

Original Article,

The Master Of Medicine (Mmed) Component Of Specialization, Have We Addressed The Challenges?

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Abstract:

Background: Since its inception by the health professions council of South Africa (HPCSA) as a mandatory requirement in 2011, conducting research has presented multiple challenges for clinical specialist trainees.

Objective: We aim to evaluate the literature looking at challenges encountered by both the specialist trainees and research supervisors.

Data source: PubMed, SciELO SA, Google scholar and ERIC were searched. References of included articles were also evaluated for relevant articles.

Data extraction: Data extraction was performed by all 3 authors. The databases were searched from inception to the present day, for only English language articles and those that reported on challenges.

Conclusion: Many challenges still exist for both student and supervisor. Co-supervision should be normalised and a significant part of the solution is reinforcing already existing protocols.

Recommendations: There is no one size fit all for all the academic institutions but standardized protocols for each centre are encouraged. Co-supervision is strongly encouraged.

Key words: Co-supervision, Research, MMed, Challenges, HPCSA

Introduction:

Since its inception by the health professions council of South Africa (HPCSA) as a mandatory requirement in 2011, conducting research has presented multiple challenges for clinical specialist trainees and all parties involved. It forms a fundamental part of clinical practice, especially in a world moving largely towards evidence-based health care (EBHC). The rise in the number of postgraduate candidates is unfortunately not matched by research training and supervision (1). As many specialist trainees do not possess the intrinsic interest in research (2), they are unlikely to pursue research supervision after completion of their own projects. Limitation in number of supervisors is a challenge faced by many institutions in South Africa (SA) (3). Apart from the issue of supervision, some clinical trainees do not see the relevance of the research component in their training (4). We aim to evaluate some of the literature looking at these challenges. This is a multifaceted topic with challenges and solutions not restricted to one or

two factors. However, for the purposes of this review we focus on the challenges faced by the specialist trainee and the supervisor. Databases PubMed, scientific electronic library online (SciELO SA), google scholar and education resources information centre (ERIC) were searched. These databases were searched from inception to present day, for English language literature and articles that reported on challenges. We offer potential solutions as well. The student-supervisor relationship has to be one that advances both parties (5). If it is viewed in this manner and objectives are formulated to meet this, then the challenges that follow are not perceived as harshly. Of the 28 candidates that sat and passed the past 4 orthopaedic surgery colleges of medicine of South Africa (CMSA) final examination in 2020 and 2021 from the University of the Witwatersrand, only 32% had completed their Master of medicine (MMED) component. This is a clear indication that challenges remain unsolved; 10 years after the HPCSA mandated this as compulsory for specialist registration (6).

SA does dominate the research publication landscape in the continent (7) however; the potential to do significantly better exists. The continent still lacks capacity to develop structures to enhance EBHC (8). These requirements are not set only for South African trainees. Trainees in Malaysia are required to conduct research as part of their master's standards criteria (9). In a study from that country looking at this, poor accessibility to research supervision proved to be a significant barrier (4). All instrumental aspects that play a role in running a successful research project must be addressed before the perception that research is "daunting" can be changed. By no means is one saying that research is easy but areas where improvement can be made must be made.

Challenges for the student

The challenges faced by MMED students are complex and multiple. Medical doctors are not equipped with the necessary research skills (10). This affects their attitude towards research as supported by the finding that students who had prior research involvement in their undergraduate training tended to involve themselves more in research as post-graduates (11). At the risk of over-simplifying a complex issue, we identified 3 pertinent challenges experienced by MMED candidates. These include inadequate time provided to complete research, challenges with supervision and lastly inadequate research training.

In a study by Kisansa and Lubinga, 61% of the participants felt that not enough time was given to research (12). Time must be divided between clinical work, academia, and service delivery. Registrars make up a significant bulk of the staff complement in each department and a large part of their role is service delivery as public servants. In big academic centres this involves the running of busy outpatient departments and looking after numerous patients admitted in the wards. In Chris Hani Baragwanath academic hospital (CHBAH), the clinical audit for 2021 showed that the orthopaedic outpatient department services 4264 patients every month on average. This in turn is an average of 111 admissions per month. In the emergency department of the same year, the orthopaedic department treated an average of 1078 patients and admitted 417 every month. Having to incorporate time for research with such high demands for service delivery proves to be very difficult.

