

***Outbreak Experience: Simulating an Infectious Disease Outbreak to Improve Interprofessional
Collaboration, Health Equity and Community Resilience***

INSTRUCTOR GUIDE

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INTRODUCTION

Overview

Outbreak Experience: Simulating an Infectious Disease Outbreak to Improve Interprofessional Collaboration, Health Equity and Community Resilience is an educational activity that places public health and health professions students in the role of interacting as a member of a multidisciplinary unified response team, requiring that they engage in effective teamwork as they collaborate in decision-making and communication in response to the rising threat of an infectious disease outbreak. The outbreak takes place in the Miami Valley region of Ohio, with the City of Dayton/Montgomery County at the center.

This outbreak activity enhances existing education in community resilience and preparedness, health equity and social justice in several ways:

1. Participants take on roles in the unified command response, rather than in patient triage and treatment, which is typical in most interprofessional (IPE) activities. This structure allows all students to have a better sense of the factors at play in strategic planning and decision-making in emergency preparedness and response.
2. This activity is designed so that the public health students take the lead on the team, which is typically the situation in emergency planning and response, but not typical in other IPE activities where the medical students often take the lead. This aspect of the activity highlights the important role that public health professionals play in community health and wellbeing.
3. This activity includes students and faculty from clinical mental health counseling, to address the importance of community and healthcare worker resilience in public health emergencies. Community emergencies cause trauma to not only citizens, but also to the professionals who must respond to the emergency. Mental health professionals are often left out of the planning and response, and students in mental health counseling are rarely, if ever, included in emergency preparedness and response training.
4. This activity incorporates a health equity lens so that students can gain a better understanding of how community-level emergencies often affect citizens disproportionately, and how planning for equitable resource allocation can help address these disparities.

Target Audience

This activity is population-focused and was designed as an IPE experience for graduate students from public health (MPH), medicine (MD), pharmacy (PharmD), clinical mental health counseling (MSE), and nursing (MSN and BSN). The health equity prompts introduced in these cases are appropriate for either public health (MPH) or social work (MSW) students.

Development

In 2018-19, a team of faculty from schools and programs in public health, medicine, pharmacy, and clinical mental health counseling from three universities in the same geographic area set out to develop an educational activity that would meet interprofessional education (IPE) accreditation competencies for health profession students from five disciplines (public health, medicine, pharmacy, clinical mental health counseling and nursing). None of the participating universities have educational programs in all of the health professions disciplines, so inter-university collaboration is essential when developing interprofessional educational opportunities.

We quickly realized that most IPE activities were patient- rather than population-focused, and did not incorporate mental health concerns or mental health professionals. In response, we developed a novel influenza outbreak activity that would not only fulfill IPE competencies for all participating disciplines but would also address the deficits that we found in pre-existing educational activities.

While we successfully implemented this activity in 2019, more recent events such as the COVID-19 pandemic and the declaration of racism as a public health concern have brought to light the need to more intentionally incorporate a health equity lens into educational activities that address emergency preparedness and community resilience. As a result, the team expanded and improved the original exercise by adding health equity learning objectives and question prompts, as well as information learned during the pandemic.

During the development of the original activity, professionals from the local health department and infectious diseases physicians were consulted (see Acknowledgements). Additionally, the team reviewed emergency planning and response tabletop exercises developed by the Ohio Department of Health to improve the realism and accuracy of the exercise.

Project Team

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director of the Master of Public Health program. She has fourteen years of experience as a public health epidemiologist in a health department.

Sylvia Ellison, MA, MPH is a Community Data Coordinator for the HEALing Communities Study at the Ohio State University Wexner Medical Center.

Scott Hall, PhD is a Professor and Program Coordinator of the Clinical Mental Health Counseling Program in the School of Education & Health Sciences at the University of Dayton.

Fabrice Juin, MPH is the Coordinator of the Local Office of Minority Health at Public Health - Dayton & Montgomery County. His role at the local public health department is to address issues of health equity and social justice, and he serves on the emergency response team. He participated in the original 2019 outbreak activity as an MPH student, so he brings both the perspective of a student as well as a public health professional to the team.

Sponsor

This project is funded by the Centers for Disease Control and Prevention (CDC), Center for Surveillance, Epidemiology, and Laboratory Services (CSELS), Division of Scientific Education and Professional Development (DSEPD), Population Health Workforce Branch, Academic Partnerships to Improve Health Program through a cooperative agreement with APTR (# 5 NU36OE000008-04-00).

Disclaimers

The scenario in this activity is fictional but was informed by information and events from actual influenza outbreaks. Any similarities to real events or individuals are completely coincidental.

Modification

Instructors may modify this activity to better meet the needs of their own accreditation requirements, competencies, geographic area, classes or students under the conditions of a Creative Commons Attribution-NonCommercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) license.



COMPETENCIES, GOALS AND LEARNING OBJECTIVES

This activity was developed with the goal of meeting Core Competencies for Interprofessional Collaborative Practice (IPEC 2016), domains of the Clinical Prevention and Population Health (CPPH) Framework, Council for Education in Public Health (CEPH) Foundational Competencies, (see Outbreak Activity Learning Goals), as well as interprofessional collaboration competencies for the disciplines involved in the activity.

Outcome Measure: Learners will demonstrate professional role competence and scope of practice while performing effectively as a team member in an interprofessional response to a disease outbreak, promoting health and health equity while developing strategies, organizing and communicating critical information to team members and the community.

Core Competencies for Interprofessional Collaborative Practice (2016)

1. Values/Ethics for Interprofessional Practice: Work with individuals of other professions to maintain a climate of mutual respect and shared values.
2. Roles/Responsibilities: Use the knowledge of one's own role and those of other professions to appropriately assess and address the healthcare needs of patients and to promote and advance the health of populations.
3. Interprofessional Communication: 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.
4. Teams and Teamwork: 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.

Alignment of IPEC (2016) to Discipline-Specific Standards

The following map/crosswalk demonstrates the alignment of IPEC standards to accreditation standards for the participating disciplines (ACPE, CCNE, LCME, CEPH, CACREP).

Note: In 2018, the Council for Accreditation of Counseling & Related Educational Program (CACREP) Board joined colleagues from disciplines in the Health Professions Accreditors Collaborative (HPAC) and endorsed the document Guidance on Developing Quality Interprofessional Education for the Health Professions, which delineated the IPEC competencies.

<i>IPEC Standard</i>	PharmD¹	BSN & MSN²	MD³	MPH⁴	CMHC⁵
Competency 1 <i>Work with individuals of other professions to maintain a climate of mutual respect and shared values. (Values/Ethics for Interprofessional Practice)</i>	3.4, 11.1, 25.6	III-H	7.9	D2.21	II: F.1.c. V: D.2.b.
Competency 2 <i>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)</i>	3.4, 11.2, 25.6	III-H	7.9	D2.21	II: F.1.c. V: D.2.b.
Competency 3 <i>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)</i>	3.4, 11.1, 11.3, 25.6	III-H	7.9	D2.21	II: F.1.c. V: D.2.b.
Competency 4 <i>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)</i>	3.4, 11.1, 11.2, 11.3, 25.6	III-H	7.9	D2.21	II: F.1.c. V: D.2.b.

1. Accreditation Council for Pharmacy Education (ACPE) 2016 Standards; 2. Commission on Collegiate Nursing Education (CCNE) 2018 Standards; 3. Liaison Committee on Medical Education (LCME) Standards (2018); 4. Council on Education for Public Health (CEPH) 2016 Standards; 5. Council for the Accreditation for Counseling and Related Educational Programs (CACREP) 2016 Standards.

Relevant CPPH Curriculum Framework Domains and Topic Areas

Component 3. Clinical Practice and Population Health

- Topic 1. Population Health Management
 - E. Principles of team-based healthcare, health promotion and disease prevention
- Topic 7. Emergency Preparedness & Response Systems
 - A. Preparedness and response systems
 - B. Defining roles and preparing the health system workforce

Component 4. Health Systems and Health Policy

- Topic 1. Clinical and Public Health Systems
 - D. Collaboration between clinical practice and public health
- Topic 3. Clinical and Public Health Workforce
 - C. Interprofessional team approach and impact on health outcomes

<i>CEPH Foundational Competency</i>	Note
1. Apply epidemiological methods to the breadth of settings and situations in public health practice	
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate	The exercise did not meet this entire competency; qualitative data was not included.
4. Interpret results of data analysis for public health research, policy or practice	
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels	The exercise did not meet this entire competency; it included structural bias and social inequities discussion.
21. Perform effectively on interprofessional teams	

The exercise was embedded in a graduate level epidemiology course. In order to achieve the quantitative competencies T1 must be a part of the exercise.

Outbreak Activity Learning Goals

At the completion of this activity, learners will be able to:

1. Place the interests of patients and populations at the center of an interprofessional response to a disease outbreak, with the goal of promoting health, health equity and community resilience (IPEC VE 1; CEPH 1; CEPH 3; CEPH 4; CEPH 21; CPPH 3.1E, CPPH 3.7A)
2. Perform effectively on teams and 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 (IPEC TT 11; CEPH 21; CPPH 4.1D; CPPH 4.3C)
3. Maintain competence in one's own professional role appropriate to the scope of practice (IPEC VE 9; CEPH 1; CEPH 3; CEPH 4; CEPH 21; CPPH 3.7B; CPPH 4.1D)
4. Engage diverse professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific health and healthcare needs of patients and populations (IPEC RR 3; CEPH 21; CPPH 4.1D; CPPH 4.3C)
5. Organize and communicate information with patients, families, community members, and health team members in a form that is understandable, avoiding discipline-specific terminology when possible (IPEC C 2; CEPH 4)
6. Incorporate an understanding of how structural bias and social inequities undermine health (CEPH 6)

Additionally, faculty from each of the disciplines participating in the activity developed their own learning objectives, specific to their discipline and students.

