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Student led interprofessional activities: A case of collaboration between student National Pharmaceutical Association, Student Nursing Association, and the National Kidney Foundation

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Student led interprofessional activities
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1

Title: Student led interprofessional activities: A case of collaboration between Student National Pharmaceutical Association, Student Nursing Association, and the National Kidney Foundation Louisiana.

Running Title: Student led interprofessional activities.

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Abstract:

Purpose:

The purpose of this project is to describe the implementation of a student led Interprofessional education (IPE) event in collaboration with a national organization, and to describe the perception of interprofessional growth by student volunteers. This even was hosted by the Student National Pharmaceutical Association (SNPhA) and the Student Nursing Association (SNA) in collaboration with the National Kidney Foundation (NKF) Louisiana.

Methods:

SNPhA and the SNA collaborated with the NKF Louisiana to create an IPE event which took place September 29th, 2018 at the College of Pharmacy. A total of 16 student pharmacists and 16 nursing students participated in the experience. The Interprofessional Collaborative Competency Attainment Survey (ICCAS) was intentionally administered in a pre-post study design. Data was collected, compared, and described using descriptive statistics.

Results:

A total of 32 students participated in the IPE experience. This event screened 86 people from the community. A total of 20 students completed the pre-event survey and 10 students completed the post-event survey. The greatest improvements regarding students reporting themselves as “excellent” were in the domains of “communication” and “roles and responsibilities” by 34.0% and 26.3% respectively. Notable skill improvements were found in the collaboration and team functioning domains with both resulting in 100% of post-survey respondents reporting very good or excellent combined skills.

Conclusion:

This student hosted IPE event successfully provided opportunities for interprofessional growth. In the future, we plan to better assess the student’s IPE experience as well as reach a larger mass of those in need in our community.

Keywords: interprofessional education, national kidney foundation, student leadership, student national pharmaceutical association, student nursing association

Introduction

As the demand for interprofessional care increases within clinical practice and hospital systems, there is also the expectation that new practitioners gain prior experience through interprofessional education (IPE) concretely established in health-science curriculums. The World Health Organization (WHO) defines interprofessional education (IPE) as “when two or more professions learn about, from, and with each other to enable effective collaboration and improve health-outcomes (WHO, 2010). Additionally, they define Interprofessional Practice (IPP) as happening “when multiple health workers from different professional backgrounds work together with patients, families, care givers, and communities to deliver the highest quality of care.” Acknowledging the importance of IPE & IPP, the Accreditation Council for Pharmacy Education (ACPE) included it in their 2016 standards, requiring students have the ability “to contribute as a member of an interprofessional, collaborative patient care team” (ACPE, 2019). And, according to the American Association for Colleges of Nursing (AACN), the sixth essential element for accreditation requires “interprofessional communication and collaboration for improving patient health outcomes”³ (AACN, 2008). In addition, the Interprofessional Education Collaborative (IPEC), represents twenty-one national education associations of schools of health professions, including pharmacy and nursing. IPEC’s goal is to “promote and encourage interprofessional education to prepare future health professionals for enhanced team-based care of patients and improved population health outcomes” through use of core competencies that were created to guide curricula (IPEC, 2016). While these standards and organizations play an important role in creating goals for the competence of student health-professionals, the implementation of these standards across the scope of healthcare educational curriculums has proven to have many barriers (Pecukonis et al., 2008).

One barrier debated revolves around the timing of when IPE should be implemented in curriculums and its introduction to trainees, either early or during advanced training. Horseburg et al. suggests that IPE in the form of “shared learning” be introduced early in the curriculum and then continued throughout. Another barrier is limited institutional time and scheduling conflicts in varying curriculums in which programs are to coordinate integrated IPE opportunities

Student led interprofessional activities
Corresponding Author: Alexis Horace

4

(Kendall et al., 2008). Differences in the number of students available in healthcare programs, differing teaching methodologies, lack of planning, and available resources such as meeting spaces also pose barriers to IPE implementation (Hoseburg, et al., 2001). One popular solution has been “bolting on” activities on top of curriculums rather than integrating them (Freeth et al., 2002 & Nisbet et al., 2011). This is when IPE activities are generally introduced and completed in-addition-to regular scheduled curricular learning and activities. There are also universities that have incorporated IPE into undergraduate programming hoping to prep students interested in health sciences prior to starting their graduate education (O’Neil-Pirozzi et al., 2019 & Berger et al, 2017). While integration of IPE is an ultimate goal across healthcare curriculums, there is still a growing number of health professions newly requiring IPE learning for accreditation along with their continuously changing curriculums. Strategies to provide opportunities for students to participate and engage in IPE outside of the curriculum play a vital role.

