A Community-engaged Curriculum at Alpert Medical School: Centering Patient Communities in Medical Education

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ABSTRACT

BACKGROUND: Incorporating opportunities for community engagement into undergraduate medical education (UME) can help learners to identify and address social determinants of health (SDoH). Multiple challenges exist in operationalizing these experiences.

METHODS: Using the Assessing Community Engagement (ACE) model, course directors at the Warren Alpert Medical School of Brown University (AMS) mapped community engagement initiatives to the four-year curriculum.

FINDINGS: Service-learning, community engagement projects, and clinical rotations at health centers and free clinics aim to equip learners at AMS with the necessary skills to address SDoH. Careful consideration should be given to the time and resources required to facilitate relationships with community-based agencies, learner reflection, program evaluation, and community-level outcomes.

CONCLUSIONS: Community engagement activities should be aligned with learning objectives during the pre-clerkship and clerkship stages of the existing UME curricula. Embarking on a curriculum redesign can create opportunities to expand partnerships with local agencies and deepen student engagement.

KEYWORDS: curriculum development, community engagement, service learning, health professions education

INTRODUCTION

It is widely accepted that medical educators share a social responsibility to teach medical students how to care for underserved and marginalized communities.[1] Increasingly, United States medical schools are incorporating social determinants of health (SDoH) and resultant health disparities into undergraduate medical education (UME) curricula. However, more may be needed to move learners beyond a baseline level of awareness.[2] By equipping medical students with the ability to apply knowledge of the SDoH to patient care, future providers may be better prepared to develop more effective treatment plans, ultimately addressing the underlying causes of illness and improve overall population health.[3]

Meaningful community engagement experiences can impact students' professional development, help develop cultural humility, and promote social responsibility, while also having the potential to improve patient outcomes. The National Academy of Medicine's Assessing Community Engagement (ACE) conceptual model proposes that systems change cannot occur without the engagement of those closest to the challenges and solutions–communities themselves.[4] Core principles of this model include ensuring that community engagement activities are grounded in trust, are designed to be bidirectional, are equitably financed, and are characterized by shared governance and endure beyond the project time frame. Operationalizing meaningful community engagement experiences for students, however, is not simple. Identifying local agencies with the capacity to host learners, incorporating these activities into an already packed curriculum, assessing learners on knowledge and skills acquired, and evaluating the impact of community engagement programs are formidable challenges. Using the ACE model as a guiding framework, this article summarizes the integration of community-engaged experiences into the UME curriculum at the Warren Alpert Medical School of Brown University (AMS) and discusses lessons learned in light of the aforementioned challenges, with a focus on potential future directions.

PRE-CLERKSHIP CURRICULUM

Student participation in community engagement at AMS occurs throughout the 4-year curriculum. Opportunities take place in both the classroom and community-based settings. Classroom-based work in the Health Systems Science course during the first semester provides students with a theoretical foundation on the SDoH and how the healthcare system can intervene in the SDoH mechanisms to alleviate differential consequences of ill health. The course also teaches students basic principles in biostatistics and epidemiology.

Parallel to basic sciences courses during the first two years, students participate in clinical skills training courses known as *Doctoring*. A four-semester curriculum, *Doctoring* teaches students foundational and advanced communication skills, physical exam skills, and clinical reasoning. Hands-on practice with standardized patients in a simulation

lab and experience working alongside a community-based physician once per week helps reinforce these skills. Weekly didactics focus on increasing awareness of health inequities, barriers to care, and the SDoH, with the goal of providing patient-centered, inclusive care (see **Table 1**). These goals are most effectively obtained in the curriculum when students see and hear the lived experiences of patients and experts.[5] Several times throughout the academic year, guests are invited to AMS to share their insights, experiences, and expertise as either providers or consumers of care. For example, agencies that serve members of LGBTQ+ community, people living with disabilities, people who use drugs, refugees, and people with a history of interpersonal violence reinforce a patient-centered, inclusive approach to care. By participating in either a panel or small group discussion, guests discuss intersectionality, bias, stigma, barriers to care and services, and the role of physician advocacy. Patients affected by health care disparities often share their strengths; how they have learned to navigate the healthcare system; and what they value most in the doctor-patient relationship. Students have shared that hearing real-life scenarios of exceptional and below standard clinical encounters and clinical pearls from providers who care for certain patient populations provide valuable perspective and appreciation for inclusive language and practices that are not found in textbooks or lectures.

