

**Policy Brief POL-2021-02**

# Improving the Quality of Medical Education in Malaysia

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## Glossary of Terms

<b>Housemanship</b>	Period of training in resident medical practice for the purpose of being fully registered medical practitioner. <sup>1</sup>
<b>MOH</b>	Ministry of Health Malaysia
<b>MOHE</b>	Ministry of Higher Education Malaysia
<b>MMC</b>	Malaysian Medical Council
<b>MMLE</b>	Malaysian Medical Licensing Exam
<b>EPR</b>	Examination for Provisional Registration
<b>PBL</b>	Problem Based Learning

## Background

### Roles of MMI

The Malaysian Medics International (MMI) is a global medical student-led organisation that aims to connect, educate, and cultivate. Since our inception in 2013, we have grown into a global network of more than 200 leaders from seven countries around the world.

### Aims of This Policy

For the purpose of this policy, we aim to address the looming issues regarding undergraduate medical education in Malaysia.

## Introduction

Malaysia's public healthcare system is well-developed with 51,912 doctors under its employment as of August 2020.<sup>1</sup> Historically, Malaysian doctors are mostly trained overseas, with only three recognized medical institutions in Malaysia before the year of 2000.<sup>2</sup> Two decades later, the number of accredited local medical schools saw a dramatic increase, making up to a total of thirty-six.<sup>3</sup> An exponential increase in medical graduates results in a glut of junior doctors in the system. This has massively strained our healthcare system due to the long waiting period for housemanship.

Although the mushrooming of medical institutions has enabled the country to train its own supply of doctors, not all Malaysia medical institutions are well-prepared to deliver quality medical education. Some medical universities are not well-equipped with qualified lecturers due to the lack of specialist faculty. Furthermore, hospital training facilities are insufficient to accommodate the huge number of medical students. As a result, these impact on the logistics of the medical training and houseman quality which contributes to the delay of housemanship.<sup>4</sup>

With regard to the standards for medical education in Malaysia, Malaysian Medical Council (MMC) has published an official document listing the criteria and standards for medical programme accreditation.<sup>5</sup> For undergraduate medical education in Malaysia, MMC requires all institutions to fulfil two sets of outcomes for the programmes to be accredited. Each curriculum must achieve six main objectives as set out by MMC (refer Box One).

It has been shown and recognised that medical research is important in terms of the development of the country and professionalism of future doctors.<sup>6,7</sup> Despite

the emphasis on application of medical research methods and evidence-based medicine within undergraduate medical programmes, some undergraduate medical programmes are not giving adequate attention and effort to encourage students to be involved in medical research. The problem not only lies within the medical institution but also within medical students, who lack awareness of the importance of medical research in addition to the shortage of support from the government.<sup>8,9</sup>

Ultimately, in order to improve the healthcare system and the quality of future doctors, it is vitally important to reform the medical education system.

### Box One - Criteria and standards for medical programme accreditation, MMC<sup>3</sup>

The curriculum must:

- apply the principles of scientific method, including analytical and critical thinking, medical research methods and evidence-based medicine.
- identify and incorporate aspects of the basic biomedical sciences to create an understanding of scientific knowledge and concepts fundamental to acquiring and applying to the clinical sciences.
- identify and incorporate aspects of the behavioural sciences, social sciences, medical ethics and medical laws that are relevant to the practice of medicine.
- identify and incorporate aspects of the professional skills and attitudes to ensure that students:
  - acquire sufficient clinical competency to function effectively as medical house officers after graduation.
  - spend a reasonable part of the programme in planned contact with patients in relevant clinical settings.
  - participate in health promotion and preventive medicine activities.
- specify the amount of time spent in training of major clinical disciplines.
- emphasise healthcare economics in the context of Malaysia and include funding frameworks, cost of care and clinical decisions.