Candidates also find that time spent waiting for ethical approval is too long. Thirty five percent of students reported that the wait can take more than 6 months before one is granted approval (12).

The idea of "protected MMED time" is an attractive one. This essentially affords the student prescribed time to focus on their research and requires that they produce feedback on the progress made during this time. The amount of time given is different from institution to institution and from department to department within the same institution. It is our experience that while this idea is an attractive one on paper, the practical experience does not match that. The number of registrars per subspecialty unit often makes it difficult to incorporate this amid both academic and clinical work plus negotiating fellow colleagues on annual leave.

The second point is that of supervision. A supervisor is "*the person who is principally responsible for the supervision of the student and is responsible for 50% or more of the supervision*" (13). Our local academic institutions are still struggling to produce knowledgeable and qualified supervisors (1). Kong Lee et al. in Malaysia reported that accessibility to supervision was cited as a significant barrier by their participants (4). The regulations by the Committee of Higher Education (CHE) stipulate that a supervisor must have a qualification in the relevant field higher than, or at least at the same level as the one he is supervising (14). The challenge with this call in the field of medicine is; when the HPCSA decided to add research as mandatory for specialist registration, the influx of candidates requiring supervision outnumbered the capacity of qualified supervisors. The scholar-clinician route is not one chosen by many and so this mismatch is likely to continue for a long time. Only 37% of general surgeons are involved in research after they qualify (15). The need for professional development programs to upskill specialists in research supervision is apparent (3). Fifty four percent of students feel that supervision is inadequate (12).

A balance must be reached between the mere number of supervisors and that of "good" supervisors. One can evaluate the student's progress throughout the research period. For the department of orthopaedics at the University of the Witwatersrand (Wits), this is done through

multiple mandatory MMED update meetings. The MMED itself is an evaluation of the student as it goes through a rigorous process before it is passed. Evaluation tools for supervisors however are unpopular. This is seen as something that might deter the very small number of supervisors that we do have. However, students become frustrated when they do not receive support or guidance as expected from supervisors (4). *“It would be nice when a novice is co-supervised by a willing hard-working mentor with a good track record. Now who is going to make a list of good and bad mentors? What criteria are best to be used? Publications, complaints or comments from others?”* (1). As understood in the quote, supervision extends beyond students but also to mentoring novice supervisors. For these reasons we find it crucial that a tool evaluating supervisors be introduced and we present one below (see Figure 1).

The 3rd challenge is that of research training for students. Kisansa and Lubinga found that only 14% of students had any research experience i.e. dissertation writing workshop (12). Only 1 percent of health-care professionals (HCP) have doctoral qualifications (15). This training is lacking in undergraduate programs. Ultimately as post-graduate students, HCPs see research as the necessary evil to attaining a specialist qualification (16). While it would take a natural scientist 9 years to acquire a doctorate from undergraduate, the same would take someone in medicine 16 years (2). Perhaps one can understand why HCPs might be deterred.

Challenges for the supervisor

The challenges experienced by supervisors are closely related to those of the student. Some of them are inherited from their time as registrars. These include but not limited to time constraints and lack of research training or inadequate experience.

Time constraints are very limiting for the supervisor. Multiple commitments are unfortunately unavoidable. Many of the supervisors are specialists who offer their services both in state-owned and private-owned health-care centres. Navigating between the 2 establishments is time consuming. Added to this is the teaching obligation they are entrusted with for registrars and medical students by their respective academic institutions. This could lead to inadequate

preparation for meetings and couple that with social factors and their research performance is affected negatively (17). The student-supervisor relationship suffers because of this and ultimately the entire research project (18). It's not uncommon that the supervisors have ongoing research projects of their own which further puts a strain on the time available to oversee their supervisory duties.

