

An evaluation of postgraduate family medicine training at Stellenbosch University:  
Survey of graduates

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## Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my original work and that I have not previously submitted it, in its entirety or in part, at any university for a degree. I also declare that ethical approval for the study was obtained from the Health Research Ethics Committee of Stellenbosch University (Reference number: S12/07/195).

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## **Abstract**

### Background

The practice of family medicine is going to play a central role in the primary health care system of South Africa. It is a new speciality that shows much promise as it dovetails with the government's plans to re-engineer primary health care and strengthen district health systems. In 2011 the new training programmes graduated the first group of family physicians trained as full time registrars.

### Aim

The aim of the study was to evaluate the perceived effectiveness of the postgraduate training in family medicine at Stellenbosch University from the perspective of graduates working in clinical practice.

### Methods

A quantitative, cross-sectional descriptive survey was completed by 49 students, who completed the programme between 2005 and 2013.

### Results

A total number of 49 respondents out of 120 possible graduates participated in this study (a response rate of 40.8%). Family Medicine graduates from Stellenbosch University working in clinical practice perceived their postgraduate training as effective in preparing them for actual practice.

### Conclusion

Stellenbosch University family medicine graduates working in clinical practice perceived their postgraduate training as effective in preparing them for actual practice. The programme has since changed and evolved and weaknesses that were identified through this study are already being addressed through improvements in the online modules such as leadership, clinical governance, enhanced clinical supervision and support. Research on graduates' perceptions post implementation of these improvements is needed.

## Introduction

### Social value

The practice of family medicine is going to play a central role in the primary health care (PHC) system of South Africa.<sup>1</sup> The strengthening of primary health care as well as district health systems is a global priority as this leads to better health outcomes.<sup>1,2,3</sup> In terms of the National Health Insurance (NHI), primary health care is also the vehicle for achieving universal health coverage and improved health for populations.<sup>2,4</sup>

In sub-Saharan and South Africa (SA), family medicine (FM) is an emerging specialty that shows much promise as it dovetails with the government's plans to re-engineer PHC.<sup>3</sup> SA has made a strong political commitment to the strengthening of PHC which has been expressed in policies such as the national development plan, the NHI, the building of district health systems, the implementation of ideal clinics, ward based outreach teams and school health.<sup>1,2,4,5</sup> These policies alludes to a key role for the family physician.

The creation of FM as a new specialist discipline in 2007 and the deployment of family physicians in district health care systems since 2011 can be seen as a generic intervention designed to strengthen PHC and district health services.<sup>3,6</sup> Since there is a limited understanding of what a family medicine specialist is, the discipline of FM has done work to define its roles and its contributions in both sub-Saharan and South Africa.<sup>2,7-8</sup>

The role of the family physician has evolved over the last 10-years and training programmes have been in a process of adaptation and development. The training of family physicians to deliver on these roles is therefore critical as well as the alignment of the needs of the PHC system with the design of the FM education system.<sup>8</sup>

In 2011 the new training programmes graduated the first group of family physicians trained as full time registrars.<sup>3</sup> As FM is evolving, evaluation of the training programmes is important to ensure that family physicians are adequately prepared by the end of their training to fulfill the actual requirements of their clinical practice after training.

The nine South African medical schools all have functioning departments of Family Medicine with both undergraduate and postgraduate training programmes. These

programmes are continually in a process of change to better suit the needs of the community the graduates are eventually going to serve.<sup>3,9,10</sup>

The Family Medicine Education Consortium (historically representing 8 academic departments nationally) developed national outcomes for the training of family physicians in the context of the government's commitment to developing district health services and PHC, and were conscious of the role that family physicians could play at the community, PHC and district hospital locations.<sup>7,11</sup> The outcomes and roles of the family physician were also informed by a study on the key principles of FM for sub-Saharan Africa, which suggested six key roles: i) care provider – providing competent clinical care at the district hospital and primary care; ii) consultant – consulting patients referred by other members of the health care team; iii) mentor – mentoring and building capacity amongst clinical members of the primary care and district hospital teams; iv) supervisor – formally supervising medical students, interns and registrars training in family medicine; v) manager – particularly in the area of clinical governance and vi) community orientated leader – assisting health workers to think about and engage with the population at risk and not just individual patients.<sup>2,7</sup>

The development of registrar training also required the development of a national consensus on the clinical skills outcomes that should be expected of training programmes. A list was compiled comprising 214 core skills at different levels of desired competency and 23 elective skills that formed part of what a family physician should be able to do.<sup>9,10</sup> This list was recently revised.<sup>12</sup> As FM is a relatively new discipline and the health systems are in a process of transformation, revising the training outcomes of the programme is also a continuous process.

