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Interprofessional Health Fairs: An Effective Tool for Interprofessional Education?

Caleb Holloway
University of Louisiana Monroe, hollowca@warhawks.ulm.edu

Ashley Barbo
University of Louisiana Monroe, barbo@ulm.edu

Bryan Donald
University of Louisiana Monroe, donald@ulm.edu

Min Jee Kim
min.jee.kim@hotmail.com

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Interprofessional Health Fairs: An Effective Tool for Interprofessional Education?

Abstract

Purpose: The purpose of this study was to determine whether interprofessional health fairs have a significant impact on the interprofessional education of students in health care disciplines.

Methods: An optional survey was administered to students participating in the health fairs in 2021 and 2022. The survey utilized four retrospective pre and post ICCAS assessment questions to address IPEC core competencies and two open ended questions to provide feedback about the health fair and report anything new learned from or about another health care discipline. The self-assessment questions were reported on a 5-point Likert scale and recorded in aggregate for both the 2021 and 2022 health fairs.

Results: A total of 56 students completed the survey in 2021, and 44 students completed the survey in 2022. Based on answers to the four ICCAS questions related to IPE skills and abilities, an average of 79.5% of students in 2021 and 85.8% of students participating reported a positive (agreed or strongly agree) perception of their skills before the health fair. Following the health fair, an average of 94.2% of students in 2021 and 91.5% of students in 2022 responded positively to the post-event ICCAS questions. A statistically significant difference was found for the 2021 data and the two years combined, but no significant difference was found for the 2022 data.

Conclusion: Interprofessional health fairs offer an enjoyable and effective learning environment for students while also providing valuable services to the community.

Keywords

Interprofessional Education, Health Fair, Health Science Education

Cover Page Footnote

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Interprofessional Health Fairs: An Effective Tool for Interprofessional Education

Caleb Holloway, University of Louisiana Monroe
Ashley Barbo, University of Louisiana Monroe
Bryan Donald, University of Louisiana Monroe
Min Jee Kim

Introduction

Each spring, the University of Louisiana Monroe (ULM) College of Pharmacy chapter of Christian Pharmacists Fellowship International (CPFII) hosts its annual Spring Into Health Fair at the Louisiana Purchase Gardens and Zoo in Monroe, Louisiana. Spring Into Health Fair is an interprofessional health fair that was originally organized in 2019 to provide free health screenings and education to the community while providing interprofessional collaboration opportunities for students. Interprofessional education (IPE), as defined by the World Health Organization, "occurs when two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes" (World Health Organization, 2010, p.13). IPE is an important part of health education as evidenced by its requirement within multiple accrediting bodies (Accreditation Council for Pharmacy Education, 2015; Accreditation Commission for Education in Nursing, 2022). ULM Health professions programs utilize the Interprofessional Education Collaborative Core Competencies for Interprofessional Collaborative Practice as the standard to prepare students for interprofessional practice (Interprofessional Education Collaborative, 2016). New and novel ways to meet these core competencies are desired, as each program strives to provide meaningful IPE experiences that meet accreditation standards. A search of the literature for interprofessional health fairs yielded few results, suggesting this is still a relatively novel and understudied concept. This paper aims to discuss the interprofessional impact of the Spring Into Health Fair from the 2021 and 2022 events.

Methods

In 2021 and 2022, this event was planned and organized by the ULM student chapter of CPFI. Chapter members worked within planning committees to ensure the success of the event. The chapter president was responsible for organizing the members onto the committees, while the various committees worked on securing funding for the event, booking the venue, advertising, planning the education and screenings that would be offered, and developing a research project to complete. The event was advertised to the public through various avenues such as paper flyers, social media, radio ads, and television news interviews. Committee meetings were held every month beginning in August until the conclusion of the event. CPFI's faculty advisor worked with ULM's co-college IPE committee to recruit other health professions for participation in the health fair. Students and faculty from medical laboratory science, nursing, dental hygiene, occupational therapy, radiologic technology, health studies, and pharmacy along with pre-health professions students from the HOSA-future health professionals student organization collaborated together to provide the education and screening booths (Appendix A). Faculty from each discipline provided suggestions for the type of education or screening that their students could provide.

