

Postgraduate Family Medicine Training in Singapore—A New Way Forward

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Abstract

Postgraduate Family Medicine (FM) training is important to train future primary care doctors to provide accessible and cost effective healthcare. In Singapore, a structured postgraduate FM training programme has been available for 20 years. This programme is characterised by involvement of both FM and non-FM doctors, well written modules and a rigorous assessment process. However, challenges faced by both the current healthcare system and training structure underlie the need to review the training structure to ensure its relevancy for future Family Physicians (FPs) to manage the needs of their patients. A workgroup was formed to review the current FM postgraduate programme and to explore the possibility of using the Accreditation Council for Graduate Medical Education (ACGME) framework to enhance our current system. The workgroup felt that broad-based training and comprehensive coverage of topics are areas that are important to retain in any new FM residency programme. Weaknesses identified included a lack of early FM exposure and the need to strengthen formative assessments. New organisational structures such as Family Medicine Centres (FMC) need to be established and the involvement of the private sector in any FM residency programmes could be enhanced. The implementation of the FM Residency Programme in 2011 presented a unique opportunity to realign FM postgraduate education in line with the national objectives and to equip FPs with the necessary knowledge and skills for managing the future healthcare needs of Singaporeans.

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Introduction

Countries over the world have recognised the importance of Family Medicine (FM) training, both at the undergraduate and postgraduate levels,^{1,2} with the goal of providing accessible, quality³ and cost effective healthcare.⁴

Postgraduate structured training for Family Physicians (FPs) was started almost 20 years ago, with the first Master of Medicine (MMed) in Family Medicine examination conducted in 1993.⁵ The structure of the postgraduate FM training in Singapore has been described previously.^{5,6} Briefly, it consists of 2 formal vocational training programmes:

The Master of Medicine (Family Medicine) consisting of 2 different tracks. Programme A is a formal 3-year vocational training programme, consisting of distance-

learning programmes and workshops, hospital postings and a 2-week advanced FM course. Programme B was started in 1995 for private practitioners who have not completed their vocational training programmes. The final assessment is similar for both programmes and consists of theory papers, an oral examination based on case studies and a clinical examination.

The Graduate Diploma in Family Medicine (GDFM) programme was introduced in 2000 and consists of distance learning programmes, workshops and small group tutorials. The GDFM examination is different from the MMed which consists of multiple choice questions (MCQ), key-feature problems (KFP) and objective structured clinical examination (OSCE) stations.

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Strengths of Existing Programmes

The structure of the current training programmes, especially programme A, allows for close collaboration between FM and non-FM specialists.⁵ It allows for 2 different groups of clinicians to work together and share professional values. It also creates opportunities for both groups to understand the context in which they will be practising and how the patients are cared for.

Training of FPs in the hospital setting allows the sharing of different perspectives of hospital care. It also enables FPs to provide seamless care and appreciate the issues patients may potentially face when moving across the different care continuum.

The training modules for the different programmes are well written and implemented, allowing for effective training of different groups of practitioners of varying experiences. The assessments have also been established for many years with an attempt to assess different aspects of trainees' development over the years of training. The MMed degree allows graduates an entry to further training in areas like Geriatric Medicine,⁷ allowing FPs of different interests to pursue a career in a field of their choice.

Need to Rethink the Status Quo

Future Challenges Faced by the Healthcare System

As Singapore's demographic population changes, the demand for management of chronic diseases, palliative and geriatric medicine will increase. A different set of skills together with a need for new methods of healthcare delivery is therefore required for provision of such care. There is also a need for continuity of care as a result of the shift towards greater care integration between the hospitals with intermediate and long-term care (ILTC) and primary care. Currently, there is fragmentation of care, especially when care for patients is transferred from the hospitals back to the community.

There is also a changing perception among different stakeholders of how primary care should be practiced and delivered in Singapore, with a shift towards holistic practice and high quality care in the ambulatory setting. FPs are also expected to be better equipped to provide counselling and care coordination.

Challenges Faced by Current FM Training Structure

There are several issues affecting the current training structure at different levels. At the trainees / trainers level, there is no assigned FM supervisor responsible for the progress of the trainees, especially during the first 2 years of hospital postings. There are also no protected time and adequate recognition for FM trainers. Due to the absence

of protected time, core FM lectures and training conducted during the weekends, increased the burden on both the trainees as well as the trainers. During the period of hospital training, training objectives for different postings may not be adequately defined and important concepts of FM such as continuity of care of patients and primary care provision are only made available in the final year of primary care posting.

