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Surviving the COVID-19 Pandemic: Lessons Learnt and Experience of a Private Medical School in Malaysia

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ABSTRACT

As a small group of academicians in a private medical university in Malaysia, we observed, in 2020, how the COVID-19 pandemic, changed our lives and the lives of our students. We would like to share our experiences in this commentary. It describes the contingency plans taken by the School of Medicine at International Medical University (IMU) to ensure that the delivery of the medical curriculum and its assessments has the best possible outcome in these tumultuous times, with plans to improve the delivery of teaching and learning, with an emphasis on technology-enhanced learning (TEL). We hope that this commentary is beneficial to those reading and that the contingency plans developed by IMU will help other institutions in the country and in this region navigate safely through the COVID-19 storm.

Keywords: *COVID-19, Medical education, Online, Curriculum, Assessment*

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INTRODUCTION

This commentary was based on the authors' experiences in the year 2020, during the COVID-19 pandemic. The opinions expressed in this commentary are our own and not that of the International Medical University (IMU). We reflect that educational institutions must adapt, innovate and be resilient to “build back better” (1).

CONTEXT

The IMU Bachelor of Medicine and Bachelor of Surgery (MBBS) curriculum is an integrated system-based curriculum delivered over five years – the first half, named medical sciences, prepare preclinical medical students for the subsequent clinical years, aptly named, clinical sciences. The medical sciences years include plenaries, medical museum sessions, practical sessions,

problem-based learning (PBL), clinical skills sessions, and clinic/hospital/field visits, while the clinical sciences years include teaching and learning activities at clinical placements, such as in the clinics, hospitals and clinical simulation laboratories.

Assessments are formative or summative. Summative assessments consist of continuous assessments (CAs) and progression-point examinations. CAs are held at the end of each module/posting/semester. Progression point examinations are the First Professional Examination (Parts 1 & 2), Second Professional Examination and Final Professional Examination (Parts 1 & 2).

The assessment components are summarised in Table 1.

The IMU has a substantial number of international students due to its partner medical school (PMS) programme whereby students who have completed the medical sciences phase, transfer to one of the 21 partner universities in Australia, New Zealand, Canada, United Kingdom, and Ireland.

IMPACT OF COVID-19 PANDEMIC ON THE IMU MBBS PROGRAMME

During the various iterations of the movement control order (MCO), students were either not allowed, or allowed in limited numbers, to return to campus for face-to-face (F2F) teaching-learning (TL) sessions. The School of Medicine began online delivery of the medical curriculum from 1 April 2020. Beginning 1st July 2020, senior students were allowed to return to campus for F2F TL, under strict standard operating procedures, followed by other semesters returning in batches with full operability from 1st October 2020.

Unfortunately, during the 3rd wave of the pandemic, there was further disruption of F2F TL sessions, with additional advisories being released periodically, and the reimposition of MCO 3.0, rendered the original intended full operability date on 1st March 2021 unviable. After an initial period of interruption, there was a gradual return of access to clinical placements although medical sciences teaching and learning remained largely online throughout 2021.

Table 1: Summary of assessment tools in the IMU MBBS programme

Medical sciences	Clinical sciences
Continuous assessments	Continuous assessments
OBA	OBA
	EMQ
First professional examination part 1	Second professional examination
SEQ	OBA
OSPE	EMQ
OSCE	OSCE
First professional examination part 2	Final professional examination part 1
SEQ	OBA
EMQ	MEQ
OSPE	OSCE
OSCE	Final professional examination part 2
	Portfolio viva-voce
	Clinical long case

Notes: OBA = One best answer; SEQ = Structured essay question; OSPE = Objective structured practical examination; OSCE = Objective structured clinical examination; EMQ = Extended matching question; MEQ = Modified essay question

The impacts of the pandemic on the IMU MBBS programme are categorised into five main areas, namely, movement restrictions, TL, assessment, finance, and quality. These are summarised in Table 2.

IMU's RESPONSE TO THE COVID-19 PANDEMIC

Immediately after the announcement of the first MCO on 18th March 2020, IMU's Crisis Management Team (CMT) was formed. The team comprised of senior members representing academicians, human resource, finance, and marketing, including experts in public health and infectious diseases. The CMT met regularly to deliberate on the interpretation of various government advisories, seek clarification from relevant bodies, formulate standard operating procedures and guidelines, and

recommend interventions for consideration by the senior management team (SMT) for quick decision-making. Changes initiated by the School of Medicine in the five identified areas (Table 2) were guided by directions from the CMT and SMT.