Master of Public Health Program Learning Objectives:

1. Apply epidemiological methods to the breadth of settings and situations in public health practice (CEPH Foundational Competency 1)
2. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
3. Interpret results of data analysis for public health research, policy or practice (CEPH Foundational Competency 4)
4. Perform effectively on interprofessional teams (CEPH Foundational Competency 21)

School of Pharmacy Learning Objectives:

By the end of this session, learners will be able to:

1. Describe the population-level factors related to the spread of disease and interventions to control spread
2. Describe the reporting process for disease surveillance and the epidemiologic investigation process
3. Demonstrate an understanding of the role of pharmacists in community level preparedness
4. Leverage knowledge of the emergency incident command system to develop solutions to public emergencies
5. Develop an action plan for managing the medication use system in concert with other emergency management personnel
6. Model effective interprofessional communication skills

School of Medicine Learning Objectives:

By the end of this session, learners will be able to:

1. Describe the population-level factors related to the spread of disease and interventions to control spread
2. Describe the reporting process for disease surveillance and the epidemiologic investigation process
3. Demonstrate an understanding of the clinical role of physicians in community level preparedness
4. Incorporate knowledge of health care systems into patient care
5. Effectively assimilate into the appropriate role and contribute to the health care team
6. Model effective and collaborative communication skills

Clinical Mental Health Counseling Program Learning Objectives:

By the end of this session, learners will be able to:

1. Demonstrate an understanding of the clinical role of mental health counselors in community level preparedness and interventions.
2. Describe the mental, emotional, and social impact at the individual, team, and community level during a after a health crisis
3. Effectively contribute to the health care team
4. Model effective and collaborative communication skills with patients, health care providers, and concerned community members.

College of Nursing Learning Objectives:

By the end of this session, learners will be able to:

1. Define the characteristics of effective teams
2. Compare and contrast the unique roles and values that define each of the disciplines in the team
3. Describe the importance of interprofessional communication in the care of patients in this disaster
4. Demonstrate the ability to collaborate with interprofessional teams to report and investigate the epidemiologic process of widespread contagious diseases
5. Use basic organizational and systems leadership skills for client safety and quality client care. (BSN Essential II)
6. Model effective interpersonal and interprofessional communication and collaboration to improve client health outcomes (BSN Essential VI)
7. Implement health promotion and disease prevention interventions at the individual and community levels to improve population health. (BSN Essential VII)

ORGANIZATION OF THE ACTIVITY

Student Preparation

Students from the different disciplines engaged in preparation for the activity that was specific to their discipline's role in an outbreak, or required for accreditation purposes.

- As part of their Epidemiology course, MPH students learned about public health's role in the Incident Command System by completing ICS 100 (FEMA Emergency Management Institute: <https://training.fema.gov/is/courseoverview.aspx?code=IS-100.c>). They learned about outbreak investigations including how to develop a case definition and Epi curve for a disease outbreak, as well as how to conduct descriptive analyses. To prepare for the IPE competency, students had an assignment that included watching IPE videos and writing a reflection (available in Instructor Resource Center).
- As part of their Capstone course, PharmD students completed a pre-reading assignment as well as assigned CDC webinars.
- Medical students completed an outbreak investigation tutorial developed by public health epidemiologists
- Clinical Mental Health Counseling students participated in a discussion on outbreak investigation and participation on a multidisciplinary team.

Some options for preparation materials that would be suitable for students from any discipline:

- [IPEC Core Competencies Videos](#) (4 videos) (The University of Texas at Austin, Center for Health Interprofessional Practice and Education)
- [Communication and Effective Interprofessional Healthcare Teams](#) (International Archives of Nursing and Health Care)
- [Conducting a Field Investigation](#) (CDC)
- [Communicate in Emergencies](#) (WHO)

Length of Session

This activity has been implemented in both face-to-face and remote events. Ideally, a 2.5-3-hour event allows enough time for student discussion, presentations, and facilitator debriefing.

To provide more realism and to meet CEPH quantitative competencies, in both implementations, MPH students received the initial scenario (T1) and data prior to the event, along with an assignment to develop an initial case definition and epi curve, which they share with their interprofessional team at the event.

Master Schedule	
Time	Activity
15 - 30 minutes	Registration and Team Assignments
15 minutes	Welcome and Instructions
65 minutes 10 minutes 5 minutes 25 minutes 25 minutes	T2 Discussion T2 Case Part 1 (Intraprofessional) Change Intra- to Inter-professional groups/Icebreaker T2 Case Parts 2 - 3 (Interprofessional) Facilitator Debrief
10 minutes	BREAK
65 minutes 20 minutes 20 minutes 25 minutes	T3 Discussion T3 Case Part 1 (Interprofessional) T3 Case Parts 2 - 3 (Interprofessional) Presentations and Facilitator Debrief

Case Scenario

The activity is divided into three time periods that represent a 48-day period (August 15 - October 1).

- The first time period (T1) consists of 26-days (August 15 - September 8) during which a group traveled to and from Bangladesh and then started exhibiting symptoms. This information is given only to the MPH students, approximately one week prior to the event, as the local public health department would likely be aware of a potential outbreak before other healthcare professions in the community.
- The event begins with Time Period 2 (T2), during which the remaining students receive the scenario. T2 begins on September 9 with the death of a child and eight individuals presenting to a local clinic with similar symptoms. T2 encompasses the rapid increase in cases, hospitalizations and deaths over a 5-day period (September 9 - 13), the impact on schools, the initial identification of the pathogen, and the organization of a unified response team. T2 was originally developed to represent a severe influenza outbreak in a community.
- Time Period 3 (T3) portrays an 18-day period (September 14 - October 1) when an infectious disease outbreak reaches epidemic status, the healthcare system becomes strained and treatment options are scarce.

Team Member Roles

In order to provide the context within which the interprofessional collaboration would take place, students in each discipline are given an overview of their role in this activity. Additional roles may be created for each discipline to accommodate larger cohort sizes and/or different disciplinary perspectives (e.g., PharmD students were provided with two distinct roles based on the volume of their participants).

Public Health

WHO AM I?

You are the Assistant Health Commissioner of a large health department. Before you became the Assistant Health Commissioner, you were an epidemiologist at the same health department.

Why Am I Here?

Your health commissioner has put you in charge of leading the outbreak investigation in the community. Your goal will be to lead the outbreak investigation as well as provide your epidemiology perspective as needed. You will also be responsible for ensuring a health equity lens is used in the crisis response to emphasize the inclusion of minority and vulnerable community members and groups in the team's approach.

Clinical Mental Health Counseling

WHO AM I?

You are a Clinical Counselor and Supervisor (LPCC-S) at a local mental health agency. You are also on the Board of the Miami Valley Counseling Association.

WHY AM I HERE?

You have been contacted to serve on the unified response team as an advisor to issues related to mental health (specifically issues of managing stress, mental and emotional overload, and panic containment) as it relates to hospital staff, first responders, and the community. You also have the task of identifying and addressing contrasting mental health needs of minoritized population groups. In addition, you were contacted by the school counselor (who you knew from graduate school) asking if you could brainstorm on best ways to address issues with parents and students.

Medicine/Advanced Practice Nursing

WHO AM I?

You are a physician or advanced practice nurse at a primary care clinic in the Miami Valley. Your role is diagnosing and treating patients who come to your clinic for care, as well as providing health education and preventive health services to your patients.

WHY AM I HERE?

You have volunteered to serve as a representative on the unified response team because you have personally seen a number of recent patients with similar symptoms in your clinic. Your goal will be to provide a healthcare provider's perspective on how to help manage this

potential outbreak. You will also provide the response team with insight regarding the disparate health coverage and medical service needs of different demographic and socioeconomic groups.

Pharmacy - Community

WHO AM I?

You are the manager of a community pharmacy for one of the major retail pharmacy chains located in Dayton, OH.

WHY AM I HERE?

You have been contacted by the local public health department to serve as a representative on the unified response team on recommendation of your district manager. Your goal will be to provide a pharmacist's perspective on how to help manage this potential outbreak, while also giving insight into common barriers to prescribed medication and vaccination among different demographic groups.

Pharmacy - Institutional

WHO AM I?

You are an emergency medicine pharmacist from a 900-bed teaching hospital located in downtown Dayton, OH. Outside of working in the emergency room, you are also a member of the hospital's Disaster Response and Preparedness Team. Earlier this morning, you saw a breaking news story concerning an 8-year old child who recently died from a possible infection. You are concerned, as you have personally seen several recent cases with similar presentations in your adult patient population.

WHY AM I HERE?

Your hospital has been contacted by the local public health department considering the growing concern of an outbreak. You have personally volunteered to serve as a representative on the unified response team. Your goal will be to provide a pharmacist's perspective on how to manage this potential outbreak, while also giving insight on the common barriers to prescribed medication and vaccination among different demographic groups.

Social Services (This role and the following discussion prompts are appropriate for public health or social work students)

WHO AM I?

You are the Assistant Director of Social Services at Montgomery County Job & Family Services. In your position, you serve as a connector between Children's Services, the Board of Developmental Disabilities, the Public Defender's Office, and other local social service organizations.

WHY AM I HERE?

