MERIT RESEARCH JOURNALS
www.meritresearchjournals.org

Merit Research Journal of Medicine and Medical Sciences (ISSN: 2354-323X) Vol. 9(8) pp. 332-348, August, 2021
Available online http://www.meritresearchjournals.org/mms/index.htm

DOI: 10.5281/zenodo.5218719

Original Research Article

Forced Hands: The Emergent Adjustments to the Internship Training Program of the Department of Medicine, University of the Philippines – Philippine General Hospital in the Face of the COVID-19 Enhanced Community Quarantine

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Abstract

The COVID-19 pandemic adversely affected the delivery of medical education in the University of the Philippines – Philippine General Hospital. With the onset of the lockdown and the suspension of classes, all levels of medical school education were affected. The cautious resumption of educational activities at the beginning of May, 2020 forced major adjustments in the educational strategies of the college in order to complete the requirements of the second semester. These effects where strongly felt at the level of Learning Unit 7, the clinical internship program, where students not only had to complete second semester requirements, but also prepare for graduation and the upcoming board exams as well. The loss of face-to-face interaction and direct patient contact were major setbacks in accomplishing these goals and forced the department to shift to mainly online and asynchronous teaching and learning activities. However, these were also plagued by difficulties, paramount of which was the unreliable internet infrastructure in the country that hampered the access of many interns to online materials. This paper describes the efforts of the Department of Medicine's Learning Unit 7 committee to address the problems posed by the enhanced community quarantine period.

Keywords: Clinical Internship, COVID-19 lockdown, ECQ, Online learning

INTRODUCTION

On March 16, 2020, the Philippine government imposed the enhanced community quarantine (ECQ) in the island of Luzon as a response to the looming threat of the COVID 19 pandemic. The orders restricted non-essential movement of the population in all affected areas except for basic necessities, work, and health concerns. This restriction included temporary closure of all non-essential shops and businesses in an attempt to limit person-to-person contact, and ultimately to decrease the transmission of the virus. Temporary closure of schools and educational institutions and a temporary halt to all educational activities were also included in this directive. All medical colleges and universities were included. This enhanced community quarantine would have significant repercussions in the conduct of medical education in the country. Nowhere were these effects more significant than in medical education year levels whose students were candidates for graduation. As a result, most, if not all medical universities were severely challenged in delivering comprehensive medical education activities to its student population in the light of the complete lockdown and the loss of face-to-face patient encounters which, for a long time, was the backbone of clinical medical training. This paper seeks to describe the efforts

of the Department of Medicine, University of the Philippines – Philippine General Hospital (UP-PGH) to make serious and immediate adjustments to the medical education program for clinical internship in the light of the challenges posed by the ECQ.

The Initial Response of the Undergraduate Committee of the Department of Medicine

A week prior to the imposition of the ECQ, the Philippine government had already announced cancellation of all classes in all levels of education. In response, all activities associated with the internship program were placed on hold, and all clinical duties and ward responsibilities of the interns were cancelled. However, as a response to their desire to contribute to the alleviation of the problem and to contribute to the needed manpower of the department, many interns opted to continue their clinical activities as volunteers, handling non-toxic, non-infectious patients in the general service wards. The interns continued their tasks of monitoring patient status, assisting in work ups, and completion of clinical documents. The Undergraduate Committee of the Department of Medicine convened in an emergency meeting to address the situation. In the initial meeting, it was felt that with no directives present, it was best to maximize the learning opportunities for the interns until concrete directives from the college were available. Several consultants volunteered to conduct teaching bedside rounds with the volunteer interns who were present in the wards. It was also decided that the Department of Medicine would produce a series of simulated clinical cases with guide questions, which the interns could study and answer. In addition, an online forum was to be started, where interns would be grouped under an assigned preceptor to further discuss the case and highlight the important lessons. Implementation of this program, however, was curtailed after full implementation of the ECQ and subsequent directives from the UP College of Medicine (UPCM), Commission on Higher Education (CHED) and the Association of Philippine Medical Colleges (APMC), the summary of which may be found in the succeeding section. As a result, all volunteer interns were ordered to cease their activities and were sent home. All educational activities, including online activities were suspended as well. After March 16, 2020, no medical interns were present in all wards of UP-PGH.

Directives form the UP College of Medicine, CHED, and APMC on the Status of the National Internship Program

Several memoranda were received by all departments as a guide to the educational status of students during the start of the COVID-19 lockdown. Copies of these memoranda are included in Appendix 1. In summary, the gist of these communications are as follows:

(1) All classes in all levels of education, including clinical internship, shall remain suspended for the duration of the lockdown.

(2) In lieu of in-campus, face-to-face delivery of instructions, institutions are encouraged to explore alternative styles of learning, whether online based or non electronic types of learning, depending on the resources available. These shall be credited in lieu of the clinical rotation, without need for make-up activities for time missed due to the ECQ.

(3) Upon resumption of the clinical internship program, adjustments and/or revisions shall be made, with priority given to major rotations (Medicine, Surgery, Pediatrics, and Obstetrics-Gynecology). Elective programs and those requiring public health work outside the hospital shall be waived. Guiding principles are as follows:

- Creativity in revising curricular content, learning strategies, and assessments yet achieving the same learning outcomes
- Flexibility
- Leniency
- Self-directed learning
- Learning contracts
- Self-pacing

(4) In terms of clinical exposure, if any, interns should be assigned only to non-COVID wards. Rotations in the Emergency Room (ER), Out-Patient Department (OPD), and outside rotations for public health work will not be allowed.

(5) The Clinical Internship program shall be extended for up to 3 weeks (July 1, 2020 to July 21, 2020), depending on extent of flexible learning and other modalities utilized.

With the release of these guidelines and the announcement that teaching and learning activities would again resume in all levels at the beginning of May, 2020 the Learning Unit 7 (LU7) Committee of the College of Medicine met towards the end of April 2020 with the aim of setting plans for each clinical department for the remainder of the internship curricular year. Each department was assigned to produce a modification of its LU7 instructional design to accommodate the challenges of the lockdown. In response to this, the LU7 committee of the Department of Medicine met and identified the following options are potential learning activities for this specified period:

(1) Simulated clinical cases to be discussed using small group learning strategies via an online platform in order to observe the need for social distancing and to avoid the need for a physical presence in the hospital.

(2) Utilization of the developing COVID-19 Hotline, where interns may be given the opportunity to interview, evaluate, and advise patients with inquiries regarding the current pandemic.

