

RESEARCH ARTICLE

Lessons Learned from the Implementation of Health and Safety Protocols in the University setting during the COVID-19 Pandemic

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Abstract

COVID-19 has brought disruptions in university operations that required the institution of health and safety protocols. The purpose of this study is to examine the experience of a college of nursing in developing and implementing these protocols. A multi-method design was employed using an online survey of 114 respondents and 6 key informant interviews from faculty, staff, and students. Results of the study suggest that the personnel and students rated their satisfaction on the college health and safety protocols towards higher scores in the areas of symptom monitoring, testing, contact tracing, isolation, referral, ventilation, disinfection, handwashing, limiting in-person activities, vaccination and health insurance requirement. Challenges reported were on their compliance to symptom monitoring and funds needed to the courses of action should they require testing elsewhere or test positive. Participants suggested more reminders on the compliance to health and safety protocols. The COVID-19 pandemic has provided important lessons learned to better respond to a future pandemic. Key areas of action have been identified which requires adequate planning of the university and all major stakeholders.

Introduction

As higher education institutions in the Philippines transitioned back to face-to-face classes, health and safety protocols were needed to minimize the risk of acquiring COVID-19 in the university and clinical settings. It was recognized that the reopening of schools during the pandemic caused anxiety among faculty, staff and students due to the possibility of being exposed and infected (Asaoka, Susaki, Imamura Kuroda, Tsuno, & Kawakami, 2021). From their experience in sustaining university operations during the pandemic, Ryan and colleagues (2021) suggested a framework which includes governance, communication, support services, facilities management on top of these health protocols.

The UP College of Nursing (UPCN) developed its protocols anchored in the UP Manila COVID-19 Response and in compliance with the policies promulgated by the Inter-Agency Task Force against COVID-19, the Commission on Higher Education, the Department of Labor and Employment, and the City of Manila. The protocols included policies on symptom monitoring, testing, isolation and referral, and environmental

(i.e. ventilation, disinfection) and administrative (i.e. work from home, shift to online learning) interventions. These protocols need continuous evaluation considering the constantly changing circumstances of the pandemic to ensure the safety of the college constituents. Hence, this study aims to: 1) describe the development and implementation of the current health and safety protocols of UPCN during the COVID-19 pandemic; 2) examine the satisfaction of faculty, staff and students with the protocols; 3) identify current challenges being faced by the constituents with the current protocols during face-to-face learning; and 4) identify proposed solutions to mitigate the challenges being faced during face-to-face learning amid the pandemic.

Methods

Research Design

The study is part of a routine quality improvement activity on the health and safety protocols of the college. This multi-method

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study followed elements of process evaluation involving a cross-sectional online survey and key informant interviews. Faculty, students, and staff were surveyed on their satisfaction with the existing protocols.

Sampling & Recruitment

For the online survey, all currently-enrolled students, faculty (tenured, non-tenured, lecturer status), and administrative staff are eligible to participate in the study. There was no exclusion criteria set. A total of 114 respondents composed of students, faculty and staff were surveyed. For the interviews, faculty, staff and students were purposefully selected to elicit information on the challenges they experienced in complying with the protocols as well as their suggestions for improvement. Similar to the online survey, all currently-enrolled students, faculty (tenured, non-tenured, lecturer status), administrative staff were interviewed. Student leaders were also interviewed for the study. For the faculty and staff, this may include those that are not members of the Health and Safety Committee. A total of 6 participants were interviewed.

Research Instruments

The study utilized an online questionnaire developed by the researchers that examined their satisfaction with the existing protocols. The health safety protocols included symptom monitoring, testing, isolation, referral, and environmental and administrative interventions. They were asked to rate their level of satisfaction in each area of the health and safety protocols of the UP College of Nursing, with 1 as the lowest and 4 as the highest. Options for not applicable were also provided if the respondent feels that the protocol is not relevant to the present circumstances or not aware if one does not know of its existence. An interview guide was used to explore further their level of satisfaction by asking challenges experienced in complying with the safety protocols as well as their proposed solutions

Data Collection

To describe the development and implementation of the current health and safety protocols of UPCN during the COVID-19 pandemic, a records review was conducted on the existing protocols (i.e. rationale, provisions).