Approximately six weeks prior to the event, students were provided a link to a sign-up document on which they could volunteer for a specific booth. Students were allowed to sign up for a booth provided by their discipline or they could choose to sign up to work with students from a discipline other than their own. Each booth contained a mixture of students from one or more disciplines. This provided an opportunity for students to work together utilizing each other's knowledge and skills in an interprofessional manner to provide the education and screenings. For example, one of the booths providing tobacco education to the public was presented by pharmacy and dental hygiene students. Pharmacy students were able to provide information about the general health impact of tobacco use and different approaches to tobacco use cessation, while

dental hygiene students were able to offer unique insight into how tobacco use impacts one's oral health. The health fair lasted four hours in total with students working in two-hour shifts.

The authors hypothesized that the interprofessional collaboration experienced by the students at the health fair would lead to positive outcomes towards all four IPEC core competencies. Positive outcomes were defined as shifts from non-positive perceptions (neutral, disagree, or strongly disagree) to positive (agree or strongly agree), or strengthened positive perceptions of interprofessional collaboration-related competencies based on answers to Interprofessional Collaborative Competency Attainment Survey - revised (ICCAS) questions (Schmidtz et al, 2017).

To analyze the impact of this interprofessional education experience, all participating students were given the opportunity to complete an optional survey at the conclusion of their shift for both the 2021 and 2022 fairs. This survey was anonymous and required a consent form prior to filling out the survey questions. Students reported their discipline along with the discipline that they worked alongside. There were four questions selected from the ICCAS assessment (Schmidtz et al, 2017) and two open-ended questions to provide feedback about the health fair. A 5-point Likert scale was used for the self-assessment questions; strongly agree, agree, neutral, disagree, and strongly disagree. Each of the ICCAS questions were mapped to one of the Interprofessional Education Collaborative (IPEC) core competencies (Appendix B). The IPEC core competencies are defined as follows: 1. Work with individuals of other professions to maintain a climate of mutual respect and shared values. (Values/Ethics for Interprofessional Practice); 2. Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations. (Roles/Responsibilities); 3. Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of

disease. (Interprofessional Communication); 4. Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable. (Teams and Teamwork) (Interprofessional Education Collaborative, 2016).

Approximately 100 students from ULM's College of Pharmacy and College of Health Science programs attended the Spring Into Health Fair each year in 2021 and 2022. All students participating in the health fair were eligible to participate in the optional survey. Request for participation was made through email to all student participants prior to the fair as well as an announcement at the fair. Students were provided a QR code at their respective booth which directed them to the consent form and survey. Survey data was collected using Google Forms. Demographic data and survey results were analyzed using descriptive statistics. McNemar's Chi-Square test was utilized to evaluate the change in student self-perceived pre and post responses to the ICCAS questions. This project, protocol ID number 1108-2021, was approved by the ULM Institutional Review Board.

Results

A total of 56 students completed the survey in 2021, and 44 students completed the survey in 2022 (Appendix C). Based on answers to the four ICCAS questions related to IPE skills and abilities, an average of 79.5% (2021) and 85.8% (2022) of students responding to the survey reported a positive perception of their skills before the health fair. Following the health fair, an average of 94.2% (2021) and 91.5% (2022) of students responded positively (agree or strongly agree) to the post-event ICCAS questions. Additionally, 84% (2021) and 66% (2022) of students participating in the survey were able to report that they learned something new from or about another health care profession. Responding students participating in the 2021 health fair seemed

to enjoy their experience, with 91% of students responding to the open-ended question giving positive feedback about the event. The 2022 health fair also received positive feedback from 77% of students.

Student responses to the retrospective pre and post ICCAS questions were grouped in aggregate of positive (strongly agree, agree) and not positive (neutral, disagree, strongly disagree). Responses from positive to positive, positive to not positive, not positive to not positive, and not positive to positive were evaluated using a McNemar's Chi-Square Test using the R statistics package in the RStudio environment (R Core Team, 2021; Posit team, 2022) to determine the significance of these self-assessment competency changes (Tables 1-3). In 2021, all four questions resulted in statistically significant ($p < 0.05$) positive changes from before to after the health fair. In 2022, while the changes observed were more often from not positive to positive, none of the questions reached statistical significance. When combining the data from 2021 and 2022, all four questions again achieved statistical significance.