(3) Release of “must-know” skills in Internal Medicine in a form of learning modules for self-study. Each module will then be evaluated via a post-test to be given online once a week.

Development of an LU7 Program for the Remainder of the Second Semester During the COVID-19 Lock-down

As the committee was preparing its final proposal, an important advisory from CM was received regarding the University of the Philippines (UP) System’s policy on the conduct of the second semester in the face of the current pandemic. A copy of this advisory may be seen in Appendix 2. An important component to this advisory was the recognition of the physical limits of the country’s internet infrastructure and how it would adversely affect any planned learning activity. This concern was heightened by the fact that many students had already gone home to their respective provinces when the lockdown was imposed. As such, not only would they be unable to return to Manila for continuation of their studies, but they were also now subjected to the limitations to internet access posed in their respective localities. This called the attention to the problem of parity with regards to access to learning activities and resources, with some having more difficulty in gaining access to learning materials than others. As a result, an important guide proposed by CM was that any online learning activity should be made optional, that provisions be made for those with limited or no access to the internet be done so that they may have means to access the learning material and a venue to submit any requirements, and that there should be no penalties for any intern who opts for the latter venue as their vehicle for learning during the lockdown period. In addition, potential problems were identified in utilizing the COVID-19 Hotline as a potential learning experience for the interns. Problems identified that would hamper its smooth utilization included the following:

(1) The need for the intern to be physically present in the hospital as the COVID-19 Hotline was located at UP-PGH Nursing Dormitory, and it was the only area where one could have direct access to it.

(2) Failure to develop a program that would allow the use of the COVID-19 Hotline set-up in an alternative venue outside the confines of the hospital.

(3) The observation that as the lockdown progressed over time and people were receiving information from other sources, there was a progressive decline in the number of inquiries received via the hotline. This could mean that, in the long run, there would not be enough calls available to allow all of the interns to have an encounter.

These changes forced the committee to review its initial proposals and modify these in the light of the above-mentioned limitations. Table 1 presents the revised outline for the LU7 activities in the Department of Medicine.

As a point of reference, Table 2 presents the original Instructional Design for the LU7 rotation of the Department of Medicine.

Learning Unit 7: Medicine 260 (Integrated Clinical Internship in Medicine)

Course Description

An 8-week program that is learner-oriented, and is intended to allow the medical students to actively manage patients in the charity medical wards, medical outpatient clinics, ER, and medical intensive care units under the direct supervision of medical residents and consultants.

In contrast, the changes in the LU7 rotation as a result of the lockdown are presented in Table 3.

Learning Unit 7: Medicine 260 (Integrated Clinical Internship in Medicine) – ECQ Instructional Design

Course Description

An 8-week program that is learner-oriented, and is intended to allow the medical students to develop skills needed in managing patients with basic Internal Medicine clinical problems in an atmosphere that discourages direct face-to-face contact and emphasizes only virtual teaching encounters in the face of the ongoing COVID19 pandemic.

Proposed Schema for the Computation of Final Grade for this Batch of Clinical Interns

a. Final grade computation for clinical rotation
i. Simulated clinical cases: 70%
ii. Weekly quizzes: 30%

Special Problems and Concerns

b. For interns who cannot physically come to PGH the hospital, the following options are available:
i. Access the learning materials and quizzes online
c. For interns with no or unstable internet access:
i. These shall be identified and email and physical addresses shall be collected.
ii. The minimum assumption is that they have at least access to emails.
iii. All materials shall be sent directly to email addresses. Responses shall be received also by email. A time frame

Table 1. Revised outline for the LU7rotation during the lockdown

LU7 Recommendations for Remaining Internship Rotations

I. Extent of the Problem:

a. Interns' groups still scheduled to rotate in Internal Medicine (IM)

i. Groups K, L, M, and N will have a 4-week rotation in IM

ii. Groups J, O, and P will have a 3-week rotation in IM

iii. Groups I and Q will have a 2-week rotation in IM

iv. Groups H and R will have a 1-week rotation in IM

b. Total number of students involved: 144

c. Time Frame: May 1 to June 20, 2020 (Week of June 23-27 was reserved for final and comprehensive exams)

II. Proposed Activities for LU7 During this Period

a. Simulated paper cases

i. Overview: The students will be sent 1 paper case a week and shall be tasked to prepare individual reports discussing the case in terms of identification of essential data in the history and PE, pathophysiologic correlation, development of a primary diagnosis, and list of differentials and proposals for diagnostic and therapeutic interventions. This shall be submitted to the Department of Medicine by the end of each week. Feedback shall consist of returned of graded reports with accompanying comments. A schema of how the case should have been approached will be provided once all reports have been submitted.

ii. Time frame: May 4 to June 20, 2020 at 1 case/week (TOTAL: 7 cases)

iii. Alternative approach: Same activity can be set as an online small-group discussion (SGD) instead of the submission of individual reports. However, the following conditions should be sufficed:

1. Dedicated volunteer preceptors(at least 8 preceptors) per week for the next 7 weeks
2. Interns must have stable internet connections

b. Weekly graded quizzes

i. Overview: These shall come from the topics presented to the interns comprising the essential skills in IM (electrocardiogram [ECG] interpretation, arterial blood gases [ABG] interpretation, fluid and electrolyte management, etc.). Originally, these were assigned to interns as a group presentation. However, since not everyone has equal access to internet, the recommendation was to give the interns the material for self-study and a weekly exam will be given as assessment. Exams shall be multiple choice questions (MCQs) administered via an online form. Feedback will be given before release of the next exam.

III. Proposed Schema for the Computation of Final Grade for this Batch of Interns

a. Final grade computation for clinical rotation

i. Simulated paper cases: 70%

ii. Weekly quizzes: 30%

IV. Special Problems:

a. For interns who cannot physically come to the hospital, the following options are available:

i. Access the learning materials and quizzes online

ii. Explore feasibility of creating a remote access for participation in the COVID-19 call center

b. For interns with unstable or no internet access:

i. These interns shall be identified and email and physical addresses shall be collected.

ii. The minimum assumption is that they have at least access to emails.

iii. All materials shall be sent directly to the intern's email addresses. Responses shall be received also by email. A time frame for submission shall be set.

iv. Final grade for their clinical rotation shall only come from the simulated cases and weekly quizzes with the following breakdown:

1. Simulated clinical cases: 70%
2. Weekly quizzes: 30%

Table 2. LU7 Rotation in internal medicine – instructional design

Learning objectives	LO addressed	Content	Teaching/Learning strategies	Resources	Evaluation
1. Generate primary and differential diagnoses from deliberate patient interview, physical examination, and diagnostic testing.	L1 (D) L2 (D)	Approaches to clinical signs and symptoms	Clinical rotations Ward/ICU/ER rounds Case presentation in OPD Morning endorsements Weekly conferences	Harrison's Principles of Internal Medicine Online/mobile resources Consultants and residents	Clinical performance evaluation form Oral exam Final exam
2. Plan and implement cost-effective short- and long-term management of medical conditions while taking into account the prognosis, patient preferences, availability of health services and the socio-economic context. a. istinguish priority levels of patient problems b. cquire and critically appraise evidence c. valuate therapeutic compliance and response d. odify or adjust diagnostic and therapeutic management as new information is gathered	L1 (D) L3 (P) L4 (D) L7 (D) L8 (D) L9 (D)	Formulating problem list Patient-centered care Evidence-based medical practice Cost-effectiveness Treatment guidelines Health systems and services Health financing Ethical issues in medicine Pathophysiology of diseases/conditions Adverse drug reactions/ Drug-drug interactions	Clinical rotations Ward/ICU/ER rounds Case presentation in OPD Morning endorsements Weekly conferences	Harrison's Principles of Internal Medicine Online/mobile resources Consultants and residents	Clinical performance evaluation form Oral exam Final exam
3. Summarize clinical information for documentation in medical records and effective endorsements to colleagues	L1 (D) L2 (D) L4 (D)	Formulating problem list Patient information management Privacy and confidentiality	Supervised chart entries/progress notes Clinical histories, abstracts, and discharge summaries Morning endorsements OPD case endorsements Ward/ER/ICU rounds Weekly conferences	Medicine Information System (Inpatient) Electronic charting (OPD) Medical charts	Clinical performance evaluation form In-service spot checks of clinical histories/abstracts Oral exam
4. Explain medical information to patients	L2 (D) L6 (D)	Patient education	Ward/ER/ICU rounds Morning endorsements OPD case endorsements	Online/mobile resources (including charts/figures/ images)	OSCE Final exam
5. Coordinate a medical team towards more efficient patient care	L5 (D) L10 (D)	Health systems and services	Ward "JAPOD"	--	Clinical performance evaluation form
6. Display professionalism at work and empathy in managing patients	L4 (D) L10 (D)	Privacy and confidentiality Ethical issues in medicine	Clinical rotations Ward/ICU/ER rounds	Harrison's Principles of Internal Medicine Consultants and residents	Clinical performance evaluation form OSCE Attendance Merit/demerit with justification

Abbreviations: ER, emergency room; ICU, intensive care unit; JAPOD, XX; OPD, out-patient department; OSCE, XX.
NOTE:LO = Learning Outcomes; D = demonstrated; P = performed; L1 = Clinical competence; L2 = Effective communication skills; L3 = Generalization and utilization of relevant knowledge; L4 = Interprofessional practice; L5 = Leadership; L6 = Effective teaching and organizational skills; L7 = Advocacy for social equity and social accountability; L8 = System-based approach to health care practice; L9 = Lifelong personal and professional development; L10 = Adherence to professional and ethical standards.

Table 3. LU7 Rotation in Internal Medicine – Revised Instructional Design for the ECQ period

Learning objectives	LO addressed	Content	Teaching/Learning strategies (PRE-LOCKDOWN)	Teaching/Learning strategies (POST LOCKDOWN)	Resources	Evaluation
1. Generate primary and differential diagnoses from patient subjective data, physical examination, and diagnostic testing	L1 (D) L2 (D)	Approaches to clinical signs and symptoms	• Simulated clinical cases for analysis and case discussion (1 case per week) • Self-study on essential skills in IM (Ex. ECG interpretation, ABG analysis, fluid and electrolyte balance, blood transfusion essentials, etc.)	• Submission of detailed discussion on the clinical case of the week followed by feedback once evaluated as well as release of sample of ideal case discussion. (OPTION: If it can be arranged, weekly online small-group discussions with a volunteer consultant preceptor) • Weekly quizzes on self-study topics (1 scheduled topic per week) followed by feedback	• Harrison's Principles of Internal Medicine • Online/mobile resources • Simulated clinical cases • List of essential IM skills for Interns • Internet access Tele-conferencing Apps Consultants and residents	• Simulated clinical case grading schema: Data analysis = 20%; Diagnosis and differentials = 20%; Basis for diagnosis and pathophysiologic correlation = 30%; Diagnostic, Therapeutic and Supportive management = 30% • Weekly quizzes (10-15 items) on self-study materials
2. Plan and implement cost-effective short- and long-term management of medical conditions while taking into account the prognosis, patient preferences, availability of health services and the socio-economic context. e. istinguish priority levels of patient problems f. cquire and critically appraise evidence g. valuate therapeutic compliance and response h. odify or adjust diagnostic and therapeutic management as new information is gathered	L1 (D) L3 (P) L4 (D) L7 (D) L8 (D) L9 (D)	Formulating problem list Patient-centered care Evidence based medical practice Cost-effective-ness Treatment guidelines Health systems and services Health financing Ethical issues in medicine Path-ophysiology of diseases/conditions Adverse drug reactions/ Drug-drug interactions	• Simulated clinical cases for analysis and case discussion (1 case per week) • Self-study on essential skills in IM (Ex. ECG interpretation, ABG analysis, fluid and electrolyte balance, blood transfusion essentials, etc.)			

Table 3. Continue

3. Summarize clinical information for documentation in medical records and effective endorsements to colleagues	L1 (D) L2 (D) L4 (D)	Formulating problem list Patient information management Privacy and confidentiality	• Clinical discussion of simulated clinical cases	• Prepare a comprehensive case discussion summarizing the critical data from the simulated clinical case, show basis for diagnosis and list of differentials, discuss pathophysiologic correlation of diagnosis with case presentation, propose a comprehensive, evidence-based, economically viable management plan	• Simulated clinical cases • Internet access • Tele-conferencing Apps Consultants and residents	• Evaluation tool for simulated clinical cases (see above)
4. Explain medical information to patients	L2 (D) L6 (D)	Patient education	• Clinical discussion of simulated clinical cases with emphasis on non-pharmacologic therapeutics	• Include essential non-pharmacologic therapeutic maneuvers with emphasis on disease education and prevention		
5. Coordinate a medical team towards more efficient patient care	L5 (D) L10 (D)	Health systems and services	• Simulated clinical cases • Self-study materials	• For simulated clinical cases, include in discussions the role of other specialties and subspecialties in case management as well as the role of allied health care workers and lay care givers	• Simulated clinical cases • Internet access • Tele-conferencing Apps Consultants and residents	• Grading scheme for simulated clinical cases (see above)
6. Display professionalism at work and empathy in managing patients	L4 (D) L10 (D)	Privacy and confidentiality Ethical issues in medicine	• Simulated clinical cases with discussion emphasizing roles of allied health care professionals	• Emphasis on the role of professionalism and empathy when discussing simulated clinical cases	• Simulated clinical cases • Internet access • Tele-conferencing Apps Consultants and residents	• Grading scheme for simulated clinical cases (see above)