### Tremendous Strain Brought by Increasing Medical Schools

Throughout the past two decades, we have observed a radical transformation of the healthcare system and medical education in Malaysia. In the early 2000s, the number of

medical institutes have increased to compensate for the increased need for doctors in the country. The building of new medical schools was an excellent short-term strategy with the added benefit of helping more prospective students with different socio-economic backgrounds to achieve their goals of becoming a doctor to serve the community. However, the rapid increase in the number of medical graduates was not managed well by the government and has since caused issues with staffing and training.<sup>10-12</sup>

One of the main issues originating from the proliferation of medical schools is the lack of regulation for each institution's education quality. Among the thirty-six medical schools recognised by MMC, only a handful such as Universiti Malaya, Universiti Sains Malaysia, and Universiti Kebangsaan Malaysia are affiliated to their individual teaching hospitals.<sup>4</sup> To allow medical students to learn and practise, many medical schools have used facilities provided by the Ministry of Health (MOH). Due to the limited number of teaching hospitals, multiple universities will often need to share the same teaching hospitals, reducing the amount of learning opportunities for individual students. The recommended ratio of one clinical student to four hospital beds is also hardly achieved.<sup>4,13</sup>

How do these affect learning opportunities? Firstly, the teaching hospitals more often than not face staff shortages to provide quality teaching when there is a high concentration of students. This will decrease the effectiveness of knowledge delivery, creating competition among students for learning opportunities, ultimately leading to an inequity of education received.<sup>4,13</sup> Furthermore, the number of patients in these hospitals is limited too. Patients can get fatigued after multiple student interactions, reducing the number of available patients to be clerked if

there is a glut of students. Moreover, limited facilities will also reduce the effectiveness of teaching. For example, operating theatres cannot accommodate a large number of students, limiting the opportunities for medical students to observe and practise clinical procedures in teaching hospitals, affecting the quality of learning processes.

With all these issues in mind, a better quality assurance mechanism is essential to ensure the high quality of medical education and medical students. To address these issues, the government had previously extended the duration of the housemanship.<sup>10</sup> However, graduates with poor quality of education still struggled as their foundation for medical knowledge was not robust. We acknowledge the need to ensure the quality of medical graduates in Malaysia. The number of medical schools in Malaysia should be re-evaluated and reduced to counter the glut of medical students and to focus on increasing the quality of our medical graduates.

### Insufficient Qualified Faculties

In addition to the increment of medical institutes, the difficulty in recruiting suitably qualified faculties is another encountered by many medical schools. Following the large intake of students every year, not all medical schools have sufficient qualified faculties that are well-prepared to deliver teaching effectively and equally. This is mainly due to the outmigration of doctors over the years, the overproduction of medical graduates, and the scarcity of medical postgraduate programmes.<sup>14</sup> All of these factors restrict the improvement of medical education in Malaysia, posing difficulties in achieving the suggested teacher:student ratio by MMC of 1: 16 for tutorials, 1: 12 for Problem Based Learning (PBL), and 1:8 for bedside clinical teaching.<sup>5</sup>

According to a survey from Universiti Sains Malaysia which studied the career preferences of medical students in Malaysia, the result showed that the majority of the medical graduates preferred to work in clinical settings.<sup>15</sup> Among the factors that determined their choice of career, 'financial reward' and 'research opportunities' preceded others. As the financial rewards in private practice are often lucrative, most of the medical students felt that it was better to work as a doctor in private practices, and only a minority of them were willing to get themselves a career in public service and academia to pursue their own passion.<sup>11</sup> Projecting this data to our issue at hand will only exacerbate the status quo – having an even smaller pool of good quality faculties to teach medical students.

There is also a shortage of specialist doctors in Malaysia's public healthcare system.<sup>14</sup> It is one of the main factors that caused an insufficiency of qualified faculty members in many medical schools in Malaysia. We have identified a few factors that have caused this. Firstly, the lack of postgraduate medical education itself in Malaysia is potentially a factor that led to this shortage. Then, the proliferation of for-profit private hospitals further reduced the number of specialists in public healthcare. Next, the promotion system or the rewarding system in public healthcare is often less appealing to retain specialists in public practice. In 2013, 40% of the specialists in the country aged fifty to sixty years old were in public hospitals but these specialists were managing 70% of the in-patient load and also the training for the new generation of doctors, which resulted in an inadequate supervision of junior doctors.<sup>16,36</sup> Thus, a better remuneration should be made to retain experts.