Beyond the classroom setting, students are actively engaged in the community through the service-learning curriculum (see **Table 2**). Service-learning is a structured learning experience that responds to a community-identified need. It aims to develop students' professional identities by increasing awareness of cultural differences, instilling humility, and exposing the learner to a team-based approach to patient care. First-year students participate in *My Life, My Story*, an activity which pairs students virtually with older adults in the community with the goal of listening to and documenting the volunteer's life story, in conjunction with the volunteer's feedback. The activity emphasizes active listening, empathy and collaboration as essential clinical skills for patient care, while imparting the importance of the patient's whole life story on their medical care.

In the second semester of *Doctoring*, students chose a service-learning project from a pre-selected list of local nonprofits, schools or pre-clerkship electives with a service component (see **Table 2**) or identify an opportunity on their own. These experiences aim to identify and address community strengths and needs related to economic stability, health care access and quality, education access and quality, neighborhood and built environment, and social and community context while providing a deeper connection to class content by encouraging students to apply their knowledge to a real-world setting. There are similar requirements in the first semester of their second year which offer the potential for longitudinal engagement. Each semester's service-learning project culminates with a reflective writing assignment and small group discussions furthering students' professional identity formation and development.

CLERKSHIP AND POST-CLERKSHIP CURRICULUM

As students enter the clinical environments more regularly in the clerkship and post-clerkship phases of the curriculum,

Table 1. Classroom-Based Community Engagement Opportunities in Years 1-2 at Alpert Medical School

Session (total hours)	Session Objectives	Skill Development	Community Partners
LGBTQ+ Patient Care Didactic Session (4 hrs.)	Review skills and resources for providing inclusive care Recognize appropriate and inclusive terminology Recognize barriers to care	Clinical case discussion	Lotus Noire Health Open Door Health Rhode Island Hospital (Lifespan) Thundermist Health Centers
Disabilities in Medicine Didactic Session and Workshop (4 hrs.)	Compare and contrast medical and social models of disability Recognize appropriate and inclusive terminology Recognize barriers to care Discuss effective communication skills	Clinical case discussion	Gnome Surf Project Let's Erase the Stigma (LETS) RI School for the Deaf RI Special Olympics
Harm Reduction Didactic Session (4 hrs.)	Understand and practice the 5 A's (Ask, Assess, Advise, Assist, Arrange) of motivational interviewing Understand the principles of harm reduction Apply a harm reduction lens to all forms of behavior change counseling	Reflective discussion Practice substance use counseling Pre- and post-test on harm reduction knowledge and skills	Addiction Medicine Consult Service at Rhode Island Hospital (Lifespan) Project Weber-Renew
Transgender Patient Care Didactic Session (4 hrs.)	Define terminology to provide inclusive care and recognize health issues relevant to transgender patient care Recognize barriers to care	Reflective discussion Clinical case discussion	Thundermist Health Centers

Table 2. Site-Based Community Engagement Opportunities in Years 1-2 at Alpert Medical School

Activity	Objectives	Skill Development	Community Partners
My Life My Story Project (Year 1, first semester; 4-8 hrs.)	Develop communication skills Develop active listening skills and empathy Identify patient strengths Increase familiarity with geriatric patient populations	Reflective field note Reflective discussion	Hope Health Lifelong Learning Collaborative National Association of Social Workers (NASW) RI Chapter PACE Organization of RI Pride in Aging RI Saint Elizabeth Village Common of RI Village at Waterman Lake We Can Help You Winslow Gardens
Service-Learning Activity (Year 1, second semester and Year 2, first semester; 8 hrs.)	Health behavior education Develop social justice orientation Identify and address community needs Develop leadership skills Community development and advocacy	Reflective field note Reflective discussion	Be Kind RI Clínica Esperanza Dance for Parkinson's Lotus Noire Health Higher Ground International Hope's Harvest RI House of Hope Community Development Corporation Progreso Latino Providence Neighborhood Planting Program (PNPP) RI Free Clinic RI Medical Society/American Medical Association (AMA) Chapter RI Special Olympics Trinity Rep Active Imagination Network (TRAIN)
RI Medical Navigation Partnership (Year 1, both semesters; 20 hrs.)	Work in interprofessional teams to assist people experiencing homelessness with navigating the healthcare system	Practical healthcare navigation with patients	House of Hope Community Development Corporation RI Medical Navigator Partnership

the opportunities to offer additional community-based activities are balanced with the need for robust clinical training (see **Table 3**). A subset of students in the Primary-Care Population Medicine program at AMS participate in a Longitudinal Integrated Clerkship. This allows students to engage in a longitudinal partnership with community-based organizations as part of their Master's level course, *Population and Clinical Medicine*. Students receive instruction and training in community-based engagement, quality improvement, and are assisted with finding partner organizations. Students engage in a year-long project with local agencies to develop an intervention to address a community-identified need.