Abbreviations: ABG, arterial blood gases; ECG, electrocardiogram; IM, Internal Medicine.
NOTE:LO = Learning Outcomes; D = demonstrated; P = performed; L1 = Clinical competence; L2 = Effective communication skills; L3 = Generalization and utilization of relevant knowledge; L4 = Interprofessional practice; L5 = Leadership; L6 = Effective teaching and organizational skills; L7 = Advocacy for social equity and social accountability; L8 = System-based approach to health care practice; L9 = Lifelong personal and professional development; L10 = Adherence to professional and ethical standards.

Table 4. Summary of revisions in teaching-learning activities for the LU7 rotation in Internal Medicine

Summary of Teaching – Learning Activities

Original Activities	Alternative T-L Activities
Clinical Rotations (Wards, OPD, ER)	Weekly Simulated Clinical Cases
Teaching Rounds (Ward, ICU, ER)	
Clinical Case Presentations in OPD	
Morning Endorsements	(-)
Weekly Conferences	Self-study Materials on Basic IM Clinical Skills (ECG Interpretation, ABG Interpretation, Blood Transfusion, Fluid and electrolytes, etc.)
Supervised Chart entries	Weekly Simulated Clinical Cases

Summary of Assessment Tools

	Original		Post-Lockdown	
	Assessment Tools	**% Distribution**	**Assessment Tools**	**% Distribution**
Clinical Evaluation – Consultants	Rating scale	35%	Rating scale for simulated cases	70%
Clinical Evaluation – Residents	Rating scale	30%		
Oral Examinations	Oral Exam Evaluation Tool	10%	Weekly quizzes on Self-directed learning materials	30%
Written Examination (Finals)	Written Objective Examination	25%	(-)	(-)
TOTAL		**100%**		**100%**

for submission shall be set.

iv. Final grade for their clinical rotation shall only come from the simulated cases and weekly quizzes with the following breakdown:

1. Simulated clinical cases: 70%
2. Weekly quizzes: 30%

A summary of the revised Teaching and Learning Activities is presented in Table 4.

Our proposals were submitted to the CM LU7 Committee and after a review period, were accepted for implementation. These activities were set to begin on the 1st week of May 2020 and would last for 7 weeks, ending on June 19, 2020.

Methodology and Implementation of the Revised LU7 Program During the Lockdown Period

Demographics

A total number of 338 clinical interns rotated in the Department of Medicine for school year 2019 2020. Their average age was 26.5 years with an age range of 22 – 31 years. Two types of interns rotated in the department. The first are those who started medical school under the University of the Philippines (UP-CM) system who have not yet obtained their Doctor of Medicine degree and are scheduled to graduate upon completion of their internship program. The second are those who completed their medical education in other medical schools, are termed post-graduate interns (PGI) and, unlike UP students, have already graduated from a 4-year medical course and are thus holders of a Doctor in Medicine degree. Neither of these groups have undergone board certification examinations yet. The distribution of these two groups as summarized in Figure 1.

In addition, interns who are products of the UP-CM system have options to select 4 tracks for their rotation. These tracks are briefly described as follows:

- Track A – Rotations in all the clinical specialties and is equivalent to the traditional internship program. Majority of interns belong in this track.
- Track B – Rotations in major specialties (Medicine, Surgery, Pediatrics, and OB-Gynecology) plus elective rotations
- Track C – Straight internship, where the intern opts to rotate in only one major specialty for the entire year
- Track D – The MD – PhD program where interns have the option to pursue a Master's degree while completing rotations in major specialties

Only graduates of UP-CM have the option to select an internship track for rotation. By default, all PGIs are

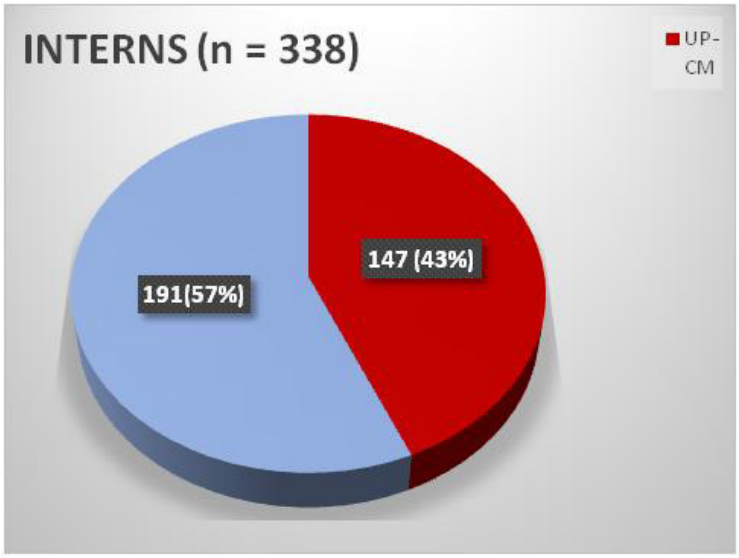

Figure 1. Distribution of interns by medical school

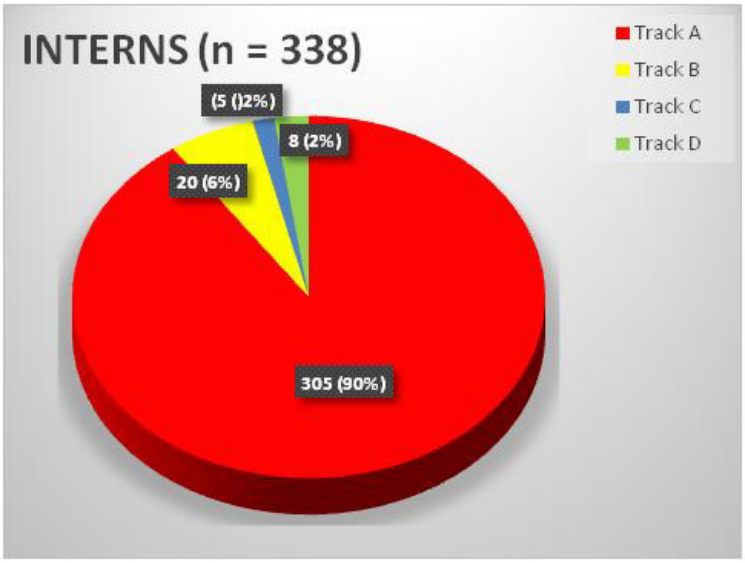

Figure 2. Distribution of interns by rotation tracks

automatically assigned to the Track A rotation. The distribution of interns based on their tracks of rotation are summarized in Figure 2.

