

A Pharmacy-led Interprofessional (IPE) Orientation on Immunization Techniques for First-Year Medical Students

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Background

Creighton University medical school faculty requested assistance from pharmacy school faculty to supplement vaccine delivery and immunization education for first-year medical students. Pharmacy faculty, residents and student pharmacists hosted an elective immunization orientation to meet this need.

The focus of the orientation was to provide education on vaccine administration, screening and safety, as well as to promote interprofessional collaboration between the two professions.

Objectives

- Enhance and supplement immunization education for first-year medical students
- Provide pharmacy and medical students with the opportunity to work intra- and interprofessionally
- Promote the dual responsibility of both professions to identify immunization needs in the community

Methods



Both medical and pharmacy students were invited to participate in the orientation via email. Ninety-seven out of 152, or 67%, of first-year medical students responded and attended the event. Twenty student pharmacists, 10 pharmacy faculty and 2 community residents were in attendance to facilitate the orientation.

A core group of pharmacy faculty met with medical school faculty to outline the general structure and logistics of the two-hour orientation session. The core faculty created a PowerPoint and information packet to accompany a lecture planned for the session, and prepared faculty and student volunteers to assist at the orientation. They also supervised APhA-ASP Operation Immunization leaders and a pharmacy resident who scripted and filmed 4 videos for the medical students' use, covering safety procedures, aseptic technique, and vaccine administration. No funding was received for the event.

At the orientation, medical students attended a brief one-hour lecture to review the information packet and the 4 student-made videos. During the second hour, participants were split into 10 break-out groups. Half of the students practiced aseptic technique and vaccine administration on oranges and injection training arms, while the other half discussed patient safety and learned how to utilize the CDC immunization schedules. Subgroups rotated through both education stations. Break-out sessions were mentored by pharmacy faculty and students. After the event, written questionnaires and emailed surveys were provided to medical students and pharmacy participants, respectively, to solicit feedback on the 2-hour interprofessional event.

Medical School Student Survey

M1 Volunteer Vaccination Clinic 2017 - Evaluation Summary					
	Strongly Disagree 1	Disagree 2	No Change 3	Agree 4	Strongly Agree 5
The presentation and discussion of vaccination skills were helpful to my understanding of these skills. Comments:					
The demonstration and practice of each injection skill aided in my ability to successfully perform the skill. Comments:					
The handouts and discussion on Unsafe Medical Injections and Dangerous Misperceptions about Injection Practices provided useful and relevant information. Comments:					
The handouts and discussion of patient cases aided in my understanding of adult vaccination indications. Comments: handouts were helpful; difficult to understand with the amount of time and limited knowledge base					
The demonstration and practice of good aseptic techniques in drawing up vaccine doses aided in my ability to successfully perform the skill. Comments:					
I found this activity to be worthwhile. Comments:					
The location of the vaccine clinic was adequate. ROOM Comments:					

Pharmacy Participant Survey

Medical School Orientation

Hi Everyone! We would really appreciate if you filled out this survey since Stephanie and I will be using the data to create a poster. If you have any questions, please let us know (StephanieUng@creighton.edu and LaurenChinen@creighton.edu)

*** Required**

Please identify if you were a P2, P3, faculty or other *

P2
 P3
 Faculty
 Other

Do you believe that the medical students participating in the orientation found it to be a good inter-professional experience? *

1: not at all
 2: not much
 3: neutral
 4: somewhat
 5: very helpful

Please comment on any part of this orientation that you felt was particularly helpful for both the medical and pharmacy students *

Your answer _____

Please comment on the pharmacy: med student ratio. Did you feel like you had enough pharmacy students to the number of medical students? *

Your answer _____

Please comment on any part of this orientation that you felt could have worked better, including suggestions you may have for improvement of the experience. *

Your answer _____

Please comment on your overall experience of this IPE activity, including whether you believe it is worth repeating in the future. *

Your answer _____

Did you find the First Year Medical Student Immunization Orientation to be a good inter-professional experience for you? *