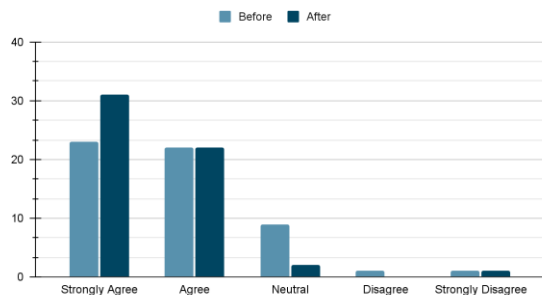
Table 1.			
	Moved from Not Positive to Positive	Moved from Positive to Not Positive	p
2021 & 2022 Composite (n=100)			
Question 1	11 (11%)	0 (0%)	0.0001
Question 2	10 (10%)	0 (0%)	0.0020
Question 3	12 (12%)	1 (1%)	0.0063
Question 4	11 (11%)	0 (0%)	0.0001

Table 2.			
	Moved from Not Positive to Positive	Moved from Positive to Not Positive	p
2021 (n=56)			
Question 1	8 (14%)	0 (0%)	0.0078
Question 2	7 (13%)	0 (0%)	0.016
Question 3	10 (18%)	0 (0%)	0.0020
Question 4	8 (14%)	0 (0%)	0.0078

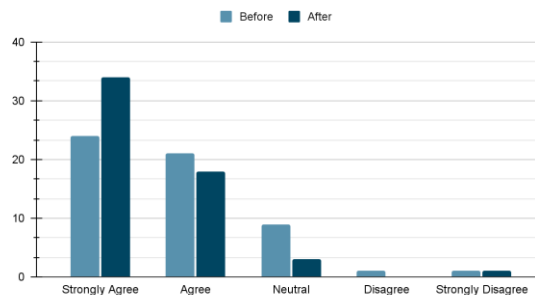
Table 3.			
	Moved from Not Positive to Positive	Moved from Positive to Not Positive	p
2022 (n=44)			
Question 1	3 (7%)	0 (0%)	0.25
Question 2	3 (7%)	0 (0%)	0.25
Question 3	2 (5%)	1 (2%)	1
Question 4	3 (7%)	0 (0%)	0.25

Figure 1. 2021 ICCAS Question Results

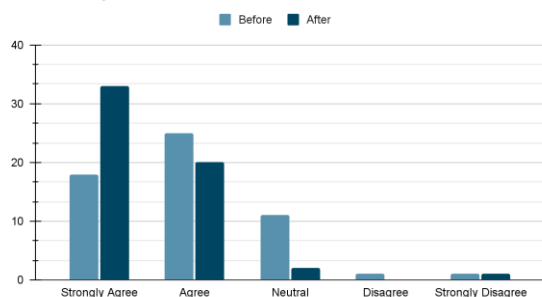
2021 Survey Question 1



2021 Survey Question 2



2021 Survey Question 3



2021 Survey Question 4

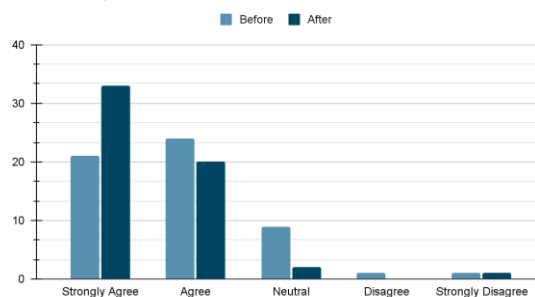
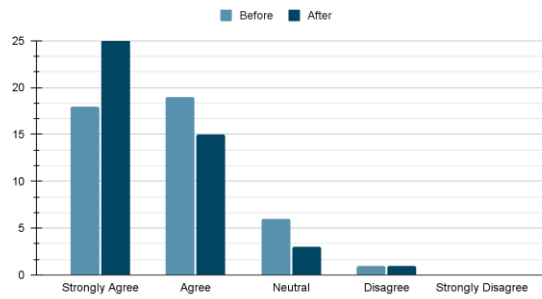
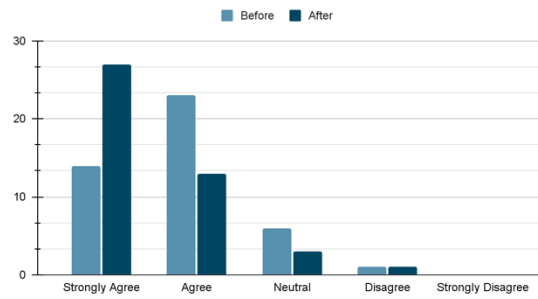