In South Africa, it is recommended that there should be at least one family physician per health centre / sub-district and one per district hospital; a total of 680 as a short-term goal.<sup>14</sup> In the Western Cape the goal is to ensure that a family physician is employed in each district hospital and community health centre.<sup>14</sup> A study evaluating the impact of family physicians within the district health system in SA reported that there were approximately 208 family physicians in 2014/15.<sup>15</sup> There were, however, 1064 family physicians on the Health Professions Council SA (HPCSA) register in 2017. Some of these graduates are not in the country and they may also be split between private and public

sectors. A sufficient number of family physicians is needed to achieve adequate coverage rates for the key PHC interventions prioritized by the Sustainable Development Goals.<sup>16,17</sup> The health sector of SA should continue to employ family physicians as they are making a difference in the district health system through the six key roles identified.<sup>3</sup>

The development of relevant and effective training for family physicians therefore is directly linked to their contribution to achieving national priorities to transform the health system, re-engineer primary care, introduce NHI and improve the health outcomes for all South Africans.

### Scientific value

From around the world there is a focus on training family physicians because it is the discipline that has a key role in primary care and has the qualities that can help address some of the most pressing health needs.<sup>1</sup> For this reason, it is important to revisit training programme outcomes in order to insure that family physicians are adequately prepared for the communities that they will eventually serve.<sup>18</sup>

Much of the educational research in FM focuses on the definition of FM, the roles of the family physician, the training outcomes and curriculum.<sup>2,7,8,9,10,19,20</sup> Currently, internal evaluation of the training programmes rely on feedback from the registrars during their training programme and external evaluation rely on a single exit examination with the Colleges Medicine of Southern Africa and routine HPCSA accreditation visits. An aspect, however, that has not been addressed is the viewpoint of family physicians after graduation from the perspective of their real life clinical practice.

Few formal evaluations of FM training in South Africa have been performed. One 2006 study evaluated the examination in FM at the University of Free State (UFS) and focused on the standard and reliability of the assessments used in their setting. The authors concluded that the evaluation of clinical FM in the final postgraduate examination held at UFS showed it to be authentic, fair, reliable and objective, and that it assessed competencies for real-life situations, as well as the theoretical knowledge, attitudes and values required for a family physician.<sup>21</sup> No studies in South Africa have yet been undertaken to ask graduates in established clinical practice for feedback on their training.

Internationally, recent graduates are recognized as a valuable source of information and a useful way of evaluating the effectiveness of training. A qualitative study from Northern Ireland took into consideration the participants' perceptions of the impact on adding an additional six months training beyond the standard 12-month general practice vocational training scheme. It was found that the extended six-month period re-stimulated self-directed learning as it developed confidence, promoted teamwork, and was reported as valuable by both graduates and trainers.<sup>22</sup> This emphasizes the importance of programme evaluation from the viewpoint of its students post training since it can deliver insightful ideas resulting in programme change.

The practice patterns of graduates doing a FM training programme were followed from 1996 to 2004 in Ontario, Canada. In this study family physicians doing a two year training programme were compared with those doing a three year training programme. The study found that family physicians that completed the programme with the additional year were more effective and more confident in their current practices than those who did the two year programme.<sup>23</sup> This shows that family physicians currently working in actual practice have vital information on their practices as well as how to make the training programme more relevant and suitable for actual practice.

The success of the new specialty of FM in South Africa will depend to a large extent on the quality of graduates and their competency as judged by colleagues, employers and patients.<sup>8</sup> A cross-sectional study in seven SA provinces found that co-workers rated the impact of their family physicians, across the six roles, higher than other doctors practicing in the same facility.<sup>3</sup> The viewpoint of Stellenbosch family physicians after graduation from the perspective of their real life clinical practice has yet to find a voice. How well has the training programme prepared them for what they are expected to do in their current clinical posts?

## **Aim and objectives**

The aim of the study was to evaluate the perceived effectiveness of the postgraduate training in family medicine at Stellenbosch University from the perspective of graduates (2005-2013) working in clinical practice. The objectives were to:

- Determine where and in what posts the graduates were practicing.

- Determine how well the programme prepared post-graduates for their current practice.
- Identify any gaps between the training programme and the actual practice that should be addressed in the programme.

## Methods

### Study design

A descriptive survey was undertaken with a questionnaire. Graduates of the training programme from the time period 2005 – 2013, who studied at Stellenbosch University, were asked to complete the questionnaire.

