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Impacting Health Disparities in Urban Communities: Preparing Future Healthcare Providers for "Neighborhood-Engaged Care" Through a Community Engagement Course Intervention

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ABSTRACT *It is well known that health disparities exist and that a significant majority of patients who suffer disproportionately from them are lower income, non-white residents of dense, and diverse urban neighborhoods. It is our belief that factors hindering the reduction of health disparities in these neighborhoods are a lack of a framework and preparation needed to engage these communities in identifying specific health care needs. This paper describes one curricular intervention, a graduate level community engagement course, developed within an academic medical center located in an urban setting, that demonstrates promise in effecting change in the extent to which clinicians are able to engage communities and practice "neighborhood-engaged care" with the central goal of mitigating disparities.*

KEYWORDS *Community engagement, Academic medical center, Health care disparities, Urban health*

INTRODUCTION

Over a decade ago, the Institute of Medicine (IOM) reported a large body of research pointing to significant disparities of access to high quality care and poor health outcomes among minorities.[1] The reasons for these results are multi-factorial; however, one factor hindering the reduction of health disparities is a lack of a framework for truly engaged orientation to the particular circumstances of such local neighborhoods. In general, the gaps between the clinical orientation of clinicians and the needs and goals of their patient populations are widening.[2] For Academic Medical Centers (AMCs), this fissure is often larger than for smaller community hospitals due to their larger size, relative immutability and complexity, location within dense, diverse, and disparate urban communities, and having a large component of commuter staff and faculty who do not reside in the surrounding community.[3] An important consequence of this latter characteristic is that providers'

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and staff members' knowledge of their patients and the communities in which their patients live comes almost exclusively from personal experience in the hospital setting with the most vulnerable and ill.[2, 3]

The health of patients from these urban communities is subject to many social determinants of health (SDoH), such as lack of resources, limited access to providers, and low health literacy levels resulting in poorer health outcomes.[4] Students and faculty at AMCs are familiar with these patients, who, due to the effect of these SDoH, are often labeled or treated as "non-compliant [5]," "super-utilizers [6, 7]," or "frequent flyers [8]". Policy and payment changes following the passage of the Affordable Care Act (ACA), however, are forcing institutions to re-conceptualize, at least in practice, such patients as "underserved [9]." This shift is reflected in changes both at the care delivery and medical education levels.

On the care delivery side, the shift from a fee-for-service model towards a patient outcomes model is forcing attention to traditionally considered "non-clinical" factors that contribute to a patient's individual health.[10, 11] AMCs are exploring how to best provide health care at the community level by having clinicians work in partnerships with community-based organizations to identify and address the problems contributing to poor outcomes.[12, 13] Calls for systems-level interventions to identify and understand populations experiencing disparities and then explore community-based action are on the rise, [14, 15] as evidenced by the increase of community health worker models.[16–19] For example, the Grand-Aides® program utilizes trained health care members, under the supervision of a nurse, to conduct home visits and telephone consultations with patients to prevent emergency department visits and readmissions. The model has averted 62 % of drop-in clinic visits and eliminated 74 % emergency department visits.[20]

On the medical education side, AMCs are looking beyond the clinic by increasingly incorporating fieldwork, volunteerism, and service learning into their curriculum. Examples of such service learning include performing physical examinations in elementary schools and churches, conducting needs assessments of the school community, and partnering with community members to provide health education.[21–23] A meta-analysis of service learning across health professions found that students who participate in service learning activities demonstrate improved attitudes, social skills, civic engagement, and academic performance when compared with controls, although the findings related to sustained improvement and clinical outcomes are variable.[24]

Several universities have included distinct educational tracts into their medical education curricula, from, for example, the University of Oklahoma College of Medicine's weeklong pre-matriculation community medicine immersion [25] to programs integrated into the 4 years of medical education. Examples of the latter include the Medical College of Wisconsin's Urban and Community Health Pathway focusing on community-engaged learning [26] and the University of Illinois College of Medicine's Urban Medicine Program that prepares medical students to be able to engage directly with local, underserved communities.[2] These examples are noteworthy because of their explicit focus on improving medical education. Changing the culture of medical education is daunting especially when attempting a paradigm shift to address disparate care and social determinants of health.