With the onset of the COVID-19 pandemic and the subsequent lockdown, it was inevitable that some of these interns would end up rotating in the department where the policies now prevented face-to-face clinical rotations. It was these group of interns that were subjected to the modified course presented in this paper. A regular rotation in the department would last for 8 weeks, with 6 of those weeks spent in the medical ward and 2 weeks spent in the emergency room. However, with the advent of the lockdown, those affected would rotate from 4 to 7 weeks. A total of 144 (42%) interns would eventually end up with either an incomplete or no clinical rotation in the Department of Medicine. This is summarized in Figure 3.

Of the 144 interns who ended up with incomplete rotations, their breakdown based on medical school of origin is summarized in Figure 4.

In this group of interns, the loss of face-to-face contact resulted in an instructional strategy that weighed heavily on the use of online platforms to facilitate case discussions. However, in the Philippines, the infra-structure that would allow interns connectivity access to the internet remains underdeveloped. Consequently, there was great concern that there may be a significant portion of interns who may have connectivity problems,

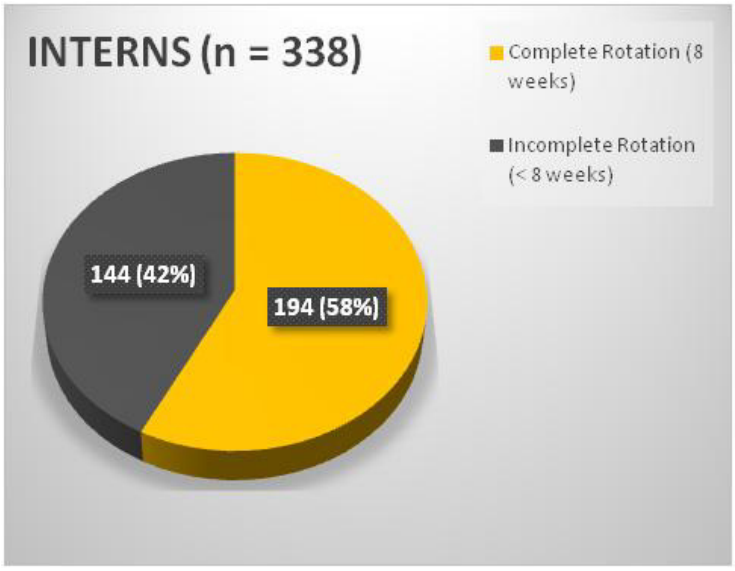

Figure 3. Distribution of interns based on completeness of medicine rotation

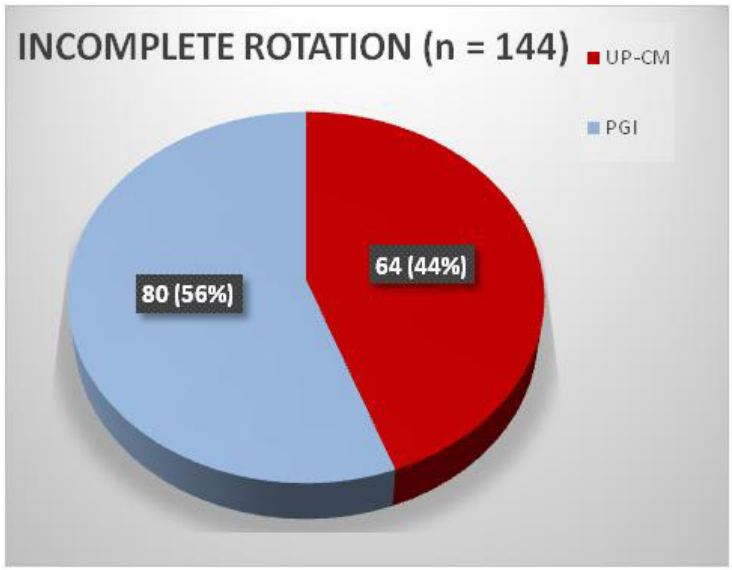

Figure 4. Distribution of interns with incomplete rotations based on medical school

thereby hampering their participation in the activities designed to take the place of a regular clinical rotation. To determine the extent of this problem, the affected interns were polled as to their capability to participate in an online learning platform. Results of this survey are summarized in Figure 5.

Furthermore, these groups can be subdivided based on medical school of origin. Figure 6 summarizes this for those with no issues in internet connectivity while Figure 6 does the same for those with significant issues in internet connectivity.

Faculty Demographics

The Department of Medicine was fortunate that given the short period of preparation, quite a number of faculty volunteered to participate as facilitators for the case analysis of the simulated cases. A Total of 61 members of the Faculty of the Department of Medicine volunteered to participate in this activity. Table 5 summarizes the background of faculty members who were involved, while Table 6 shows distribution of participating faculty by division. These illustrate the wide variety in terms of

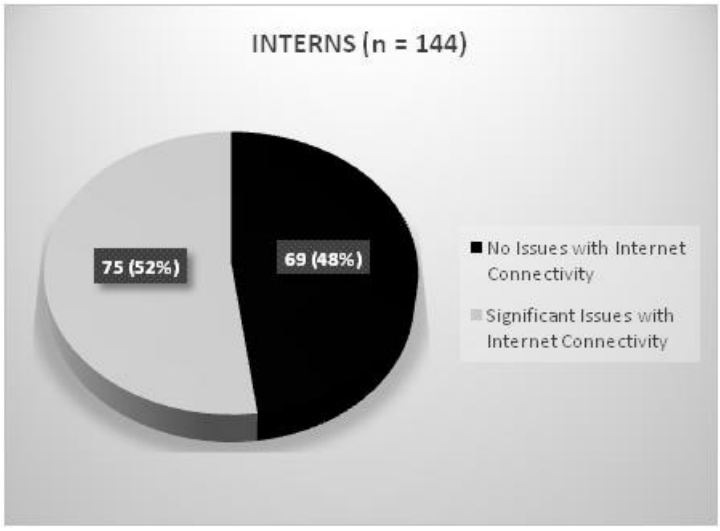

Figure 5. Distribution of interns affected by the lockdown based on their internet accessibility

