional Training Initiative (CITI) training and certification (see below), and project evaluation metrics. The fourth module focuses on how intervention ideas are developed into written protocols. Didactic topics in that module include identifying and working with community partners (http://depts.washington.edu/ccph/commbas.html), faith-based community engagement,[13] and community project selection. The last module is structured into protocol development with a mixture of didactic, group discussion, and overnight written assignments. The issues discussed within this module include structural elements of a written scientific protocol, exercises in deriving supporting information from peer-reviewed databases; and the stages of community project development ("The Community Toolbox": http://ctb.ku.edu/en/default.aspx). Ultimately, each student has completed a preliminary scientific protocol by the end of the training.

CITI Certification. Student health ambassadors finish their CITI training before completing the summer training. (This is an online (https://www.citiprogram.org) service that provides human research ethics and practice education for health professionals.[14]) Student health ambassadors complete the same CITI training modules required for MMC human subject investigators. This online curriculum includes individual course work on human subject research and ethical principles (including the Belmont

Report); basic IRB regulations and review process; the Health Insurance Portability and Accessibility Act [HIPAA] requirements; the tenets of informed consent; social and behavioral research components; the tenets of records-based research; an overview of genetic research in human populations; research with protected or vulnerable populations; research with culturally or medically vulnerable groups; and restrictions on using employees as research subjects.

Outcomes

The principal outcome of the HBCU Wellness Project service learning training curriculum is the success its collegiate trainees have had achieving IRB approvals for their health disparity intervention proposals. With this training, the MMC HBCU Wellness Project strongly encouraged all SHAs to achieve IRB approval for their written proposals, though less than ten SHAs at one HBCU collaborated on group proposals. Annual outcomes for the HBCU Wellness Project are presented in Table 1. The training standard presented to the campuses is a three-week summer program that allows time for sufficient for presentation of all the training modules (see *The Summer Institute Participants* column of Table 1). Due to some SHA unavailability due to commitments to summer school or summer jobs, *ad hoc* training of module content was provided during the autumn semesters on HBCU campuses. Those additional numbers are reflected in Table 1's *All Training* column. Further, as 326 collegiate participants from 2007 to 2012 (for a total of 355 who completed CITI training. The additional 29 individuals represent students who had training by MMC staff but did not participate in the formal summer institute).

The service-learning curriculum produced results beyond IRB approval of health disparity interventions. The SHAs also lead a large number of community health events

Table 1.

MMC HBCU WELLNESS PROJECT ANNUAL OUTCOMES

	Key Project Activities				
Year	Summer Institute Participants	All Training	CITI Trained	IRB Approved Protocols	Community Outreach Activities Conducted
2007	47	127	91	22	69
2008	52	146	52	43	177
2009	6	133	50	46	154
2010	73	91	58	44	140
2011	47	15	59	38	128
2012	45	45	45	36	92
Total	326	567	355	227	760

(Table 1). The discrepancy on Table 1 between the number of community interventions (760) and the number of IRB-approved interventions (227) reflects the fact that a single IRB approval often results in multiple community events. All SHAs are encouraged to submit written abstracts detailing their intervention results to national or regional conferences that focus on CBPR, health wellness or health disparity reduction. To date, SHAs have had 114 abstracts accepted for poster presentations at national conferences. Though this information is incomplete, campus staffs report that at least 281 participating students have achieved science degrees with 41 acceptances to graduate schools and 15 acceptances to professional schools.

Interpretation

First receiving State of Tennessee legislative funding in 2005, The MMC HBCU Wellness Project grew out of the challenge of identifying and recruiting the next generation of minority and underserved undergraduates to consider health careers. The MMC HBCU Wellness Project is innovative because the community-based, service learning curriculum devised to address this need. First, this program targets both college students and school settings that represent minorities and the underserved. Second, the student training frames health disparities not only as conditions that confer increased morbidity and mortality to minority populations but are also mediated by social determinants of health, such as access to healthy foods, education attainment, and socioeconomic class. Third, the training objective directs students to obtain tangible benchmarks commensurate with more seasoned health professionals (Table 1), namely CITI human subject research training and project IRB approval. Last, and most importantly, the inclusion of service learning in the curriculum affords the possibility that the entire process of training through community collaboration and intervention completion might lead to lifelong heath advocacy through understanding of health disparity reduction, whatever career path SHAs decide after graduation. Unfortunately, the academic independence of the partner HBCUs made tracking former SHAs after graduation very problematic. Future iterations of the training program would include tracking of professional outcomes as part of its inclusion criteria. As policymakers increasingly note the importance of social determinants in examining and addressing health disparities,[15–17] young minority collegians who have experienced those social determinants first hand might be the messengers of health change in those communities, the same ones they call home.

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