Lack of research training and inadequate experience are tightly linked. One feeds the other. Albertyn et al. advocate that research training and supervision should be incorporated in every activity of a teaching institution (19). As discussed above, it is a small number of specialists who want to involve themselves in research after qualifying (15). Part of this is as a result of their own “daunting” experience as students. To tackle this challenge, the idea of co-supervision comes into the fore. Amongst other things, this is meant to enhance transfer of skills and experience. In this situation the experienced supervisor is paired with one who is starting out. While some authors describe this as a “double mentoring load” (20-22), I much prefer the “train-the-trainer” perspective of it (4). A well-articulated co-supervisory plan is important for the transfer of skills and helps avoid conflicting advice and workload imbalance (23). The orthopaedic surgery department at Wits holds a supervisors' course in the effort to bridge the lack of research training. Such efforts must be intensified.

Recommendations:

As depicted above, both parties face remarkable challenges. The objective should be to alleviate these stressors while enhancing a positive attitude towards research. There is no one size fit all for all the academic institutions but standardized protocols for each centre must be encouraged. Recommendations that speak to the points as discussed above are listed below:

1. A coordinated protected MMED time must be reinforced on a quarterly basis and all subspecialty unit heads made to acknowledge this arrangement.
2. The same protected MMED time must be afforded to supervisors.
3. Co-supervision should be strongly encouraged.
4. A clear co-supervision protocol must be established and made available to all parties.

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This must detail the terms and responsibilities of each party. Diffusion of skills must be prioritised. This must be a transparent relationship with regular reviews of progress made

5. The research methodology course must continue to be compulsory for registrars as

should be the supervisors' course for supervisors.

6. The use of the proposed supervisors score above should be used as a guide for registrars in choosing a supervisor. The score must be made available to each respective department.

7. The regulations as set out by the CHE must be enforced.

Figure 1: Wits Orthopaedics Supervisors Score (WOSS)

Supervisor's name:

Section A: To be completed by the registrar

Score	2	1	0
Research Knowledge	Good	Fair	Poor
Protocol development contribution	Good	Fair	Poor
Meeting attendance (i.e. protocol assessment)	Good 100%	Fair >50%	Poor <50%
Feedback time (time spent waiting for feedback)	Good <2 weeks	Fair 2 – 6 weeks	Poor >6 weeks
Administration efficiency (signing of forms)	Good	Fair	Poor
Interpersonal Relationships	Good	Fair	Poor
Total			

Additional comments by registrar: _____

Section B: To be completed by supervisor.

Score	2	1	0
Last supervisors course attended	<6 months ago	<12 months ago	>12 months ago
Last ethics/research methodology course attended	6-12 months ago	12-24 months ago	>24 months ago
Last MMED supervised to completion	< 12 months ago	12-24 months ago	>24 months ago
Number of MMEDs currently supervised	1-3	>3	0
*Ever been removed as supervisor	Never	>12 months ago	<12 months ago
Total			

* provide the reason for the removal in the comment section below.

Additional-comments-by supervisor: _____

16 - 22	10 - 15	<10
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- The sum of the totals from “section A” and “section B” gives the complete score.
- Based on the total score, supervisors are colour-coded as depicted above i.e. green, yellow or red.
- The scoring is to be repeated every 6 months.

- This is to be used as a guide for registrars however, registrars are Allowed to pick supervisors of their choice.
- The identity of the registrar is to remain undisclosed unless otherwise Specified by the concern registrar.

Conclusion:

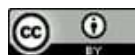
The journey to attaining a MMED is a long and very involved one. Who you choose to walk it with is very instrumental for your future outlook on research as a whole. Many challenges still exist for both student and supervisor. We believe that with a more deliberate and transparent approach from the outset, many of these challenges can be successfully alleviated. Co-supervision should be normalised and research teaching incorporated in every clinical interaction. A significant part of the solution is reinforcing already existing protocols.

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