To examine the satisfaction of faculty, staff and students with the protocols, an online survey was conducted. A letter was submitted to the Dean of the UP College of Nursing at the inception of the study. After the approval of the Dean, a link to the online survey form was provided to be disseminated by the batch advisers of the students. For the administrative staff, dissemination was through the administrative officer, and for the faculty, through the Health and Safety Committee Chair who is also the principal investigator of the study. The process of

recruitment of respondents is based on the usual procedures for quality improvement activities (i.e. client satisfaction surveys) and information dissemination of the college. Data were collected for at least 2 weeks from the point of ethics approval.

Once the client satisfaction data has been summarized, interviews were conducted with the students, faculty, and administrative staff to identify challenges and ways to mitigate these. These interviews were conducted either face to face or through Zoom, depending on the preference of the interviewee (faculty, staff, or student).

Data Analysis

For the online survey, descriptive statistics were used to summarize the profile of the respondents and their satisfaction with the protocols. Interviews were transcribed and content analysis was done. Results of the records review were reported as contained in the respective record.

As the study follows elements of a quality improvement project, an exemption of ethics review was applied and approved by the UP Manila Research Ethics Board.

Results

Development and implementation of protocols

Towards the 3rd quarter of 2020, national government agencies developed guidelines for gradual reopening and resumption of face-to-face operations during the COVID-19 pandemic. The goal is to prevent and mitigate the effects of COVID-19 and provide a safe environment while sustaining the continuity of delivery of instruction and learning. At the University of the Philippines Manila, the College of Nursing constituted its Health and Safety Committee, with its pre-pandemic Health and Safety Representative to the university as the Chair. Members included sector representatives who served as focal persons for their subgroups and will coordinate and liaise with the UP Manila COVID team for assessment, monitoring, contact tracing and management of all COVID associated cases. The skills laboratory coordinator was also invited to be a member of the committee. These key persons were selected for inputs involving human, process, support, and structural preparations needed to ensure the safe conduct of classes. The assistant to the Dean served as the adviser of the committee.

The committee reviewed existing guidelines and protocols of the university, concerned government agencies, and international health organizations. A review of health and safety guidelines of other higher educational institutions, here and abroad, and other UP Manila units was done. The guidelines and protocols had to be in line with that of the government health and administrative authorities, university, and

recommendations of health experts. Recommendations from the Hospital Infection Control Unit of the Philippine General Hospital were also periodically reviewed. It was adapted to address the unique needs of the college considering the pedagogy of delivering a health care academic program which involves skills laboratory and clinical instruction, and in consideration of the existing infrastructure, resources, settings for student clinical placement (i.e. Philippine General Hospital, Manila Health Department and academic support processes).

Several university offices were involved in the implementation of health and safety protocols. The UP Health Service was the main coordinating office in the testing, monitoring, and management of cases involving students and personnel. UPM Campus Planning, Development, and Maintenance Office (CPDMO) dealt with the re-engineering of classrooms to improve ventilation.

Symptom Monitoring

An online platform, called UPM BESTS was developed to monitor symptoms of the personnel and students. After filling up the online form, the system automatically sends advice to the patient on the next steps depending on the presenting symptoms. Students were also encouraged to report symptoms to their respective faculty in-charge for appropriate action. Health declaration form (online or hard copy) at the UPCN lobby had to be presented or submitted to the lobby guard prior to entering the college.

Testing

Personnel and students who showed symptoms, regardless of known exposure to a COVID-19 case, are advised to undergo testing. Testing coordination is through unit focal persons/safety officer and UP Manila COVID-19 Coordinator. Testing is facilitated through a referral by the UPHS. RT-PCR testing at the UP-PGH is free of charge. Testing in other accredited laboratories was allowed.

Contract Tracing

Any UPCN faculty, staff or student who has symptoms consistent with COVID-19 or is identified as a close contact of a patient who turned out to be positive for COVID-19 should submit themselves for contact tracing to UPHS or Local Government Unit Health Office.

