

Student Response to COVID-19: An Academic Interprofessional Case Study

Elizabeth G. Franklin
University of Mississippi

Cynthia D. Casey
University of Mississippi

Carley P. Dear
University of Mississippi

Mitzi R. Norris
University of Mississippi

Abstract

The impact of the COVID-19 pandemic presented challenges for academic medical centers in each of their tripartite mission areas of education, health care, and research. For students, in-person classes and clinical rotations were suspended in the spring of 2020. Educational and clinical leaders at the University of Mississippi Medical Center immediately identified how students could continue training by volunteering in numerous interdisciplinary pandemic relief efforts. Completing an online course focused on principles of disaster management and documenting volunteer hours counted toward academic credit hours. The purpose of this case study is to describe the development of an interprofessional disaster management course that also contextualized student volunteer efforts and required synthesis of student experiences. The course curriculum was developed incorporating the Interprofessional Education Collaborative core competencies. The course's positive impact on student volunteerism and the increase in disaster management knowledge is discussed. The authors elaborate on the emergent themes identified through written student reflections. The learning opportunity presented in this case study provides a template for future interdisciplinary courses.

Keywords: Disaster Management, Academic Medical Center, COVID-19 Student Response, Interprofessionalism, Interprofessional Academic Course

Introduction

The COVID-19 pandemic presented tremendous global challenges. One such challenge was the significant strain on the health care workforce. The impact on all health systems is well documented, but academic medical centers (AMCs) encountered unique trials in their tripartite mission of education, health care, and research. Creating pathways for students to continue their learning experience while supporting a clinical workforce under dire circumstances required AMCs to adapt and innovate during an unprecedented disruption.

In early spring of 2020, clinical and educational leaders at the University of Mississippi Medical Center (UMMC), the state's only AMC, demonstrated such adaptability and innovation. Realizing that initially, learners would not meet in person for classroom instruction nor participate in clinical rotations, UMMC's Vice-Chancellor of Health Affairs, along with the Associate Vice-Chancellor of Academic Affairs, envisioned a meaningful, interprofessional learning experience for students focused on disaster management. Students participating in the activities would also support fatigued hospital care teams and community health workers.

A multi-disciplinary team from various institutional departments was appointed to design an educational opportunity for students in the seven schools on the UMMC campus to foster increased knowledge of disaster management and recognize student volunteer activities during the early months of the pandemic. The team was also charged with developing an academically sound course of study to allow students to earn academic credit for successfully completing the interprofessional course, along with a required number of volunteer service hours. It was hypothesized that participation would offer students an interprofessional experiential learning opportunity amid a global crisis, while mobilizing them to areas of institutional and community need.

Although research suggests that students in the health professions have experienced unique stressors during the COVID-19 pandemic regarding their education and career goals, financial concerns, and their own health and safety (Luberto et al., 2020), other current studies have highlighted the value of participatory roles for students during a crisis. Benefits of student involvement include higher resilience, post-traumatic growth, and crisis preparedness (Long et al., 2020; Soled et al., 2020; Winakor, 2021).

Because of their career choices, students in the health professions may be intrinsically motivated to help others, desiring to contribute to people and health systems in need. Sentiments expressed by UMMC students during the first weeks of the pandemic confirmed this, and their desire did not wane despite a novel public health threat. The purpose of this case study was to develop an interprofessional course that would contextualize student volunteer efforts and synthesize student experiences related to their future roles in a health care team.

Background

Students who choose to study at an AMC are interested in professions that improve health care for patients and the community. As the country began confronting the mounting evidence of a pandemic, many schools and activities ceased. For students at UMMC, it was a time for action.

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Students who would be on the front line when they completed their degrees volunteered to help anywhere needed. University leaders wanted to provide an academic perspective for volunteer experience. Thus, the development of *DM 500—Disaster Management Course for Students* began.

Within two weeks, an interdisciplinary team representing the education mission at UMMC developed the course. Since the course provided academic credit, the content was structured to represent academically rigorous content consistent with the institution's definition of a credit hour, including documenting hours from volunteer activities. COVID-19 pandemic-related activities were conducted primarily at sites on or near the UMMC campus in Jackson, MS.

Interprofessional education (IPE) is an essential concept for students at UMMC. Previously, committees had provided activities for student collaboration among schools; however, administrative barriers had prevented awarding academic credit for IPE. The *Disaster Management Course for Students* was designed to bypass barriers and became the first interprofessional course at UMMC to award academic credit. The addition of the course was an important contribution to UMMC's educational mission in response to the COVID-19 pandemic.