### Setting

Stellenbosch University has offered postgraduate training in FM since the 1980s. The launch of a new curriculum began in 2003 with a 4-year programme that had an on-line academic programme and did not require students to attend multiple contact sessions per year. Those who graduated up to 2008 received the MFamMed, but from 2006 the degree was recognized as a MMed and the first graduates with the new degree were in 2009. Students attended one contact session per year, successfully completed 10 on-line modules, a research assignment and clinical examinations to obtain the degree. Students also had to fulfil specific criteria for clinical family medicine that included an identified supervisor and specific experience (1-year primary care, 2-years district or regional hospital and a further year in any of these settings). Students had to complete a logbook and supervisors provided a report on each aspect of the clinical training.

The gazetting of the new speciality in 2007 led to formal registrar posts being created by the Western Cape Province and a first intake of registrars in 2008. These registrars were trained in 4 training complexes (East Metro, West Coast, Cape Winelands/Overberg or Eden) and followed well defined rotations through regional hospital, district hospitals and primary care. Formal supervisors and training complex co-ordinators were identified and registrars had to complete a portfolio of their clinical learning and training. The first registrars graduated in 2011.



### Study population and sampling strategy

The study population were 120 Stellenbosch graduates from the time period 2005 – 2013. All graduates who agreed to participate in the study were included. The questionnaire included graduates from different training programmes namely:

- Students who enrolled before the year 2003 (these students did an MFamMed 3-year programme with on-campus education and experience in family practice, they had 6 years to complete).
- Students who enrolled during the years 2003 to 2007 (these students did a MMed 4-year programme with on-line education and more rigorous vocational training requirements in own practice. They were expected to graduate 2006-2010, but were allowed 8-years to complete).
- Students who enrolled from the year 2008 onwards (these students did a MMed 4-year programme with online education, practising in formal training complexes as registrars with formal supervision, the programme delivered its first graduates from 2011 onwards and were allowed 6-years to complete).

The names were obtained from a list of graduates and participants were contacted via email and invited to complete an on-line questionnaire.

There were 49 out of 120 possible graduates that responded, a 41% response rate. For this study, using a 95% confidence level, the margin of error was 11% when it is assumed that 50% of the population will agree and 50% disagree that the programme prepared them for practice. In this study the margin of error was narrower for some variables due to the relatively small standard deviation around the mean.

### Data collection tool

A questionnaire was designed by the researcher based on the findings from the literature review coupled with guidance from experts in the field of family medicine and a statistician. The content and construction of the questionnaire was further validated by an expert panel consisting of members of the postgraduate programme committee (Head of Division, programme manager and all training complex co-ordinators), an

independent representative from the Centre for Health Professions Education and 2-3 FM graduates (not from the study population, but familiar with the SU training programme) working in a variety of public and private settings. The panel assessed whether the questionnaire covered all aspects of the training programme and practice perspectives as well as if the questions were constructed in such a way that they would give the data necessary for the study objectives. Exit-level outcomes were used to assess preparedness for clinical practise. The questionnaire was available in English only as it was the main educative language in the FM programme. The questionnaire comprised of a list of questions compartmentalised in three sections. Section A consisted of demographical data. Section B consisted of Likert scale questions and section C consisted of open ended questions (addendum A).

The approved questionnaire was further piloted with two FM graduates from the University of Cape Town to determine its face validity and feasibility. Minor adjustments were made to clarify instructions, language and questions. The pilot data was excluded from the main study.

#### Data collection

Data collection took place from June 2014 to February 2015, although the final report was only completed in 2018. The researcher initially intended to collect data via telephonic interviews with the help of a trained field worker. However, due to the fact that many participants were unavailable for telephonic interviews during office hours, it was decided to invite participants to complete the questionnaire electronically in their own time. An email was then sent to all the participants with a link to the online questionnaire in Google drive. Questionnaires were completed anonymously.

#### Data analysis

The data was captured on a spreadsheet using MS Excel, checked for any errors or omissions and statistical analysis was then conducted using IBM SPSS (version 24) software with the support of a statistician at the Biostatistics Unit, University of Stellenbosch. Categorical data is represented as frequencies and percentages and continuous data as means and standard deviations or medians and interquartile ranges.

Open-ended questions were categorized and analyzed thematically. The answers participants gave in the open-ended question section were first grouped together according to the similarities thereof and themes were then derived from these different groups. A software programme, Atlas Ti was used for the qualitative analysis. The steps in the process started with familiarization, where the answers to a particular question were read and re-read while taking notes of recurrent statements. Codes were created by attaching short descriptions to meaningful statements. These codes were then grouped into categories that were interpreted and discussed.

Statistical associations between variables and key outcomes for the programme were tested: setting/ location; age; year of graduation; and type of practice. A 5% ( $p < 0.05$ ) significance level was to be used as a guideline for statistically significant relationships.