Isolation

Home isolation is the first option when someone from UPCN develops symptoms associated with COVID-19. If there is no capacity for home isolation, referral to a designated isolation facility was done. Should symptoms occur while in the college, a temporary isolation room was made available in the Nursing Clinics until transfer to home or designated isolation facility.

Referral

When hospital admission is warranted, coordination and referral to the UP-PGH command or UP Health Service center was made. LGU coordination for contact tracing and referral to an isolation or health facility near the afflicted individual's residence was also an option.

Wearing of Masks

All persons entering the college were required to wear a properly-fitted face mask. Faculty and students undergoing clinicals were required to wear a KN95 mask, at the minimum.

Maintenance, cleaning, sanitation, and disinfection protocol

Regular cleaning and disinfection of laboratory and lecture rooms, including its fixtures and equipment, at least daily. Frequently touched surfaces were cleaned and disinfected at least thrice daily. Handwashing and sanitation facilities were provided in all rooms and major hallways. Students and faculty were asked to perform handwashing before and after use of laboratory equipment.

Social distancing

Personnel and students were required to maintain 2 meters, then modified to 1.5 meters physical distancing inside rooms and hallways. Information on the maximum occupancy per room was also provided. Unidirectional foot traffic was implemented for ingress and egress of everyone in the college, including use of rooms or facilities, to prevent crowding.

Vaccination

UP-PGH extended vaccination services to UP Manila faculty and senior employees.

Over time, the vaccines were more accessible and available coming from different agencies such as the local government units and the Philippine Red Cross. UPCN personnel and students were able to receive immunizations through their LGUs or other agencies in accordance with priority group schedules set by the national government. The vaccination status of personnel and students was regularly monitored by the college. Faculty and students going on clinicals were required to be current with their COVID-19 vaccinations.

Health Insurance Requirement

All students were required to have health insurance coverage prior to their clinical duty.

Table 1: Satisfaction with the protocols

Area	Rating				Ave	Other responses
	1	2	3	4		Not aware
Symptom monitoring (Use of UPM BESTS)	4 (3.51%)	14 (12.28%)	28 (24.56%)	64 (56.14%)	3.38	4 (3.51%)
Symptom reporting through focal persons, faculty-in-charge, or immediate supervisor	4 (3.51%)	7 (6.14%)	21 (18.42%)	78 (68.42%)	3.57	4 (3.51%)
Symptom monitoring by UPHS Telemonitoring	4 (3.51%)	14 (12.28%)	36 (31.58 %)	48 (42.11%)	3.24	12 (10.53%)
Testing	5 (4.39%)	9 (7.89%)	25 (21.93%)	61 (53.51%)	3.41	14 (12.29%)
Contract Tracing	6 (5.26%)	12 (10.53%)	37 (32.46%)	53 (46.49%)	3.28	6 (5.26%)
Isolation	9 (7.89%)	10 (8.77%)	39 (34.21%)	47 (41.23%)	3.19	9 (7.89%)
Referral	5 (4.39%)	7 (6.14%)	34 (29.82)	59 (51.75%)	3.41	9 (7.89%)
Ventilation	5 (4.39%)	11 (9.65%)	29 (25.44%)	65 (57.02%)	3.41	4 3.51%
Disinfection	4 (3.51%)	6 (5.26%)	24 (21.05%)	75 (65.79%)	3.56	5 (4.39%)
Wearing of Masks	4 (3.51%)	2 (1.75%)	14 (12.28%)	92 (80.70%)	3.73	2 (1.75%)
Limiting of in-person activities i.e. Work from Home/ Online Classes	4 (3.51%)	7 (6.14%)	23 (20.18 %)	78 (68.42%)	3.57	2 (1.75%)
Social distancing	6 (5.26%)	12 (10.53%)	37 (32.46%)	56 (49.12%)	3.29	3 (2.63%)
Handwashing/ hygiene facilities and supplies	4 (3.51%)	3 (2.63%)	28 (24.56%)	76 (66.67%)	3.59	3 (2.63%)
Vaccination requirement	4 (3.51%)	1 0.88%)	14 12.28%	93 81.58%	3.75	2 1.75%
Health insurance requirement	7 (6.14%)	5 (4.39%)	19 (16.67%)	74 (64.91%)	3.53	9 (7.89%)

With 4 as the highest rating, the respondents scored the different aspects of the health and safety protocol ranging from 3.19 to 3.75. They were most satisfied with the vaccination requirement, followed by the wearing of masks and the handwashing / hygiene facilities and supplies. They were least satisfied with isolation and symptom monitoring.