The University of Louisiana at Monroe College of Pharmacy (ULM CoP) engages in interprofessional education through degree programs that currently require it as a component of accreditation. Thus far, the College of Pharmacy and The College of Health Science’s Nursing and Occupational Therapy programs engage in IPE activities. However, with growing research regarding the benefits of IPE, the amount of university programs involved is growing. Because of the growth of programs joining interprofessional collaboration projects and previously discussed barriers, one way to provide opportunities for students is through the use of professional student organizations. Professional student organizations provide healthcare screenings, education, and patient advocacy for communities across the United States and play a significant role in student professional development.

The Student National Pharmaceutical Association (SNPhA) is an educational service association of pharmacy students who are concerned about pharmacy healthcare related issues, and the poor minority representation in pharmacy professions. The ULM CoP SNPhA Chapter engages in healthcare related events and community service to bridge the gap for patients in need. Typically, these activities are student organized, occurring outside of the curriculum during their personal time where attendance is not mandatory. However, the students involved in these organizational community service events enthusiastically provide a great service for those

Student led interprofessional activities
Corresponding Author: Alexis Horace

in need outside of mandatory curriculum related activities. This year, the ULM CoP SNPhA Chapter partnered with the ULM Student Nursing Association (SNA) and the National Kidney Foundation of Louisiana Inc. (NKFL) to provide kidney screenings to the Ouachita Parish community.

The purpose of this pilot project is to describe our experience implementing a student-organized interprofessional activity hosted by professional student organizations. We also want to compare the perceived interprofessional growth of those students involved in the event by retrospectively comparing surveys that were given before and after the event.

Methods

Before the NKFL Event

This research was approved by the University of Louisiana at Monroe Institutional Review Board. The interprofessional collaboration between the ULM CoP SNPhA Chapter, ULM SNA, and the NKFL took place September 29th, 2018.

The ULM CoP SNPhA chapter received approval from the ULM CoP administration to hold the event at the college of pharmacy. The ULM CoP also provided food and drinks for the event, blood pressure measurement kits, and student pharmacist volunteers. The NKFL provided access to their kidney screening equipment including the urinalysis kits, the phlebotomist for the blood draws, necessary legal documents for participant signing, and access to media outlets for advertising. The ULM SNA provided student nurse volunteers.

A student pharmacist who chaired the chronic kidney disease initiative for the ULM CoP SNPhA chapter organized the event, communicating with both ULM CoP SNA and NKFL. Advertising for the event consisted of local news interviews and flyers shared via social media, email, and in various strategic locations. Live interviews on KARD's "Louisiana Living" and KNOE's "Good Morning ArkLaMiss" segments featured a pharmacy student and a nursing student to emphasize interprofessionalism. The interviews were coordinated by NKFL's Program Coordinator and

Student led interprofessional activities
Corresponding Author: Alexis Horace

6

Communications Specialist. Paper and social media flyers were created by NKFL and shared locally with churches and on social media by student volunteers. Student pharmacists and nurses were recruited via email and newsletter. Sign up was coordinated via cloud-based spreadsheet and locally posted paper sign-up sheet.

Day of the NKFL Event

Student volunteers and professional advisors were told to arrive at least 1 hour to 30 minutes prior to the event. The event was student led and staffed with guidance and assistance provided by ULM professional pharmacy and nursing faculty and NKFL representatives. All volunteer staffing assignments were made with the intention to foster interprofessional education at each station. All students were intentionally asked to complete a modified Interprofessional Collaborative Competencies Attainment Survey (ICCAS) prior to the start of the event (Schmitz et al., 2017). Though the ICCAS survey is typically distributed as post-survey assessment, we piloted a format by changing the tense of the questions to do a true pre and post-survey comparison.

There were 5 stations at the event: registration, physical measurement, urinalysis, blood draw and consultation. The flow of the event for the participants can be found in graphic 1. The following activities happened at each station:

- **Registration:** Student volunteers recorded the participant's name and phone number and gave each participant an ID number and document packet.
- **Physical measurement:** Student volunteers measured participant weight and blood pressure and calculated their body mass index (BMI). All results were documented on the participant's result form and NKFL log. Because both student pharmacists and nurses have learned skills in these screenings, they were required to communicate beforehand who would be responsible for which aspect.
- **Urinalysis:** Student volunteers were trained on site by NKFL representatives to operate the urinalysis machines. Participants gave urine specimens to the student volunteers, who then analyzed the urine sample and recorded the results on the participant results form

and NKFL log. Participants were instructed on how to provide the urinalysis using readily available restrooms in the building.