At the request of the health commissioner, your supervising director has assigned you to serve on the unified response team. You will provide insight on some of the relevant cultural and socioeconomic factors that will need to be addressed to foster an equitable response approach.

You will also contribute any potential community collaborations and partnerships that could be mobilized to increase response reach and impact.

Intra- vs. Inter-professional Sessions

The event begins with students in intraprofessional small groups. These groups allow students to share ideas among others in their discipline and build confidence in their knowledge. Once the students move to interprofessional small groups, they stay in those groups through the remainder of the event. Working in interprofessional groups helps students to recognize the differences between what each discipline may bring to the discussion.

Student Introductions

We advocate for allowing time for students to introduce themselves when they join their interprofessional small groups. Each student should share their name, their discipline, and one thing they wish other health professions students and professionals knew about the role and contributions of individuals in their discipline. We have trialed this event with and without this icebreaker, and we have found that brief introductions at the beginning encourages earlier and more discussion in the small group activity.

Discussion Prompts

At several points in the activity, questions are included to prompt discussion among participants. Ideally, these prompts are used for small group discussion, but they could be employed for a large group discussion or even written responses.

Mock News Videos and Social Media Posts

Short (30-second) mock Breaking News videos were created for this activity to prompt a sense of urgency and seriousness of the situation among participants.

- Video 1 is shown as the lead-in to T2, Part 1 and the event, and describes the death of a child from the mysterious illness and mentions increases in the number of individuals presenting with, and being hospitalized for similar symptoms.
- Video 2 is shown at the beginning of T3, Part 2 and reports the death of two nurses at a local hospital who were infected with the illness. This video provides a lead-in to case discussion about the impact of the outbreak on hospital staffing.

To increase the realism of the outbreak scenario and to create challenges to the communication goals of the activity, mock social media posts were created. These posts reflect comments that are commonly observed during a crisis such as a pandemic, including: reporting symptoms, concerns about contracting the illness, conspiracy theories, non-scientific treatments, business and school closures, and general misinformation. It is worth noting that these posts were created before the COVID-19 pandemic. Any relation to COVID-19 is not

intentional. These mock video and social media files can be made available to students in a variety of ways, including a Learning Management System (LMS) or shared online documents. These posts can be used at the discretion of facilitators, but we would encourage the following order of distribution:

Image	Time	Image	Time	Image	Time	Image	Time
1	T2 Part 1	2	T2 Part 2	3	T2 Part 2	4	T2 Part 2
5	T2 Part 2	6	T2 Part 2	7	T2 Part 2	8	T2 Part 2
9	T2 Part 2	10	T2 Part 3	11	T2 Part 3	12	T2 Part 3
13	T2 Part 3	14	T2 Part 3	15	T2 Part 3	16	T3 Part 1
17	T3 Part 1	18	T3 Part 1	19	T3 Part 1	20	T3 Part 1
21	T3 Part 1	22	T3 Part 1	23	T3 Part 1	24	T3 Part 1
25	T3 Part 1	26	T3 Part 2	27	T3 Part 2	28	T3 Part 2
29	T3 Part 3	30	T3 Part 3	31	T3 Part 3	32	T3 Part 3

“Infecting” Participants (optional)

When conducting this activity face-to-face activity, instructors may choose to provide a handout that is dusted with Glow Germ™ powder. This clear, unscented powder will leave residue on the hands of those who touch the papers. For those who are concerned about using such a substance, material safety data sheets are available from Glow Germ™ on request. Following the video at the beginning of T3 Part 2, facilitators used small black lights to illuminate students’ hands and those with substantial residue were deemed “killed or incapacitated by the disease.” Those students continued to sit at their team tables and listen to the conversation but were not allowed to participate in the discussion. It is worth noting that this was strategically placed towards the end of the event, as we did not want to remove participants for extensive durations. We used this as a simulation of what happens when key individuals cannot participate in interprofessional collaboration and response.

When conducting the activity remotely, at the same point in the activity, the instructor or facilitator can announce that a number of team members, based on birthday month, had been exposed to the virus and are now “dead” or otherwise incapacitated and no longer able to participate in the team discussions.

Team Presentations

At the beginning of T3, teams are instructed that they should prepare a 2-minute presentation about how they will communicate their findings and recommendations with the public and healthcare personnel in the community. These short presentations are delivered during the debrief at the end of T3. To make this logistically feasible, teams may be called upon at random to present their findings, or groups may be divided up into smaller rooms with a more limited number of teams.

Assessment

One of the greatest challenges in developing this activity was identifying an appropriate assessment tool. Most IPE assessments measure teamwork and collaboration in patient-care contexts and do not encompass the wider scope of professionals who work together during an emergency response, such as public health.

The *Jefferson Teamwork Observation Guide (JTOG®)* instrument was developed to observationally assess effective teamwork and collaboration behaviors among interprofessional group members in an education, practice or simulation situation (Collins et al. 2019; Lyons et al. 2016; Smith et al., 2020). The 14 Likert scale items align with the IPEC competencies of Values and Ethics, Roles and Responsibilities, Communication, Teamwork, and an additional Leadership competency based on the literature. Participants select responses from a 4-point scale (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree), with an additional Non-applicable (NA) option (available in Instructor Resource Center).

JTOG Question
1. There appeared to be a team leader that coordinated the discussion (L)
2. The team leader facilitated the discussion rather than dominated it (L)
3. Members of the team came prepared to discuss the case/situation from their profession specific perspective (R)
4. Members of the team who were involved in the case/situation contributed to the discussion (C)
5. Discussion was distributed among all team members (C)
6. Members of the team appeared to understand the roles and responsibilities of other members of the team (R)
7. Team members appeared to have respect, confidence, and trust in one another (V)
8. Team members listened and paid attention to each other (C)
9. Team members listened to and considered the input of others before pressing their own ideas (C)

10. Team members added other supporting pieces of information from their profession specific perspective regarding the case/situation (R)
11. The opinions of team members were valued by other members (V)
12. Team members appeared to feel free to disagree openly with each other's ideas (V)
13. Team members sought out opportunities to work with others on specific tasks (T)
14. Team members engaged in friendly interaction with one another (T)

Competencies: V=Values and ethics; R=Roles and responsibilities; C=Communication; T=Teamwork; L=Leadership

The tool has been used to assess interprofessional teamwork among health professions students in multiple disciplines and analysis shows high reliability (Cronbach's alpha > 0.9) as well as predictive and construct validity (Collins et al. 2019; Horowitz et al. 2016; Lyons et al. 2016).

The JTOG[®] also utilizes three open-ended questions. The questions were not included in the assessment of teamwork in this activity because two of the three questions focused on team based care and patient centered care. While the third qualitative question ("Describe one new thing, either positive or negative, that you observed today about teamwork") was not used for this activity, it would be appropriate to include if open-ended responses were desired.

To determine its appropriateness when utilized as a student self/team assessment for our local IPE activities, students who participated at three different IPE events during the 2020-21 academic year used the JTOG[®] to report team collaboration. The 14-item scale was input into an online/phone accessible Qualtrics™ survey and facilitators provided the link to students at the completion of their activity. A total of 230 completed surveys were analyzed and the instrument demonstrated high reliability (Cronbach alpha = 0.972).

The JTOG[®] can be administered in either paper form or using an online survey system such as Google Forms™ or Qualtrics©.

Reflection

Student reflections can be used to assess attainment of the health equity learning objectives, using question prompts such as the following:

1. What three distinct demographic descriptors (each pertaining in some way to the concept of social determinants of health or health equity) within the local community that will require special consideration in the unified response team's approach did you choose and why?
2. How did the three demographic descriptors impact or influence the group's decision-making during the activity?

3. What types of communications or alerts should be sent out at this time? Who would be the recipients of this information? What information would be included in these communications? How would the three demographic descriptors identified by your team contribute to your communication efforts and to the operational efforts?

MPH students completed an IPE Outbreak Post-Activity Assignment (available in Instructor Resource Center) that included reflection prompts similar to the questions above.

Activity Evaluation

Additionally, some faculty may choose to have students evaluate the activity through a reflection.

Medical students completed a reflection with the following prompts to ascertain how students met specific IPE competencies through event participation:

1. Within this IPE experience, explain how your team placed the interests of patients or populations at the center of your interprofessional care delivery.
2. Within this IPE experience, describe a situation in which you maintained competence within your own professional role and appropriate to your scope of practice.
3. Within this IPE experience, explain how you engaged other health professions students and resources to develop an interprofessional strategy to meet specific patient care or population health needs.
4. Within this IPE experience, how effectively were you able to organize and communicate information within the interdisciplinary team, avoiding discipline-specific terminology when possible? What were your strengths and/or weaknesses?
5. Within this IPE experience, how did you communicate the importance of teamwork in patient-centered and community-focused care?
6. Within this IPE experience, how well did your interprofessional team address a patient care dilemma? What were the strengths and/or weaknesses of the team's performance?

MPH Activity: MPH students had an assignment that included reflection, tasks (data analysis, epidemiology curve) and discussion. The assignment is available in the Instructor Resource Center on the website.

IMPLEMENTATION

Implementation Options

This activity can be implemented in one of three ways: (1) Face-to-face, (2) Synchronous remote using video conferencing, (3) Asynchronously (See Asynchronous Implementation in Instructor section of website).