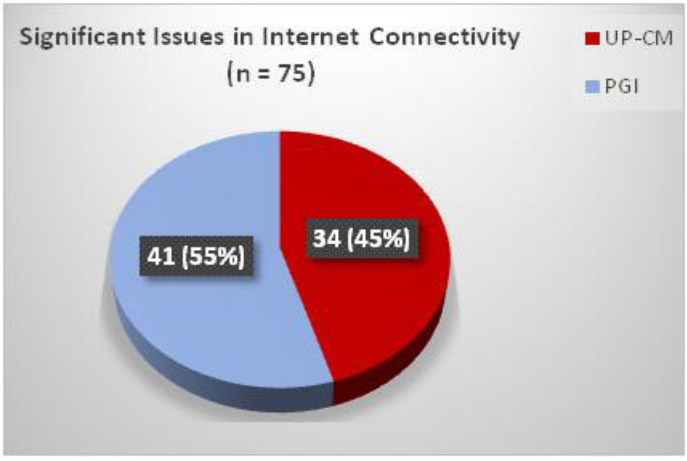

Figure 6. Distribution of interns based on medical school of origin who have significant issues in internet connectivity

Table 5. Academic background of faculty facilitators for the LU7 simulated cases

Academic Rank	Number	Average Years Of Service	Range
Professor	5	11.8	3 – 28
Associate Professor	9	7.6	2 – 18
Clinical Associate Professor	33	7.7	0.6 – 25
Medical Specialists[1]	5	12.8	9 – 18
Cross Appointees[2]	5	11.2	6 – 16
Pending Appointments	4	NA	NA

1Medical specialists are members of the Department of Medicine whose appointments are with the Philippine General Hospital rather than with the College of Medicine.
2Cross appointees are members of the Department of Medicine whose main appointments are with the Basic Science sector of the College of Medicine but also have appointments in the Department of Medicine by virtue of their being Internists and Internal Medicine subspecialists.

Table 6. Distribution of Participating Faculty based on their Division

DIVISION	NUMBER
Cardiology	10
Gastroenterology	8
Adult Medicine	6
Endocrinology	5
Nephrology	5
Oncology	5
Rheumatology	5
Hematology	4
Infectious Disease	4
Pulmonary Medicine	4
Allergy/Immunology	2
Nuclear Medicine	2
Hypertension	1
Total	**61**

subspecialty and experience that was made available to the interns during this time and was a very valuable resource that could be utilized during the pandemic.

Methodology and Simulated Clinical Case Development

A total of 7 simulated clinical cases were developed for case discussions, with one case handled every week. The activity was conducted between May 4 and June 19, 2020. An assigned member of the LU7 faculty was designated to develop these cases, and each case would have the following characteristics:

1. The case would tackle a specific clinical problem derived from the common expected clinical cases that an intern was expected to encounter.
2. Each case would be presented in a narrative fashion, with the key elements in the history and physical examination presented in a random manner. This was designed to allow the intern to select the pertinent data and organize these into a coherent report.
3. Guide questions would be provided after each case to help facilitate the report and direct the case discussion.
4. Assigned cases would be released on the weekend preceding the week for the scheduled discussion.
5. A case rubric would be produced, outlining the minimum expectation as to how the case was to be discussed. The rubrics would be disseminated to all faculty involved in facilitating the case discussions and would be released to them on the week of the assigned case. These rubrics would also be posted online on the weekend following the case discussion so that the interns may review the output and compare with their own reports.
6. Evaluation of each case would be accomplished using a developed rating scale.
7. Based on the census of the interns' accessibility to the internet, two groups of interns were formed. The first group consisted of those interns with stable internet connectivity. For these interns, case discussion was handled as an SGD, facilitated by a member of the faculty, with the meeting handled via an online teleconferencing app. Access to the evaluation form by faculty in this group would be via the use of an online form. The second group consisted of those interns with poor or no access to the internet. For these interns, case discussion was accomplished through the submission of a written case report. These reports were all due before the end of the assigned week, prior to the publication of that week's case rubric. Submitted reports would then be distributed to designated members of the faculty for review, comments, and grading. Hard copies of the evaluation form used in the first group of interns would be provided for reporting of grades.
8. Faculty serving as either SGD facilitators or evaluators of written reports were rotated among the different groups so that each group would have the opportunity to engage with a different member of the faculty for every case discussion.

Table 7 presents a list of the clinical cases developed. Samples of the developed clinical cases, the accompanying rubric and a copy of the evaluation form used can be seen in Appendix 4.

Methodology and Weekly Quizzes for Self-Study Topics

Simultaneous to the weekly paper case discussion, the interns were also provided with a list of topics and reading materials which were assigned for self-study. Main reference used for these topics was Harrison's Textbook of Internal Medicine, unless otherwise

Table 7. Summary of simulated paper case developed for the LU7 rotation during the lockdown period

Date	Title	Description
May 4, 2020	Progressive Dyspnea	55/M, chronic smoker, jeepney driver with a family history of PTB with complaints of progressive dyspnea, productive cough, hemoptysis, and weight loss
May 11, 2020	Congestive Heart Failure	64/M businessman, chronic smoker, overweight, and sedentary with a history of hypertension and ischemic heart disease with complaints of progressive dyspnea, orthopnea, and edema
May 18, 2020	Obstructive Jaundice	48/F, obese, multiparous with complaints of colicky abdominal pain, jaundice, and fatty-food intolerance
May 25, 2020	Pleuritic Chest Pain	32/M smoker with complaints of fever, productive cough, progressive dyspnea, and pleuritic chest pain
June 1, 2020	Spinal Cord Compression	70/F non-ambulatory with complaints of progressive lower back pain, weight loss, anorexia, and low-grade afternoon fever
June 8, 2020	Palpitations	32/F with complaints of palpitations, weight loss, progressive dyspnea, and heat intolerance
June 15, 2020	Jaundice and Fever	45/M jeepney driver living in an area with poor sanitation, who was exposed to flood waters with complaints of fever, generalized body malaise, and jaundice

specified. The topics selected represented essential skills that an intern rotating in medicine was expected to know. Every week, materials on a particular topic were disseminated for this purpose. At the end of said week, a post-test was then conducted on the assigned topic. A Total of 7 weekly quizzes was administered during this period. Table 8 summarizes the topics covered by this exercise for this given period. Samples of the weekly quizzes can be seen in Appendix 5.