- **Blood Testing**: Blood draw and specimen preparation was conducted on site by a NKFL-affiliated lab. Student volunteers assisted by recording ID numbers on sample collection tubes. Testing was done at a central lab with creatinine, glucose, and estimated glomerular filtration rate (EGFR) results provided to NKFL within the following week.
- **Consultation**: Student volunteers reviewed each participant's health-packet and counselled on available health-related results. Tailored information was provided to each participant detailing the meaning of any pertinent findings and what steps the participant should take next. Students were required to communicate with each other prior to the start of each session about their role in counseling the participant. Together, students provided counseling on medications, drug-drug interactions, and adherence education on health maintenance.

After the NKFL Event

Participants were given information regarding their physical measurements and consultation on the day of the event. Information regarding the results of their urinalysis and blood draw were handled by the NKFL and participants were contacted after the event. Student pharmacists and nurses were asked to fill out the ICASS survey after the event to gauge if they improved on any of the interprofessional criteria. The post-survey was the same as the pre-survey and was sent to student volunteers by email requesting a two-week post event completion deadline. Survey results were evaluated using descriptive statistics.

Results

NKFL Event

A total of 16 student pharmacists and 16 nursing students participated in the experience (n = 32). This event screened 86 people from the community for kidney disease, including other health measures such as hypertension and diabetes. During the event, bottlenecks of participants occasionally formed due to the differences of time needed at different stations (Figure 1). The

stations that took the most time to complete were the Blood draw, urinalysis, and patient counseling stations.

The layout of our event also caused some confusion to participants, making it difficult for them to tell which section they needed to complete in a sequential order (Figure 1). For example, after leaving the physical measurement station, participants were told to go the urinalysis station. However, some participants went to the blood testing station instead, causing confusion as to where they were supposed to go next and possible missed urinalysis testing. Another area of confusion for participants was the exiting strategy, which had the patient counseling session tucked behind the urinalysis and blood testing station, far away from the exit. Another contributor to the confusion was the crowded waiting area that developed for participants to get laboratory work and testing done. To maintain efficient workflow, ULM faculty and extra student volunteers ushered participants to the three measurement and testing stations in any order, as long as the participant went to registration first and consultation last.

(Figure 1 goes here)

Student Interprofessional Growth: ICCAS Survey

A total of 20 students (n = 32, 62.5%) completed the pre-event survey and 10 students (n = 32, 31.3%) completed the post-event survey (Figure 2). Of the 20 students who filled the pre-event survey, 8 (40.0%) were student pharmacists and 12 (n = 60%) were student nurses. More student pharmacists completed the post-survey (n = 7 of 10, 70.0%) compared to student nurses (n = 3 of 10, 30.0%).

(Figure 2 goes here)

In all categories assessed by the ICCAS, the percentage of respondents who rated themselves “very good” or “excellent” increased. ICCAS categories include communication, collaboration, team functioning, roles and responsibilities, collaborative approach, and conflict management. There were improvements regarding the communication domain of the ICCAS survey. Overall, students reported their ability to communicate was an average of 26% good, 32% very good, and

36% excellent for the pre-survey survey and 10% good, 18% very good, and 70% excellent for the post-survey (Figure 3). The largest improvement was for the scoring of “Promote effective communication among members of an interprofessional (IP) team” where 30% of students answered as excellent in the pre-survey and 80% answered as excellent in the post-survey. Additionally, students reported their ability to “Provide constructive feedback to IP team members” as excellent with an improvement of 35% when comparing pre and post test data (pre-survey 35%, post test 70% excellent).

For the domains of collaboration and team functioning, the percentage of students who ranked themselves as very good and excellent increased for each question asked, for a mean increase of 25% and 22.5% respectively (Figure 3). In the collaboration domain, the largest increase was seen in the scoring of “Learn with, from, and about IP team members to enhance care,” with 100% of post-survey respondents ranking themselves as very good or excellent from 65%. The same result was demonstrated in the team functioning category with the prompt of “negotiate responsibilities within overlapping scopes of practice,” where all post-survey respondents ranked themselves as very good or excellent; a 35% improvement.

(Figure 3 goes here: Combined result for ICCAS communication, collaboration, and team functioning- 4 Likert scales)

Improvements were also seen in the mean percentage of students who ranked themselves as excellent in the following categories: roles and responsibilities (26.3% increase), collaborative approach (23.3% increase), and conflict management (25% increase) (Figure 4). “Recognize how others' skills and knowledge complement and overlap with my own” was the largest contributor to the improvement seen in roles and responsibilities, with a two-fold increase in the percentage of students who ranked themselves as excellent (35% pre-survey and 70% post-survey). For the collaborative approach question set, the largest contributor was “Include the patient/family in decision-making” with another two-fold increase, from 40% to 80% of respondents ranking themselves as excellent. Interestingly, in the conflict management domain, all three questions yielded the same result. Sixty percent of students ranked themselves as excellent in the post-survey questions compared to 35% in the pre-survey.