Human Resources Needed

This activity requires multiple faculty facilitators. If the activity were conducted face-to-face, ideally, 3-5 interprofessional student teams would be in a meeting room with faculty representing each of the disciplines (i.e., 5 facilitators per room). Facilitators from the following disciplines would be appropriate:

- Public health - faculty, public health professionals from epidemiology, emergency preparedness and response, and health promotion
- Medicine - faculty, infectious disease and emergency physicians, medical director from public health
- Pharmacy - faculty, practicing pharmacists with a related specialty (e.g., infectious diseases) or experience with emergency preparedness
- Clinical Mental Health Counseling - faculty, community-based counselors
- Nursing - faculty, practicing nurses in emergency medicine or public health

Additionally, faculty or staff support is needed for pre-registration and on-site registration/check-in.

If utilizing an online platform for a remote event, we found it helpful to have two faculty in the main room, one moving participants to breakout rooms and the other greeting participants, giving instructions, and sending communications and alerts. Each student team would be assigned to its own breakout room, along with multiple facilitators.

Equipment Needed

- Face-to-face implementation used the host university's Learning Management System (LMS). Upon pre-registration, all participating students, faculty and facilitators were given special login access to the system. Students were directed to the LMS for the pre- and post-surveys, as well as all event materials. The event was structured as a course on the LMS, which allowed for timed release of all scenario materials and accompanying files to registered participants. We wanted the ability to time-release all materials since this was developed as an unfolding case and we did not want students reading ahead.
- In a face-to-face implementation, a microphone may be necessary in the Welcome/Debrief room and/or breakout rooms, depending upon room size and

acoustics. Instructors may also opt for audiovisual equipment to demonstrate the platform used to deliver the activity content.

- Synchronous remote implementation used Zoom™ rooms with breakout functionality and a shared Google™ drive. A few days before the event, students, faculty and facilitators were sent an email with instructions on how to log in to the Zoom™ rooms. All participants initially logged into “Zoom™ room 1” and within that room, breakout rooms were used for the intraprofessional teamwork that was completed during T1, Part 1. After completion of T1, Part 1, all participants were directed to log out of “Zoom™ room 1” and into “Zoom™ room 2,” where they were then placed into interprofessional breakout rooms. Using two different Zoom™ main rooms was not ideal, but it was necessary given the technical limitations of pre-assigning students to two separate series of breakout rooms. Facilitators shared Google™ drive links to scenario materials with students via the Chat function. The lead faculty member used the Broadcast function and prompts to the breakout rooms to send information, and the facilitators used the Ask for Help function to ask questions and communicate with the main room.
- For asynchronous implementation, students, faculty and facilitators need access to a computer with a browser to access the website. All users will need to pre-register to access the activity and materials.

Location

The face-to-face event was held in the student center at one of the universities. We utilized a large ballroom for the Welcome and the final Debrief. Additionally, we used nearby meeting rooms to house breakout groups that each held 3-5 small groups (approximately 8-9 students per group). It is worth noting that meaningful group work becomes difficult when there is a multitude of small groups within one large room. This was yet another reason that we utilized these meeting rooms for the breakout components of this event. The meeting rooms were set up with one large round table for each group. Group numbers were displayed on a stand in the middle of each table.

When the event was conducted remotely, we utilized two (2) main Zoom™ rooms and multiple breakout rooms within each Zoom™ room. Students and facilitators joined “Room 1” for the “Welcome and Instructions” and were moved to discipline-specific breakout rooms for the first part of the scenario. Once the intraprofessional part of the activity was completed, participants left the session and logged into “Room 2.” In Room 2, students and facilitators were moved into an interprofessional breakout room for each small group.

Pre-Registration

Pre-registration using an online event registration platform (i.e., SignUp Genius™, EventBrite™, SignUp™, etc.) is helpful, particularly if students and faculty from multiple institutions

participate. This was especially true for pre-assigning Zoom™ breakout rooms in advance of our remote implementation of this activity. Some registration platforms allow the user to designate a certain number of seats, which helps ensure interprofessional teams are representative and no one discipline dominates the participation of the activity.

Onsite Check-in and Team Assignment

In a face-to-face event, onsite check-in for pre-registered participants is beneficial, as it allows organizers to accommodate participants who fail to show up.

At our IPE activities, we randomly assign students to interprofessional teams during on-site event registration. We set up separate tables for each discipline's students to sign-in. Once we determine the number of teams for the event, each discipline receives one or more envelopes that contain strips of paper; each strip of paper has a team number on it. When the student signs-in for the event, they draw a piece of paper from the envelope. If there are more students than teams, each discipline receives enough envelopes for their students, but they empty one envelope at a time. We have found this system works better than pre-assigning students because of potential no-shows the day of an event.

Color-Coded Name Tags

In our face-to-face IPE events, we use discipline-specific colored nametags; these colors are referenced in the team member roles section of the Facilitator Guide. These color-coded nametags allow the students, facilitators and observers to easily identify team members' discipline. This is particularly useful if facilitators or observers are assessing team member participation and collaboration.

In the remote implementation, each student, faculty and facilitator was instructed to format their screen name to "First Name, Professional Designation."

FACILITATORS

Role of the Facilitator

In this activity, the facilitators serve dual roles. First, they serve as a role model for their profession, and also provide collaborative communication and guidance to the students as they progress through the scenario. During the activity, the facilitators are available to assist all team members, regardless of their profession, clarifying expectations and asking questions that guide the students to think critically about the situation.

Effective facilitators are prepared; they understand the purpose and flow of the activity and how the students will develop and unwrap the scenario. They pose thought-provoking questions and help keep communication flowing among team members. Effective facilitators recognize and validate the importance of the various disciplines participating in the activity, including validating the expertise of other facilitators.

Students enjoy hearing the facilitator experts share how they would respond in the situation. These discussions are typically well suited for the debrief at the end of the event, but caution must be exercised so that one or two facilitators do not dominate the discussion. We have observed some instances where a facilitator will drive the entire thought process of a team. As such, we advise facilitators to nudge and provide comments that give more context or depth to the discussion.

Facilitator Guide

The Facilitator Resource Center on the website contains information and activity files for facilitators. Within this Resource Center, there is an accompanying **Facilitator Guide** that includes the learning objectives, simulation overview, schedule, facilitator role, team member roles, the complete case (T1, T2, and T3), timing, discussion prompts, and facilitator notes. There is also a **Facilitator Onboarding** PowerPoint™ file that provides a short overview of the role of the facilitator in this activity, as well as information about the activity. The **Virtual Facilitator Reference** document was designed for remote synchronous delivery of the activity and provides the times at which the links to the case files should be provided to students.

Facilitator Training

Training facilitators can be one of the most difficult aspects of preparing for this activity. Often, the best facilitators are busy professionals or faculty members who are experts in their fields and do not perceive the need for training. However, the smooth implementation of this activity requires facilitators who are familiar with the case and with their role in the activity.

During the first iteration of this event, we met with our facilitators approximately 30 minutes prior to the start of the event to help iron out areas of concern. We took time to walk them through the general flow of the activity, and we provided opportunities for questions. While

this was a helpful approach, we felt it would have been more worthwhile to meet with our facilitators one week prior to the event so that we could have a longer, and less rushed discussion.

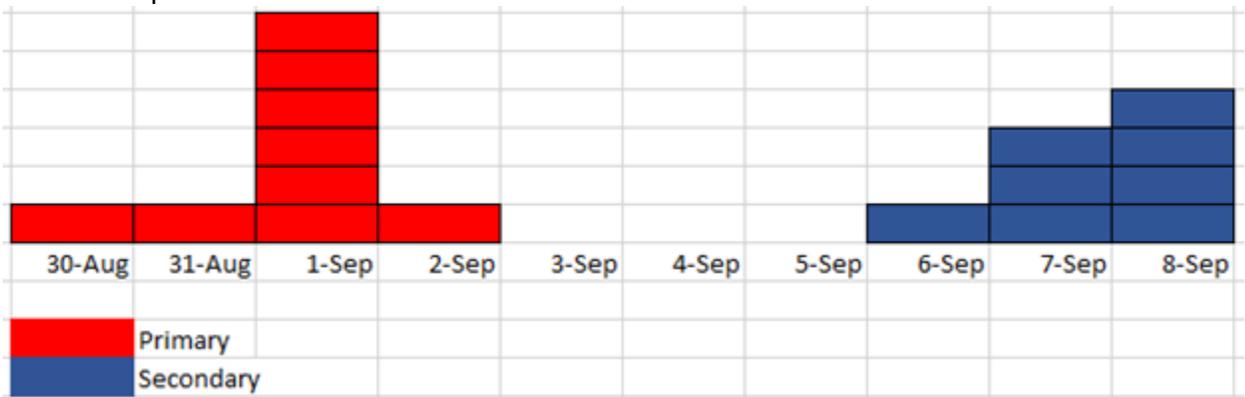
In the virtual iteration of the event, our ability to provide training in advance of this activity was limited to the multitude of professional and other pandemic-related responsibilities of our facilitators. Thus, we were only able to distribute an informational email along with all of the documents in advance of the meeting. Our observation was that roughly half of the facilitators came prepared in advance of the activity, while the other half struggled with their responsibilities and navigating the materials.

Desired Responses to Discussion Prompts

T1 - MPH Student Prompts

Students were given an excel spreadsheet with the initial cases and contacts (T1 Line List, available in Student Resources). Students created an epidemiological curve based on this data as well as the initial case definition. There is intentionally one error in the dataset to simulate real life issues. The way students choose to deal with this issue can influence the results. An example assignment is in the Instructors section.

1. Create an Epi Curve



2. Decide what is important to know from the primary and secondary cases and create descriptive figures/tables from the data of the 40 people who went on the trip and the friends and relatives who became ill.