## **Ethical considerations**

Ethics approval was obtained from the Stellenbosch University Health Research Ethics Committee (S12/07/195) and permission was obtained from the Head of the Division of Family Medicine and Primary Care at Stellenbosch University. All the data collected was kept confidential. The questionnaires were anonymous and no personal identifiers were reported. Personal identifiers for the questionnaires were kept separately and not entered into the data capturing and analysis. Participants had freedom of choice to consent or decline participation in the study, and were informed that they are free to withdraw at any time. Individual consent was obtained from each participant.

## **Results**

### Profile of the participants and their clinical practice

There were 49 respondents out of 120 possible graduates, giving a response rate of 41%. Twelve of the 49 interviews were conducted via telephone by the trained fieldworker and the rest of the questionnaires were completed online. The decision to move from telephonic to online questionnaires was because of time constraints many of the respondents had. The mean age of the respondents were 43.3 years (SD 7.7), the minimum

age being 33 years and the oldest respondent 64 years. Table 1 presents a profile of the respondents and their clinical practice.

**Table 1: Profile of respondents**

<b>Variables</b>	<b>n (%)</b>
<b>Gender (N=49)</b>	
Female	27 (55.2)
Male	22 (44.8)
<b>Year graduated from the programme (N=47)</b>	
2006	2 (4.3)
2008	2 (4.3)
2009	3 (6.4)
2010	12 (25.5)
2011	14 (29.8)
2012	14 (29.8)
<b>Current location (N=49)</b>	
Western Cape Province	29 (59.2)
Another country (e.g. Australia, Canada, Ireland, Kenya)	10 (20.4)
Eastern Cape Province	5 (10.2)
Northwest Province	2 (4.1)
Gauteng Province	1 (2.0)
Limpopo province	1 (2.0)
Northern Cape Province	1 (2.0)

<b>Practice information (N=48)</b>	
Public sector	25 (52.1)
Private sector	12 (24.4)
Mixed practice (public and private sectors)	11 (22.9)
<b>Type of work/practice (N=44)</b>	
Primary care	25 (51.0)
District hospital	12 (27.3)
Regional hospital	4 (9.1)
Academic/university/research	3 (6.8)
<b>Scope of current practice (N=49)</b>	
First contact care	46 (93.8)
Mentoring of other health workers in the team (not students or interns)	36 (73.4)
Referred patients (within primary care or at district hospital)	35 (71.4)
Leadership, management or clinical governance activities	33 (67.3)
Formal teaching e.g. lectures, tutorials, workshops	26 (53.0)
Community engagement or community orientated primary care activities	25 (51.0)
Clinical supervision of registrars	21 (42.8)
Clinical supervision of medical students	20 (40.8)
Research	15 (30.6)

Clinical supervision of interns	11 (22.4)
<b>Type of patients seen in current practice (N=49)</b>	
Adults	42 (85.7)
Women	42 (85.7)
Men	39 (79.5)
Chronic disease	39 (79.5)
Acute illness	37 (75.5)
Children	33 (67.3)
Emergency care	25 (51.0)

Ten of the respondents left South Africa and reasons given for leaving included: inability to register as a family physician, foreign nationality, poor working conditions, lack of resources, need for professional development, as well as personal and family concerns such as educational opportunities and safety. Nine participants indicated that their emigration was permanent.

Of the 49 respondents two did not apply for HPCSA registration as a family physician and were still registered as medical officers as they either missed the HPCSA cut-off date for grandfathering or did not meet HPCSA requirements to register.

#### Feedback on the training programme

Feedback on the training programme was categorised into feedback on the on-line modules, clinical rotations and assessments. Respondents were specifically asked to evaluate the programme in relation to how well it prepared them to function as a family physician in their current practice.

#### *On-line modules*

Participants were asked to rate the relevancy of the academic programme as shown in Table 5. This included 9 compulsory modules (covering eleven topics) and six elective modules. The majority of the respondents viewed the on-line modules as relevant.