All other clerkship students who complete the six-week Family Medicine rotation participate in a Social and Community Context (SACC) project. This project allows students to focus on the community at their local Family Medicine clinic site, and identify a relevant healthcare need through conversations with local community members, patients, and their clinic site partners. The project encourages students to propose a potential intervention that could be implemented at their Family Medicine clinic site, though there currently is not capacity for students to lead the implementation of each proposed intervention. All third-year students also participate in a *My Life, My Story* project during the Internal Medicine clerkship, which allows patients to have their life story incorporated into the electronic health record (EHR). Two longitudinal clinical electives in the fourth year of medical school allow students to work at student-run free clinics or provide care coordination for patients with housing insecurity. These long-established partnerships provide exposure to hands-on care for students with a foundation of clinical training, under the supervision of experienced physicians and allied health professionals.

LESSONS LEARNED

Traditional medical education curricula were not designed to include community-engaged and service-learning activities.

Table 3. Site-Based Community Engagement Opportunities in Clinical Years 3 & 4 at Alpert Medical School

Activity	Objectives	Skill Development	Community Partners
Clinical (Year 3)			
Longitudinal Partnership (Year-long; 22-30 hrs.)	Select a community-based site Complete a needs assessment Work with site to complete a project	Needs assessment Community mentor evaluation Presentation of completed/in progress project	Clinica Esperanza/Hope Clinic Dorcas International Hasbro Primary Care (Lifespan) Memorial Hospital Family Care Center (FCC) Gender Clinic RI Department of Health Roger Williams Middle School
Social and Community Context (SACC) Project (6-week Clerkship; 4-8 hrs.)	Identify a specific need/intervention at practice site that could improve the health of the local community	Submission of completed project detailing a proposed intervention	Local Family Medicine primary care offices across RI, MA, CT
My Life, My Story Project (12-week Clerkship; 4-8 hrs.)	Identify and Interview a patient who would like to include their 500-word life story in the EHR	Develop communication skills Develop active listening skills and empathy Identify patient strengths	Internal Medicine Clerkship sites
Clinical (Year 4)			
Clínica Esperanza Clinical Elective (Year-long; 40 hrs)	Students see patients at a student-run clinic	Student performance evaluation	Clínica Esperanza/Hope Clinic
Healthcare for the Homeless Clinical Elective (Year-long; 40 hrs.)	Students provide care coordination for patients with housing insecurity	Student performance evaluation	House of Hope Community Development Corporation RI Medical Navigator Partnership

Educators often retrofit these activities into a UME curriculum that does not account for the time and resources required to facilitate true community engagement, learner reflection, program evaluation, and community-level impact. The Association of American Medical Colleges (AAMC) Center for Health Justice provides a helpful set of resources to engage with the community and build trustworthiness.[6] These principles highlight the most common lessons learned in our experience building such curriculum over the last several years.

Community-engaged education and health initiatives likely already exist within neighboring communities. We identified key experts who are already engaged in this work, rather than trying to reinvent the wheel. These experts are often a good place to start for identifying common barriers to care for marginalized groups, while being mindful of peoples' intersectional identities and the dynamic nature of patient populations. One way to leverage the wisdom of community experts is through focus groups or by creating partnerships with non-medical providers to highlight important topics to include in the curriculum.

Once key topics are established, developing specific learning objectives equip students with concrete strategies to address the modifiable issues that patients face in their interactions with providers or in navigating the health system. Throughout this process, it is important to recognize one's positionality and biases; drawing on the expertise of multiple individuals with lived experience can shed light on perspectives that challenge the preconceived notions of both learners and educators.