Below are some examples of descriptive analysis that could be created.

	Total	Male (%)	Female (%)	Mean age in yrs (SD)	Age range (yrs)
Total mission group	40	17 (42.5)	23 (57.5)	27.5 (13.0)	16-68
Primary cases	7	3 (43)	4 (57)	31.4 (19.5)	16-68
Secondary cases	8	6 (75)	2 (25)	26.3 (20.8)	8-70 yrs
All cases	15	9(60)	6(40)	28.7 (19.6)	8-70 yrs

Role on Trip	Ill (n=7)	Total (n=40)	Attack Rate (%)
Chaperone	1	3	33.3
College Student	2	12	16.7
HS Student	2	12	16.7
MD	1	4	25
Nurse	1	4	25
Pharmacist	0	3	0
Professor	0	2	0

	Total mission group (n=40)	Primary Cases (n=7)	Secondary Cases (n=8)	All Cases (n=15)
Feeling Run Down	11 (27.5%)	7 (100%)	8 (100%)	15 (100%)
Fever	6 (15%)	6 (85.7%)	8 (100%)	14 (93.3%)
Cough	7 (17.5%)	7 (100%)	8 (100%)	15 (100%)
Vomiting	2 (5%)	2 (28.6%)	2 (25%)	4 (26.7%)
Nausea	1 (2.5%)	0 (0%)	4 (50%)	4 (26.7%)
Chills	6 (15%)	6 (85.7%)	7 (87.5%)	13 (86.7%)
Stomach cramps	3 (7.5%)	1 (14.3%)	0 (0)	1 (6.7%)

3. Create an initial Case Definition, based on your data from T1
 Persons who returned to Dayton OH on August 31, 2018 from medical mission trip in Bangladesh, or those epidemiologically linked to them, who are feeling run down with cough and symptoms of fever, chills, vomiting, nausea, and stomach cramps.

T2, Part 1 (Intraprofessional)

Public Health Prompt: What is public health’s role in the outbreak at this time? What should public health be doing to prepare? When and what do you want to communicate to the public? Local public health should be working with the CDC to identify the novel Influenza A strain, continuing to refine the case definition and do case surveillance to collect, analyze, interpret, and disseminate accurate information about case numbers, hospitalizations, and deaths. Public health will be advising policy leaders and working with local healthcare systems in response planning. Education of other medical professionals and local leaders in business and education about the mechanism of spread and appropriate mitigation strategies is an ongoing public health role. Public messaging should be consistent, yet transparent that in an evolving situation, we often need to change recommendations as our understanding of the novel infection evolves. Public health should be doing contract tracing and recommending mitigation measures as appropriate.

Clinical Mental Health Prompt: What issues should be addressed with school counselors in the district?

School counselors are in a challenging position because they are the go to source for mental, emotional, social and vocational direction in the school setting. Furthermore, School counselors need to be preventative (as much as possible) with information on how to manage the emotional challenges of an outbreak. This would include targeted info to students and their parents regarding ways to handle stress, social isolation from peers, changes in routine and personal safety. Students that become severely ill will have an impact on their peers. Therefore, grief counseling should be available. There should also be considerations for small group and individual counseling via telehealth platforms.

Physician/Advanced Practice Nurse Prompt: What is going on? What is your differential diagnosis in this situation? How will you know when a patient is considered high risk for this disease?

There appear to be a wide array of patients presenting with influenza-like symptoms. This could mean that there is an influenza outbreak that is occurring out of season, or it could mean an outbreak of other respiratory viruses (e.g., parainfluenza, RSV, SARS-CoV-2). It would be important to contrast these viral illnesses with other respiratory pathogens (e.g., *Legionella spp.*) that could be present at this time of year. Non-infectious exacerbations of other respiratory illnesses or cardiac conditions could be possible, but such an event across this array of people would be highly unlikely.

Patients older than 65 or those with chronic and severe asthma, COPD, heart failure, HIV / AIDS, cancer, CKD, uncontrolled diabetes, or a recent history of stroke are generally at a high risk for influenza complications. The very young (e.g., <3 months of age) are also at a higher risk.

Pharmacist Prompt: What is going on? What is your differential diagnosis in this situation? How will you know when a patient is considered high risk for this disease?

There appear to be a wide array of patients presenting with influenza-like symptoms. This could mean that there is an influenza outbreak that is occurring out of season, or it could mean an outbreak of other respiratory viruses (e.g., parainfluenza, RSV, SARS-CoV-2). It would be important to contrast these viral illnesses with other respiratory pathogens (e.g., *Legionella spp.*) that could be present at this time of year. Non-infectious exacerbations of other respiratory illnesses or cardiac conditions could be possible, but such an event across this array of people would be highly unlikely.

Patients older than 65 or those with chronic and severe asthma, COPD, heart failure, HIV / AIDS, cancer, CKD, uncontrolled diabetes, or a recent history of stroke are generally at a high risk for influenza complications. The very young (e.g., <3 months of age) are also at a higher risk.

Social Services/Public Health Prompt: What service provisions need to be mobilized for the select group of community members that have fallen sick?

Individuals from under-resourced demographic groups may be more likely to work in occupations and conditions that increase their exposure to the virus, and therefore, may be

more likely to become sick and more likely to lose their jobs if they are sick. The community members who have fallen sick may need additional services to address childcare, food insecurity, income and housing assistance. There should also be increased attention to mental health and stress, and to finding ways to decrease inequities in access to medical and mental health care, if needed.

T2, Part 2 (Interprofessional)

Question 1: How should the health professionals in the community organize to address this issue? What role should primary care practices, pharmacies and hospitals play in managing this outbreak?

The first priority should be to centralize public messaging around these cases as much as possible. Health professionals or their employers should maintain contact with the local public health department to help facilitate consistency in messaging. Moreover, healthcare providers should remain vigilant, review current public health guidance, and openly share information with public health authorities.

In particular, primary care practices should report cases that meet the current case definition to public health authorities and be prepared for any “worried well” that may begin to present to their premises. If identified as such, referrals to licensed counselors should be made if symptoms warrant.

Community pharmacies should monitor any unusual influxes in prescriptions for therapeutics and work to secure all necessary therapeutics that are not currently stocked given the timeline of this epidemic. Community pharmacies will also likely be one of the first places to receive general questions from the public. Therefore, they should be prepared to triage these patients and their needs on a case-by-case basis.

Hospitals should report cases that meet the current case definition to public health authorities and be prepared to triage any “worried well” that may begin to present to the hospital. Identified patients should have an appropriate behavioral health consult/intervention. Administrators should distribute education to all healthcare providers and work to ensure that important supplies, such as PPE and medications, are in stock.

Question 2: Given this information, how should healthcare providers approach patients who present with influenza-like symptoms?

Healthcare providers should rule out all other possible causes of each patient’s presentation, triaging them to the most appropriate level of care. In particular, providers should be able to distinguish between typical bacterial and viral infection presentations. For example, symptoms that persist longer than 10 - 14 days may indicate the presence of a bacterial infection over a viral process. Moreover, healthcare providers should be able to recognize possible non-infectious causes of the patient’s presentation, such as heart failure, asthma, or COPD exacerbations. A thorough medical history along with appropriate point of care testing would be necessary to help rule in and out other causes of illness.

Question 3: What are indicators of stress or emotional instability that should be looked for in children, parents, first responders and medical staff?

Stress and emotional instability can be identified by the individual experiencing the symptoms or by others. Indicators such as depression, anxiety, or anger are common. Specifically, you may notice a constant irritability, or feelings of hopelessness, inability to concentrate, or simply being unmotivated. Social isolation and oversleeping may also be present. Personality change and a decline in personal care may occur. Likewise, there may be racing thoughts, constant worry and trouble getting to sleep. Making irrational and bad decisions may also be noticed. It is important to note that people may experience and handle stress differently. The key is to be self-aware and to monitor family, friends, and coworkers. Have regular conversation and practice healthy habits during high stress periods.

Question 4: What is the role of antivirals, antibiotics and vaccinations in this situation? Who should receive these products first? Who should be turned away? Should patients presenting with these symptoms receive both antibiotics and antivirals?

Antivirals should be utilized for patients presenting with influenza-like symptoms when no other possible source of their symptomatology is attributed as the primary cause for their presentation. Antivirals should be given when symptoms have been present for <48 hours **OR** when no timeframe is readily identifiable for the onset of symptoms. In contrast to antivirals, antibiotics are unnecessary for most patients and should only be used when a provider cannot rule out a bacterial source of infection. In such cases, it is not unusual for antivirals, such as Tamiflu[®], and antibiotics, such as levofloxacin, to be administered together. One place this may commonly occur is when a patient first presents to an emergency department with influenza-like or pneumonia-like symptoms during flu season. Under these circumstances, information about patients is not always available, so more caution is sometimes necessary.

Question 5: Identify three distinct demographic descriptors (each pertaining in some way to social determinants of health) within the local community that will require special consideration in the unified response team's approach. Details must differ in categorical classification (e.g., cannot all be race-based or economically based). Be innovative in your identification and use resources such as the Census Bureau, density maps and opportunity indexes, or community health assessments as evidence. For example, Montgomery County OH 1) is over 20% Black and African American, 2) has over 15% of the population without broadband internet connection, and 3) is home to various refugee resettlement and immigrant services programs.

Examples will vary, the following is one example:

- Children- Although demographics of the cases are not given as the outbreak scales in magnitude, the indications from the media reports regarding the sudden death of one or more children and the closure of schools in the largest school district in the area give, at a minimum, a perception that children are being significantly affected. According to

the Census Bureau, children < 18 years old represent 24.9% of Montgomery County's population.