1: not at all
 2: not much
 3: neutral
 4: somewhat
 5: very helpful

Did you feel like the 1 hour preparation time (orientation we had in BIC) was enough time for you to understand the tasks required of you during the orientation? *

1: not at all
 2: not much
 3: neutral
 4: somewhat
 5: very helpful
 I did not attend orientation

Results

Survey Results

- 97 first-year medical students, 10 pharmacy faculty, 2 community residents, and 20 student pharmacists participated in the event
- 78.7% of medical students “strongly agreed” and 20% “agreed” that the orientation was worthwhile for them. However, 1.3% “disagreed” with the statement.
- 75.0% of the pharmacy participants that responded to the survey agreed that the orientation was a “very helpful” interprofessional experience for them. The remaining 25.0% responded that it was “somewhat helpful.”

Comments Received from Pharmacy and Medical Students

- Pharmacy participants generally expressed that the most helpful portion of the orientation was the hands-on experience with aseptic technique and vaccine administration on the oranges and artificial arms.
- Student-made videos provided significant benefit to the medical students, and pharmacy participants expressed that the videos helped the break-out sessions run more efficiently.
- There was consistent agreement between all participants that there was a need for more time. A few pharmacy participants expressed that increasing the number of student pharmacists in the break-out group for aseptic technique and vaccine administration would be helpful.
- Suggestions for improvement from the medical school participants included creating more demonstration videos, adding a discussion on routine childhood vaccinations, and condensing information suitable for the time available.
- Suggestions for improvement from pharmacy participants included decreasing the duration of the introductory lecture in order to increase time for hands-on experience as well as increasing number of student pharmacists for more 1-on-1 teaching time.



Participant Demographics

Class Year	# of Participants	Survey Responses from X% Participants
M1 Students	97	77%
P2	9	78%
P3	9	100%
P4	2	50%
PGY1 Residents	2	0%
Pharmacy Faculty	10	70%

Discussion/Implications

DANGEROUS MISPERCEPTIONS
 Here are some examples of dangerous misperceptions about safe injection practices.

Myth	Truth
Changing the needle makes a syringe safe for reuse.	Once they are used, both the needle and syringe are contaminated and must be discarded. A new sterile needle and new sterile syringe should be used for each injection and each entry into a medication vial.
Syringes can be reused as long as an infection is administered through IV tubing.	Syringes and needles should never be reused. The IV tubing, syringe, and other components represent a single, sterile connection with. Disconnect from the patient, gently or reflexive pressure do not ensure that small amounts of blood aren't contaminated the syringe once it has been connected to the unit.
If you don't see blood in the IV tubing or syringe, it means that those supplies are safe for reuse.	Contaminants such as hepatitis C virus and drugs or BSL-2 are invisible to the naked eye, but can easily infect patients even when present in microscopic quantities. Do not reuse syringes, needles, or IV tubing.
It's okay to use leftover medicine from one single-dose or single-use vial for more than one patient.	Single-dose or single-use vials should not be used for more than one patient regardless of how much medicine is remaining.

Injection Safety is Every Provider's Responsibility!

The One & Only Campaign is a public health effort to eliminate unsafe medical injections. To learn more about safe injection practices, please visit OneandOnlyCampaign.org



- The interprofessional event emphasized the shared responsibility of medical and pharmacy professionals to identify immunization needs in the community.
- Pharmacy participants provided tools and mentoring to support and encourage medical students to become effective screeners and immunizers.
- Limitations of the event included scheduling conflicts, time constraints, and the inability of medical students to practice vaccine administration on an actual patient's arm.
- The need for immunization education and the positive survey results support the continuation of this orientation in the future.
- Further development of the course is needed to improve the use of the limited time available and to increase the ratio of pharmacy to medical school participants.
- Operation Immunization leaders and pharmacy faculty are exploring additional opportunities to work interprofessionally and to support workforce competency in vaccine screening, administration, and safety.