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EXAMINING COMMUNITY-BASED RESEARCH AS AN APPLICATION FOR PUBLIC HEALTH TRAINING*

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ABSTRACT

The University of Michigan School of Public Health provided community-based research (CBR) opportunities to masters-level students through week-long field experiences in two communities in Mississippi through interdisciplinary collaboration with Delta State University. This article examines the learning outcomes of those field experiences in the context of CBR and the value that those experiences added to their public health proficiency. Quantitative and qualitative data from post-deployment evaluations were examined to determine strengths and weaknesses of this approach to the public health learning process. Overall, students found this approach to provide a rich context for research, help put a face to the numbers, and broaden their perspective of how research is of value to communities and community organizations.

Field experience is an important part of any professional degree program, as it allows students to learn a set of skills and have the opportunity to apply those skills in a variety of contexts. For the Master of Public Health (MPH) degree, awarded by the University of Michigan's School of Public Health (SPH), such hands on experience is crucial to preparing students to enter the workforce. According to the Association of Schools of Public Health (ASPH), "public health is the science and art of protecting and improving the health of communities through education, promotion of healthy lifestyles, and research for disease and injury prevention" (2012). Because the field of public health specifically strives to improve the health of communities, a logical area of application for academically-acquired skills is community-based research.

Schools of Public Health (SPH) are accredited by the Council on Education for Public Health (CEPH). One criterion for CEPH accreditation is to provide opportunities for students to work with faculty in providing service to the

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community (CEPH 2005). One way in which many SPHs provide this type of opportunity is through organized student response teams (CPHP 2005; Montgomery et al. 2010). During the summer of 2005, the University of Michigan School of Public Health (UMSPH) Office of Public Health Practice (Practice Office) established the Public Health Action Support Team (PHAST) to provide local and state health departments with a surge capacity team. If there is a public health emergency, PHAST members are available to be deployed to a local health agency to increase the ability of that agency to meet emergent demands. Guided by students and faculty, PHAST developed a core set of trainings in public health preparedness, confidentiality, survey design, and interview techniques to prepare students for rapid deployment.

Soon after PHAST was developed, hurricanes Katrina and Rita wreaked havoc on the U.S. Gulf Coast, destroying lives and property. In the wake of the storms, PHAST organized a team of students to respond to the devastated areas for their spring break (February 2006). During this first major PHAST activity, 40 students and 4 faculty/staff worked with Gulf Coast-based organizations that were responding to the disaster (UMSPH 2006a). They performed a variety of tasks, focusing on the public health relevance of their work. This initial foray into the Gulf Coast has developed into a long-standing partnership with the Institute for Community-Based Research (previously based at Delta State University in the Mississippi Delta, and now based at the University of Mississippi) that has subsequently resulted in a variety of interdisciplinary projects that combine public health, sociology, and community development on the Gulf Coast and in the Mississippi Delta. The partnership has become a cornerstone field experience for UM SPH students (Freiman et al. 2009; Hua et al. 2010; UMSPH 2006b).

PHAST adopted a community-based approach to emphasize partnership-driven processes where projects, concepts, and research questions were derived from the community in collaboration with an academic institution. Working in close partnership with local community-based organizations (Visions of Hope, Biloxi, MS; and the Saint Gabriel Mercy Center, Mound Bayou, MS) and Mississippi-based academic institutions (Delta State University, and the University of Mississippi), UM SPH PHAST students participated in community-based research (CBR) to provide data to the organization and to understand the importance of relationships in research. For many nonprofit organizations, research is not a priority and they go about the daily tasks necessary to meet service obligations. However, these organizations often find research useful and meaningful as research can improve, enhance, and strengthen interventions and program offerings. The adoption of CBR

by PHAST was a successful model for introducing students to research that builds capacity within organizations and serves the community.

Public health seeks to improve the health of populations. Through the application of CBR and several guiding theories, students gain a better understanding of the complexity of population health and how it operates at multiple levels, particularly within the spaces that people live, work, and play. The week-long field experiences draw upon public health, community development, and adult education theories. Students are immersed in education and action that enrich their experiences and assist with empowering communities by enhancing organizational capacity.