- Poor- According to Census data, 25-30% of Dayton and Trotwood residents are in poverty. These individuals will have a harder time accessing care, maintaining distancing for isolation and quarantine, and sustaining food security and housing if income is not maintained due to illness or job reduction from economic factors caused by the outbreak.
- Congregate care residents- Montgomery County has 40 licensed nursing homes, with over 4500 beds (development.oh.gov) and a homeless population of over 4500 individuals (PHDMC CHA), many of whom are in and out of homeless shelters. We felt these and other congregate care facilities may become hotspots for spread of what appears to be a very communicable disease.

Question 6: What would be the role of the strategic national stockpile in responding to this outbreak?

The strategic national stockpile (SNS) could be deployed following a formal request by public health authorities and subsequent approval by the department of Health and Human Services. These requests may be made when there is a need to deliver critical medical resources to the site of a national emergency when local resources would likely be or have already been overwhelmed by the magnitude of a medical emergency. In this particular outbreak, the SNS could be deployed to distribute 12-hour push packages that include broad-spectrum oral and intravenous antibiotics and antivirals, IV fluids, airway equipment, ventilators, vaccines, and PPE.

Question 7: What specific action will you take to make sure that children/youth in foster care or residing in shelters are also protected?

For children/youth in foster care or those residing in shelters, the social workers and/or facility staff assigned to them will play an important role in making sure they are protected and can also be the most reliable touchpoints in reaching these children/youth. These service professionals must be equipped and mobilized to take appropriate protective measures on behalf of these children/youth. They must also be prioritized in the dissemination of situational updates and educational resources that pertain to foster care and youth shelter institutions during this outbreak emergency.

Question 8: What actions could be taken to address barriers that may hinder the ability of symptomatic individuals to self-isolate?

Depending on day-to-day obligations and living situations, some socioeconomically disadvantaged individuals may be restricted in their ability to isolate whether symptomatic or asymptomatic. For example, these individuals may not be initially afforded opportunities to take time-off from work to self-isolate, or they may live in a crowded home where self-isolating from those they live with is near impossible. Potential actions to address such barriers could

include; 1) health departments with jurisdiction in the local area putting mandates in place about mandatory isolation requirements, 2) making infection tests readily available and accessible to allow individuals to justify need for self-isolation, and/or 3) utilizing funds associated with crisis response to provide temporary housing for those unable to self-isolate at home.

T2, Part 3 (Interprofessional)

Question 1: What types of communications or alerts should be sent out at this time? What role should healthcare providers play in this process? Who would be the recipients of this information? What information would be included in these communications?

At this time, communications or alerts should focus on what is known and assuring the public that experts are committed to addressing the situation. This information should be communicated to the general public, but information that is more specific may need to be developed and disseminated to particular groups, such as the healthcare workforce.

Healthcare providers, as well as public health officials can provide expertise in this situation. They can explain the situation, the risk to individual and community health, provide reassurance that the situation is being addressed, and can communicate preventive actions that the public can take. Healthcare providers may be able to facilitate trust and provide credibility to the message.

Officials responding to an outbreak situation must be aware of and consider how the risk perceptions and beliefs of individuals in the community may influence how the communications are both developed and interpreted.

Effective Messaging During Outbreak Responses (from *The CDC Field Epidemiology Manual*, pgs. 250-252)

- Start with empathy, but do not over-reassure
- Identify and explain the public health threat
- Explain what is currently known and unknown; acknowledge uncertainty
- Explain what public health actions are being taken and why
- Emphasize a commitment to the situation
- Tell the audience what they can do

Question 2: How should local hospitals prepare for a possible influx of sick persons or the worried well? What protocols might your unified response team recommend to them at this time? How should your team intervene in the schools? How would you work with school nursing?

Hospitals should be prepared to triage patients to an appropriate level of care from the emergency department. They should be able to quickly rule out other possible causes of illness and turn away those who do not require a higher level of care. In some cases, hospitals may wish to develop pre-screening areas to help alleviate the burden that emergency departments

may face. The team should encourage hospitals to provide education to their staff about hand hygiene and other infection prevention strategies.

Question 3: At this stage of the outbreak, how would the three demographic descriptors identified by your team contribute to your communication efforts and to the operational preparations of the local hospitals?

Examples will vary, but should follow unique themes depending on the demographic descriptors identified. For example; 1) any race- or ethnicity-based descriptors should point to the need for culturally competent communication efforts and healthcare service provisions, 2) any economic descriptors should address issues of under-resourced and poverty-stricken individuals in utilizing accessible communication methods and implementing equitable healthcare opportunities, or 3) age-based descriptors should focus on ensuring different age groups are approached in specific ways that cater to their individual lifestyles by using various communications platforms and targeted healthcare messaging.

T2 Debrief -- FACILITATORS: IMPORTANT POINTS TO DISCUSS WITH STUDENTS

Question 1: How do you control miscommunication and misinformation in situations like this?

The team should establish a social media surveillance center to monitor and respond to trends. The team should also work to identify medical experts who can communicate this information clearly while also maintaining knowledge about current misinformation. These experts would work closely with local, regional, and possibly national media outlets to share relevant information. Lastly, the team should also consider establishing virtual town halls to help provide a forum for the community to ask questions.

Question 2: How do you balance transparency of information with concerns about inducing panic?

When difficult information is given, it is important to be accurate as well as tactful. If sharing information verbally, one should consider tone, volume, and pacing of voice as a way to help manage others' emotions regarding how they are "hearing" the information. Likewise, an empathic approach is best to build trust and give others a chance to voice their concerns. Written communication can also present with a measured and calm tone if the information is clear, non-wordy, and professional. Additionally, there should be steps on how to manage the information to promote self-care, optimism, and connection with others. Lastly, there needs to be a way for others to reach out for further information if needed.

Question 3: How do you build trust with the community?

The team should be consistent with their messaging and work to establish two-way communication with community leaders. Moreover, the team should also consider establishing town halls or other public forums that allow community members to voice their concerns.

Question 4: How would you empower the healthcare professionals in the community in this situation?

The team should work with the local public health department to formulate an educational toolkit. This toolkit would provide both provider and patient-level educational materials that would help them to better understand the current state of this outbreak, disease information, and ways to mitigate the spread of this infection.

Question 5: What barriers do you think exist between healthcare professionals that may impact the ability to effectively respond to situations like this?

Examples: Limited time; lack of compensation structure for additional work; traditional “silos” of care may limit communication or trust; deficiencies in IT infrastructure may limit sharing of medical information; lack of training for managing outbreak scenarios individually or as a team.

T3, Part 1 (Interprofessional)

Question 1: What strategies could be implemented to improve work attendance? With the widespread closure of school districts, how could the inability of some parents/guardians to stay home from work affect their children/youth?

Employers will need to assess the ability of their employees to work remotely or in a flexible way to accommodate the needs of employees with young children. This type of flexibility would encourage “attendance” and demonstrate an employer’s concern for the families and their profit margins.

Some childcare providers may be able to continue operations and may be able to accommodate school-age children for those individuals whose work requires onsite attendance.

Parents who are unable to work remotely will be challenged with the financial burden of childcare and/or the logistics of coordinating care with family members or others. This could place additional mental or emotional strain on the family. Children/youth will notice and may react to a parent’s stress in addition to their own fear and stress that they are feeling because of the situation.

Question 2: How should Tamiflu® be allocated if a shortage is experienced? Who should receive it as a priority? What are your other treatment options?

At minimum, the team should consider distribution based on their assessment of population risks. For example, healthcare providers and other frontline personnel should receive treatment first. Those who are of elderly status or who have significant chronic illnesses (e.g., COPD) would also be high priority recipients. Patients who are less likely to benefit as much from oseltamivir (Tamiflu®) should not be considered high priority recipients.

The following therapeutic alternatives are available for influenza management:

Zanamivir (Relenza®)	<p>Oral inhalation powder approved for treating acute uncomplicated illness due to influenza A and B virus in adults and pediatric patients aged 7 years of age and older.</p> <p>Approved for prophylactic use in patients ages 5 and older.</p>
Peramivir (Rapivab®)	<p>Injectable antiviral drug approved for the treatment of acute uncomplicated influenza in patients 2 years of age and older.</p> <p>NOT approved for prophylactic use.</p>
Baloxavir marboxil (Xofluza®)	<p>Oral tablet approved for treating acute uncomplicated illness due to influenza A and B virus in patients ages 12 and older who are otherwise healthy or at risk of developing significant complications from influenza. Useful in treating more resistant strains of the flu.</p> <p>Approved for prophylactic use in patients ages 12 and older.</p> <p><u>Expensive</u></p>

The choice of therapeutic alternatives should be based on product availability, cost efficacy, perceived use (e.g., prophylaxis vs. treatment), minimization of toxicities, and ease of use (e.g., an injectable is likely hard to use on a mass scale).

Question 3: How will outbreak information be communicated to the public so that information is clear and consistent?

Transparency is critical to developing trust. Do not give information that is speculative. Do not talk down to the audience. Be careful to clearly contextualize individual risk. Set realistic expectations. Be careful using medical jargon, or if it is required, spend time carefully explaining in both verbal and visual forms.

Effective Messaging During Outbreak Responses (from *The CDC Field Epidemiology Manual*, pgs. 250-252)

- Start with empathy, but don't over-reassure
- Identify and explain the public health threat
- Explain what is currently known and unknown; acknowledge uncertainty
- Explain what public health actions are being taken and why
- Emphasize a commitment to the situation
- Tell the audience what they can do

Question 4: What should be communicated to patients who are “worried well” and scheduling appointments?