Developing a community engaged curriculum is not a one-time effort, but an ongoing, dynamic process. It is important to engage regularly with leadership and liaisons at partner organizations to strengthen relationships beyond a single session or initiative. How can the partnership be strengthened? What human or financial resources will be needed to do so? Set clear expectations for what resources each entity will bring to the partnership, as well as the anticipated level and duration of the commitment. Recognizing that there is often limited curricular space for new initiatives, it is important to be strategic and realistic about what can be accomplished in the time allotted (whether for a didactic session or a longitudinal project) by making connections to the existing material in the curriculum. If entering into a partnership that involves a longitudinal experience for learners, ensure that desired outcomes, including any deliverables, are clearly and mutually beneficial. Examples of outcomes to consider are shown in **Table 4**. Experts who contributed to curriculum development may benefit from relevant summaries of any workshops, course evaluations, or other outcome measures.

Table 4. Example Outcomes for Community Engagement in Undergraduate Medical Education

Learners	Community Organizations
KNOWLEDGE	Decrease feelings of burnout
Increase understanding of the SDoH	Improve confidence/trust in learners
Develop multicultural understanding of community	Improve perception of educational institution's role in improving community health
Identify needs/challenges facing community agencies	Improve retention rate in Service-Learning Programs
Develop an understanding of health disparities that could be addressed by health education interventions, community partnerships, and changes to policy/legislative mandates	Decrease workload/strain on agency staff due to learner presence
Develop an understanding of the legal issues and bureaucratic barriers facing healthcare	Improve teaching skills
Increase understanding of limitations that affect rural community health or Indigenous populations	Serve as role model for learners
	Improve interprofessional teamwork
ATTITUDES	Improve patient/client satisfaction
Decrease feelings of burnout	Utilize student-led health behavior interventions
Develop compassion, respect, and comfort working with underserved populations	Improve patient/client health outcomes
Develop an increased understanding of social justice and advocacy	
Increase appreciation of patient-physician relationships	
BEHAVIOR CHANGE	
Develop teaching, presentation, leadership, collaboration, and communication skills	
Serve as role models for youth	
Increase future likelihood of providing geriatric or primary care	
Improve teamwork/interprofessional skills	
Increase use of health-related technology	

CONCLUSION

AMS has recently reaffirmed its commitment to meaningful community engagement in its pursuit of clinical excellence, delivering innovative medical education programs, and producing evidence-based research to promote the health and wellbeing of individuals and societies. With a planned curriculum redesign over the next several years, AMS aims to expand the depth and breadth of a meaningful community-engaged curriculum that integrates longitudinal experiences for learners that help to address the SDoH in concrete, measurable ways. Building sustainable, mutually beneficial relationships with the local community will require a firm commitment, reflection, and undoubtedly, course correction when needed. While not a small task, AMS's longstanding partnerships with community experts and local organizations have laid a solid foundation for the exciting work ahead.

References

1. Centers for Disease Control and Prevention. Principles of community engagement (2nd ed.). Atlanta (GA): CDC/ATSDR Committee on Community Engagement; 1997.
2. Ventres W, Dharamsi S. Socially Accountable Medical Education - The Revolutions Framework. Acad Med. 2015 Dec;90(12):1728. PMID: 26308125.
3. Fair M, Arceneaux Mallery T. AM Last Page. How Can Academic Medical Centers and Teaching Hospitals Address the Social Determinants of Health? Acad Med. 2016 Mar;91(3):443. PMID: 26735521.
4. Aguilar-Gaxiola S, Ahmed SM, Anise A, Azzahir A, Baker KE, Cupito A, Eder M, Everette TD, Erwin K, Felzien M, et al. Assessing Meaningful Community Engagement: A Conceptual Model to Advance Health Equity through Transformed Systems for Health: Organizing Committee for Assessing Meaningful Community Engagement in Health & Health Care Programs & Policies. NAM Perspect. 2022 Feb 14;2022:10.31478/202202c. PMID: 35891775.
5. Adams A, Williamson A, Sorkness C, Hatfield P, Eggen A, Esmond S. The Steps Model: A Practical Tool for Engaging Communities to Improve Health Outcomes. Acad Med. 2017 Jun;92(6):890. PMID: 28379936.
6. AAMC Center For Health Justice. "The Principles of Trustworthiness,", accessed June 13, 2023, AAMC. (2023). *The principles of trustworthiness*. AAMC Center For Health Justice. https://www.aamchealthjustice.org/our-work/trustworthiness/trustworthiness-toolkit

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