Despite most of the medical schools in Malaysia delivering their teaching in English, there is a concern with some of the

lecturers using *Bahasa Malaysia* to teach.<sup>17</sup> This is particularly difficult and challenging for international students attending the lectures. One informant for the study from Nigeria stated some of the lecturers deliver 30% of their lessons using *Bahasa Malaysia*. Moreover, some lecturers have questionable proficiency in English that complicates teaching and learning. Therefore, language proficiency should also be made as a factor to consider during recruitment. The shortfall of recruitment of qualified faculty can be partially overcome by inviting qualified staff from other countries to serve as a temporary solution.<sup>10</sup> The recruitment should be carefully made taking into account factors like language proficiency, teaching expertise, and academic profile.

Medical schools are using a variety of modern learning methods to improve learning, an example being PBL.<sup>11</sup> Many newly recruited faculties or even faculty members who have worked in the medical school for quite some time might be less familiar with the newer education system or learning methods such as PBL.<sup>4,18</sup> This would require them to use a significant amount of time to train before they can play the role of a facilitator. Therefore, the requirements of the recruited faculty should be regulated, and sufficient pieces of training should be provided to ensure the capability of facilitators delivering lessons efficiently.

In a nutshell, quantity and quality should all be considered when recruiting faculty. The main challenges lie in both government and medical schools. To solve these problems, a better promotion system or resources should be offered to academicians participating in medical education. Moreover, the service requirements of lecturers should always be enforced to ensure that medical students are always getting the best quality of education. Hopefully, a more competitive remuneration

or a better way to utilise the doctors in MOH as well as those in private practice can be implemented by the government too in future.<sup>4,17</sup>

### Improvement for Housemanship Preparation and Placement

According to the Medical Act 1971, provisional registration is mandatory after undergraduate medical education before applying for full registration as a medical practitioner under section 14.<sup>19</sup> In Malaysia, being a houseman is often unthinkable due to the immense pressure, if one is not well-prepared and adequately trained.

It is undeniable that there is a massive leap of roles and responsibilities from a medical student to a junior medical doctor.<sup>20</sup> The ability for graduates to adapt depends on the education they have received from their medical institution. This difficult transition greatly affects the well-being of junior house officers due to unreasonably high expectation from the peers and seniors.<sup>21</sup> Inadequate competence in skills or knowledge will potentially lead to unnecessary blood drawing, or patient death under care.<sup>20,21</sup> Due to poor performance, it leads to psychological distress among housemen, an extension of the training period and dropouts of house officers, which is commonly seen in medical graduates from institutions abroad, for example Russia, Indonesia, India, and Egypt.<sup>22,23</sup> Furthermore, it has been reported that the waiting period for housemanship placement in Malaysia can take up to a period of six months to nine months,<sup>24</sup> and even one year in worst-case scenarios. While waiting for the placement, medical skills and knowledge would undoubtedly and gradually be lost from insufficient practice and revision. These incompetent house officers would, therefore, pose a potential risk to patient safety. Fatal and avoidable medical error would be the worst and most obnoxious

outcome due to incompetence caused by the inefficiency of our system.

In order to retain and improve the standard of medical graduates, either preparatory courses or examination, or both should be established. Preparatory courses for medical graduates are proven to be effective in increasing their confidence level, readiness to work, as well as the awareness of their strength and weaknesses in their medical skills and knowledge, such as practical skills and soft skills.<sup>24-26</sup> The context of the preparatory courses should include the job scope of housemen, expectation of housemen, practical and procedural knowledge, as well as personal and professional attributes.