(**Figure 4 goes here:** Combined rustle for ICCAS Roles & Responsibilities, Collaborative Patient, Family-Centered Approach and Conflict Management – 4 Likert scales)

Discussion

This pilot project is a great example of student led interprofessional activities that can take place outside of the didactic curriculum. We were able to show a model of two student organizations paring with a national organization can provide health screenings and patient counseling to an underserved community while also providing an interprofessional experience. Our results show that students were able to improve on all aspects of the ICCAS survey. The greatest improvements regarding students reporting themselves as “excellent” were in the domains of “communication” and “roles and responsibilities” by 34.0% and 26.3% respectively.

Notable skill improvements were found in the collaboration and team functioning domains which included “learn with, from, and about IP team members,” and “negotiate responsibilities within overlapping scopes of practice” with both resulting in 100% of post-survey respondents reporting very good or excellent combined skill in these areas. One-hundred percent of post-survey respondents also reported their ability in conflict management/resolution as very good or excellent. Students volunteering in the physical measurement, urinalysis, and patient counseling stations had more opportunities to engage in these skill sets. For example, students in the patient counseling section had to discuss baseline knowledge on treatment, medications, and clinical pearls on disease states, decide who would counsel on which aspect of the participant’s results, and provide feedback and support during the counseling session. Possible conflicts that needed resolution may have occurred halfway through the event when the second set of student volunteers arrived to replace the first set of students. Because the event did not pause during this transition, hand-offs on information, tasks, and learning of equipment needed to happen quickly.

While students from two or more disciplines learned with each other to provide care, students were not always able to learn from or about each other at every station (i.e. registration). Non-medical volunteers assigned to this station would free students for IPE opportunities at the clinical stations. Additionally, team training, station training for counseling and equipment use,

and a discussion amongst the health professions the night before the event may help students in their collaboration.

Due to the success of the event, the counseling station had to be expanded, in real time, to relieve the congestion of waiting patients. In order to accomplish this, interdisciplinary student pairs had to split, therefore eliminating any opportunity for student interprofessional collaboration.

Increasing the number of student volunteers and stations would help accommodate more participants with less waiting time and will provide more opportunity for student collaboration. In addition, a well-thought out floor plan that sequentially sends participants from one station to the next would prevent bottleneck situations and confusion about station order in future events. Additionally, urinalysis and blood testing are done as part of the screening process, the inclusion of Medical Laboratory Science (MLS) students at future NKF events would allow further IPE opportunities for students, helping with our need for more volunteers. In the future, we hope to include as many health-science disciplines as possible to increase the opportunity for interprofessional education for students. ULM currently does not have a medical doctorate program or osteopathic medicine program, and our ULM CoP is exploring future collaborations.

The primary leader for this event was the ULM CoP SNPhA Chair for Chronic Kidney Disease. Most communication and facilitation of the event was managed by this chair with supervision from the chapter's advisor and the interim IPE program director. The creation of this large, student-built interprofessional experience afforded an invaluable opportunity for self-development and professionalism. In the future, we would like to engage the leadership of other student-health professional organizations in the maturation of our next event. Students involved in the maturation of this event seemed to display a high level of engagement about their interprofessional collaborations and also the community outreach they were providing, however this attribute was not assessed in our research and will be a topic for future evaluations.

The Interprofessional Collaborative Competency Attainment Survey (ICCAS) was utilized in a pre- post design to reflect changes in interprofessional collaboration-related competencies in healthcare students. Wording of the ICCAS survey questions were tweaked to represent a present-tense survey question for both surveys. (i.e. the words "Before" and "After participating

in the learning activity, I was able to..." were changed to "I am able to..."). The continued use of this tool will provide comparative data to determine student competency of IPE outcomes through this event. A limitation of our survey results entails the low number of student volunteers who completed the post-survey; therefore, we cannot extrapolate any statistical significance from our data. In the future, we plan to ask students volunteers to "check-out" with a led student volunteer of the event prior to their leaving. This process will include completion of the post-survey along with evaluation of the event for future improvements.

With these identified opportunities for improvement, the ULM CoP SNPhA chapter plans to host another NKFL interprofessional event during the Spring of 2020 with the expectations of even greater success.

Conclusion

The student lead interprofessional pilot event was successful in reaching its goal of screening 75-120 patients for kidney disease (n=86). It was also successful in bringing professional students from ULM's pharmacy and nursing programs together with a national organization (the NKF) for interprofessional growth. This type of IPE event provides students an opportunity to tailor an interprofessional growth experience, that also served the community, to meet their needs outside of a didactic curriculum. Opportunities for improvement were recognized through evaluation and reflection of this first-time event. Our experience with this event can help others implement a successful student-led community outreach interprofessional program in collaboration with a national organization.

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