Changes in Response to Travel Restrictions

Malaysia and other countries-imposed travel restrictions in a bid to lock down and stem the fast-spreading COVID-19 infections. These travel restrictions had a knock-on effect on many international students, who were unable to return to Malaysia, to continue their studies. Some of these students had poor bandwidth and/or unstable internet connectivity in their home countries. In Malaysia, local students in "red zones" were unable to return to campus; some of these students also had issues with internet connectivity.

Table 2: Impact of COVID-19 on IMU MBBS programme

Area	Impact of COVID-19 on MBBS programme	Net effect
Travel/movement restrictions	Cross border travel restrictions – international students unable to return to resume studies. COVID-19 pandemic challenges in partner school countries limit entry of eligible students. Interstate/zonal/movement control travel restrictions - Local students unable to return in time for scheduled sessions.	Increased reliance on online learning. Delayed face to face clinical skills teaching. Delayed transfer to PMS.
Teaching and learning	Limited or no F2F sessions during MCO. Social distancing – available classroom/ clinic/ward can accommodate less people.	Frequent timetabling changes. Variations in access to online material. Increased use of simulation based /hybrid learning for clinical training.
Assessment	Limited or no F2F assessment. Reduced exposure to patients/clinical environment for medical sciences students.	Need to develop new online assessment modalities exam questions meant for F2F assessment not always suitable for online assessment.
Finance	Financial resources of students stretched.	Challenges in paying fees, paying for accommodation and transportation.
Quality	Potential for reduced clinical experience prior to internship.	Need to prioritise clinical experience for students in year 5.

IMU's responses included:

- a. Individualised support for distance learning, including recordings of online sessions; once students were able to return to campus, optional catch-up sessions were made available to them.
- b. Deferring F2F and hands-on clinical skills sessions.
- c. Providing a local track option for students who were unable to transfer overseas, join a different overseas PMS track that was available, or defer the semester entirely.
- d. Giving students the option of deferring the entire semester without penalty.

Changes to Teaching and Learning

Two weeks after the declaration of MCO in March 2020, all TL activities were moved to an online platform to ensure its continuity in a safe environment. Naturally, this presented significant logistical challenges, which impacted the delivery of the curriculum in many ways, including:

- a. The immediate transition from F2F TL sessions to online synchronous sessions which were broadcasted live; recordings were provided for students who were unable to attend the live sessions.
- b. The adoption of various online TL models, including recorded lectures and clinical skills procedures, video conference-based small group teaching, flipped classroom, live telecast and live discussions with clinicians and simulated patients.
- c. The greater use of educational technology tools such as Articulate 360, Vyond, Camtasia, and Microsoft Teams, Sway, and Whiteboard.
- d. Delivering selected activities online asynchronously; and allowing

submission of assignment using the learning management system (LMS) platform.

- e. Implementing an institutional subscription of the AMBOSS platform, which was a credible digital medical resource.
- f. Converting educational resources into microlearning media including infographics, interactive videos, games, and quizzes, which were accessible via the LMS.
- g. Creating virtual clinics that were focussed on telemedicine, which gave examples of online patient-doctor interactions.
- h. Physically converting discussion rooms into simulated healthcare facilities, including simulated wards, clinics, operation theatres and emergency department cubicles, to make up for the limited access to affiliated healthcare facilities.
- i. Ensuring continuity of the clinical experience for students in the clinical sciences phase by adopting a blended learning model whereby learning outcomes were achieved through a combination of real, and simulated learning environments, online learning and microlearning resources.
- j. Conducting case-based discussions using archived clinical case reports to supplement and partly replace bedside discussion as well as conducting catch-up clinical sessions whenever F2F sessions were permitted.
- k. Postponing community-based and hospital/clinic-based activities while bringing forward theory components.
- l. Utilising a hybrid model for training of clinical skills comprising virtual clinics and instructional physical examination videos, F2F sessions in the simulation labs, wards, and

clinics, as well as in the government hospitals and clinics, whenever students' activities were permitted, with preference given to the senior students.