With regards to the Medical Act 1971, the MMC has imposed the Examination for Provisional Registration (EPR) to the medical graduates who hold the qualifications from institutions that are not specified in the third column of the Second Schedule.<sup>27</sup> It is a prudent approach to assure the quality of newly graduated house officer. However, it is also important to be mindful of the standard of the rest of the medical graduates which is recognised by the MMC. These universities come from a range of regions, ranging from South East Asia, Europe, Africa to America. As different institutions across regions will have differences in their medical training programme; it is uncertain that the quality of the medical graduates, from accredited medical institutions, is satisfactory due to the limited research on this area. To establish a world class quality healthcare system, all medical graduates should be assessed properly on their medical knowledge, practical skills, and soft skills prior to housemanship in Malaysia. The Malaysian Medical Licensing Examination (MMLE) has been a frequent suggestion, and we echo the call for MMLE to assess all medical graduates.<sup>28</sup> We believe MMLE will



standardise the quality of medical graduates at the completion of their degree.

In short, there is a significant problem with the transition period from medical student to junior house officer in terms of medical experiences and knowledge, made worse by the long waiting period for housemanship. Therefore, it is important to equip and reinstate the pre-houseman with medical skills and knowledge with courses and examinations. This would potentially improve the competency levels of house officers, which subsequently contributes to improving their mental wellbeing. It could also become one of the potential strategies to shorten the waiting period for housemanship due to the reduction of dropouts.

#### Enforcement of Medical Research Opportunity Within Undergraduate Medical Curriculum

Medical research is of vital importance in healthcare policy, medical development, as well as healthcare provision.<sup>29</sup> With therapeutic interventions and better healthcare systems supported by research, greater care and medical outcomes can be achieved, subsequently contributing to poverty reduction and economic development.<sup>6</sup> Therefore, fostering medical research within undergraduate medical programmes is imperative to inculcate the importance, fundamental concept, methodology, and application in tomorrow's doctors. According to the prerequisite for undergraduate medical programme published by the MMC, the curriculum must apply the principles of scientific method, including analytical and critical thinking, medical research methods, and evidence-based medicine.<sup>5</sup>

Medical students are highly encouraged to involve themselves in research during undergraduate medical curriculum due to its benefits on personal,

career, and social development. Undergraduate medical education research in particular has been praised for its contribution to the development of professionalism, soft skills, independent learning, critical thinking, and awareness of ethics and governance, let alone the exposure to research skills.<sup>7,8,30</sup>

In recent years, medical research is increasingly emphasised in the undergraduate medical programme. Students are taught medical research by being involved in systematic reviews, surveys, clinical research, and more approaches. Research methodology and statistics courses are also included in the course.<sup>32</sup> We believe this will enable Malaysian medical students and graduates to practise evidence-based medicine effectively. However, there remains a significant barrier for the average student to get involved.

Many studies have explored the factors that impact a student's involvement in medical research. Insufficient time for both medical students and academic research staff, limited research opportunities and resources, have all been found to be the barriers for the students to engage in research endeavours. The inadequate availability of the academic research staff has contributed to the lack of supervision or mentorship, subsequently leading to poor awareness of research knowledge.<sup>8,9,30,33-35</sup> In the face of the research availabilities, some students lack the passion in research while others lack the awareness of the evidence-based practice's importance.<sup>9</sup>

With the factors and barriers identified, we believe it is the responsibility of the institutions, MOH and medical students to bring enforcement and changes in the area of research and publication in undergraduate medical programmes.

Research should be repeatedly emphasised in the core medical curriculum, and students

must be aware of the research profiles in every medical university.<sup>8</sup>



## Positional Statement

### MMI believes that

1. Malaysia is producing an oversupply of medical graduates, hence junior doctors.
2. There is a lack of governance to control the quality of medical students as well as house officers.
3. Engaging in medical research during undergraduate medical programmes promotes personal, career, and social development of medical students and graduates.
4. Not all medical schools are equal in providing a conducive learning environment in terms of learning facilities, quality of educators, and student : patient ratio in teaching hospitals.
5. Quality of placements and the environment of clinical teaching should be optimised to support the learning and well-being of medical students.
6. There is an urgent need to address the need for more qualified and competent actors in the medical education system.