Figure 2. 2022 ICCAS Question Results

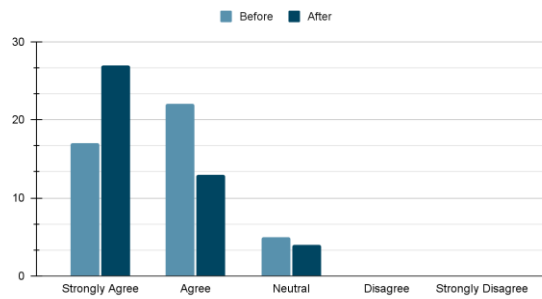
2022 Survey Question 1



2022 Survey Question 2



2022 Survey Question 3



2022 Survey Question 4

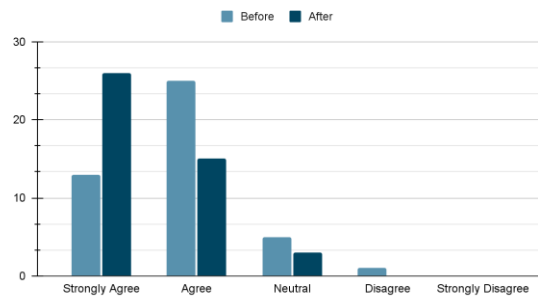
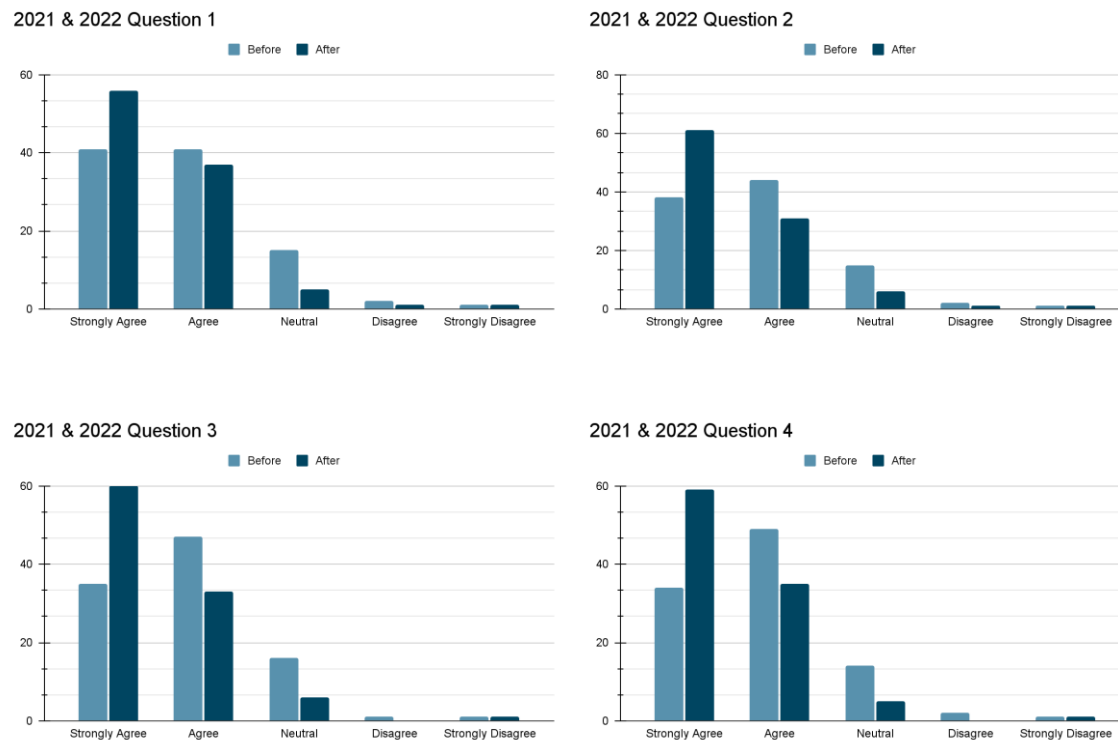


Figure 3. 2021 & 2022 Combined ICCAS Question Results

Discussion

Students enrolled in the ULM Colleges of Pharmacy and Health Sciences participate in required IPE events each year. Each discipline chooses the number and type of events their students will participate in based on programmatic and accreditation requirements. The Spring Into Health Fair event served as a special event providing additional opportunity for students to gain interprofessional experience. This interprofessional health fair provides a unique opportunity for students to experience a high level of personal interaction with other health care disciplines.