**Table 5: Rating of modules of the programme**

<b>On-line modules</b>	<b>Relevant n (%)</b>
The consultation (N=48)	48 (100.0)
Ethics (N=48)	48 (100.0)
Evidence-based medicine (N=48)	48 (100.0)
Chronic care (N=48)	46 (95.8)
Family-orientated primary care (N=47)	45 (95.7)
Health promotion and disease prevention (N=48)	44 (91.6)
Community-orientated primary care (N=47)	37 (78.7)
Teaching and learning (N=47)	36 (76.5)
Applied research (N=47)	35 (74.4)
Health care management and administration (N=47)	30 (63.8)
Human growth and development (N=36)	27 (75.0)
<b>Elective modules</b>	
Palliative care in family medicine (N=34)	31 (91.1)
Geriatrics in family medicine (N=29)	27 (93.1)
Principles and practice of rural health care (N=34)	26 (76.4)
Forensics in family medicine (N=30)	21 (70.0)

Rehabilitation in family medicine (N=24)	20 (83.3)
Theoretical and philosophical foundations of integrative medicine (N=20)	5 (25.0)

### *Clinical rotations*

The ratings of the perceived usefulness to current practice of the clinical rotations are depicted in Table 6. A number of respondents indicated that they did not complete certain clinical rotations. A deeper analysis of their responses revealed that these graduates were from the old MFamMed programme and graduated before 2012. It may therefore be that they did not partake in formal clinical rotations or that they have misinterpreted the question since it referred to 'supervised' rotations. Respondents found the primary care and district hospital rotations more useful in preparing them for their current practice than the regional/central hospital rotations.

**Table 6: Evaluation of clinical rotations**

<b>Rotations</b>	<b>Useful n (%)</b>	<b>Not useful n (%)</b>	<b>Did not do n (%)</b>
District hospital (N=47)	40 (85.1)	0 (0.0)	7 (14.8)
Primary care (N=47)	38 (80.8)	3 (6.3)	6 (12.7)
HIV clinic (N=48)	36 (75.0)	1 (2.0)	11 (22.9)
TB clinic / hospital (N=46)	30 (65.2)	1 (2.0)	15 (32.6)



<b>Regional / Central hospital disciplines</b>			
Paediatrics (N=46)	32 (69.5)	0 (0.0)	14 (30.4)
Internal medicine (N=45)	30 (66.6)	0 (0.0)	15 (33.3)
Obstetrics and gynaecology (N=45)	24 (53.3)	4 (8.8)	17 (37.7)
Anaesthetics (N=47)	23 (48.9)	5 (10.6)	19 (40.4)
Orthopaedics (N=45)	18 (40.0)	4 (8.8)	23 (51.1)
Surgery (N=46)	17 (36.9)	10 (21.7)	19 (41.3)
ENT (N=45)	13 (28.8)	5 (11.1)	26 (57.7)
Dermatology (N=44)	13 (29.5)	6 (13.6)	25 (56.8)
Psychiatry (N=45)	11 (24.4)	5 (11.1)	29 (64.4)
Ophthalmology (N=45)	10 (22.2)	6 (13.3)	29 (64.4)

### *Assessments*

Table 7 shows the respondent's feedback on the different forms of assessment and their relevance to working as a family physician. All forms of assessment were evaluated as highly relevant, although the objective structured clinical examination (OSCE) and oral exam were rated highest and the long clinical cases lowest.

**Table 7: Rating of assessments (N=49)**

<b>Forms of assessment</b>	<b>Relevant n (%)</b>
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OSCE (clinical skills)	48 (97.9)
Oral exam (ethical and medico-legal issues)	48 (97.9)
MCQs (multiple choice questions)	45 (91.8)
SOO (consultation skills)	44 (89.7)
Short clinical cases	44 (89.7)
Research assignment	44 (89.7)
Logbook/Portfolio (work based assessment)	43 (87.7)
Written assignments / Papers	43 (87.7)
Long clinical cases	42 (85.7)

*OSCE – Objective Structured Clinical Examination; SOO – Structured Office Oral Examination; MCQ – Multiple Choice Questions*

Respondents rated how well the training programme prepared them for the exit outcomes on a scale of 0 (not at all prepared) through to 10 (completely prepared) shown in Table 8. The mean scores for all the exit outcomes were above 7, indicating that they perceived themselves to be well-prepared.

**Table 8: Rating of how well the programme prepared the graduates for the exit outcomes.**

<b>Exit outcomes</b>	<b>Mean score (SD)</b>
Conduct all aspects of health care in an ethical and professional manner	8.1 (1.7)

Evaluate and manage patients with both undifferentiated and more specific problems cost effectively to the bio-psycho-social approach	8.0 (1.7)
Effectively manage yourself in order to ensure the provision of high quality, evidence based medicine	7.9 (1.7)
Facilitate the learning of others regarding the discipline of family medicine and primary care	7.6 (1.7)
Facilitate the learning of others regarding other health related matters	7.4 (1.7)
Facilitate the health and quality of life of the community	7.3 (1.6)
Effectively manage your team with leadership skills and self-awareness, in order to ensure the provision of high quality, evidence based medicine	7.2 (1.9)
Effectively manage your practice, in any sector, in order to ensure the provision of high quality, evidence based medicine	7.0 (1.8)

An overall mean score was calculated on how well the participants perceived the programme to prepare them for the exit outcomes of the programme. The mean score was 7.6 (SD 1.6; 95% CI 7.1 to 8.1) and range 2.8 to 10, out of a maximum score of 10, indicating a high level of perceived preparedness.