## Call for Action

### MMI calls upon the MMI Committee

1. To collect useful feedback from the medical schools and medical students by connecting with university ambassadors.
2. To put more focus on organising events related to the introduction of medical research in undergraduate medical education.
3. To seek opportunities for research exchange or programmes, and to promote them.
4. To have an interview with Malaysian Medical Council (MMC) to discuss the problems with the medical education system and to come up with suggestions.

### MMI calls upon the Cabinet of Malaysia

1. To acknowledge the importance for the development and implementation of Malaysian Medical Licensing Examination (MMLE) as well as preparatory courses for medical graduates, with adequate funding and human resources.
2. To re-evaluate the need for thirty-six medical schools in Malaysia and close down underperforming schools.

### MMI calls upon the Ministry of Health

1. To collaborate with the Malaysian Qualifying Agency (MQA), Malaysian Medical Council (MMC), Ministry of Higher Education (MOHE), and Public Services Department (JPA) to consider implementing the Malaysian Medical Licensing Examination (MMLE) for all medical graduates.
2. To provide support and run preparatory courses for medical graduates before becoming house officers.

### **MMI calls upon the Malaysian Medical Council**

1. To acknowledge the negative impact of shared teaching hospitals between multiple medical schools on the quality of teaching.
2. To enforce stricter regulations on the number of students doing clinical placements in each teaching hospital.
3. To strictly enforce the recommended teacher-student ratio of 1:16 for tutorials, 1:12 for Problem Based Learning (PBL), and 1:8 for bedside clinical teaching within medical schools.
4. To ensure that the quality of medical graduates remain competent despite the waiting period and the delayed transition, by supporting them with preparatory courses or similar provisions.
5. To encourage research as a mandatory subject in undergraduate medical programmes, at least involving students in secondary research.

### **MMI calls upon Malaysian Qualifying Agency**

1. To re-evaluate the quality of medical graduates from all local accredited medical institutions and enforce penalties for underperforming medical schools.

### **MMI calls upon all Malaysia Medical Schools**

1. To continuously evaluate and update their selection criteria when recruiting faculty members.
2. To provide equal and appropriate access to resources, including educational resources, infrastructure, and supervising personnel, to ensure equity of learning opportunities during clinical placements.
3. To deliver quality placements and integrate students into the clinical team with clearly defined learning expectations.
4. To support the involvement of medical students in research by allocating adequate time slots for medical students to take part in medical research and ensure there are sufficient skilled research staff to guide the medical students.

### **MMI calls upon the clinical teachers involved in medical education**

1. To integrate medical students into the clinical team with well-defined learning expectations that are appropriate for their level.
2. To provide equal learning opportunities for all medical students.

### **MMI calls upon the medical students and junior doctors**

1. To provide relevant and useful feedback to universities, medical schools, and clinical sites to ensure continuous improvements and modernisation of medical education.
2. To be aware of the research profile and opportunities in their medical institutions and facilities.
3. To be proactive in searching for research opportunities by approaching the faculties involved in medical research.
4. To actively approach medical students with experiences in medical research to seek for opportunities or advice.
5. To share their studies and research experiences to juniors, helping them to understand medical education in Malaysia better.
6. To increase self-awareness of medical education in Malaysia by joining events related to medical education in Malaysia.
7. To consult relevant people or platforms to understand more about medical education in Malaysia.

### **MMI calls upon prospective students**

1. To make an informed and decisive choice when choosing a medical career, being fully aware of the current challenges faced by everyone in the medical profession.
2. To actively seek exposure to make sure that the medical profession is suitable for oneself.

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## Policy Governance

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