Results

The *Disaster Management Course for Students* opened in March 2020, and participants enrolled voluntarily. Students completed the coursework at their pace through the end of July 2020 to earn two elective academic credit hours. Four faculty members designed course content, managed instruction design, marketed the course, and developed assessments delivered through the institution's learning management platform, Canvas®. The course was offered to students free of charge, and the faculty members volunteered their efforts to design the course, facilitate instruction, and grade assignments. The course consisted of viewing UMMC-created lecture content, earning Federal Emergency Management Agency (FEMA) certifications, analyzing journal articles, participating in thirty-six hours of volunteer service, and reflecting on how the volunteer experience showcased the tenets of interprofessional education.

The *Disaster Management Course for Students* contained three modules to assist students in understanding the scope of disaster management: Overview of Disaster Management, Required Readings, and Service Reflection. The modules progressed from a general understanding of the interprofessional response efforts in a disaster to applying readings, serving in a disaster scenario, and reflecting on those experiences. A pre-test and post-test assessment measured learning outcomes. A course evaluation survey was also completed at the end of the course to understand student feedback on the quality of the content and ease of course navigation.

The first module contained a 20-minute UMMC-created lecture video introducing the topic of disaster management. A video on the COVID-19 pandemic was also included, as health care teams were still learning about the virus. Additionally, four FEMA training modules were included as course content. Students completed the Vulnerable Populations, Incident Command 100, Incident Command 200, and CERT course training modules and uploaded the certificates of completion onto the learning management system.

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Module two contained an annotated bibliography of four scholarly articles and two book chapters in addition to COVID-19 specific readings and optional reading selections. Students read the scholarly articles and book chapters prior to submitting a mock email to colleagues outlining the key points of one student-chosen article.

Module three required documentation of at least thirty-six hours of service in a disaster area and a reflection on how the students witnessed interprofessional collaboration in that service. The reflection gave students an avenue to pause amid the chaos of responding to a disaster of unprecedented magnitude and document their experiences working with other health professionals and students from other schools. Students set up COVID-19 testing sites, made testing kits, administered tests to community members, labored in laboratories, and served in other ways as needs arose. Student reflections were overwhelmingly positive, and a common sentiment expressed by students was the feeling of honor to have been asked to assist during the public health crisis.

Students from across UMMC's campus participated in the course and volunteer activities. Sixty-eight students completed the course in the spring and summer semesters of 2020. Additionally, students documented 3,224 hours of volunteer work. As the course provided both didactic and experiential learning opportunities, assessment of the results included learning outcomes in both areas.

Post-Test Gains

As part of the didactic portion of the course, which focused on disaster management strategies, students earned, in total, more than 200 FEMA certifications. To track student learning gains, pre-tests and post-tests were administered before and after students completed the course. The identical tests consisted of ten questions about general disaster management and were scored by awarding one point for each correct answer. The mean score on the pre-test was 8.16/10 and the post-test mean was 8.78/10, which reflected a statistically significant difference in pre-test and post-test scores at the .05 level ($p = 000312$). Therefore, disaster management knowledge of students was enhanced.

Course Satisfaction

Responses to questions about student interprofessional interactions and experiences during the course and volunteer service were analyzed using descriptive statistics. Course evaluations were overwhelmingly affirmative, with more than 94% of student responses agreeing or strongly agreeing with positive statements on the post-course satisfaction assessment. Additionally, all the students (100%) agreed or strongly agreed that the course was designed well, organized, and valuable. Concerning the experiential activity, 97% percent of participants concluded that working with an interprofessional team of students and employees helped them learn practical collaboration skills.

Emerging Themes from Student Reflections

In the reflective writing assignment, students were asked to reflect upon their interprofessional volunteer experience and incorporate how their activity addressed one or more of the core IPE competencies. The four core IPE competencies were developed in 2009 and later updated in 2016 by the Interprofessional Education Collaborative (IPEC), an organization of national

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associations of health professions schools to promote efforts to advance interprofessional learning experiences (IPEC, 2016). The overarching IPE competency categories are:

- Values and Ethics for Interprofessional Practice
- Roles and Responsibilities
- Interprofessional Communication
- Teams and Teamwork

These rich, detailed student responses were analyzed by segmenting and categorizing common terms and phrases. Several common themes emerged from the data. An appreciation of the educational value of the volunteer activity was reflected in student responses, specifically their interprofessional interactions. Students acknowledged how interprofessional communication and collaboration led to successful outcomes at the volunteer locations, and they recognized the importance of each person's role in a health care team. Students expressed the need to provide other community health care services in the future and observed that tasks were accomplished more efficiently when interprofessional health care providers and students collaborated.