One area that causes anxiety is isolation from others. Encourage patients to find new ways to connect with family and friends. Also, try to stay consistent with routines, as they were when things seemed normal such as exercise programs (even if by video), walks outside, sleep and

eating patterns, etc. Try to focus on what you can control vs. what you cannot. Also, try to practice self-compassion and be kind to yourself especially when related to things not in your control. Limit media exposure that focuses on problems or distressing topics. Try to accept that some anxiety is normal as it can keep us alert to changing situations.

Question 5: Given your knowledge of how anxiety and panic is influenced by uncertainty, how would you encourage communication with parents, children, and the community at this time? Uncertainty is related to not knowing which can create anxiety... especially with people who view events through a pessimistic lens. It is therefore important to be factual and frequent with information along with strategies to stay healthy. Persons experiencing anxiety also want to be heard (not necessarily agreed with) so make sure to be empathic and reflect back what you hear them saying. Encourage communication by providing contact information such as accurate websites and organizations that are accessible and reliable for wellness tips.

Question 6: Since there is no effective vaccine for this strain of HPAI, are there other preventive care options for your patients?

According to the Centers for Disease Control and Prevention, common behaviors can help prevent or slow the spread of infectious respiratory diseases, such as influenza (<https://www.cdc.gov/flu/prevent/prevention.htm>). These include:

- Avoid close contact with individuals who are sick and avoid contact with others if you are sick
- Cover your mouth and nose with a tissue when you cough or sneeze, then throw the tissue in the trash after use
- Wash hands frequently and thoroughly with soap and water, or use hand sanitizer if soap and water are not available
- Avoid touching eyes, nose and mouth
- Clean and disinfect surfaces that may be contaminated with germs
- Stay at home for at least 24 hours after fever has subsided, except to receive medical care

Question 7: You recognize that pneumonia is a common complication that occurs for many patients who have had the flu. What would be the role of antibiotics in managing patients with bacterial pneumonia secondary to influenza?

Antibiotic use should be minimized to conserve antibiotics where possible, as national and even international drug shortages are not uncommon in the midst of an outbreak. In addition, use should be limited to prevent the spread of resistant organisms and minimize the complications of treatment.

A newly diagnosed patient with influenza is **NOT** likely to be co-infected with a bacterial organism when they present (i.e., they are **NOT** likely to have primary bacterial pneumonia). While still rare, secondary bacterial pneumonia can occur following the resolution of influenza. Given the severity of infection that seen in these cases, antibiotics are often necessary. In general, antibiotics used during a flu outbreak should be prioritized for patients who are re-hospitalized following a recent influenza diagnosis **OR** in patients who present with a new case

of influenza and atypical symptomatology. For patients with life-threatening influenza, it is also reasonable to start antibiotics on hospital admission and then remove them once bacterial infection can be ruled out via a thorough workup and diagnostic testing. In any of these cases, special attention should be paid to minimizing the unnecessary use of broad spectrum antibiotics, as they are unnecessary for the majority of patients (e.g., a patient admitted from a community setting with no prior history of hospitalization or IV antibiotic use should **NOT** receive antibiotics that cover most multidrug resistant organisms). Instead, antibiotic regimens for pneumonia in the setting of influenza should follow [national guidelines](#).

Question 8: What considerations would the team have regarding patient triage given the limitations of personnel and resources at this time?

The team should also advise hospitals to be prepared to erect medical shelters on hospital grounds if the outbreak continues to worsen. These shelters could be used to provide preliminary screening and triage of patients before they filter in through the emergency department. Where possible, patients should be funneled to community pharmacies to help triage cases via testing and symptomatic management. Hospitals may also wish to consider limiting the number of guests that are allowed throughout the facility. As things worsen, hospitals may be instructed to consider cancelling elective procedures.

T3, Part 2 (Interprofessional)

Question 1: What support might the coalition offer to local healthcare institutions given the rising rates of employee absenteeism?

The team should provide an educational toolkit that will help employers to better inform their employees about who might be considered a high vs. low risk populations. In addition, the team should encourage institutions to allow for remote work opportunities where available. Moreover, the team should offer resources that help to educate employees about how they might help to create a culture of outbreak safety at their institution.

Question 2: With decreased staffing across many service organizations, what additional concerns will arise within disadvantaged and vulnerable families and households? What strategies can be used to address these service gaps?

Issues of decreased staffing will especially affect service organizations that specifically prioritize disadvantaged and vulnerable families and households because these entities are often already under-resourced and under-staffed to begin with. Fewer community members may have the opportunity to access the critical benefits that these service organizations provide, increasing their vulnerability to the impact of the outbreak emergency. Available emergency funds should be allocated to support struggling service organizations and protective/mitigative measures should be directed towards these entities as priority groups.

T3, Part 3 (Interprofessional)

Question 1: With the lack of availability of Tamiflu® or an effective vaccine, there has been a rise in panic within the region. What strategies should your unified response team consider to mitigate public distress? What strategies should the team employ to protect healthcare assets and personnel?

The team should work with the local public health department to provide education to the public about who might benefit the most from Tamiflu® or alternatives vs. who might benefit more from symptom management (e.g., acetaminophen, diphenhydramine, etc.).

Communication and education about behaviors that prevent the spread of infection should continue, as well as information about symptoms that indicate an increase in severity of disease that would warrant seeking healthcare services. When individuals are faced with uncertainty and distress, informing them about things they can do to address or reduce the situation is helpful.

Communication about how priorities for antiviral medications and ultimately vaccines are/were determined should be clear and consistent. The rationale for prioritization should include evidence of the risk of severe disease. Protecting healthcare assets means that healthcare providers and frontline personnel should be prioritized for treatment

Question 2: How would the team determine who should receive Tamiflu® given the national shortage of this product? What alternative therapeutic options might be considered for prophylaxis and treatment of patients with HPAI?

At minimum, the team should consider distribution based on their assessment of population risks. For example, healthcare providers and other frontline personnel should receive treatment first. Those who are of elderly status or who have significant chronic illnesses (e.g., COPD) would also be high priority recipients. Patients who are less likely to benefit as much from oseltamivir (Tamiflu®) should not be considered high priority recipients.

The following therapeutic alternatives are available for influenza management:

Zanamivir (Relenza®)	Oral inhalation powder approved for treating acute uncomplicated illness due to influenza A and B virus in adults and pediatric patients aged 7 years of age and older. Approved for prophylactic use in patients ages 5 and older.
Peramivir (Rapivab®)	Injectable antiviral drug approved for the treatment of acute uncomplicated influenza in patients 2 years of age and older. NOT approved for prophylactic use.
Baloxavir marboxil (Xofluza®)	Oral tablet approved for treating acute uncomplicated illness due to influenza A and B virus in patients ages 12 and older who are otherwise healthy or at risk of developing significant complications from influenza. Useful in treating more resistant strains of the flu. Approved for prophylactic use in patients ages 12 and older.

T3 Debrief -- FACILITATORS: IMPORTANT POINTS TO DISCUSS WITH STUDENTS

Note: Student responses to the following questions will vary widely so examples, rather than desired responses, are below.

Question 1: If there have been this many hospitalizations and deaths at this point in the year, prior to the traditional influenza season, how should this inform your approach to the upcoming flu season?

Examples: There may be concerns about, and need for planning for surge capacity at hospitals. There may need to be more communication about the need for vaccinations for the seasonal influenza strains. There may be concerns about the lack of supply of antiviral medications. Effort should be made by health systems to secure any needed PPE, medications, and disinfectants in anticipation of a surge.

Question 2: What were the biggest interprofessional challenges to addressing this situation?

Examples: Lack of understanding or respect of different professional roles, lack of a clear leader, unprepared or disengaged team members

Question 3: Which social determinant of health created the greatest challenge for your team as you planned an equitable response? Why?

Examples: Poverty, age, education, immigration/refugee status, race, ethnicity, culture

Question 4: What techniques could be used to overcome communication barriers? How might this differ for communicating with healthcare professionals versus the public?

Example: My group focused on the importance of developing trusted relationships, both with providers and with patients and among professionals. Particularly in a crisis where there may be multiple and conflicting messages, people will turn to the person who has walked alongside them through other trials, be it a physician, nurse, pharmacist, mental health, or public health professional. In addition, people tend to trust people who are like them in some way, and some Black/African Americans for example, respond best to information from a Black/African American provider. A barrier to interprofessional communication may be arrogance, a tendency to narrow in on an approach based on experience, education, or age, without appreciating that the experiences of others may be different, but complementary in reaching good solutions to novel situations. It is important to approach people with humility and focus on common goals.

INTEGRATING THE ACTIVITY INTO CURRICULA

Participants

This activity was developed to fulfill interprofessional competencies for graduate students in public health (MPH), medicine (MD), pharmacy (PharmD), clinical mental health counseling (MSE), and nursing (MSN).

- *Pharmacy*

PharmD participants were required to participate in this event as part of the capstone course that they complete in the spring semester of their third professional year. At this stage, they had completed their core therapeutics content (e.g., infectious diseases) and were capable of integrating many aspects of their education into informed responses. It could be conceivable for PharmD students to participate in this event if it were integrated into a public health course, their infectious diseases content, or as a form of co-curricular involvement. We recommend that PharmD participants at least have some training in infectious diseases and/or therapeutics to get the most out of this event.