There was no association between the overall preparedness score and the categories of gender, location and type of practice. There was a weak negative non-significant correlation ( $r = -0.115$ ) between the year the respondents graduated and the overall preparedness score. Age, had a significant correlation with the graduates' perceived preparedness, with older participants reporting higher levels of preparedness ( $r = 0.37$ ,  $p = 0.013$ ).

### Qualitative findings

Open-ended questions were included in the questionnaire asking participants to elaborate on their experience of various aspects of the training programme. The responses are presented as the perceived strengths and weaknesses of online modules and workplace-based clinical training.

### ***Strengths of online modules***

Respondents indicated that the online modules were well organised. The content of the modules was comprehensive and the practical application thereof was appropriate and well suited to their daily practices:

*“Perfect for a good general practitioner. The programme was very informative and easy to apply in practice. It was a very good overall approach to quality care of patients especially from the on-line modules”. (44 years, graduated 2010)*

They also felt that the relationships built with peers and mentors as well as the feedback they received from them during the online modules impacted tremendously on the way they studied and learned.

*“I really enjoyed the interaction and regular contact even though it was internet and chat room based. I found the interaction with peers and tutors very useful and got excellent feedback from other peers and mentors. I developed a meaningful academic relationship between group members and mentors alike”. (40 years, graduated 2010)*

They also commented that the programme allowed them to study at their own pace and that it stimulated critical thinking and helped with their personal academic growth.

### ***Weaknesses of online modules***

Respondents commented that certain modules were not practical enough and thus did not adequately prepare them for their actual practice. These comments however mostly related to the material on research, practice management and administration:

*“Human resources; administration; leadership; management and clinical governance end up being 50% of your work load if not more - the programme should reflect this. Research module needs to be more applicable as I needed better guidance as well as better writing tips”. (33 years, graduated 2011)*

Respondents also felt that the time frames of the modules needed to be adjusted to allow for better exam preparation, for example, they needed more time off to study and prepare for exams. They wanted continuous access to updated evidence-based guidelines, even after graduating from the programme, as this aspect seemed to be lacking in their daily practice.

*“The way it was structured showed that more time than usual needs to be spent on most of the modules to pass the final exam”. (44 years, graduated 2010)*

Some respondents commented that they wanted a more relevant approach to actual practice when it came to the way they were assessed as the overall assessments they went through during each individual rotation (whether clinical or theoretical) did not fully assess what is expected from a family physician in actual practice.

*“I would reduce the amount of assignments as it takes up a lot of the time and it doesn't play relevance to one's role later on and wastes a lot of time. We really need more general training/ coaching on: management, leadership, strategic planning, public health related topics, conflict resolution, how to be 'quality care' specialists”. (33 years, graduated 2011)*

With reference to assessments, respondents commented that there should be no negative marking.

### ***Strengths of workplace based clinical training***

Some respondents commented that they had very good clinical exposure while doing the registrar programme and learnt a number of new clinical skills. They felt that they had good support from mentors, specialists and other students in the rotations that they were doing:

*“Very practical training adding enormous benefit to my work as a general practitioner”. (52 years, graduated 2010)*

### ***Weaknesses of workplace based clinical training***

Other respondents commented that they did not have enough time allocated to certain specialist rotations such as ophthalmology, ear-nose-throat (ENT) and dermatology. These specialist rotations needed to be more suited to a primary care setting.

*“Insufficient exposure/time spent in domains such as ENT, dermatology and ophthalmology which make a large part of the clinical pathology encountered in daily practice”. (36 years, no graduation year indicated)*

They felt that a different set of clinical skills is needed when working at the district hospital compared to working in primary care and the programme needed to allow enough time to master both. For example, there are fewer resources at the primary care level to perform point-of-care investigations (e.g. blood-gas interpretation) and therefore the clinician needs to rely more on clinical acumen.

Lack of supervision was a frequently mentioned theme. This seemed to have happened earlier on in the registrar programme where family physicians were scarce and supervision was done by either a specialist from another discipline (who may not have shown any interest in family medicine) or by a senior medical officer who did not understand the role of a family physician. Respondents further commented that they needed more structured supervision and contact. This aspect of learning in the workplace frustrated most of the respondents in facilities where supervision and mentoring were lacking.