For assessments, there is a lack of structured, ongoing, and formative assessment to allow trainees to monitor their own progress. A summative assessment conducted at the end of 3 years of training is mainly based on clinical skills and medical knowledge; it does not necessarily assess the FP's various competencies as a clinician.

With these challenges in mind, there is a need to review the current training of FPs to ensure that the future FPs in the community are well-equipped with the necessary skills and knowledge to manage the future needs of their patients.

Formation of Workgroup

The Ministry of Health (MOH) Singapore appointed a workgroup consisting of Family Physicians (FPs) to review the postgraduate FM training programme and to explore if Singapore could leverage on the Accreditation Council for Graduate Medical Education (ACGME) framework to enhance our current system. The members of the committee were from various segments of the FM fraternity—polyclinics, private sector, community hospital, academia and MOH. The composition of the workgroup reflected the diverse work done by FPs in Singapore and helped to provide different perspectives and viewpoints.

The group met formally for 10 sessions, with multiple informal discussions in between. In addition, the group consulted with almost 40 FPs, from both the public and private sector in Singapore, through meetings and focus group discussions. The topics and issues covered in these discussions were broad—ranging from philosophical ideas, concepts and operational details. There were many invaluable input from various parties on how the current system could be improved. One main consideration during these discussions was to attempt to understand the current situation in the training of FPs and how this might possible change in the future. We also tried to look at how the patients might view primary healthcare and possible changes in their expectations of FPs in the future.

The workgroup also spent a considerable amount of time discussing and understanding the ACGME framework. These were done through regular conversations with representatives from ACGME-I, who have set up an interim office in Singapore, specialties that were due to implement the ACGME framework earlier than FM and

doctors in Singapore who are familiar with or have trained in the US Residency system. Members also participated in the local ACGME training sessions, and culminating in a visit to some US Residency programmes to appreciate the actual implementation of ACGME FM training in various locations in the US.

Key Findings and Recommendations

The previous postgraduate FM vocational training programme has many areas that should be retained and refined e.g. broad-based training and comprehensive coverage of topic. We identified a key weakness in the current system—the lack of FM exposure in the first 2 (out of 3) years of training in Programme A. We also felt that the current formative assessment process need to be strengthened.

Any new FM training program should be outcome-based and structured to provide training and assessments of competencies relevant to the work of a Singaporean FP, for now and the future. We envisage that with the majority of FPs would be practicing in a community-setting, the focus of the competencies should be based on the needs of patients in the community. A new programme should also involve new teaching methodology and make pedagogy training of FPs, especially those without such training, essential.

The ACGME framework can provide the structure and processes to enhance FM medical education in Singapore, but this would require substantial resources within our existing system. There is a need to gradually build up our capacities and manage any transition in phases.

The ACGME model also includes a significant role for assessment because the US national licensure examination is based on MCQs, which tests predominantly medical knowledge and clinical reasoning. To further improve on this framework, we felt that we should build a robust formative assessment process during the years of training or include clinical components for the summative examination at the end of 3 years.

Teaching ACGME-I Competencies in the Context of FM

The workgroup felt that the new FM residency programme should be designed to provide adequate training for FPs to work in a community-based, ambulatory setting. This ensures that residents are well prepared to provide high quality care in the type of practice which they will most likely be working in.⁸ It also outlined the core competencies needed for a FP to manage an ageing population in Singapore for the next 10 to 20 years. These specific competencies were then categorised broadly under the ACGME-I competencies:

1. Medical knowledge

2. Patient care
3. Practice-based learning and improvement
4. Professionalism
5. System-based practice
6. Interpersonal and communication skills.

Based on the required clinical competencies, the workgroup proposed a 3-year curriculum comprising hospital, step-down care and primary care clinic (polyclinic and private general practice) attachments.

1. *Medical Knowledge*

(a) Clinical Rotation: One of the ways to teach the breadth of knowledge required to manage the scope of work in FM is through clinical rotations in the hospitals and primary care clinics. The group identified the core clinical postings for residents: Internal Medicine, Geriatrics Medicine, General Surgery/Orthopaedics, Emergency Medicine, Obstetrics and Gynaecology, Community Mental Health, Paediatrics and General Practice. The specific learning objectives of these postings were discussed and outlined, with the learning outcomes of each clinical posting clearly defined. Direct observation of procedures with the faculty and allowing residents to perform these core procedures under supervision will ensure that residents acquire the necessary procedural skills.

