

Original Research

Community preparedness: Expanding existing partnerships with academia to build resilience through experiential learning

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ABSTRACT

Background: Sustainability and mitigation in preparedness after grant money is gone has suddenly become a hot topic in the public health emergency preparedness world. By the same token, funding provided by the Federal Emergency Management Agency (FEMA) for individual preparedness initiatives has not had the desired mitigation impacts. The question becomes, are there alternative approaches that reach more individuals to build a culture of preparedness in communities? One solution involves the leveraging of academic and regional public health partnerships with their Medical Reserve Corps Units (MRC), to train college students in individual preparedness. The purpose of this study is to describe best practices and discuss the incorporation of experiential learning and training activities into an Introduction to Public Health course at the University of Georgia. It also describes the development of a strong academic and practice partnership through the use of the agencies' MRC units.

Methods: Three experiential learning activities, rooted in the constructs of perceived susceptibility, perceived benefits and self-efficacy were introduced into the course. First, didactic elements addressing the purpose and structure of public health response, individual preparedness and the role of Medical Reserve Corps volunteers in response were incorporated. Second, the public health partner developed a lecture covering public health emergency preparedness and response using a real world-sheltering example and coupled it with a tabletop exercise. Finally, students were given a final exam option where they built a home emergency kit.

Results: Over the course of 3 years, approximately 500 students have been trained in individual preparedness. Students have demonstrated an increased foundational knowledge about the Medical Reserve Corps and public health preparedness in general. Furthermore, this collaboration increased the numbers of new MRC Volunteers and provided for a strong academic practice partnership.

Conclusions: Through this collaboration, more students know how to take care of themselves and their families, decreasing the number of potential well worried. This collaboration has also strengthened the ties between the two institutions, leading to more opportunities for partnership.

Key Words: Disaster preparedness, individual preparedness, experiential learning

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INTRODUCTION

Sustainability and mitigation in preparedness after grant money is gone has suddenly become a hot topic in the public health emergency preparedness world. By the same token, funding provided by the Federal Emergency Management Agency (FEMA) for individual preparedness initiatives has not had the desired mitigation impacts. They report that individual preparedness has fluctuated with no real upward trend (Federal Emergency Management Agency, 2012). Further, this report found that 52% of respondents reported having only one or two items in a disaster kit (Federal Emergency Management Agency, 2012). These data also indicate that there are disparities in preparedness levels (Federal Emergency Management Agency, 2012). The report found that white, non-Hispanic respondents and those with an annual income over \$25,000

were more likely to have a household plan and disaster supplies (Federal Emergency Management Agency, 2012). Given that individual preparedness is a key element to community resilience and bouncing back or even forward after disasters, it is imperative that efforts be made to increase mitigation impacts related to preparedness (Levac, Toal-Sullivan, & O'Sullivan, 2012).

Yet, when individual and community resilience is defined only in terms of "bouncing back" to our original state post-disaster, it leaves much to be desired. Defining resilience needs to center around the concept used in grief counseling. The goal is to not bounce back, but bounce ahead (Silver & Grek-Martin, 2015). Bouncing ahead means that our communities and individuals are stronger and more resilient than they were pre-event (Silver & Grek-Martin, 2015).

Community resilience as a goal remains difficult to achieve when preparedness planning continues to suffer ongoing cuts. Georgia has experienced its share of cuts over the years. These cuts are reflected in two areas, those to Regional Coordinating Hospitals in Georgia, and those to the Public Health Emergency Preparedness Cooperative Agreements (PHEP). Both of which have had strong consequences (CDC, 2015; Nadeau, 2015). These consequences have affected the ability of public health and healthcare agencies to develop policies and plans that support individual and community preparedness efforts, one of public health's Ten Essential Services (CDC, 2015; Nadeau, 2015).