DISCUSSION

The onset of the COVID-19 pandemic and the resulting enhanced community quarantine (ECQ) that occurred as part of the measures to control viral spread adversely affected the delivery of medical education in the College of Medicine of the University of the Philippines – Philippine General Hospital. All levels of medical education were affected. This paper seeks to describe how the Department of Medicine sought to address and adjust to the issues and problems that arose as a consequence of the ECQ on the clinical training of the remaining clinical interns still rotating in the Department of Medicine.

The initial reaction to the onset of the COVID-19 pandemic, as far as medical education is concerned and clinical internship in particular, appears varied and dependent on both the way they view internship and their health priorities. In the United States, the Association of American Medical Colleges, who have classified interns as students and not qualified MDs, have suspended clinical internship and recommends that “unless there is a critical health care workforce need locally, we strongly suggest that medical students not be involved in any direct patient care activities” (Miller et al., 2020). However, in Europe, where health care systems in countries such as Italy and the United Kingdom are struggling to cope with the outbreak, medical students are being fast-tracked into early graduation and medical service in order to bolster the manpower needs of their health care systems (CNN World, 2020). Some have actually advocated that clinical interns be allowed to continue with clinical training and be empowered and educated to deal with COVID-19 cases, and as a result, learn and gain experience on how to deal with pandemic situations (Miller et al., 2020). In the Philippines, clinical interns are classified as students, and the lockdown that was designed to limit the spread of the virus has resulted in an interruption of their training. Furthermore, memoranda from both CHED, APMC and UPCM specifically put a halt to face to face contact as far as training was concerned, ending any type of face-to-face instructional activity as well as direct patient interaction by the clinical interns for the rest of the year. But despite these limitations on educational activities, completion of the semester would continue, and medical institutions were challenged to ensure that their clinical interns would complete their requirements, albeit without the expected clinical activities. Both CHED and APMC advised that any activity selected to replace the lost clinical exposure would be guided by the concept to equitability and leniency; equitability in the sense that the clinical interns would have equal access to these revised activities, and leniency in the sense that their accessibility will not be jeopardized by any limitations an intern may have, like for

Table 8. List of self-study topics for interns during the lockdown period

Topic	Content
Basic Interpretation of a CXR PA	1. Go through the steps in reading an X-ray a. Identify the patient b. Identify the view c. Assess the quality d. Assess the anatomy and abnormalities e. Determine the presence of abnormalities f. Common CXR pathologies
Community Acquired Pneumonia (Recommended reference: 2016 CAP guideline updates)	1. Sample case 2. Differential diagnosis 3. Diagnostics 4. Risk stratification 5. Treatment 6. Response to therapy 7. Reasons of lack of response to therapy 8. Antibiotics for streamlining 9. Duration of treatment 10. Hospital discharge criteria
Basic Electrocardiogram Interpretation	1. Introduction - Summary of cardiac electrical activity, leads and hexaxial system, ECG waves 2. Rate 3. Rhythm 4. Intervals 5. Axis 6. Hypertrophy or chamber enlargement 7. Ischemia or infarction 8. Miscellaneous 9. Arrhythmias (atrial and ventricular) - examples and how they look like on ECG a. SA node disorders b. AV blocks c. Premature beats d. Paced rhythms 10. Others a. Bundle branch blocks b. Pericarditis c. WPW d. Pulmonary embolism e. Electrical alternans 11. Artifacts
Acute Coronary Syndrome	1. Overview: definition and classification of acute coronary syndromes 2. Clinical manifestations 3. Differential diagnoses 4. Physical examination 5. Diagnostics 6. Risk stratification (NSTE ACS and STEMI) 7. Management of NSTE ACS 8. Medical Management for STEMI 9. Reperfusion Therapy 10. Complications of STEMI 11. Supportive and preventive care
Basic Concepts in Fluid and Electrolytes	1. Hypokalemia - Causes, presentation, and management 2. Hyperkalemia - Causes, presentation, and management 3. Hypocalcemia - Causes, presentation, and management 4. Hypercalcemia - Causes, presentation, and management 5. Hypomagnesemia - Causes, presentation, and management 6. Hyponatremia - Causes 7. Hypernatremia - Causes 8. Commonly used IVF and their contents

Table 8. Continue

Diabetes Mellitus	1. Diagnosis and Classification 2. Pathogenesis 3. Clinical Features (History and PE) 4. Laboratory Assessment 5. Comprehensive Medical Care 6. Exercise 7. Assessment of control (SMBG, HBA1C) and Treatment Goals 8. Insulin - preparations, regimens 9. Oral hypoglycemic agents a. Biguanides and Thiazolidinediones b. Sulfonylureas and Secretagogues c. GLP1 agonists d. Alpha glucosidase inhibitors e. SGLT2 inhibitors 10. Choice of OHAs
Basic Interpretation of Arterial Blood Gas Results	1. Go through the steps in interpreting an ABG a. Primary acid-base disorder (clinical examples of each primary acid-base disorder) b. Predict compensation c. Secondary acid-base disorder d. Anion gap and delta-delta e. Oxygenation status 2. Sample cases (preferably one of each respiratory alkalosis, metabolic acidosis, metabolic alkalosis, and respiratory acidosis)
Pulmonary Tuberculosis (Recommended Reference: Clinical Practice Guidelines for the Diagnosis, Treatment, Prevention and Control of Tuberculosis in Adult Filipinos 2016 Update)	1. Diagnosis of TB in the General Population 2. Treatment of TB 3. Drug-resistant TB 4. TB among HIV and other high-risk groups 5. Prevention and Control of TB
Anemia and Blood Transfusion	1. Causes and types of anemia 2. Diagnosis 3. Principles of management 4. Principles of blood transfusion and component therapy 5. Complications of component therapy

Abbreviations: ABG, arterial blood gas; ACS, acute coronary syndrome; AV, atrioventricular; CAP; community-acquired pneumonia; CXR, chest X-ray; ECG, electrocardiogram; GLP1, glucagon-like peptide-1; HBA1C, hemoglobin A1C, HIV, human immunodeficiency virus; IVF, intravenous fluids; PA, posteroanterior; PE, physical examination; SA, sinoatrial; SGLT2, sodium-glucose co-transporter-2; SMBG; self-monitoring blood glucose; STEMI, ST-elevation myocardial infarction; TB, tuberculosis; WPW, Wolff-Parkinson-White syndrome.