By using a CBR frame as a learning tool, it can contribute to the development of knowledge and action by working with and learning from the community to improve health. CBR is a collaborative approach that involves the participation of community members (or representatives) at all stages of the research process (Israel et al. 1998). Community becomes part of research rather than the study subject of research. CBR lends itself to adult education theory where the emphasis is on the learner having control over the learning process and experience (Levin and Martin 2007). Additionally, the ecological model, often used in public health because of its focus on multiple levels, contributes to the framework for the week-long field experiences. The ecological model seeks to understand behaviors through their interactions with the environment (Glanz, Rimer, and Viswanath 2008). Here, environment includes both the physical and sociocultural spaces within which individuals operate.

Through the CBR process, students become engaged with community members that create spaces for dialogue to gain a better understanding of the complexity of solving population health problems. The CBR service learning application allows for co-learning between students and community residents that seek to empower both sets of individuals.

Since its induction, PHAST has provided week-long field experiences for more than 100 UM SPH students. These experiences have served as teaching labs in which students were immersed in a community to enhance public health, to learn, and to serve. This paper describes the learning outcomes for public health students doing field research in a community-based context.

METHODS

Between 2006 and 2011, the UM SPH PHAST coordinated six week-long field experiences for students in Mississippi. Learning objectives and outcomes were

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developed for each trip to maximize the public health relevance for students. Formal student evaluation data were not collected from 2006-2008. This paper examines learning outcomes for all PHAST trips through formal and informal project evaluation, focusing specifically on student responses to formal evaluations of the three trips that occurred from 2009-2011 in Mississippi.

For example, in May 2010, five UM SPH and eight Delta State University students spent a week in Mound Bayou, MS, interviewing residents for a quality of life survey. Mound Bayou, founded in 1887, is the oldest town founded by former slaves. It retains its spirit of a self-reliant and self-governing community. Initiated by the Mayor, St. Gabriel Mercy Center, and the Delta Health Center, a quality of life survey was administered to provide data for the organizations to gain a better understanding of the needs and perceptions of residents. The survey included questions about finances, community, housing, self-rated health, crime, safety, and demographics. Data were collected from 118 residents over five days using a multistage cluster sampling technique to select households. The sample included 206 households; 10 households were vacant, 62 households did not have someone home after multiple attempts, and 16 refused to participate. Interviews varied in length, but were generally 30-60 minutes long. At the end of each day, debriefing sessions were held to discuss any issues with the survey instrument, problems or challenges with interviewing, and reflections from the experience. Students were responsible for entering the data they collected into Excel spreadsheets merged on the final day. One student from the UM SPH conducted preliminary analysis on the data. On the sixth day, students presented the preliminary data to the community at a town hall meeting. Community residents had the opportunity to comment and give additional responses to the presented information. Data were taken back to UM SPH for further analysis. The student, with assistance from UM SPH faculty and Institute for Community-Based Research faculty, prepared a report submitted to the organizations that had requested the survey (Hua et al. 2010).

Based on the anticipated field experience, PHAST faculty and staff developed a set of concrete learning objectives to help drive and focus student learning. Because the work on the Gulf Coast started after a natural disaster, much of the work was framed within a post-disaster context. For public health students, entering communities after a disaster expanded their visualization of the role of public health. The overarching objectives for the field experiences were threefold: 1) to introduce students to public health issues in a post-disaster environment; 2) to give students the opportunity to interact sensitively and responsibly with collaborative partners through daily interactions, participation in public health-

related projects, and group discussions; and 3) to gain practical experience conducting field surveys.