Compounding cuts in the Hospital Preparedness Program (HPP), cuts in PHEP funding have added to the burden of supporting individual and community preparedness efforts in Georgia and nationally. PHEP funding, which supports training and planning activities as well as supplementing budgets at the state and local level, has seen cuts since 2007 (National Association of County and City Health Officials, 2015). The PHEP program received \$819,596,000 in funding initially in 2004. This has dropped steadily since 2007. In 2015 PHEP funding was cut to \$53,222.51 (CDC, 2015). These cuts have forced staff reductions and program closures at the local level reducing the preparedness and response capabilities at this level (National Association of County and City Health Officials, 2015). Decreases in preparedness capacities at the local health department level may be the result of these budgetary cuts (Davis, Bevc, & Schenck, 2014). Included in these preparedness capacities are the programs that promote individual, community and vulnerable population preparedness education (Ivey et al., 2014; Levin, Berliner, & Merdjanoff, 2014).

With budget cuts projected to continue, how are the impacts to be mitigated (CDC, 2015)? How can our communities continue to foster resilience, incorporating it into our culture by increasing individual preparedness? These questions underscore a strong need for alternative approaches to individual and community preparedness. One possible solution resides in training college students, increasing their perception of susceptibility while giving them skills to increase self-efficacy. This training and skills building can be accomplished through experiential learning in the classroom.

Experiential learning has become a focus in higher education and its importance in the classroom has become evident in the literature (Sabo et al., 2015). It has been demonstrated that experiential learning in the classroom can serve to increase feelings of accomplishment in addition to giving students the opportunity for application (Breunig, 2014). Within the disaster response arena, the value of learning through practical application and experiential opportunities is well known through exercising of plans. This notion is carried into the academic setting through student involvement in these exercises and simulations (Rega & Fink, 2014).

Further, there is support in the literature on the benefits of academic and community partnerships in experiential learning (Caron, Hiller, & Wyman, 2014; Dunkel, Shams, & George, 2011). The benefits of these partnerships are symbiotic in nature and produce results that are much larger than just the sum of the parts. From the academic perspective, student learning becomes more engaged and focused (Dunkel et al., 2011). It allows for opportunities to apply critical thinking skills and theoretical knowledge to real world scenarios (Dunkel et al., 2011). Most importantly, it teaches students vital skills in partnership building and sustainment.

Community partners gain much from the partnerships as well. They gain a new knowledge resource and new perspectives, a chance to view things through a different lens (Caron et al., 2014). Additionally, they are able to tap in to academic research and funding resources through these collaborative partnerships (Caron et al., 2014). Combined, it is a true win-win situation, though these partnerships have been traditionally under utilized (Caron et al., 2014).

In considering theoretical frameworks, the Health Belief Model (HBM), Theory of Planned Behavior (TPB) and Social Cognitive Theories are the more relied upon frameworks within the world of disaster management (Ejeta, Ardalan, & Paton, 2015). However, with the college student population, the Health Belief Model provides the better framework for the development of individual preparedness experiential activities (Ejeta et al., 2015).

The college student population, comprised mostly of millennials, has been characterized as being highly intelligent, creative and technologically savvy, yet self focused (Slaymaker & Fisher, 2015). The millennial generation, born in the 1980's and 1990's, enjoy learning from engaged and caring instructors with real world applications incorporated into their courses (Therrell & Dunneback, 2015). For emergency preparedness and college educators these attributes can be leveraged to engage students in individual preparedness. Therefore, HBM's constructs of perceived susceptibility, perceived benefit and self-efficacy provide a well-focused lens for developing preparedness experiential opportunities for college courses (Ejeta et al., 2015). Preparedness education that is centered on them, providing clear benefits to their coursework that also increases perception of individual risk and self-efficacy would undoubtedly engage them (Ejeta et al., 2015). Coupled with the access to large classes (80 to 100 students each class each semester in this case), this type of experiential learning has the potential to reach many individuals inside and outside the classroom.

The purpose of study is to describe the best practices by which a regional public health office and an academic institution leveraged their existing partnership to provide experiential learning opportunities in the classroom increasing individual preparedness of college students. It is significant in that experiential activities were used innovatively to train students in individual preparedness,

addressing the need for alternative approaches to preparedness.