Challenges in complying with health and safety protocols

In terms of symptom monitoring, participants report that they forget to answer the online form. Others said that compliance to reporting in the UPM BESTS needs to be closely monitored. Non-regular employees also do not have access to the online platform. Students were also hesitant to report their symptoms because they do not want to miss their clinical duty. Participants also reported concerns on data privacy and security of the printed contact tracing forms. The recent electronic case investigation form was not intuitive and required information that is difficult to understand. In terms of testing, financial concerns were common since free testing is only available for regular employees and students and only at the Philippine General Hospital. If they are far from PGH, they have to do it out of pocket elsewhere. There were also reported delays in the release of test results. There were no funds for non-regular employees in case they needed to be isolated. Referrals were challenging during weekend because that is beyond office hours of the UP Health Service. Participants reported that others are not mindful of physical distancing, correct wearing of masks, and following foot traffic.

Proposed solutions and recommendations

Participants suggested that more reminders be done regarding symptom monitoring and reporting. These can be done through periodic health and safety protocol orientation and more signages. Others suggest that alternatives be given to students who missed classes due to COVID19 infection. In terms of the complicated electronic case investigation form, participants suggest to simplify it especially for those answering it that are not health workers. They also suggested more reminders on physical distancing, correct wearing of masks, and following foot traffic.

Discussion

Results of the study suggest that the personnel and students rated their satisfaction on the college health and safety protocols towards higher scores in the areas of symptom monitoring, testing, contact tracing, isolation, referral, ventilation, disinfection, handwashing, limiting in-person activities, vaccination and health insurance requirement. Challenges reported were on their compliance to symptom

monitoring and funds needed to the courses of action should they require testing elsewhere or test positive. Participants suggested more reminders on the compliance to health and safety protocols.

The methods implemented in the development and implementation of health and safety protocols are similar to those reported in literature (Pollock et al., 2021; Ryan et al., 2021). It is critical to learn from the experiences of several institutions to share practices given different resources and circumstances. The lessons learned from the current pandemic are also essential in preparation for the next. In the early part of the pandemic in 2020, institutions of higher education had limited guidance on how best to respond given the limited experience in dealing with a pandemic of this magnitude.

Our study supports the need to constantly evaluate health and safety protocols to find better ways of responding during pandemics in the university setting. As of December 2022, the COVID19-related conditions have improved with more available and accessible vaccines, easing of social distancing, stay at home protocols, and mandatory wearing of masks. However, we have learned from the experience on which key areas to work on when faced with a similar situation in the future. Currently, the most common concern is the reporting of symptoms so that testing can be done and the timely release of test results so they can be advised appropriately to prevent the spread of the disease. This is also related to the improvement of vaccination rates that have consequently reduced severe cases. From our recent experience, the huge majority of the cases have been with mild symptoms who have been required to stay at home. Though an online platform is helpful in symptom monitoring, ensuring that everyone is compliant to it remains critical. This requires the development of an online platform that is simple and user-friendly, both in terms of interface and text used. A periodic report on the compliance to symptom monitoring will enable administrators to reinforce behaviors towards compliance. The issue of funds for testing and financial support during isolation or disease management remains to be a challenging area for solutions. This would require more planning by the university, the local government units, and other major stakeholders on how to best support them given the limited financial resources.

Conclusion

The COVID19 pandemic has provided important lessons learned to better respond to a future pandemic. Key areas of action have been identified which requires adequate planning of the university and all major stakeholders. The fluidity of the situation and increasing level of knowledge about the disease

require constant adjustment in strategies and approaches. Continuous review of systems and evaluation parameters to improve sensitivity to outcomes desired is necessary.

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