Besides instructor-led debriefing sessions and informal faculty/student interactions, which occurred during each trip, students completed a written evaluation to assess the field experience (2009-2011). These included both qualitative questions based on the overarching objectives and quantitative questions regarding the outcomes below (based on five-point Likert-type scales (1-strongly disagree to 5-strongly agree):

- The field experience added new information to my SPH education
- The field experience added new skills to my SPH education
- The field experience served as a valuable lesson in public health practice
- I enhanced my ability to work cooperatively
- I contributed to the project site's work
- I have an increased awareness of the community's needs
- I have a better understanding of how public health is multidisciplinary

Descriptive analyses were completed using SPSS software. The University of Michigan Institutional Review Board found the evaluations to be exempt from review.

RESULTS

From 2009-2011, 17 students participated in three trips to Mississippi. Students indicated that they contributed to the organization's work (4.5-5.0), increased their ability to work cooperatively (4.4-5.0), increased their awareness of the community's needs (4.7-5.0), and felt that the field experience served as a valuable lesson in public health practice (4.6-5.0).

Qualitative data were used to summarize learning outcomes and describe the learning experiences from the student perspective. Sometimes, students were confronted with the differences between the community and themselves. For instance, one student reported that,

This trip will influence how I practice public health because I will look back and remember how it felt to be in a new community where, for whatever reason, I am "different" from the community residents, and how despite this difference a community can still be so accepting and welcoming.

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Students gained insight into the context of data. Often in the classroom, students work with secondary data without the opportunity to truly understand the source. However, by directly collecting data through interviews, students developed a greater understanding of the meaning of the data. Furthermore, the CBR approach broadened their understanding of public health to include a community perspective. For some, the experience expanded their view of how epidemiology was beneficial at the community level. Part of the expansion of view was the relationship with community partners that helped explain the relevance of the work to their organizations and to the needs of their clientele. One student commented that “This PHAST trip has taught me the difficulty of capturing the dynamics of a community’s culture, history, and attitudes through quantitative data alone,” whereas another attested to learning about “how epidemiology interacts and contributes to the community.”

PHAST pushed students to explore their own boundaries, which included challenging students to move out of their comfort zones by working in a variety of unfamiliar communities. Most important, students acquired skills and techniques that will make them more solid professionals by developing and implementing research partnerships. The skills such as quantitative and qualitative interviewing, survey and questionnaire design, participant sampling and recruitment, database creation, problem solving, teamwork, and flexibility were important for professional growth in the field of public health. Moreover, the context in which they learned the skills was very important for their professional development. Because of the close partnership with a community organization, students delved into the rationale behind the questions they sought to answer and discussed nuances to help the organization acquire the information they sought.

Additionally, students were consistently amazed that working for a community organization made it easier to gain trust within a community. The organizations were viewed as valued entities within a community. Across studies, participants wanted to share their views to help organizations move forward with their missions.

Students had the opportunity to witness the value of an organization’s input into the questionnaire design process that included modifying, adding, and deleting questions. Students became aware of how much words mattered. Discussions evolved around which word should be used, whether it was the appropriate word, or whether it was a word people would understand. These discussions provided greater insight into the value of working in partnership. The value of

understanding that different communities require different strategies is an important lesson learned for the students.

I learned a lot about the complexity of developing and implementing a research project. I also saw how important it is to be culturally sensitive, and to adapt to your environment when you are working with a community. I think we approached things differently in Biloxi than we would have in Ann Arbor.

The CBR process in our service learning for PHAST made additional contributions to student learning outcomes. Besides gaining a deeper understanding of how research is conducted in the field, students participated in working with nonprofit organizations and balancing the interests of the organization with the desire to answer interesting questions from the researcher's point of view.

This experience gave me great insight into public health practice at the community level. It has allowed me to see how organizations (both academic and local) work together to improve a community. I will think a lot more about what the numbers mean when I see stats in the future, and how the data was [*sic*] collected. It really added a lot to be down there and meeting the people who represent the numbers we will see when the data are analyzed. I had never played such a large role in data collection, so I now have a greater appreciation for the planning and attention to detail that goes into study design and implementation.

