EDITORIAL

The Need for a Consolidated, Coherent, Collaborative and Continuous Future-Ready Malaysian Allied Health Professions Education

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The Allied Health Professions (AHP) Act 2016 (Act 774) which came into operation on 1st July 2020 allows for the licensing and regulation of people practising allied health professions, which include any occupation that has a direct or indirect impact on patient care, individual or community health. The AHP act is enacted in order to guard the profession from someone who is ineligible to practise and whose actions will jeopardise the profession's honour, to safeguard the public from incompetent and fake practitioners, as well as genuine practitioners' misuse of expertise and unethical behaviour and to safeguard the health and medical sector by developing and enhancing the profession's and service delivery's standards.

The Act empowers the Malaysian Allied Health Professions Council (MAHPC) to establish guidelines and directions for the purpose of carrying out the Act's provisions, and its functions include matters pertaining to registration of allied health practitioners, defining allied health professions' credentials and necessary criteria, monitor and regulate the practice of allied health professions, matters concerning registered practitioners' ethics and professional behaviour and oversee allied health professionals issues such as training, competency, and professional development.

In lieu of the AHP Act's and MAHPC's goals of having a skilled, competent, and ethically oriented allied health workforce with high service and care standards, investing in education and training is critical. Therefore, now is the right time for MAHPC to consider developing an allied health higher education blueprint or framework. The allied health education blueprint will be able to provide standardised, detailed and efficient approaches for a comprehensive and sustainable transformation of Malaysia allied health higher education system that is among the best in the world and allowing it to compete globally. This necessitates the creation of an allied health curricula that is flexible yet robust and adaptive with an optimised and impactful teaching and learning environment to better equip our future allied health practitioners. This covers both the learning instructional design and content, as well as educational facilities (Figure 1).

In this ever-changing and highly connected and collaborative world, constructing a future-proof allied

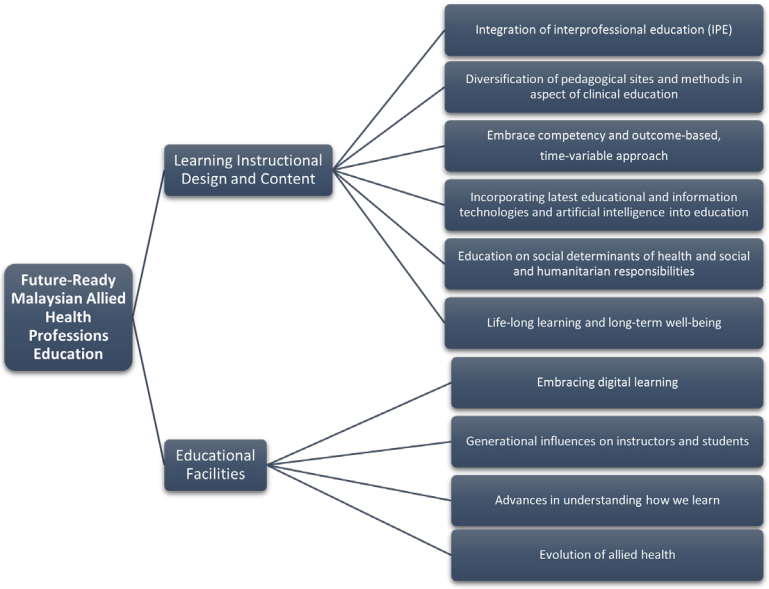

Figure 1: Drivers of transformation of future-ready Malaysian allied health professions education. Adapted from (1) and (7)