Minkovitz et al.[27] report higher rates of participation in community pediatrics by those trained in a community-based practice initiative, where residents in ten pediatric training programs incorporated The Ann E. Dyson Community-Based Pediatric Training Initiative, a community engagement model. Graduates of the

program report increased participation in community practices compared to matched controls (43.6 vs 31.1 %). Community engagement and neighborhood-centered care initiatives provide training to address the root cause of health disparities in identified communities.

Ohio State University College of Medicine has the longest-running AMC service learning program. Their 20-plus year program requires all first year medical students to complete 12 service-learning hours focused on local patient resources. Evaluations of this program report that medical students grow professionally and personally.[28] The service learning program at the University of Chicago is slightly different in that it focuses on community and university collaboration in both mapping local resources and building community health research.[29] The course is open to all students but is not a formal component of the medical school curriculum.

While variability in service learning programs and outcomes exists, a commonality they share is a relative lack of attention to grassroots engagement, community input on solutions to the perceived health care issues, and to the importance of building trust as a central element to such endeavors.

Curricular changes for undergraduate and graduate medical education that incorporate community engagement efforts and emphasize neighborhood-engaged care are certainly welcome. We note an advantage in our program that it is open to anyone interested in seeking to improve the health of urban residents, especially through a neighborhood-engaged effort based on the perceived health care issues of the community, including non-medicine allied health students and professionals, social scientists and other researchers, hospital and university administrators, and even community members themselves. Through our program, we are fostering change agents from all disciplines to form partnerships with to improve the health of urban residents.

In what follows, we describe an educational intervention centered on community-centric engagement to build a partnership between community members and faculty, students, and our AMC. The crux of the intervention is based on the mutual trust and understanding of shared responsibilities as the core organizing principles for success and sustainability.

A New Model

Temple University's Lewis Katz School of Medicine in Philadelphia, PA is an ideal laboratory for community-AMC partnership development. Philadelphia, known not only as the City of Brotherly Love but also as a City of Neighborhoods, is a dense collection of relatively distinct and diverse neighborhoods, each characterized by highly particular ethnic and cultural make-ups with unique strengths and challenges. In North Philadelphia, home to the Lewis Katz School of Medicine (LKSM) and University Hospital, two bordering neighborhoods close in proximity identify as very distinct, despite having similar patterns of health care needs, violence statistics, structural barriers, and ethnic/cultural compositions. This unique and highly variable overlay of health needs, disparities, strengths, and challenges with neighborhood affiliation highlights the importance of using neighborhoods as our primary level of engagement and analysis.

LKSM is known for its commitment to Philadelphia and specifically the local neighborhoods it serves. Many students apply to LKSM because they are seeking to learn and practice medicine in an urban setting. LKSM is also home to the nation's only graduate program specializing in Urban Bioethics, in which the lens through which bioethics is viewed is that of the urban environment—dense, diverse, and

containing inequities, and disparities [30]—and the local, neighborhood-specific SDoH. The MA in Urban Bioethics (MAUB) student body is a mix of dual degree MD/MAUB and Doctor of Physical Therapy/MAUB students as well as employees of the health system who are seeking an additional skill set to address problems of urban health and care delivery in their particular careers. The hallmark of this program is the second year curriculum, which is dominated by an immersive and unique two semester community engagement course.

It is at the level of neighborhood that individuals live their lives, consider their resources, and navigate the intersections of resources and structural constraints. Thus, we define neighborhood-engaged care as "multidirectional, neighborhood-specific care that addresses social determinants of health to result in a positive impact on health outcomes for individuals who live in urban, dense, diverse neighborhoods". Our purpose is to describe the implementation of a community engagement course for health-focused students and professionals as an intervention to highlight and change the focus of practice to neighborhood-engaged care among medical students and professionals.