*“I felt more as if I was surviving in a job, rather than being supervised. I could have benefited with more supervision with feedback on how patients was managed. Family medicine registrars are not allocated to a mentor or a particular supervisor leaving them wondering and frustrated at times. There is a large reliance on learning in the work place with inadequate supervision”. (38 years, graduated 2010)*

Respondents also felt that the clinical logbook needed to include skills that are more relevant to the family physician and that some of the skills in the logbook were too basic and not on the level of a family physician specialist.

*“I suggest the logbook be upgraded to include more relevant things that are specific. In my view, some of them are too elementary”.* (43 years, graduated 2012)

Some of the respondents wanted more in depth clinical exposure when it came to certain disciplines and suggested that the training programme be prolonged to ensure this.

*“I would have benefited and been better prepared had I spent all 4 years in a district hospital with two or more competent and experienced family physicians to guide me. Perhaps the program should be over 5 years so as to have time to do things more in depth”.* (51 years, graduated 2011)

## **Discussion**

### Key findings

The survey showed that the majority (80%) of graduates were practising in South Africa (a majority also remained in the Western Cape), 52% were working in the public sector, 25% in the private sector and 23% in a mix of both public-private practices. About half the respondents indicated that they worked primarily in primary care and a quarter in district hospitals. Their scope of practice mainly included: first contact care, seeing referred patients, mentoring other healthcare workers, leadership, management and clinical governance.

Overall respondents felt the programme prepared them well for all the exit outcomes. The on-line compulsory modules were generally rated as more relevant compared to the elective modules. The clinical rotations in primary care and district hospitals were viewed as more relevant than those in the regional/central hospitals.

Although the overall rating of how well the programme prepared the graduates for the roles and responsibilities of a family physician in actual practice were high, there were areas identified that needed more attention during the training programme. These areas included: supervision and mentoring of the registrars in the workplace; more time to be allocated to clinical governance and the practical aspects thereof; respondents felt that the research module need to be revised as it did not prepare the students well enough for

the College exit examinations critical reading paper; and more time to be spent while rotating through each clinical field (especially the subspecialty fields in a district health care setting with less specialist equipment). A majority of the respondents also indicated that they needed more time in the clinical exposure rotations to allow for maximum clinical benefit (respondents wanted a longer training programme). Most of the abovementioned comments however seemed to be originating from respondents doing the old MFamMed programme and from the data it appeared that registrars from the new programme reported an improvement.

### Discussion of key findings

The need for leadership and clinical governance skills has been highlighted in a national project and to address this need, a new training module on leadership and governance has been developed and published.<sup>24</sup> With regards to research, it must be noted that the FM programme at Stellenbosch University now includes three short contact sessions per year in which support is provided for research processes such as selecting a topic, proposal writing, data collection, analysis and report writing.<sup>25</sup> This is in addition to the on-line applied research module, which registrars focus on in the second year and that is available throughout the four years. These contact sessions equip the registrar to conduct their own research and along with the module on evidence-based practice, helps to prepare them for the critical reading component of the College exit exam.

With reference to assessments, respondents commented that there should be no negative marking. Mark allocation using negative marking has since been removed from the programme at Stellenbosch University.<sup>25</sup> In relation to clinical assessment, respondents felt that the clinical logbook needed to include skills that are more relevant to the family physician and that some of the skills in the logbook were too basic and not on the level of a Family Physician specialist. In response to the need to revise the clinical logbook for registrars a recent study developed a new list of skills through a national consensus building process utilising a Delphi technique with a group of experts.<sup>12</sup> The list is comprehensive of all skills, including basic ones and now includes some non-clinical skills related to governance, community-orientated primary care (COPC) and teaching.<sup>12</sup> This list may prove to be more relevant to the current practice of family physicians as it



was revised with the experience of deploying family physicians in the district health system, while the previous list was developed more theoretically.

In terms of supervision, a national training programme with the Royal College of General Practitioners (RCGP) has attempted to raise the standard of the clinical training of clinical trainers that will further provide support to supervisors.<sup>26</sup> The same training programme has also introduced training for senior family physicians (e.g. training complex coordinators) to visit and provide formative assessment to the clinical trainers.<sup>26</sup>

Supervision of family physician registrars has further been enhanced by more time spent in the district hospital and primary care settings during training and using the regional hospital only where the skill cannot be learnt in the district health setting. Currently there are also more family physicians on the platform to act as supervisors. A training complex coordinator has been assigned to oversee and support all the supervisors within a training complex and a document has been drafted that outlines their roles.<sup>25</sup> One of the problems that has not yet been addressed is the lack of joint staff in FM in the Western Cape and there is a dispute with the Department of Health over this. Non-joint staff do not have clinical teaching and teaching included in their job description and therefore many supervisors have been unclear about their role in terms of the job description. This may be resolved in 2018 and not unique to Stellenbosch University.<sup>26</sup>

