Exploring the key principles of Family Medicine in sub-Saharan Africa: international Delphi consensus process

[a] **Mash R,** MBChB, MRCGP, PhD
[b] **Downing R,** MD
[c] **Moosa S,** MBChB, MMed(FamMed)
[d] **De Maeseneer J,** MD, PhD

[a] Division of Family Medicine and Primary Care, Stellenbosch University, South Africa
[b] Family Medicine, School of Medicine, Moi University, Kenya , South Africa
[c] Department of Family Medicine, University of Witwatersrand, South Africa
[d] Department of Family Medicine and Primary Health Care, Ghent University, Belgium

Correspondence to: Prof Bob Mash, e-mail: rm@sun.ac.za

Abstract

Background: The purpose of this study was to establish consensus on the key principles of Family Medicine for Sub-Saharan Africa.

Methods: A three-stage Delphi technique process involving nine countries in sub-Saharan Africa and individuals from two stakeholder groups (teachers or students/graduates of family medicine programmes). Consensus in rounds one and two was defined as at least 70% agreement. Ranking in round three depended on individuals selecting and ranking the top 20 principles; following this, aggregate scores were calculated.

Results: Of the participants, 40 gave consent and 28 participated in the first round (23 teachers and 17 students/graduates); 27/40 (67.5%) participated in the second round; 22/40 (60%) in the third round. The 50 principles seen as relevant were ranked in order of importance. Core values and characteristics such as holistic, longitudinal, comprehensive and family-orientated care and community orientation were recognised as relevant, with differences from more developed settings in terms of emphasis. Several key organisational principles, such as home visiting and definition of the practice population, were seen differently. Principles relating to the scope of practice showed the greatest difference, with the need for family physicians to perform major surgery in the district hospital, to act as consultant and teacher to the first-contact primary care team and to include clinical nurse practitioners in the definition of family medicine being raised.

Conclusion: The study contributes towards a clearer definition of Family Medicine in the region, which would enable comparison between regions, influence local curriculum content and outcomes, as well as inform the policy makers and managers of the health system.

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Introduction

Family Medicine is an emerging discipline in sub-Saharan Africa. In South Africa, it has recently been recognised as a speciality and all eight medical schools have functioning departments of Family Medicine with both undergraduate and postgraduate training programmes. The emergence of Family Medicine in South Africa has been strengthened by the post-apartheid commitment to developing district health services and primary health care. The *South African Family Practice Journal* (www.safpj.co.za) is unique in southern Africa and several textbooks of Family Medicine have also been published.[1,2]

In other countries, Family Medicine departments are struggling for recognition and the health systems are still dominated by a reliance on centralised specialist services. Furthermore, many countries, for instance the Democratic Republic of the Congo, are emerging from conflict and need to rebuild infrastructure, while several countries, such as Namibia and Botswana, do not have medical schools.

Currently, almost all the literature on the principles of family medicine is written from an American, European or developed country context.[3-9] The definitions employed in this literature dominate the discourse, and

many of the principles or characteristics relevant to health systems and demographics in developed countries may not be as relevant in sub-Saharan Africa. In addition, there may be innovative or new principles that should be included or emphasised in an African context.

In July 2006, a collaborative project involving the Family Medicine Education Consortium (FaMEC) in South Africa and similar Departments of Family Medicine in East African countries – the Democratic Republic of the Congo, Uganda, Kenya and Tanzania – was launched. A number of issues were identified in the project's planning stage, including *"the difficulty of finding a comprehensive framework for the definition of family medicine in an African context"*. Such a definition of African family medicine would enable better understanding of and advocacy for the role of family medicine with government ministries, universities, health districts and the public. The current study aimed to explore what the most relevant principles of Family Medicine are in this sub-Saharan African context and to contribute to a working definition of Family Medicine for the region.

Methodology

The Delphi technique was utilised to reach consensus among an international panel of experts who did not meet face to face. Experts fell into two categories:

1. Those currently responsible for training family physicians in the selected countries, and
2. Family physicians or general practitioners who have graduated from or are participating in Family Medicine training programmes in the selected countries.

Participants were sought from sub-Saharan African countries and were identified through the FaMEC-East Africa collaboration, WONCA (World Organisation of Family Doctors) Africa and the International Unit of the Royal College of General Practitioners. Eighty potential experts were identified and invited to participate. Forty of these doctors gave their consent. The composition and response rate of the panel is shown in Table I.

The initial questionnaire collated a baseline list of principles of Family Medicine identified in the literature from the United States of America, Canada, United Kingdom, Europe and Australia.[1–10] The list also included additional principles that had been identified through discussions with local family physicians and experts.