METHODS

Program Design

The course as a whole is based on the principles of community engagement [31] (Table 1), and the format incorporates both didactic lectures and on-site fieldwork. Didactic classes are conducted twice a month throughout an academic year and have the following objectives: gain an understanding of health care disparities in urban

TABLE 1 Principles of community engagement [31]

1. Be clear about the purposes or goals of the engagement effort and the populations and/or communities you want to engage.
2. Become knowledgeable about the community's culture, economic conditions, social networks, political and power structures, norms and values, demographic trends, history, and experience with efforts by outside groups to engage it in various programs. Learn about the community's perceptions of those initiating the engagement activities.
3. Go to the community, establish relationships, build trust, work with the formal and informal leadership, and seek commitment from community organizations and leaders to create processes for mobilizing the community.
4. Remember and accept that collective self-determination is the responsibility and right of all people in a community. No external entity should assume it can bestow on a community the power to act in its own self-interest.
5. Partnering with the community is necessary to create change and improve health.
6. All aspects of community engagement must recognize and respect the diversity of the community. Awareness of the various cultures of a community and other factors affecting diversity must be paramount in planning, designing, and implementing approaches to engaging a community.
7. Community engagement can only be sustained by identifying and mobilizing community assets and strengths and by developing the community's capacity and resources to make decisions and take action.
8. Organizations that wish to engage a community as well as individuals seeking to effect change must be prepared to release control of actions or interventions to the community and be flexible enough to meet its changing needs.
9. Community collaboration requires long-term commitment by the engaging organization and its partners.

neighborhoods; identify risk factors specific to urban communities; understand basic principles of health policy and impact of policy change to improve neighborhood-engaged health; and recognize and put into practice the fundamental principles of bioethics and neighborhood engagement from project inception to dissemination of results. The community engagement course has the following components:

1. The course requires students to engage with urban neighborhoods and participate in community and organizational activities such as health advisory meetings, parenting sessions, or existing workshops and classes attended by community members. This participant observation model allows students to gain an understanding of challenges faced by potential future patients living in dense, diverse urban areas and allows the community to become familiar with the students.
2. Lectures support this engagement by providing methodological training in basic mapping, conducting focus group interviews, and needs assessment.
3. Community academic partnerships are developed and supported to allow for an atmosphere of collaboration, shared responsibilities, expectations, and ongoing engagement. Organizational and academic leadership meet regularly to ensure mutual support of common goals and initiatives. Student groups are invited to evidence first-hand strategies for sustainability of partnerships.
4. Student groups work with a community advisor, generally a community leader, outreach coordinator, or the organization's director, each week to learn about culturally appropriate strategies in engagement.
5. Student groups work with academic advisors who are known to the community to help support community engagement methodologies related to health care initiatives and community identified needs.
6. Students complete a walking survey and urban mapping to outline socio-demographic characteristics of the community.
7. Student groups conduct focus groups to learn and appropriately address community members' perceived health care needs and collaborate with community members to develop an initiative or project to address those needs. Didactic instruction on conducting focus groups is presented to students. A faculty member is present during the focus group interviews to oversee or help facilitate the discussion. Focus group questions [32] can be found in Table 2.

TABLE 2 Focus group interview questions [32]

Problems/concerns identified (15 min)
1. What are the most significant problems related to your community?
2. What ages are affected by the issue?
3. What are the most significant problems affecting families in your community?
4. What other problems or concerns significantly affect members of your community?

Community resources, barriers (5 min): have participants look at the list of problems, issues, and concerns and then ask:
1. What resources are already available in your community to address the issues?
2. What barriers (if any) are there to accessing these resources?

Solutions (10 min): have participants look at list and ask:
1. What actions, programs, or strategies do you think would make the biggest difference in your community?
2. What solutions would help solve the problems and reduce or remove the barriers listed?

8. Field notes and reflection of the experiential course are required to provide comprehensive information of engagement activities, updates, and "next steps" to inform the group of potential projects and learning opportunities.

The spring semester is devoted to implementing community-engaged interventions, workshops, and projects based on data collected from focus groups conducted in the fall semester. Activities for the course were approved by the Temple University IRB (protocol #22680).

Participants

Participants were students enrolled in the graduate level community engagement course. Sixteen students enrolled in the course the first year and 17 in the second year, see Table 3.