health professions education is utmost important. Allied health professions curricula must adapt to a variety of health-care trends and situations, including digitalisation that requires a programmatic framework that is adaptable to present and future needs. Following are some prospective essential components and emerging trends of allied health professions education in regards to the learning design and content that can be adapted into the Malaysian context, as determined through literature search and analysis (1). In allied health education, the integration of interprofessional education (IPE) must be prioritised during the training process rather than after graduation. Healthcare is becoming increasingly reliant on multidisciplinary teams or team approaches to care for complicated and multi-illness patients. Collaborative team approach in treating patients is shown to improve patient care and patient outcomes as it improves access to dependable, high-quality primary care (2-5). In the future, initiatives must be developed and executed to ensure IPE quality, robustness, and penetration throughout all allied health institutions across the country. As a result, all allied health professional accrediting bodies may be required to make IPE mandatory. The demand for allied health professionals who are capable to work in a collaborative and cross-cultural context has grown as a result of globalisation. The IPE model can be augmented with another strategy known as collaborative online learning (COL) to gain these collaborative intercultural competencies. Collaborative online learning is a pedagogy that employs technology to connect classrooms in different geographical areas in order to support the development of intercultural competence and collaborative abilities (6). It is based on "collaborative intellectual effort by students" or "collaborative intellectual effort by students and teachers." As a result, students from various allied health programmes could collaborate and study on a predefined topic or project, providing an interdisciplinary perspective on the subject. This partnership can be built up among diverse allied health areas and at various geographical locations (i.e. internally, locally, regionally, or internationally).

Diversification of pedagogical sites and methods in aspect of clinical education should also be intensified rather than restricting to hospital and rotational systems as the sole educational place and approach. One such model is centred on the principles of educational continuity: continuity of care, continuity of curriculum, and continuity of supervision (8). This concept of educational continuity represents the ongoing professional and personal growth that allied health professionals in training are supposed to undergo. Educational continuity requires an attitude of "ownership" of the entire curriculum rather than a discipline-specific component of the curriculum. Implementation of longitudinal experiential learning curriculum that blends specialisations and focuses patient care over time with mentorship and supervision from a permanent group of academics usually in a small group problem-based learning setting. It allows for both horizontal (cross-disciplinary) and vertical (basic science to clinical science) to be integrated for a more meaningful, relevant and impactful learning experience (9-12). One such model is the Harvard Medical School–Cambridge Integrated Clerkship (CIC). The data from this study showed that longitudinal integrated clerkships provide significant academic, professional, and personal advantages to students. The CIC students were better prepared than their peers and displayed broader perspectives on sickness, more understanding of socioeconomic drivers of illness and recovery, and greater dedication to patients (9).

The need to fully embrace competency and outcome-based, time-variable approach is another area worth considering. The link between competencies and societal needs is critical to this model. It is a comprehensive educational strategy driven by the roles and duties that health professionals must adopt to fulfil the demands of today's patients and communities, and has the potential to stimulate educational and health-care system optimisation (13). Competency and outcome-based time-variable systems optimise learners' progress by enabling flexibility within a curriculum. The ultimate objective is for students to acquire the information, abilities, and attitudes necessary to deliver safe, effective patient care and to succeed in their future jobs. The program's goal competencies should ideally include input from all levels, including learners, educators, patients, and the demands of the general public. In an ideal world, time-variable systems would allow learners to have greater flexibility in their education, allowing them to be promoted when they are ready (no sooner or later) and exhibit the skills required to care for their communities (13, 14). This model draws two fundamental concepts: i) A curricular, instructional, and assessment plan based on a framework of observable and assessable abilities drawn from patient and society requirements is in place and ii) Time is treated as a resource rather than a constraint or a rule, resulting in learners and teachers using time as needed to acquire the targeted skills (1). In other words, competency and outcome-based evaluation will better enable institutions to respond to present and future trends.

Incorporating latest educational and information technologies and artificial intelligence into the continuity of health professions education and practice is another avenue worth reconnoitring. Technology-enabled learning should be prioritised towards student driven learning and a more dynamic learning personalisation and individualisation. The use of simulation-based learning, online learning, asynchronous, interactive learning, virtual learning environments, podcasts, mobile devices with apps are amongst some technology enhanced approaches that can be adopted. This can be summarised by addressing i) increasing the use of

technology as a substitute for conventional education, ii) enhanced technology and artificial intelligence education in order to generate practitioners who can successfully use and integrate these capabilities and iii) greater attention on how to fully utilise time freed up by technology to dedicate to other vital duties that technology cannot do (1).