METHODS

This study describes best practices in which experiential activities were added to established courses. The development of these activities built on the Health Belief Model constructs of perceived benefit, perceived susceptibility and self-efficacy, along with practice partner assessment of needs. No data were collected from students. Evaluation of these experiences will be conducted in subsequent semesters.

Vital to the development of these experiential activities was the long term, ongoing partnership between the University of Georgia’s College of Public Health and North Health District 2 Public Health offices and their respective Medical Reserve Corps units. The inception of this partnership began with discussions between the course instructor and the public health Emergency Response Director. During these discussions, the need to identify alternative ways to increase individual preparedness was superimposed on the need to provide real world preparedness examples during classroom discussions. Thus, the idea of using experiential learning activities to train students in preparedness while teaching them about public health preparedness came to fruition.

Assessments of needs from academic and practice partners were completed during several planning sessions in the

semester before the class and were ongoing during the class semester. During these planning sessions, there were three experiential learning activities identified for implementation. These activities served two purposes: First, to emphasize the content of the didactic material, such as public health emergency preparedness on the individual, community, state and federal levels. The second was to train the students in individual preparedness, increasing awareness of their susceptibility to disasters, their perceived benefits of being prepared and their self-efficacy around preparedness.

In order to introduce students to public health emergency preparedness and response, as well as individual preparedness, didactic topics were included in the syllabus. These topics included an overview of public health emergency preparedness, the responses they are involved with, their response partners and the role of volunteers. Students were introduced to the Medical Reserve Corps and recruited to join. This instruction served dual purposes. First, it illustrated the structure of local, state and federal levels of public health. It further illustrated how they work with partner agencies during responses such as natural disasters, outbreaks and other Emergency Support Function 6 and 8 responses, including volunteer agencies. Table 1 shows an excerpt from the syllabus of the Introduction to Public Health Course. It illustrates the individual activities and their placement during the semester along with the corresponding construct.

Table 1. Introduction to public health syllabus excerpt

Topic/Activity	Construct
1:00 Public Health ---Emergency Preparedness Spotlight	Perceived susceptibility
2:30 Break	
2:45 Table Top Exercise	
1:00 Campus Emergency Preparedness Spotlight	Self-efficacy
2:30 Break	
Group Discussion 3	
Infectious Disease activity	
1:00 Exam 4	Perceived susceptibility
Emergency Kit Exam Option	
Do not come to class unless you have chosen the Emergency Kit Option	
	Perceived benefits
	Perceived benefits/self-efficacy
	Perceived benefits/self-efficacy

Next, recruitment into Medical Reserve Corps units provided experiential opportunities in two separate ways. First, it gave students an overview of how volunteers plug into the disaster response structure. Second, it gave them the opportunity to gain hands on experience in public health disaster response and knowledge of individual preparedness. During lectures given by the class instructor and the regional public health Emergency Preparedness and Response Director, the class was exposed to the Medical Reserve corps as well as the other Citizen Corps volunteer programs. Topics included the history of the Citizens Corps as a national entity, becoming a member, and training available to members. Strong emphasis was placed on individual preparedness as a volunteer.

The second experiential activity involved the development of a lecture on public health emergency preparedness with a corresponding tabletop exercise by the Regional Public Health Emergency Preparedness Director. This lecture and subsequent exercise supported the didactic material on the structure and function of public health preparedness and response, illustrating the roles and responsibilities of each sector of public health. As the focal point, the tabletop exercise allowed the students to apply this knowledge within a real-world sheltering scenario.

The format for this experience involved dividing the class period into two portions. During the first portion of the class, the Director began by providing information on the history of public health emergency preparedness and

response. From there, the students learned about the structure of the program and whom the local community partners included. They learned the importance of developing partnerships in response planning. Additionally, they learned scenarios in which public health has lead or supportive roles. Emergency Support Functions of sheltering and health and medical scenarios were discussed at length. To illustrate public health's role in sheltering, the Director used the example of his district's role in receiving and sheltering of flood victims coming in from Louisiana during hurricanes Katrina and Rita in 2005. Using pictures taken during this response, the students were given a practical glimpse of the process of receiving and sheltering people during a natural disaster.