Changes in Assessment

Prior to COVID-19 pandemic, onsite assessments were carried out using the online assessment system platform. During MCO, all online assessment system were conducted remotely with proctoring via the Zoom application with the following changes:

- a. Transitioning from closed-book to open-book assessments with higher-order thinking skills questions. Question vetting was done online, with security and integrity measures implemented.
- b. Reducing of the number of questions due to impaired internet connectivity experienced by some faculty members and students.
- c. Deferring the assessments of clinical and psychomotor skills and revisiting them at later semesters when F2F assessment was possible.
- d. Implementing modified OSCE (MOSCE) questions in written form, which assessed the "clinical competency" level of "know-how". The MOSCE was used for one cohort and was subsequently redesigned into virtual OSCE (VOSCE) questions to assess communication skills. VOSCE assessed history taking and counselling skills such as providing information on medical conditions, medications, or investigations results. It was conducted on the Microsoft Teams platform with the student, examiner and simulated patient participating remotely. Most medical schools in Malaysia were unable to assess communication skills, and therefore, by necessity, their assessments were mainly in the form of written assessments during the pandemic (2).
- e. Enabling remote participation of external examiners in professional examinations via Microsoft Teams.
- f. Re-evaluating and postponing assessment components to the final semester, while allowing more time for clinical training.
- g. Replacing some components of the professional examinations with continuous assessments and adjusting the weightage of some components to allow for progression to the next semester.
- h. Creating a "Guideline for Infection Control Measures for the Conduct of Clinical Examination" to minimise exposure to COVID-19 during F2F OSCE.
- i. Introducing the "No Detriment Policy".
- j. Allowing students with internet-connectivity issues to return to campus to use campus internet facilities.

Changes in Response to Financial Hardship

Many students faced financial difficulties, which lead the IMU to create the COVID-19 Hardship Fund and Welfare Fund to assist them. Partnerships with local vendors were formed to enable the purchase of laptops and data plans at affordable prices. The IMU also arranged additional transport for students to attend clinical placements.

Changes to Ensure the Quality of the MBBS Programme

The School of Medicine had implemented measures to safeguard the quality of the MBBS programme amidst the changes during the pandemic. This included obtaining regular feedback from students

and faculties, identifying gaps and remedial measures, using data-driven decision-making processes, making a norm of evaluating and reevaluating outcomes, investing in technology, retraining of faculties, and deliberating and scrutinising all proposed changes at multiple levels in the IMU.

Challenges Faced by International Students in the MBBS Programme

Many international students were stranded in their respective hometowns in their home country and had to continue their learning in an online remote manner. The school had scheduled catch-up clinical skills sessions for these students' eventual return to campus. Some students could not return to campus in time, especially those in the progression point semesters, and therefore deferred the semester. These students also faced significant mental health issues, which required support from their mentors and counselling. Some students struggled with attending teaching-learning sessions that started at 8.00 am Malaysian time due to differences in time zones. Several studies showed that international medical students were particularly impacted by learning disruptions resulting from COVID-19, with several institutions shifting to online delivery methods soon after the start/resumption of the tutorial year (3). Resultantly, there has been an increased risk of isolation and subsequent mental health issues, with an Australian study showing that international students had higher baseline depression risk than local students considering loneliness, anxiety, and stress scores (4). Additionally, loss of employment, financial insecurity and lack of family support were significant, especially for international students not returning to their home countries (5), as social and family support were also protective against mental state sequelae (6).

With university campuses closing, accommodation might become a difficulty, exacerbated by job losses from closure of non-essential services (7). For

students who had returned to their home countries, concerns surrounding academic progression were likely stressors, amidst new immigration measures including indefinite closing of borders to non-citizens, temporary residents, or immediate family thereof by several countries (8). Variation in time zones during online learning for overseas courses or seminars might impact sleep cycles, with insufficient sleep related to various mental disorders including depression (9). Even after foreign students had returned to their host countries, it might not be feasible for them to return home to loved ones, in the event of new border closures in the future (10–11). Travel restrictions might prolong the length of their course and incur increased financial burden (7).

Local and Global Experiences

Medical schools, locally and abroad, adopted different teaching models that facilitated academic progression and provision of near authentic patient experience for clinical clerkships. The IMU adopted online synchronous teaching for medical sciences and case-based discussions using archived clinical case reports, simulated ward based and skill-based teaching. Other local universities, which had an existing web-based e-learning platform, shared a smooth transition to online learning, albeit the concept was not widespread among the faculty (2).