Specific to the Mound Bayou experience detailed above, while the students assisted the community by collecting and analyzing the data, and generating a report, the students learned explicit skills such as collecting data in the field and implicit skills such as greater community awareness and its role within public health. Students repeatedly commented that the opening script that indicated that they were students working with the Mayor, St. Gabriel Mercy Center, and the Delta Health Center contributed to their ability to recruit participants. It showed them the importance of community collaboration and the role of trusted community organizations for 'making it easier' for them to collect data. They also learned about the meaning of data through informal conversations that occurred with residents. One student reported:

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I also better realize that it is sometimes necessary to learn public health theory as a ubiquitous entity but once you are actually practicing public health it is extremely important that you tailor your assessments and interventions to the individual community.

Another student reported that they “learned more about the complexity behind the motivations for public health.” These statements indicate that the students were becoming more aware of the public health beyond the classroom and the meaning it has for the real world.

These efforts have resulted in numerous publications (e.g., Freiman et al. 2011; Freiman et al. 2009; Green et al. 2007; Hua et al. 2010; Kleiner et al. 2010; Montgomery et al. 2010; UMSPH 2006a, 2006b) as well as many professional presentations, adding further value to the academic side of the partnership.

While PHAST identified several specific learning objectives, many unanticipated learning outcomes also emerged. Importantly, these unanticipated outcomes would not have occurred within a traditional classroom setting. Within the academic setting, we are often confronted with issues of cultural competency that can be difficult to adequately address within the classroom. However, placing students in communities that are different from them can give understanding and depth to the process of conceptualizing those differences. More importantly, by working with and in a community, students realized the need to have community members at the table in the development and implementation of interventions, programs, and research to reflect the reality of the community and provide a context for the work. Furthermore, they learned the importance of developing trust-based relationships to work effectively within communities.

Several learning outcomes emerged that guided the continual evolution of the PHAST program. CBR became an essential component for the service learning field experiences. As a result of students participating in PHAST, they recognized the value of working with communities to improve population health by working collaboratively across disciplines, contributing to an organization’s capacity, understanding a community’s needs, building trust-based relationships with community members and leaders, and putting the theories that they study every day into practice.

DISCUSSION

After six years, PHAST has contributed several valuable lessons learned for other academic institutions that might be interested in developing community-

based research service-learning field opportunities: 1) the success of these student experiences can be largely attributed to the relationship between the University of Michigan and the Institute for Community-Based Research, and by extension its ongoing work with community organizations on the Gulf Coast and in the Mississippi Delta; 2) the long-lasting partnerships enriched the student experience and provided a more meaningful contribution to organizations and the communities; 3) student-collected data have been used by the community organizations as parts of developing new grants and progress reports for existing sources of funding, and to focus and expand services; 4) the student experience was enhanced by the expertise brought to the planning, development, and implementation of the projects by key participants in the partnership; and 5) existing relationships save time in planning and logistics.

Furthermore, working in the same communities over time provides for continuity in programming for both the community organization and the academic institutions. Academic institutions often have the reputation for 'helicoptering' into communities to gather information and exiting without leaving anything for the community. In keeping with the principles of CBR, maintaining relationships within a specific community builds trust. By working within a CBR context, the community members are not viewed as research subjects but as contributors to health improvement. Therefore, the CBR approach, with the commitment to student teaching, exposes students to a responsible research approach that they can take into their professional careers.

CBR is a method that can be used for a variety of disciplines to encourage students to work with and in communities. The lessons learned by students contribute to their professional development and make them better researchers and practitioners. Students in the current study learned about a community and its health issues directly from that community. Speaking with community residents about issues that are relevant to them gives students a rich context for understanding and interpreting results beyond the learning that occurs in the traditional classroom.

At the end of the day, the value of students participating in CBR opens their perspective to how research is of value to communities and community organizations, and how conducting research can be a service to organizations and the community in which they serve. Research is not just relevant to academic institutions that house the expertise. Communities have a need and desire to conduct research to improve their programs, interventions, and services through

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data collection and evaluation. Partnerships are mutually symbiotic and provide learning opportunities to students that cannot be obtained elsewhere.

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