(b) Workshops and Clinical Attachments: The group also proposed skills workshops and short clinical attachments for specialties like ophthalmology, otolaryngology, dermatology and palliative care. These postings will complement the clinical rotations to ensure that the residency programme provides a complete and broad-based training.

(c) Foundation Teaching: Teaching of medical knowledge and FM can be done through a combination of didactic lectures, small group tutorials and E-learning. This would encourage self-directed learning as well as learning in teams among the residents.

2. *Patient Care*

Training FPs to work in the community will mean that the curriculum has to be designed with a more community-based and integrative approach in mind. A unique feature would be a weekly ‘call-back’ session of residents undergoing hospital attachments in the first 2 years. These sessions will be based in primary care clinics where the FM faculty will help residents integrate what they have learnt during their hospital rotations. This will ensure that FM residents better understand the care continuum of patients. Residents will

also manage and follow-up patients in community-based continuity clinics under the supervision of the faculty. This would improve patient-centred care and potentially allow residents opportunities to review patients who might be admitted as inpatients in hospitals.

3. *Practice-based Learning and Improvement*

Residents should be taught the use of evidence-based medicine in clinical decision making and patient care during their clinical rotations and continuity clinics. They should also learn how to apply critical thinking skills and how to critically appraise medical literature. They should also be taught quality improvement tools which they would apply in a Clinical Practice Improvement Project (CPIP) with the focus on improving care and ensuring patients' safety. Residents would have the opportunity to share the results of their CPIP at conferences or seminars.

4. *Professionalism*

Medical ethics and professionalism can be taught through lectures and small group tutorials and discussion. Clinical cases can be used as teaching opportunities to discuss possible ethical and professionalism issues with the residents. Role modelling by the faculty will also be an important method of teaching professionalism to the residents.

5. *System-based Practice*

Residents will learn system-based practice when managing patients with complex chronic diseases in their continuity clinics in the community. They will understand that beyond the pharmacological treatment of chronic diseases, multiple factors can influence the outcome of patient care. These include assessing the social needs of the patients and their family that require care coordination and how to coordinate care with other healthcare professionals and community resources.

6. *Interpersonal and Communication Skills*

This will be taught through workshops, residents' day-to-day interactions with colleagues as well as other healthcare professionals in the healthcare team. Multi-source feedback or '360 degree' feedback via questionnaires can be sought from various healthcare team members at regular intervals during the residency programme. The faculty will also serve as role-models for residents on providing good communication skills with patients (e.g. breaking bad news, providing informed consent) and other healthcare professionals.

Formative Assessments

Formative assessments during clinical rotations coupled with effective feedback to residents at regular intervals will be essential. This will ensure that residents are made aware of their knowledge and skills gaps at appropriate intervals of their learning journey and how they can make efforts to improve and excel.

New Organizational Structures

Family Medicine Centre (FMC)⁹

One of the key requirements for the FM residency program is the FMC, which is the setting for educating FM residents and providing opportunities for them to learn the provision of continuing, comprehensive care to patients and their families.

The FMC should be staffed by nurses, administrative personnel and other health professionals to ensure adequate support for patient care and educational requirements of the residents. It should ideally be located close to the teaching sites and is accessible to the patients. Other requirements include: reception area, waiting room, business office, resident work spaces, areas for precepting and library resources. Examination rooms should also be of appropriate size to accommodate teaching and patient care activities. There should also be diagnostic, therapeutic equipment, laboratory and imaging services.

Possible FMCs in Singapore

In Singapore, polyclinics are established centres for practice and teaching FM and could possibly play the role of FMCs with some modifications. However, most polyclinics were built for clinical service and changes may have to be made to allow a focus on training. There may also be a need for reconfiguring or expanding teaching facilities such as conference rooms or libraries.

There is a possibility to involve larger privately run GP group practices which have multiple practice clinics and support laboratory and radiology services as potential FMC sites. Due to the limitations of trainers, facilities and volume of patients to fulfill the necessary requirements of the ACGME criteria, it is unlikely that a single private GP practices could take on the role of a FMC. Still, several interested private single-GPs could band together to form a FMC with one of them taking the lead. While it may be easier for Singapore to start off with a larger private GP groups, we do not rule out the possibility that groups of private single-GPs forming well organised FMCs in the future.