Challenges include learning curves for both the faculty and students, unstable internet connections, and potentially non-conducive environments at home affecting the smooth delivery of online sessions (12). For clinical teaching, medical schools utilised video communication for history taking from consented patients in the wards as online clerking sessions (12). One medical school shared their experience of rapid implementation of real-time interactive telehealth experience courses for clerkship students as remote patient care and continuation of academic progressed during the pause. The telehealth courses allowed

students engagement such as follow-up care of patients from the emergency department, outpatient clinics or primary care clinics (13). One study compared the motivation that the digital learning had on medical students learning, in particular clinical students across different countries, by concluding that Malaysian students had significantly higher levels of motivation, with electronic books (e-books) being the most preferred source of digital learning (14).

Strengthening Clinical Skills in Medical Graduates: Opportunities and Challenges

While understandable, concerns that interruptions in students' clinical training have affected their level of clinical skills are yet to be proven. Nevertheless, clearly, it is important to ensure that the standards are up to par to safeguard patients and ensure that these graduates have a strong clinical foundation to build upon. As highlighted earlier, the disruption to medical training has resulted in the development of a hybrid model of teaching clinical skills with virtual clinics and simulated ward rounds.

IMU has peer tutors, recruited from among the senior students in the course with strong academic track records, to teach clinical skills such as history taking and physical examination to preclinical and clinical students. The peer tutoring programme has been formalised in IMU during the COVID pandemic as "peer assisted learning", thus creating a platform where all participating clinical students can assist and support each other. This is a student-driven programme, with the students conducting their own small team learning sessions, while the batch coordinators facilitate and audit their progress. However, we acknowledge the limitations of a completely student-driven programme, and thus, the need for regular audits and reviews of TL content.

We acknowledge the constraints and concerns about the effectiveness of clinical skills learnt and the readiness of graduates to work as house officers. Prior to the COVID

pandemic, IMU had conducted regular workshops as house officer preparatory courses for medical graduates awaiting their housemanship placements. We anticipate increased stress and less readiness compared to pre-COVID graduates.

THE WAY FORWARD

The COVID-19 pandemic is a huge impetus for medical schools to bring profound changes to major aspects of its curriculum: from content to pedagogy and structure to meet changing demands. Doctors in the post-pandemic world must be highly creative, able to think critically, innovative, entrepreneurial, possess excellent communication and collaborative skills, equipped with adequate digital and data literacy to be able to harness the power of technology to provide high levels of health care.

IMU's responses to the challenges posed by the COVID-19 pandemic are be divided into immediate, short-term, and long-term measures (Table 3). Ideally, the content and pedagogy of its MBBS programme should be compressed, personalised with the learning independent of time and place using technology-based tools such as virtual classrooms/wards/clinics and laboratories, makerspace, and game-based learning. A more flexible, practice-oriented, competency-based learning with new methods of assessments, accreditations and certification will be necessary (15).

As professional undergraduate programmes are subjected to the control and regulations of accreditation bodies, immediate changes to the undergraduate programme may not be possible and therefore new postgraduate programmes need to be created. Recently, IMU launched its one-year full time Postgraduate Diploma in Health Informatics and Analytics programme to offer upskilling opportunities for its graduates to meet the challenges of healthcare in a post-pandemic world.

Table 3: IMU's response to the COVID-19 pandemic

Plan	Measures	Examples
Immediate	Measures to immediately comply with sudden imposition of MCO and its ramifications.	Immediate shift from F2F teaching to online teaching with voice-over recording of PowerPoint slides. Open-book non-proctored assessment. MOSCE replaces OSCE.
Short term	Fine tuning immediate measures – take out what did not work and keep what worked; exploring new ways to do things; investment in technology.	Synchronous lectures replace voice-over recording. Open book proctored assessment. Virtual OSCE replaces MOSCE. Training of faculty.
Long term	Continuing investment from short term measures. Re-evaluating and re-designing of the curriculum. Pioneering new postgraduate programmes.	Investment in simulation labs, virtual reality technology, personalised learning analytics. Faculty development. New content and pedagogy. Microcredentialing. New postgraduate programmes (e.g. Postgraduate Diploma in Health Informatics and Analytics).