Other aspects worth exploring is the necessity to teach future allied health professionals about the social determinants of health as well as the social and humanitarian responsibilities of the allied health professions. Health care accounts for around 20% of the public's overall health. What are known as "social determinants of health" make larger contributions to health that look at the social, physical and economic conditions that impact upon health (1). Much greater attention should also be given for the life-long learning and long-term well-being of future allied health professionals. Allied health students and practitioners should always be learning and in a constant state of self-improvement. The attitudes and skills necessary for life-long, self-motivated learning must be established in all of our students from the start of their educational journey. That is what will ensure expertise throughout the continuum in the end.

Apart from streamlining the learning instructional design and content, one significant component is the focus on the quality of learning settings in which learning takes place. Most educational facilities are aesthetically pleasing but in reality have little to no impact on learning. To design successful learning environments for our future allied healthcare practitioners, four interwoven principles must be recognised and meaningfully implemented; a) The pace of digital learning, b) generational influences on instructors and students, c) improvements in understanding how students learn, and d) the allied health field evolution as described in (7). Coordinating effective educational experiences that incorporate both real and virtual learning environments needs to be addressed. Training in advanced technological instruments, telemedicine, and other virtual healthcare technologies will be critical for allied health education. Spaces must support this development by ensuring that the appropriate equipment is available and space is set aside to carry out these activities. Addressing generational gaps and influences between students and faculty is also important as both entities perceive education from distinct and varied priorities, preferences, and expectations especially in regards to the use of technology as well as motivation to learn. Therefore, supporting and facilitating faculty and creating learning spaces, instructional laboratories and simulation experiences can enable an instructor to educate students both in person and remotely at the same time, allowing for significant connections to be made. This will assist faculty in creating educational tasks that are both relevant and engaging for today's students and the environment in which they are taught must support this purpose. Understanding student learning style and needs would create a conducive learning environment that would foster 21st century skills (learning, literacy and life) in order for our students to stay relevant and competitive in an ever changing job market. The types of learning spaces and environment would also be heavily influenced by the evolution of medicine and healthcare. Therefore, these spaces should be fluid, dynamic, flexible and adaptive to the ever changing medicine and healthcare landscape.

In summation, how allied health education advances in the future will be influenced by new technology, global workforce shortages, and changes in education and practise are dependent on the following (15):

I. Vast capacity to store, retrieve, and exchange data allows for larger-scale collaboration and responsibility.
II. Professional competencies must be standardised, and virtual reality training's low cost and consistency can help with that.
III. Rather than straight pathways to degrees and certificates, education should be personalised and thought of in terms of ever-evolving learning portfolios.
IV. Student-centred pedagogy has resulted in learning trends ranging from updating curriculums to customising individual assignments to innovative techniques of assessing student performance.

As a whole, rather than acting alone, these concepts must be unified and integrated into the earliest phases of allied health professions education and sustained across the spectrum. To effectively maximise the potential and impact of the aforementioned themes, the implementation process should unite both allied health professions and allied health education by applying systems thinking and investment from all stakeholders. It is a great dream of mine if MAHPC can establish a subcommittee in developing consolidated standards guidance and continuous curricula for undergraduate allied health education in Malaysia that in-turn would nurture and develop future-reay allied health professionals who are truly collaborative, society-oriented, conscious of socioeconomic determinants of health, adaptable, proficient life-long learners skilful at leveraging technology to assist patients, and who have compassion and empathy in achieving our goal of improving societal well-being in Malaysia. What are we waiting for? Let's get the ball rolling.

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