- *Public Health*

MPH students participated as part of their foundational Epidemiology course. Prior to the IPE event students completed assignments in class to cover the didactic requirement of CEPH competencies. A local epidemiologist and an emergency management professional guest lectured before the IPE event. The IPE event had an additional assignment to assess performance of the competencies during the event and to provide faculty feedback.

- *Medicine*

Medical students were required to participate in one IPE event for clinical learners during their third professional year as continued education about interprofessional collaboration initiated in their first year of medical school. This event was one of five options offered during the academic year. At the point of this event, medical participants had completed all of their required third year clinical rotations in local hospitals and ambulatory clinical settings.

- *Nursing*

Nursing students participated in the activity voluntarily. Faculty members sent information about the activity to the students and encouraged, but did not require, participation.

- *Clinical Mental Health Counseling*

Clinical Mental Health Counseling students participated in this activity as a requirement of EDC 571 Biological Bases of Behavior. Some students, who were not enrolled in the class at the time, participated voluntarily. CMHC students are introduced early on to the emerging trend of interpersonal education and are provided a minimum of two opportunities each year in which to participate.

Other disciplines whose graduate students may have an interest in this activity include physician assistant, undergraduate/pre-licensure nursing (BSN), social work, law, and school administration (principal or superintendent licensure). Adding these students would require the addition of appropriate learning objectives and discussion prompts.

Scenario

All materials can be adapted to better suit an institution's desired area (e.g., Detroit, MI). Local data or data from sources such as *County Health Rankings* could be used to determine health disparities that need to be addressed in this scenario.

Additionally, the represented pathogen could also be interchanged with more work.

HOW THIS ACTIVITY HAS BEEN SUCCESSFULLY IMPLEMENTED

2019

N=119 / 71% female

15 interprofessional student teams - 19 facilitators

Implementation

In 2019, this activity was conducted in a 3-hour face-to-face format. The host university's Learning Management System (LMS) was used to time the release of the videos and messages to students in concordance with the evolving elements of the case.

3-HOUR SCHEDULE (FACE-TO-FACE)	
Time	Activity
15 - 30 minutes	Registration
15 minutes	<i>Welcome and Instructions</i>
1 hour, 15 minutes	<i>T2 Discussion</i>
5 minutes	T2 Case Part 1 (D)
10 minutes	T2 Case Part 2 (D)
5 minutes	Transit/Icebreaker
20 minutes	T2 Case Part 3 (M)
15 minutes	Group Presentations (M)
20 minutes	Facilitator Debrief
15 minutes	BREAK
1 hour	<i>T3 Discussion</i>
15 minutes	T3 Case Part 1 (M)
15 minutes	T3 Case Parts 2 – 4 (M)
10 minutes	Group Presentations (M)
20 minutes	Facilitator/Faculty Debrief
10 minutes	<i>Assessment and Dismiss</i>

D = Discipline-specific/Intraprofessional groups, M = Multidisciplinary/Interprofessional groups

Assessment

During the implementation of this activity in 2019, students completed a pre- and post-event *Interdisciplinary Education Perception Scale (IEPS-8)* instrument to measure their perceptions of individuals within their discipline's expertise, as well as willingness to collaborate with other health professionals. This instrument was selected because of the dearth of instruments measuring interprofessional engagement in a non-patient care context. Paired t-test results of the difference in mean scores pre- and post- demonstrated statistical significance (-2.34, 95% CI [-3.20, -1.49], $t(60) = 5.48$), suggesting an improvement in scores after completion of the activity for the 61 students who completed both instruments.

During the small group discussions, 17 faculty observers completed the *Jefferson Teamwork Observation Guide (JTOG®)* instrument to record group member and team behavior as they

interacted in interprofessional teams. The JTOG® results indicated that most faculty observers either agreed, or strongly agreed, that students achieved most of the fourteen IPEC competency-based items for interprofessional teamwork. The two JTOG® items with some notable disagreement were: “Discussion was distributed among all team members”, and “Members of the team appeared to understand the roles and responsibilities of other members of the team.” These items relate to the IPEC competencies of Communication, and Roles, respectively. These results are also seen when the JTOG® individual item scores are combined into the overall competency areas. While the competency ratings for Values, Teamwork, and Leadership are high, the areas of Communication and Roles have some disagreement regarding student team achievement.

The JTOG® also had room for faculty observer comments. There was variability reported when observing interprofessional team functioning with respect to leadership and roles. There were observer notes regarding the technical and logistical aspects of the simulation to work on improving for next time.

Facilitator Observations

- Explaining how an IPE works to the students who have never participated previously in a similar activity would be beneficial
- Explaining specific roles and responsibilities could be explained further in advance
- In most groups, MPH students were the clear leaders
- Students were able to see knowledge they had in common but did not as well understanding the importance of their discipline’s body of knowledge and strengths that are brought to the table
- There was considerable variation among groups in terms of discussion, collaboration and leadership.
- Some students did not prepare adequately during the intraprofessional time
- The understanding of roles and responsibilities grew as the activity went on
- It was difficult to determine if there was complete agreement among group members on what was being said or decided, or if they were not comfortable disagreeing

2021

N= 95

12 interprofessional student teams - 18 facilitators

Implementation

In 2021, this activity was conducted in a 2-hour remote format due to Covid-19 restrictions. Facilitators shared links to online documents that housed case elements along with media files at scheduled times (see Virtual Facilitator Reference in Facilitator Resource Center on the website) and when prompted by the lead faculty member.

2-HOUR SCHEDULE (REMOTE)			
	Time	Activity	Zoom Room
Orientation	8 minutes	Welcome and Instructions	1
Phase 1 50 minutes	10 minutes	T2 Case Part 1 (Intraprofessional - D) Breaking News Video 1 (5:40)	1
	5 minutes	Logout of Room 1 and Login to Room 2	
	20 minutes	T2 Case Parts 2 - 3 (Interprofessional - M)	2
	15 minutes	Debriefing	2
Phase 2 60 minutes	15 minutes	T3 Case Part 1 (Interprofessional - M)	2
	20 minutes	T3 Case Part 2 - 3 (Interprofessional - M) Breaking News Video 2 (beginning of T3 Part 2) "Infect" Participants (beginning of T3 Part 2, after Breaking News Video 2)	2
	25 minutes	Presentations / Debriefing	2

Assessment

In 2021, the *Jefferson Teamwork Observation Guide (JTOG®)* was utilized as a student self/team assessment.

Student Results (n=54) Scale: 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree				
Question	mean	median	mode	s.d.
1. There appeared to be a team leader that coordinated the discussion (L)	3.74	4.00	4	.556
2. The team leader facilitated the discussion rather than dominated it (L)	3.76	4.00	4	.473
3. Members of the team came prepared to discuss the case/situation from their profession specific perspective (R)	3.33	3.00	4	.752
4. Members of the team who were involved in the case/situation contributed to the discussion (C)	3.52	4.00	4	.606
5. Discussion was distributed among all team members (C)	3.06	3.00	3	.811
6. Members of the team appeared to understand the roles and responsibilities of other members of the team (R)	3.31	3.00	3	.797

7. Team members appeared to have respect, confidence, and trust in one another (V)	3.65	4.00	4	.588
8. Team members listened and paid attention to each other (C)	3.72	4.00	4	.492
9. Team members listened to and considered the input of others before pressing their own ideas (C)	3.63	4.00	4	.592
10. Team members added other supporting pieces of information from their profession specific perspective regarding the case/situation (R)	3.59	4.00	4	.687
11. The opinions of team members were valued by other members (V)	3.63	4.00	4	.560
12. Team members appeared to feel free to disagree openly with each other's ideas (V)	3.28	3.00	4	.763
13. Team members sought out opportunities to work with others on specific tasks (T)	3.31	3.00	4	.773
14. Team members engaged in friendly interaction with one another (T)	3.65	4.00	4	.520

Competencies: V=Values and ethics; R=Roles and responsibilities; C=Communication; T=Teamwork; L=Leadership

There was strong agreement by students on all instrument questions, but the analysis provided areas in which improvement is needed.

Lessons Learned

- Learning Management Systems (LMS) may allow for timed release of the case information and materials, but developing the site and timing can be complex and require extensive work. Additionally, students may miss important information, such as the social media posts and videos, if additional cues or prompts are not provided.
- In 2019, the T3 portion of the case was divided into Parts 1, 2, 3 and 4. Parts 3 and 4 were consolidated prior to the 2021 implementation.
- Team member engagement was much more difficult in the remote vs. face-to-face environment.
- The initial (T2 Case Part 1) should be intra-professional, but all other sessions should be interprofessional.
- The wide variance in facilitator preparedness is evident in student evaluations of the activity.
- Public health students are not always comfortable taking on leadership of the team, and medical students were sometimes uncomfortable when they were not the team leader.

Suggestions

- Allow more time for student discussion. It is better to opt for more, than less, discussion.
- Include time for a short icebreaker prompt the first time the interprofessional team meets, preferably one that includes the student introducing their role and responsibilities in the scenario/activity. Some students seem to be surprised when they learn about the training, knowledge and experience that other disciplines can add to the discussion.
- Allow more time for student presentations so that each student on the team can present the case information as it relates to her/his discipline.
- Students are interested in hearing about the facilitators' experiences in similar situations, but limit the amount of time that a single facilitator can speak, to allow for multiple experiences and perspectives.

Limitations

- While this activity was developed to include nursing students, the team had limited input from nursing faculty during development and implementation the first year. Later, a nursing graduate student gave some input and suggestions, particularly to the learning objectives, but the activity could benefit from more engagement and input from nursing faculty.

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