CONCLUSION

The unprecedented occurrence of the COVID-19 pandemic has clearly led to changes in the perception of online teaching and learning. The landscape of teaching and learning in many Malaysian universities have changed due to the pandemic and many of these changes are here to stay for some time to come. Further studies are needed to look at the effectiveness of the implementation of the online teaching, learning and assessments during the various lockdowns in Malaysia.

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REFERENCES

1. D'Orville H. COVID-19 causes unprecedented educational disruption: is there a road towards a new normal? *Prospects*. 2020;49:11–5. <https://doi.org/10.1007/s11125-020-09475-0>
2. Nik-Ahmad-Zuky NL, Baharuddin KA, Rahim AFA. Online clinical teaching and learning for medical undergraduates during the COVID-19 pandemic: the Universiti Sains Malaysia (USM) experience. *Educ Med J*. 2020;12(2):75–80. <https://doi.org/10.21315/eimj2020.12.2.8>
3. Pather N, Blyth P, Chapman JA, Dayal MR, Flack NAMS, Fogg QA, et al. Forced disruption of anatomy education in Australia and New Zealand: an acute response to the COVID-19 pandemic. *Anat Sci Educ*. 2020;13(3):284–300. <https://doi.org/10.1002/ase.1968>

4. Tomyň AJ, Nguyen K. The mental wellbeing of prospective international students. Australian International Education Conference. 2019 October 15–18 [cited 2021 August 6]. Available from: https://aiec.idp.com/uploads/AIEC_2019/Proceedings/AIEC2019_231_1013_Tomyň_Ngyen.pdf
5. Usher K, Bhullar N, Jackson D. Life in the pandemic: social isolation and mental health. *J Clin Nurs*. 2020;29:2756–7. <https://doi.org/10.1111/jocn.15290>
6. Li Y, Wang Y, Jiang J, Valdimarsdóttir UA, Fall K, Fang F, et al. Psychological distress among health professional students during the COVID-19 outbreak. *Psychol Med*. 2021;51(11):1952–4. <https://doi.org/10.1017/S0033291720001555>
7. Sahu P. Closure of universities due to coronavirus disease 2019 (COVID-19): impact on education and mental health of students and academic staff. *Cureus*. 2020;12(4):e7541. <https://doi.org/10.7759/cureus.7541>
8. Australian Government Department of Health and Aged Care. International travel and COVID-19. 2020 [cited 2020 July 31]. Available from: <https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-advice-for-travellers>
9. Zhang J, Paksarian D, Lamers F, Hickie IB, He J, Merikangas KR. Sleep patterns and mental health correlates in US adolescents. *J Pediatr*. 2017;182:137–43. <https://doi.org/10.1016/j.jpeds.2016.11.007>
10. Smith CA. COVID-19: healthcare students face unique mental health challenges. *BMJ*. 2020;369:m2491. <https://doi.org/10.1136/bmj.m2491>
11. Zhai Y, Du X. Mental health care for international Chinese students affected by the COVID-19 outbreak. *Lancet Psychiatry*. 2020;7(4):e22. [https://doi.org/10.1016/S2215-0366\(20\)30089-4](https://doi.org/10.1016/S2215-0366(20)30089-4)
12. Mansor NR, Ab Rahman A, Azza JAT, Abd Rashid R, Chua NA. New norms of online teaching and learning: COVID-19 semester experience for Universiti Malaysia Terengganu Students. *Acad J Interdiscip Stud*. 2021;10(4):248–60. <https://doi.org/10.36941/ajis-2021-0114>
13. Safdieh JE, Lee JI, Prasad L, Mulcare M, Eiss B, Kang Y. Curricular response to COVID-19: real-time interactive telehealth experience (RITE) program. *Med Educ Online*. 2021;26(1):1918609. <https://doi.org/10.1080/10872981.2021.1918609>
14. Xin LJ, Ahmad Hathim AA, Yi NJ, Reiko A, Shareela NA. Digital learning in medical education: comparing experiences of Malaysian and Japanese students. *BMC Med Educ*. 2021;21(1):418. <https://doi.org/10.1186/s12909-021-02855-w>
15. Md Abdul Haseeb AS. Higher Education in the era of IR 4.0. *New Strait Times*. 2018 Jan 10 [cited 2021 Aug 17]. Available from: <https://www.nst.com.my/education/2018/01/323591/higher-education-era-ir-40>