The data collected from the Spring Into Health Fair suggest that students did experience positive outcomes as a result of the interprofessional education facilitated by the health fair. While the majority of responding students started positive regarding their self-assessment of skills, the number of positive responses were increased following the health fair, indicating a strengthening

of confidence to complete skills that meet IPEC core competencies. The statistically significant difference between students whose self-reported skill assessment changed from not positive to positive versus those who changed from positive to not positive indicates that those reporting a change from one level to the other moved in the direction desired. Students responding that they learned something from or about another health profession indicates that the event met the World Health Organization definition of IPE. Most students provided feedback that indicated the health fair was fun and enjoyable with one student commenting: “This was the biggest health fair I’ve been part of so far and collaborating with the other health programs has been really enjoyable and informative!” A small number of students did not respond positively to the survey. This could be due to negative interactions with other students or miscommunication about logistics surrounding the event. Overall, the health fair was found to be successful and plans to continue the health fair annually are currently in place.

Strengths: Some strengths of the study would include the availability of data within the span of two years and the potential to continue this study in following years, allowing application of feedback and improvement. Another strength of the study is that it includes 6 different health professions, facilitating a wide range of interactions between disciplines.

Limitations: While a statistically significant difference was found between pre and post question responses in 2021, no significant difference was found for the 2022 results. The authors suspect the 2022 survey is under-powered due to fewer students participating in the survey that year (44 vs 56). Both the 2021 and 2022 surveys seemed to suffer from relatively low student participation, limiting the statistical power of both studies. The study only assessed shifts between not positive responses and positive responses limiting the outcomes measured. The authors of this study used a different scale than the original scale on the ICCAS tool. In this study neutral responses were categorized as not positive, potentially affecting the overall outcome of the data. An additional limitation of these surveys is the unequal representation of disciplines, with

pharmacy students comprising the majority of responses in both surveys. While the requirements for each discipline are varied, most health care disciplines have some form of interprofessional education built into their standard course curricula, so it is unlikely that this was the first interprofessional exposure for many students. Additionally, both the 2021 and 2022 health fairs were set up in the same place and in the same manner, and it is possible that some students attended both events. The authors suspect that this may have caused students to respond more positively to retrospective pre questions than they otherwise would have. Lastly, students participating in this survey all attended the same university, limiting the perspective of the study and potentially affecting the generalizability of the conclusion.

Conclusion

Overall, interprofessional health fairs like Spring Into Health Fair offer a positive learning opportunity for students across various health care disciplines. The data suggest that the interprofessional environment cultivated by Spring Into Health Fair provides an enjoyable learning experience for students while also offering valuable services to the community. As discussed above, these surveys had limitations, but the data collected suggest that interprofessional health fairs warrant further implementation and study.

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Appendices

Appendix A

Education and Screening Booth Examples		
Nutrition Education	Bullying Prevention/Conflict Resolution	Mammography Education
Glitter Bug Hand Washing Education	Children's Oral Health Activities	Chronic Kidney Disease Education
Exercise Education	Breast, Ovarian, and Skin Cancer Education	Vaccine Education
Alcohol Education	Tobacco Education	Oral Health pH Screening
Blood Glucose Screening	Bone Density Screening	Blood Pressure Screening

Appendix B

Questions Used in Survey	Question Text	IPEC Core Competency Addressed
Survey Question 1 (ICCAS question number 2)	I was able to actively listen to interprofessional team members' ideas and concerns (Retrospective Pre and Post)	Interprofessional Communication
Survey Question 2 (ICCAS question number 7)	I was able to work effectively with interprofessional team members to enhance care (Retrospective Pre and Post)	Teams and Teamwork
Survey Question 3 (ICCAS question number 8)	I was able to learn with, from, and about interprofessional team members to enhance care	Values/Ethics for Interprofessional Practice
Survey Question 4 (ICCAS question number 12)	I was able to recognize how others' skills and knowledge complement and overlap with my own	Roles/Responsibilities
Survey Question 5 Open-ended Question 1	What is one thing you've learned from or about a different health care profession today?	N/A

Survey Question 6	Is there any feedback that	N/A
Open-ended Question 2	you would like to provide?	

Appendix C

Health Profession	Number of Students Participating in Survey*	
	2021 (n=56)	2022 (n=44)
Dental Hygiene	5, 9%	3, 7%
Medical Laboratory Science	14, 25%	9, 20%
Nursing	7, 13%	14, 32%
Occupational Therapy	0, 0%	2, 5%
Pharmacy	27, 48%	16, 36%
Radiologic Technology	3, 5%	0, 0%
* Values expressed as (n, %) unless otherwise noted		