example, having access to online materials in the light of an insufficient infrastructure for internet access. These were very stringent limits placed on training institutions, who had to balance the need to complete the clinical internship training and allow their clinical interns to graduate on one hand with the need to provide them with quality medical training. The Department of Medicine of UP-PGH was no exception. Faced with the challenge to complete the remaining months of clinical internship, the department chose to adhere to the strict guidelines provided and selected online activities as the means for completion of requirements. It was not an easy transition. After the onset of the ECQ, wherein all class activity of any sort was suspended for 2 weeks, the department was advised on clinical internship resumption, and that the department had no more than 8 weeks until the end of June 2020 to make sure that said training was completed. Given the short preparation time, limited resources, and the halt on any type of face-to-face contact, the department decided to approach the problem by resorting to the use of simulated clinical cases, evaluated by means of a prepared rating scale. It appears to be a common idea for many institutions who have transitioned to an online platform given the loss of face-to-face contact (Samya et al., 2020). This was further bolstered by the release of self-study materials, for which weekly short quizzes were used as an assessment tool. The department had wanted to utilize the recently developed COVID-19 Hotline Center as another means of providing interns with clinical

experience. By serving as call center respondents providing the public with important information on the ongoing pandemic, it would have given the clinical interns much valuable patient contact time, as well as an opportunity not only to learn the information on COVID 19, but also to develop the ability to disseminate said information to the public in a manner that was easy to understand. However, its application was hampered due to several factors: the lack of dependable internet infrastructure in the country that could be equally accessed by all clinical interns, the need to be physically present in the hospital, since the call center hub was located there, the difficulties posed by creating an off-site center so that clinical interns could field calls from their own homes, and the eventual decline of phone calls inquiring about COVID-19, as the public gained information from other sources. Thus, in the end, only the first two activities were considered as viable options.

The implementation of the simulated clinical cases and weekly quizzes where not without their own difficulties. The most apparent was the unequal accessibility to internet resources among the interns. While some claimed to have good access, others had either access that were exceedingly slow, while others had hardly any access at all. Following the College of Medicine's directive on leniency, and the assurance that everyone would have access to the material, adjustments were made. As a result, those who had good access could choose to conduct their case discussions online, facilitated by a member of the faculty and utilizing an online teleconferencing app for this purpose. Those who had difficulty or had no access to the internet were given the option to submit discussions as written reports, to be submitted to and evaluated by a member of the faculty. Both instances were viewed as equal, with no penalties incurred for those who selected either option. Weekly quizzes where distributed using an online messaging app, since it has been used as a communication tool between the department and the interns for a certain period of time, and everyone was familiar with its use. The quizzes were in sent as an electronic document, and responses were emailed back to the respective faculty member and was manually checked. To complete the learning cycle, feedback for both activities were provided. For the simulated clinical cases, a case rubric was released once all group discussions were completed and written reports were submitted. These detailed how the department would have wanted the interns to discuss a particular case and the points to emphasize. For the quizzes, feedback was done by releasing the answer key once all responses were collected. Any clarifications were addressed to by the committee again via an online messaging app.

Our response to the COVID-19ECQappears simple, yet it belies the great difficulty the department went through in attempting to respond to a very challenging situation. Despite the many limitations, coupled with personal fears and concerns with regards to the ongoing pandemic, the department was still fortunate to have found assistance in doing our work. The department had the full support and assistance from the College of Medicine, from whom the department was able to gain useful advice. Further, the College of Medicine made sure that clinical interns were not disenfranchised as much as possible through efforts such as providing financial assistance for those who needed better internet accessibility and assisting those interns who were locked out of Manila in their attempts to return to complete their studies. The faculty members had strong support from the department, whose leadership provided the needed driving force to formulate and execute a solution to this crisis. The department has dedicated faculty, many of whom took time out and volunteered to either handle online small group discussions or receive and correct written reports despite being burdened by their own personal concerns about the pandemic. Most of all, the department had an indefatigable core of medical residents who, despite performing their regular duties as COVID-19 front liners, did much of the background work, ensuring documents were distributed, deadlines were met, requirements were completed, and that the program ran as efficient as possible. If there was any great lesson that the department learned from this experience, it was the great resiliency of the individuals who are dedicated to the institution in making sure that the job was done with excellence, given the circumstances.

This paper details the plans and preparations made in order to address the problems created by the COVID-19 ECQ on clinical internship training in the Department of Medicine, UP-PGH. These plans went into effect on May 1, 2020, and were completed by June 26, 2020, when the clinical interns undertook their comprehensive examinations. Future reports intend to describe the outcomes of this group of interns and to compare their results with those who had complete rotations in the department. The department will also describe satisfaction indices for both students and faculty with regards to this activity. It shall be important feedback that could serve as a guide for any future disruption in the internship training program.

CONCLUSION

The onset of the worldwide COVID-19 pandemic and the imposition of the Enhanced Community quarantine gravely affected the conduct of medical education. This effect was particularly felt in the clinical internship training program with the loss of clinical face-to-face patient contact thereby reducing the opportunities for gaining further clinical experience. This forced training institutions to suddenly shift all educational activities to a virtual environment, at a time when the faculty were just beginning to develop some degree of familiarity with the

process, resulting in the onset of a very steep learning curve for this particular skill. This paper describes the efforts of the Department of Medicine of the College of Medicine, University of the Philippines – Philippine General Hospital in an attempt to adapt to this sudden shift in educational platform. Our initial experiences show that this adaptation is feasible and adequate adjustments can be made even under short notice. Such an adaptation could only have been achieved in the presence of a responsive and dedicated faculty who were willing to grapple with the challenges of unfamiliar technologies and techniques, supported in no small means by able leadership from its department head as well as administrative support from both the College of Medicine and the Philippine General Hospital. Given that this pandemic will be with us for a longer period of time, cooperation between faculty, college administration, hospital authorities and the student themselves will be needed in order to meet the challenges of a revised educational environment and problems associated with it. It was this spirit of cooperation and dedication that allowed our department to make the necessary adjustments during the initial phase of the Enhanced Community Quarantine in the first place and it is this same dedication and cooperation that shall carry our efforts into the future.

ACKNOWLEDGEMENTS

This paper would not have been possible without the assistance from the following: 1) Dr. John Anonuevo, Chair of the Department of Medicine; 2) Dr. Lia Palileo, Undergraduate Chair of the Department of Medicine; 3) Faculty members of the Learning Unit 7 Committee of the Department of Medicine; 4) Resident coordinators for Learning Unit 7, Department of Medicine; 5) College of Medicine Learning Unit 7 students and post-graduate interns of Class 2020.

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