Settings

Experiential community sites (see Table 3) in the first year of the course (2013–2014) included: (1) a community development corporation (CDC), (2) a behavioral health non-profit foundation, and (3) a faith-based organization. All sites were located in North Philadelphia within a three-mile radius of LKSM. The CDC provides early childhood education, housing counseling, and youth and family services to a predominantly Latino community. The non-profit foundation focuses on both grassroots and systemic levels to improve community access to resources within the field of behavioral health. The faith-based organization is an outreach ministry offering a weekly religious service, with an underlying health topic, followed by a midday meal. Attendees of the latter organization are generally those who face housing and employment insecurities as well as health and addiction challenges.

In the 2014–2015 academic years, two additional sites were added. The behavioral health non-profit foundation was replaced due to distance of the medical school catchment area. These additions included: (1) a social and economic non-profit development organization and (2) a private middle school. The social and economic non-profit organization is Latino-based and offers health and human services and community and economic development. The second, a private middle school is in one of the poorest areas of North Philadelphia, with many students

TABLE 3 Participants and sites

Year	No. students	Discipline	Community engagement sites
2013–2014	16	Medical students ($n = 14$)	Community development corporation (CDC)
		Occupational therapy health student ($n = 1$)	
		Physician ($n = 1$)	Non-profit foundation
		$M = 4$	Faith-based organization
		$F = 12$	
2014–2015	17	Medical students ($n = 13$)	Private middle school
		Professional students ($n = 4$, nurse, physical therapist, researcher, community health worker)	CDC
			Social and economic development organization
		$M = 7$	
		$F = 10$	Faith-based organization

testing several grades behind similarly aged peers in many subject areas, but were generally motivated and demonstrated a desire to learn.

Evaluation

A formal survey was designed to assess knowledge, skills, and attitudes of students regarding community engagement. Participants in the second academic year (2014–2015) completed online, anonymized questionnaires at the beginning of the first class and at the end of the last class of the academic year. Students in 2013–2014 completed informal surveys, and these results are not included in this report. The formal questionnaire asked students to answer or rate (scale 1 to 5) the following: "how would you define community engagement"; "how knowledgeable are you of the nine principles of community engagement" (not knowledgeable to very knowledgeable); "how important do you think community engagement is to your medical education/professional activities" (not at all to very important); "how prepared do you feel to initiate an encounter with a community leader, organization, or member" (not at all prepared to very prepared); as well as scenarios to choose "initial and subsequent steps" in the engagement process. Two surveys were developed: one for the health profession students and one for the students who are current healthcare professionals. The survey for professionals included documentation of their healthcare discipline.

RESULTS

Neighborhood-Centered Health Projects

Implementation of neighborhood-centered projects took place in the spring semester. Student participants generated projects based on the health needs identified by members or residents of each site in the fall's culminating focus groups. Community members expressed their satisfaction with the student-group participation and projects conducted. During the third year of the course, formal evaluations from the community were obtained.

Community Development Corporation (First and Second Years) Students presented interactive educational asthma workshops and distributed asthma chambers and educational materials to community members. Community members, parents, teachers, and organization leadership expressed being greatly satisfied with the presentations and were receptive to ongoing educational workshops based on perceived healthcare needs. Evaluations were informally obtained.

Faith-Based Organization (First and Second Years) Students prepared a resource guide identifying allied health providers in the neighborhood and participated in an influenza vaccine clinic. They also conducted several educational sessions, based on the congregations' interests regarding specific diseases or conditions. The pastors, parishioners, and community advisor expressed great satisfaction of the workshops and engagement through informal evaluation. The partnership with this organization continues.

Non-Profit Foundation (First Year) Prior to the start of the course, this foundation developed a walking path to allow community members and those receiving behavioral health services to utilize the path for recreational purposes. The walking path was constructed on the expansive property of the behavioral health center with

access only to pedestrians allowing for safe walking, biking, and strolling purposes. However, the construction of the walking path was fully completed without first conducting a neighborhood needs survey. This lack of neighborhood engagement presented unforeseen challenges to our student group's goal of engagement, building trust, and neighborhood-centered care. Although the organization's administrators were not fully involved or engaged with our student group, they did express a general satisfaction with the community engagement process and attempts made by the student group to engage the surrounding community.