Student Reflections

One student summarized the experience as a valuable personal learning experience while providing a needed community health service:

I assisted in identifying and testing people suspected of being infected with COVID-19. I had the opportunity to work with individuals from various professions. I was able to use my knowledge as a third-year medical student to assess the needs of patients for testing and promote the safety of the community. Answering questions related to COVID-19 testing and prevention allowed me to assist in preventing the disease. I was able to see firsthand how effective planning and delivery of population health programs can help protect the general population.

Another student reported:

I worked at the Mississippi State Fairgrounds Specimen Collection site for 40+ hours during the first week of operation. My specific role was training swab techniques and conducting competency assessments and on-site training. The site was a living example of an IPE in progress. Professionals and students from the medical center and non-medical professionals from the Mississippi State Department of Health all participated. I learned that good communication is definitely a key player, especially in a command-structured environment.

Student reflections revealed their appreciation for community health initiatives and the power of an interprofessional team to accomplish public health goals:

I worked with a team of over 100 fellow UMMC students from all disciplinary backgrounds to create The Jackson Community COVID Response Organization. We created the "Adopt an Elder" program, which provided elderly individuals in our community with food delivery and medication assistance. Our multi-disciplinary team

fostered COVID-19 prevention by delivering COVID-19 Care Kits throughout the community, which contained homemade hand sanitizer and masks, paper towels, personal hygiene products, and flyers regarding COVID-19.

Conclusion

This case study contributes to the discussion of university-based community service efforts while providing an opportunity for students to gain interprofessional competency and become more knowledgeable about disaster management. Through student volunteerism, the *Disaster Management Course for Students* had a positive impact on the community, students, and the institution. The course also provided a template for future interdisciplinary courses.

By completing the FEMA modules, students gained valuable information on how various levels of government, volunteer organizations, and the private sector work together to minimize the impact of a disaster and promote public awareness. Additionally, the reflection activity provided an opportunity for student volunteers to describe their experiences based on the IPE core competencies. One student stated, “Clear communication and mutual respect for the duties, schedules, and needs of each department were critical for our work.” This exercise increased awareness of team functioning, patient-centered care, and communication.

This project made an essential contribution to the education mission of Mississippi’s only AMC in supporting their response to the pandemic while at the same time making it possible for students to earn academic credit for interprofessional experiential learning.

References

- Interprofessional Education Collaborative. (2016). Core competencies for interprofessional collaborative practice: 2016 update. <https://ipec.memberclicks.net/assets/2016-Update.pdf>
- Long, N., Wolpaw, D. R., Boothe, D., Caldwell, C., Dillon, P., Gottshall, L., Koetter, P., Pooshpas, P., Wolpaw, T., & Gonzalo, J. D. (2020). Contributions of health professions students to health system needs during the COVID-19 pandemic: Potential strategies and process for U.S. medical schools. *Academic Medicine: Journal of the Association of American Medical Colleges*, 95(11), 1679–1686. <https://doi.org/10.1097/ACM.0000000000003611>
- Luberto, C. M., Goodman, J. H., Halvorson, B., Wang, A., & Haramati, A. (2020). Stress and coping among health professions students during COVID-19: A perspective on the benefits of mindfulness. *Global Advances in Health and Medicine*, 9(1-5). <https://doi.org/10.1177/2164956120977827>
- Soled, D., Goel, S., Barry, D., Erfani, P., Joseph, N., Kochis, M., Uppal, N., Velasquez, D., Vora, K., & Scott, K. W. (2020). Medical student mobilization during a crisis: Lessons from a COVID-19 medical student response team. *Academic Medicine: Journal of the Association of American Medical Colleges*, 95(9), 1384-1387 <https://doi.org/10.1097/ACM.0000000000003401>
- Winakor, J., Janatpour, Z. C., & West, J. (2021). Medical student involvement in disasters: How can we effectively serve? *Military Medicine*, 186(11-12), 297-299. <https://doi.org/10.1093/milmed/usab181>