Other possibilities for FMCs include: creation of a new institute for FM solely for teaching purposes rather than

for service provision and building a new FMC near to hospital premises where FM residents are posted to for inpatient rotations. These could be staffed by FM trainers and residents, running continuity clinics for step-down care cases from the hospitals.

Sponsoring Institution (SI) and Advisory Committee

Under the ACGME structure, a Sponsoring Institution (SI) assumes responsibility for the programme and this responsibility extends to resident assignments at all participating sites. Each SI also provides support for a FM programme director (PD) and teaching staff. The role of a PD would be to assume responsibility for all aspects of the residency training programme—recruitment of residents and faculty, curriculum development, assessment and certification of residents' competence for practice. Three hospital clusters (SingHealth, NUHS, TTSH/AHPL) have commenced the FM Residency Programmes in 2011.

In the US FM residency programmes, FMCs are linked to (but located separately from) a tertiary centre. Potential FMCs in Singapore would have to be supported by hospitals where FM residents could learn and practice inpatient care. The SI for a FM Residency Program in Singapore could comprised a number of FMCs with hospital(s), preferably in close proximity. Residents could spend part of their time training in a tertiary centre and part of the time in the FMC.

A Review Committee would have to be set up to monitor and continually accredit the Family Medicine Residency Programmes in Singapore. Currently, the various stakeholders involved in various aspects of Family Medicine in Singapore should be able to provide members with sufficient expertise to sit on such a review committee. The Family Medicine Residency Advisory Committee (FMRAC) was established in May 2010 to collaborate with both ACGME-I and MOH in implementing the new FM residency programme.

Possible Roles of Private Sector in the FM Residency Programmes

Collaborating with Existing SIs

There are potentially 2 ways in which private doctors can participate in the teaching of residents if they lack the facilities or resources to develop a FMC. Firstly, they can join the teaching staff (on a part-time basis) and participate in teaching if the FMC is sited at a polyclinic or associated with a hospital. In this case, the core faculty teaching can be supplemented by active participation of private doctors, with sharing of the teaching required. This is an area where they can contribute significantly to residency training. Alternatively, they can also offer their clinics as possible

participating sites where residents can rotate through to gain experience and expertise in providing primary care in the private sector. To encourage more private doctors to be involved in FM residency training, financial incentives or even continuing medical education (CME) points for participation could be considered.

Role of Private Sector SIs

In the US, SIs could come from either privately run or public sponsored institutions. In Singapore, some larger GP clinics run by private healthcare providers are expanding or have already expanded into specialist care, with access to hospital-based facilities. It could be possible for some to participate as future SIs as long as the vision is aligned and private healthcare institutions see distinct advantages in training their own FPs.

Major obstacles faced might be the need for provision of extra funds for teaching and new facilities and the possibility of residents impacting on their reputation for providing quality healthcare. Due to the difference between the number of primary care doctors in the local public and private sectors, we envisage that the public sector alone might have challenges in the training of future FPs as the numbers to be trained are expected to increase.

Private institutions may be willing to make significant investment in residency training if they feel that it is a worthwhile cause especially if there is a possibility of them having more influence over the quality of their manpower due to their roles in training FPs. However, the standard of training will still need to be upheld and requirements of ACGME fulfilled.

Conclusion

The implementation of the FM Residency Programme in 2011 presents a unique opportunity to realign FM postgraduate education in line with the national objectives. FM residency programs were started in May 2011 with 3 SIs (NUHS, NHG-AHPL and SingHealth).

To meet the expected future need for FPs in Singapore (which will grow along side with an ageing population), it is likely that newer FM residency programme with different structures, in both the public and private sectors, will need to be established. The role of the private sector participation in FM residency programmes is likely to expand. More private doctors could be encouraged to utilise their clinics to train residents, giving residents a greater diversity of sites at which they learn community-based and primary care, thus contributing to a richer educational experience.

It is expected that in the initial phase, FM residency programmes will rely more on the support and expertise

available in the public sector. In time to come, we feel that the expertise of the private sector could also be tapped in order to make future FM residency programmes feasible and sustainable for the long term.

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