Social and Economic Development Non-Profit Organization (Second Year) Students produced a cookbook incorporating cultural Latino foods using available fresh fruits and vegetables to address the dual problems of food insecurity and lack of standard recommended dietary guidelines that account for cultural traditions. Through informal evaluation, this organization's leadership, its staff, and families expressed great satisfaction with the entire community engagement course, the high quality of the work of the student group, and degree of engagement with community members. Center for Bioethics, Urban Health and Policy (CBUHP) and this organization continue to have a strong and sustainable partnership.

Private Middle School (Second Year) Community members expressed a need for nutrition and mental health workshops. Students conducted interactive presentations on these topics. In addition, students created a tri-fold pamphlet listing surrounding affordable health care resources. The school principal, staff, and community members were very receptive to the course and expressed great appreciation for engagement and educational workshops.

Pre-Test Survey

Twelve medical students and 4 professional students completed the Fall 2014 survey. Of the medical students, the majority ($n = 11$; one student did not complete the survey) were not knowledgeable of the nine principles of community engagement, uncomfortable with applying the nine principles, had little community engagement experience and were uncomfortable with initiating an encounter with a community leader. The professionals ($n = 2$) who completed the survey were a nurse and a researcher. Both recognized the importance of community engagement, were somewhat knowledgeable of the nine principles of community engagement, and one (researcher) felt very prepared to initiate an encounter with a community leader, while the other (nurse) did not feel prepared.

Post-Test Survey

Student responses in the spring semester reflected an improvement in comfort and knowledge about community engagement in all areas. Medical students ($n = 12$) reported being moderately to very knowledgeable of the principles of community engagement, and the majority reported feeling very or moderately prepared to initiate contact with a community leader. Professional students ($n = 3$) reported feeling very prepared to initiate contact with a community leader and moderately to very knowledgeable of the community engagement principles. All students ($n = 15$) who participated in the survey reported, as expected, the importance of community engagement, and an increase in experience in community engagement as a result of the course requirements. Box 1 highlights one student's perspective and achievement of course objectives and neighborhood-engaged care.

Box 1: Community engagement and neighborhood centered care: a student perspective

In 2013 I was part of the first class to take the new Community Engagement course. Students in the program have a genuine interest and/or experience in both direct patient care and broader systemic changes in healthcare, but also are searching for a real connection to the communities that they are serving. I found the course lectures and the experiential component invaluable, and I can attest to the importance of this course as a supplement to traditional classroom studies in both bioethics and medicine. I have a better understanding and insight of the needs of populations living in dense, diverse, urban neighborhoods.

As a medical student, I wanted to get a better sense of what our most vulnerable populations were experiencing when being treated at our hospital. Hospital staff sometimes dismiss these patients who return often to the hospital; their difficulties seem to be intractable. This attitude is expressed frequently through the "hidden curriculum," a perspective that I believe causes the loss of empathy that, unfortunately, many health care professionals develop and can lead to uncoordinated, paternalistic care. My hope was that information gathered from these community members on reasons for hospital admissions and readmissions could lead to steps that would improve their care.

During my first year, my assigned site was a local outreach ministry that caters to many community members who have fallen on hard times and are experiencing challenges such as homelessness, unemployment, and mental illness. Many have trouble with basic health needs like food and shelter, while also experiencing multiple comorbidities. The ministry offers weekly food distribution days and Sunday services. Despite many of us not personally holding religious beliefs, my site-mates and I attended these weekly services. This required a confrontation of our own biases and beliefs around faith, which was sometimes uncomfortable. However, through my attendance at the services, I gained a much deeper understanding of what faith can mean for these individuals. I recognize that this insight can help transform the care I provide to my future patients. Over time, I began contributing to the service through a weekly "Medical Moment," where a verse from the Bible was used to start a discussion around a health issue such as hypertension, diabetes, mental health, or addiction. Many attendees would thank other students and myself for providing this information and hold onto the handouts we distributed, sometimes asking follow-up questions about their personal struggles. I gained a valuable experience and although I was there to "help the community" I also ended up being the one who was helped.

