

Pandemic Influenza Interprofessional Education Informs Today's COVID-19 Reality

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Interprofessional education (IPE) enables effective collaboration and improved health outcomes. Future health care practitioners need to be competent while working in interprofessional teams to be collaborative practice ready in order to respond to local health needs and strengthen health systems in an event of a pandemic.¹ Public health experts have long discussed the critical need to address the systems gaps to prepare for pandemics. This article provides an overview of a pre-COVID IPE activity involving prelicensure interdisciplinary students (nursing, pharmacy, and respiratory therapy) in the Midwest.

Pandemic Influenza IPE

The purpose of the IPE was for students to understand issues and consequences of an infectious disease emergency. This included the roles and responsibilities of health care professionals in disease prevention and control and the importance of interprofessional collaboration and teamwork throughout preparedness, response, and mitigation.² Faculty from 3 health science schools (nursing, respiratory therapy, and pharmacy) and local military personnel planned and implemented a 1-day pandemic influenza interprofessional experience for 110 students (nursing: $n = 20$; respiratory therapy: $n = 10$; and pharmacy: $n = 80$).

Planning involved collaborative discussions, reading articles, case studies, and emergency preparedness tutorials.³ Three tabletop sessions were developed that included (1) incident command center (ICC), (2) ventilator shortage, and (3) medication shortage and respiratory

device education. Three to 4 interprofessional student teams attended each session. Students were divided into interprofessional teams of 5 to 7 students, and after an introduction/prebriefing session, each team rotated through the three 2-hour sessions facilitated by interprofessional faculty. The day ended with a debriefing session with all students.

Students prepared by reading material 3 weeks prior to the event. Resource packets for each session included (1) student rosters, (2) schedules, (3) room setup, and (4) faculty facilitating tips to enrich discussions, such as the emergence of hypothetical topical events.³

Scenario Setting—Prebriefing

Introductory exercises included video clips of national news reports of epidemic outbreaks of influenza within the United States and other nations worldwide. A pandemic influenza was declared by the Governor in conjunction with the Illinois Department of Public Health. Public need for health care and resources rapidly increased, and the Governor ordered the Illinois National Guard to assist. A Midwest hospital became the focus for 3 unfolding IPE exercises led by hospital leadership.

Exercise 1: Incident Command Center

An ICC was simulated in a hospital with administrative and military interface as the central decision-making and communication hub that interacted with community leaders, first responders, health care staff, family, and patients. Students were challenged to maintain continuity of hospital operations by addressing staffing issues, bed capacity, and staff/patient safety. Coordination with community groups and state and local governments was emphasized. A prebriefing to this exercise included a didactic presentation on the National Incident Management System framework and an orientation to the ICC.⁴ Discussions regarding staffing challenges due to staff illness or fear of exposure addressed competing priorities between professional responsibilities and family obligations.^{3,4}

Exercise 2: Ventilator Shortages

A surge of patients presented at the emergency department with flu-like symptoms who needed triaged. The tabletop exercise required interprofessional student

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teams to evaluate 10 patients and select 5 for priority treatment with ventilator assistance. Teams prioritized their choices. A spokesperson from each interprofessional student team shared their team decision with other interprofessional teams and a military officer experienced in disaster triage. This composition of participants added to the student's ethical and critical thinking skill set.

Topics that unfolded within this case study scenario added to the complexity of the exercise. Examples of hypothetical topics discussed were medication shortages, aggressive bystanders, an overwhelmed coworker, the urge to prioritize care for a family member, public health officials declaring the need to use social distancing, and arrival of protesters at the care facilities spreading messages that the flu outbreak is a government conspiracy.

Exercise 3 (Session in 2 Parts): Medication Use

Medication shortages evolved with an ethical dilemma of dispensing/administering agents. Respiratory device education was also addressed. Part 1 focused on antiviral medication distribution. Each interprofessional student team was provided a list of 10 patients who were prescribed antiviral medication for the treatment of influenza. There were not enough medications to treat all the patients with a full treatment dose. Teams had to decide how to best distribute the available medications to the 10 patients. Once all teams had shared responses, a discussion about ethics, resources, and creative problem solving was undertaken.

Part 2 addressed respiratory medication/device education. Each interprofessional student team was provided a different respiratory medication/device to learn to educate other teams on how to use and clean the device. The 4 medication devices included (1) a nebulizer machine with albuterol solution, (2) a zanamivir inhaler, (3) albuterol with spacer and pediatric mask, and (4) albuterol with spacer. The session ended with questions and review of key learning points.

Debriefing

A debriefing session was provided at the final IPE hour, with all 110 interprofessional students participating together with faculty, our academic partner institution's emergency response leaders, and our military representatives.^{2,3} Contrasts between the critical reasoning and prioritization processes used by students from the different disciplines were noted. For example, student comments in the debriefing session implied that nursing students tended to be more holistic in their prioritization approaches whereas pharmacy students expressed a more objective, data-driven approach. These comments obliquely suggested discipline-specific worldviews and approaches to care; they also served to stimulate unifying discussions that underscored the value of IPE as a facilitator of collaborative practice.

Evaluation Methods

A 27-question Likert scale survey was developed using IPE competencies.² The survey was administered via electronic survey software to all students within 3 weeks of completion of the IPE experience and contained questions allowing students to rate perception of knowledge gained, understanding of IPE competencies, and assessment of the overall experience. The survey was presented at the end of the IPE experience, with students providing both pre- and postsurvey perceptions at the time. Assessment was conducted in this manner to help prevent presurvey overestimation of knowledge of the topic and IPE competencies.²

A total of 95 (60% of nursing, 96% of pharmacy, and 60% of respiratory therapy students) completed the survey. Students responded positively to the experience and understanding of pandemic influenza issues, while interprofessional competencies improved in all areas. Noteworthy gains were observed in the understanding of ethical issues that arise during a pandemic (before 31.3% vs after 81.3%), appreciation of the type of difficult decision that need to be made with limited resources (before 37.9% vs after 81.1%), understanding of my role (before 49.5% vs after 79.8%), and other health care providers' roles with collaboration (before 35.8% vs after 73.7%) on the health care team during a community health emergency.

Conclusion

As faculty prepare for our next IPE regarding the COVID-19 global pandemic, topics such as protective apparel (personal protective equipment) and medication including oxygen shortages, overwhelmed coworkers, social distancing, vaccinations, and testing implications will be included in our teaching strategies. One change for our next IPE event was increasing the nursing student attendance to be more proportionate to the larger number of pharmacy students who participated in this event.

Fortunately, for the ensuing 2021 COVID-19 IPE, actual state, national, and global statistics exist along with science from national⁴ and global experts across several media and academic sites, such as the World Health Organization, Centers for Disease Control and Prevention, and Johns Hopkins University.

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