The logbook in the MFamMed programme has now been replaced by a more comprehensive learning portfolio that also indicates what is required in terms of supervision and captures the registrar's learning. The portfolio includes regular learning plans, reflections on learning, periodic assessment on rotations, observations by the supervisor and a logbook of clinical skills. The portfolio is constantly revised and is now completed electronically. This e-portfolio can be accessed from any devices in the workplace with internet capability. This has also enabled the ongoing monitoring of the strength of supervision and regular feedback can be provided to supervisors.<sup>27</sup>

Nationally and internationally there is continued focus to improve the curriculum for FM. In sub-Saharan Africa, Ethiopia, Ghana, Kenya, Nigeria, Tanzania, Botswana, Malawi and Uganda universities are currently offering family medicine training, but produce few family physicians from their training programmes. There are many

challenges that hinder participation in FM programmes, including lack of protected time, funding, and limited awareness of locally available FM opportunities.<sup>28,29</sup> FM faculty development opportunities are limited due to a lack of resources and support.<sup>29,30</sup> In Kenya, the huge numbers of patients who need emergency and acute care at district hospital level have also made it difficult for the few family physicians to have a real impact at primary care level.<sup>28</sup>

A growing number of countries are embracing graduate training in the specialty of FM as a core component of global health systems reform. A significant challenge for family medicine training programmes globally and a challenge also identified in this study is the preparation of registrars for educational excellence (their roles as mentor and trainer) and leadership. One way of developing these skills is through faculty development where promising registrars are encouraged to remain in the programme as faculty after graduation.<sup>26,30</sup> From the current study results, only 3 graduates from Stellenbosch University were retained in faculty (formally working for the university). However, many were involved in clinical training and clinical teaching in the workplace.

#### Strengths and limitations

Recall bias might be an issue since respondents were asked to remember their training programme from as far back as 2005. They may not have accurately recalled their experience of the individual modules and clinical rotations. Further, some graduates of the old programme did not complete certain modules and therefore could not rate the relevancy thereof. The low response rate (41%) limits the generalisability of the results to all graduates. This may be due to the graduates' busy schedules. Due to the anonymity of the questionnaires the demographic characteristics of the respondents could not be compared to those that did not respond. The data collection did not allow detailed comparison of different types of programmes as well as a comparison between private and public sectors. Graduates from more recent years were not included in the study since data was collected in 2014.

#### Implications and overall recommendations

From the results section the following implications can be drawn.

The modules on management and administration as well as research should be made more practical and aligned with the actual roles and responsibilities of the family physician in clinical practice. Family physicians are expected to focus on clinical governance and lead their clinical teams. A focus on leadership and clinical governance would therefore be better aligned than one on corporate governance and administration (e.g. finances, human resources, supply chain).

It is recommended that the time frames of the programme modules are adjusted to allow for better exam preparation. Continuous access to updated evidence-based guidelines, even after graduating from the programme, is needed.

With regard to weaknesses of the training programme at Stellenbosch University it is recommended that the clinical skills list is revised in line with the emerging roles and responsibilities of the family physician. This will help to ensure that there is adequate exposure to the skills in the appropriate context during the training programme.

An adequate amount of time needs to be allocated to certain specialist rotations such as ophthalmology, ENT and dermatology since a different skill set is needed when working at district hospital compared to working in a primary health care setting. Special attention is needed in this area with possible specialist outreach or input. The training programme needs to allow enough time to master the different skill sets required at different levels of care and some of these skill sets are better mastered in a district health setting compared to a tertiary setting.

The lack of supervision is currently being addressed in the FM training programme. A sufficient ratio of FP to registrars are needed ensure clinical training in their job description , promote more joint staff, train the clinical trainer and engage with regular quality assurance/formative assessment and feedback.

It would be good to evaluate the career trajectory and feedback on training from a more recent cohort of graduates in a similar research study and to extend the study population to incorporate all training programmes. Future studies could also incorporate a comparison between graduates working in private and public sectors to establish

whether their postgraduate training prepared them for what is expected of them in both sectors.

## Conclusion

Stellenbosch University FM graduates working in clinical practice perceived their postgraduate training as effective in preparing them for actual practice. The programme has since changed and evolved and many weaknesses that were identified through this study are already being addressed through improvements in the online modules such as leadership, clinical governance, enhanced clinical supervision and support. Research on graduates' perceptions post implementation of these improvements is needed.

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