In contrast to other service opportunities like student-run clinics or community service events, this experience of truly becoming part of a community is impactful in a different way. It made me feel closer to the individuals I will be caring for soon, and removed that sense of "other" that can be hard to avoid when there is a power differential. I have been able to bear witness to joyful and tragic moments in this close-knit community, like announcements of the birth of a granddaughter, or requests for prayer after the death of a loved one. Attendees have opened up to me about their addictions, difficulties with police, or domestic violence, with an openness that would be unlikely in an exam room.

Between my second and third years of medical school, I became an intern for the CBUHP, with one of my primary duties being serving as a teaching and research assistant for the Community Engagement course. I had the opportunity to assist in the preparation of the curriculum, give lectures, and serve as an advisor to the students placed at the outreach ministry in the second year of the course. As a teaching assistant for the course in the second year, I have been privileged to help a new cohort of students feel at home at the ministry site. The students have also gotten to know the regular attendees at the ministry, and have sometimes been moved to tears by the deep humanity revealed in their testimony. While we are finding ways to share what we have experienced with our colleagues, I think there is no substitute for personal participation in the community that a student and future physician serves. The relationships I have formed with attendees at the ministry function to shield me against apathy and drive me to continue working to form a kinder and healthier world for them.

DISCUSSION

This paper described a curricular intervention, developed within an academic medical center, and situated in a vulnerable, disadvantaged, and urban environment that

demonstrates promise in effecting change in the extent to which clinicians are able to practice "neighborhood-engaged care". This community engagement educational course intervention showed improvement in preparedness for and appreciation of neighborhood-centered care by medical students and health-focused professionals.

Health-specific and environmental programs created elsewhere and imposed on communities do not fare as well as programs generated with community input.[31, 33, 34] Our work with the communities within our catchment area laid the foundation for engagement between communities and our students. We found this phase of relationship development to be pivotal in the success of the course and preparing future and current health care providers to make a significant difference in the delivery of health care through knowledge acquired as a result of community engagement strategies.

The relationships we currently have with our communities are based on mutual trust and respect and require the same time, attention, and sensitivity as any other mutually beneficial relationship. These relationships enhance community engagement strategies and are a necessary component of efforts to expand access to quality care, prevent disease, and achieve health equity for all Americans.[31] Our relationships with neighboring North Philadelphia communities have proven to be a strength in our program and offer a unique opportunity for our students' engagement potential and insight into caring for an identified community.

Limitations

We identified some limitations in our academic intervention. The community engagement course was first introduced in 2013 as a requirement of the MAUB program. Faculty enhanced the course in years two and three using feedback from the first year students, faculty mentors, and community advisors.

Our small class sizes allowed for full participation, cohesion, and familiarity with students from other health disciplines and backgrounds. Despite this, student participation at community sites varied. As medical school enrollment increases along with knowledge of and interest in our program, we expect to have larger class sizes with the experiential component continuing as a requirement of the course. After the first year of the community engagement course, we recognized that our students' knowledge of community engagement, cultural, and community needs and efforts required a scale to measure acquired comprehension and mastery of principles of community engagement efforts and outcomes. Thus, our formal evaluation of the course began during the second year. We will continue to formally evaluate our course to ensure continuous quality improvement and delivery of enhancement of materials from a multi-disciplinary team. We did not formally evaluate community members' experiences of workshops or projects. As part of the course requirements, moving forward, we will require students to develop evaluation tools to measure community members' interests, education, and experiences of initiatives, workshops, and general engagement.

CONCLUSION

Education of current and future providers of care must go beyond the confines of the classroom and examination room to incorporate the healthcare needs of community members where they live, work, and interact with each other. Urban communities experiencing disparate care require a comprehensive approach incorporating the SDoH to positively impact on and improve healthcare outcomes. The current backdrop of payment models still exists and a shift must occur from reimbursement

for individual patient care to payment for the health of a community as a whole. This paradigm is aligned with the Affordable Care Act (ACA) initiatives and emerging models of health care delivery to impact on the health of our communities. The program described here is positioned to support ACA goals by allowing health care initiatives to be led by the communities themselves.

COMPLIANCE WITH ETHICAL STANDARDS

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