The latter tabletop portion of this activity encompassed the division of the students into groups and assignment of agency roles. Each group represented each of the following response partners: local, regional, and state public health; local emergency management; hospitals, local government and units within the university. Each group received a handout of possible disasters and a list of related effects. The Emergency Preparedness Director stepped the students through the scenario as it is done during actual local tabletop exercises. At each juncture, the students were asked questions about what should be taking place in their agency and with whom that agency would be communicating. They were also asked to consider impacts and effects to each disaster emergency. Scenarios considered during the tabletop were severe weather, infectious disease, suspicious package, radiological event and counter measures dispensing. The class ended with a hot-wash discussion in which they discussed the strengths and gaps of their responses to the scenarios.

Building an individual preparedness kit as a final exam option rounded out the experiential activities. After learning about individual preparedness, students were provided tools and check lists from the Center for Disease Control and Prevention's Get a Kit, Make a Plan, Stay Informed program (Centers for Disease Control and Prevention, 2015). From this, they built a home kit and/or a go kit and brought that kit into class on the final exam day. As students went through their kits, it facilitated critical thinking discussions around the kits and individual preparedness. Student's kits were evaluated from a grading rubric designed from the resource materials.

To mitigate the cost to the student, they were given the option of writing a plan to obtain the items they could not afford at the time. Additionally, each student was given the option to verbally answer an individual preparedness question for extra credit points.

RESULTS

Since the incorporation of these experiential learning activities in to the syllabus, in 2012, approximately 500 students have received training through these activities. On average, half of the students elect to build and emergency

kit for their final exam. This has resulted in approximately 250 students having emergency kits who did not before. Additionally, the Medical Reserve Corps volunteer numbers have doubled.

DISCUSSION

These experiential activities supported training for students to take care of themselves, as well as assisting family members and the worried well around them. If these students take this training and discuss preparedness with their families, the number of individuals is at least doubled. The implication for community resilience indicates that training these individuals could potentially reduce the numbers of worried well that show up in emergency departments. It also means that potentially fewer individuals would need to be evacuated or need placement in shelters. Additionally, this implies on a larger scale, that as these young adults mature, they take these lessons to forge a culture of preparedness.

Another important implication for emergency planners is the potential for recruitment into their local Medical Reserve Corps or Community Emergency Response Team (CERT) units. Students have need for volunteer experiences in their resumes and some are required to have them by their degree programs. The collaborations between the community based units and their academic partners provide students access to an exceptional opportunity to fulfill these needs.

The limitations of this study are reflected in its descriptive nature. Developing these experiential experiences and incorporating them into the syllabus began a process of evidence building for this emerging topic. The next steps will be to evaluate the impact these experiences had on the student's preparedness. Future studies are planned that use student course evaluations to measure changes in their perception of susceptibility, benefit and self-efficacy regarding individual preparedness.

Another limitation resides in the use of national preparedness survey data to describe preparedness. While Georgia preparedness statistics would provide better context, there are no data that describe this state's preparedness levels. There is a need for research in this area.

CONCLUSION

If it is true that we want to build resilient communities that just don't "bounce back" from a disaster, but rather "bounce ahead" stronger and more capable than before, then mitigation is an important step which cannot be overlooked. Alternative approaches to mitigations in individual and community preparedness are needed in order to be successful. Additionally, in building an effective mitigation strategy, all public health programs can be brought to bare, not just emergency preparedness. To this end, schools of public health can be an integral part of the community resilience process, especially if those programs include an

experiential component that connects the academic classroom to community practitioners in a way that bridges gaps, instead of just filling them.

As budget cuts force us to come full circle, back to an emphasis on individual preparedness, what better way to promote preparedness sustainability and thus community resilience in the face of diminishing grant funding than to promote individual preparedness through experiential learning in the classroom? These students are, in fact, our next generation.

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