Table I: Panel members and response rate

Country of residence	Number – Category 1	Number – Category 2	Total	Response Round 1	Response Round 2	Response Round 3
Belgium	1	0	1	1	1	1
Botswana	0	1	1	0	1	0
Congo	2	1	3	3	3	3
Ghana	1	1	2	1	1	1
Kenya	0	4	4	4	3	3
Namibia	0	3	3	1	2	1
Nigeria	5	0	5	3	3	2
South Africa	9	2	11	8	8	6
Sudan	1	0	1	0	0	0
Tanzania	1	0	1	0	0	1
Uganda	3	4	7	7	5	4
Zambia	0	1	1	0	0	0
Total N (%)	23 (57.5)	17 (42.5)	40 (100.0)	28 (70.0)	27 (67.5)	22 (60.0)

Round 1

The first questionnaire, which contained 55 questions, was sent to panel members by e-mail. Each question presented one principle and was phrased as a statement beginning with the phrase "*Family Medicine is…*". Respondents were asked to choose between three options for each principle (Table II):

Table II: Definitions of terms in the questionnaire

Term	Definition
1. Relevant in action	When you **observe** Family Medicine in your country, from your perspective as a local expert, do you see this principle "in action", i.e. the relevance is clear because you have seen it widely put into action by family physicians within your district/primary health care system?
2. Relevant in theory	When you **reflect on** Family Medicine in your country, from your perspective as a local expert, do you think this principle should be espoused or promoted as relevant, i.e. as an expert in your setting, would you advocate/espouse/argue for the relevance of the principle to your district/ primary health care system?
3. Not relevant	This principle is not seen 'in action' and is not relevant to Family Medicine in your setting.

Consensus was pre-defined as 70% or more of the panel agreeing on where to place an item.

Items on which consensus was reached were removed from the second questionnaire. Panel members had the opportunity in all rounds to comment on the questions, ask for clarification or suggest additional principles that should be included.

Round 2

The panel was given feedback on their responses to round 1 and asked, in a second questionnaire, to re-consider items on which they had not achieved consensus, together with new or re-phrased items suggested by the panel. Data from rounds 1 and 2 were analysed using Statistica Version 7.

Round 3

The panel was given feedback on their responses to round 2 and presented with a list of 50 relevant principles on which consensus had been obtained. In this last questionnaire, panel members were asked to select the 20 most important principles from this list and to rank them from 1 (most important) to 20 (least important) to give an appropriate emphasis in the final definition. In the analysis of this questionnaire, the scores from each panel member were combined, as in the nominal group technique, to obtain a final ranking that represented the viewpoint of the panel as a whole.

Results

Round 1

In round 1, the panel did not see any of the principles as being unequivocally 'in action' and only eight of the principles were seen as being relevant 'in theory'. Forty-two of the items received 70% or more when 'in action' and 'in theory' were combined. The interpretation was that the panel supported it as relevant, but could not reach consensus on 'in action' versus 'in theory'. Two principles were seen as irrelevant and were removed. These were that Family Medicine is "*only* about the provision of family-orientated primary care" and that Family Medicine is "*only* about the provision of primary medical care in the clinic or health centre and not in the district or rural hospital". The panel was unable to reach consensus on relevance versus irrelevance on three items. Feedback from the panel suggested that we explore the level of surgical skills required in greater detail and also recommended re-wording or adding 16 principles.

Round 2

Specific questions presenting a number of options, from which one had to be chosen, were asked to try to determine the panel's opinion on

- Which practitioners should use the principles of Family Medicine
- Which practitioners were members of the discipline of Family Medicine
- What form of integration of services was supported
- What definition of longitudinal care was most relevant
- What level of surgical skills was most needed

Consensus was reached that doctors (96%), clinical nurse practitioners (70.5%) and mid-level health workers (70.5%) should use the principles of Family Medicine, but only doctors (89%) and clinical nurse practitioners (70.5%) were seen as belonging to the discipline of Family Medicine. No consensus was reached on the type of integrative care, but the majority of the panel favoured integration within the primary care team at one facility (52%). The panel did not support the notion of preserving separate vertical programmes within the health centre (0%) and also did not support the goal of integrating services within one provider or consultation (7%). Some supported the concept that services should be integrated at the district level and not necessarily within one facility (41%). No consensus was reached on the exact definition of longitudinal care, but the option of longitudinal care provided by a group of providers (85%) and not an individual provider (15%) clearly was favoured. A very large consensus was reached (96%) that Family Physicians should perform caesarian sections as well as other common or life-saving procedures and operations appropriate to the district hospital."

Round 3

Table III summarises the panel's ranking of the results and the degree to which the panel saw each principle as currently being 'in action' or 'in theory'.

Discussion

The new and emerging status of Family Medicine in sub-Saharan Africa is reflected in the finding that only one of the principles was convincingly seen 'in action' and all others varied considerably between 'in action' and 'in theory'. As the discipline of Family Medicine develops, the consistent realisation of these principles in the region should improve.

Key values and characteristics

It could be argued that the discipline of Family Medicine should share the same core values and beliefs internationally if it is indeed a unified discipline. From studies performed in developed countries, Starfield has identified six core characteristics that are clearly linked to better health outcomes: first contact care, longitudinal care, comprehensive care, coordination of care, family-centred care and community orientation.[11] Comprehensive care dealing with all age groups, sexes and reasons for encounter with specific competence to deal fully with all the common problems and family-centred care were also ranked highly by African Family Medicine. Community-orientated primary care was valued highly in the first-round results and then was placed just within the top half of the ranking. The panel clearly saw this as a principle to which Family Medicine should aspire, even though it is not currently practised. The open-ended nature of the commitment was seen as important, but specific strategies to support longitudinal care less so. Longitudinal care (or continuity) by a specific practitioner with a patient was not seen as a goal and the acquisition of detailed personal knowledge about specific patients was also ranked low. Longitudinal care rather was seen as concerning the team as a whole and could involve the members of the team or even the information recorded by the team. Relational continuity, as opposed to informational continuity, was seen as more effective in developed countries.[12] In Canada, continuity has been defined in three ways: informational, management and relational.[13] Management continuity, which was defined as "the delivery of services by different clinicians in a timely and complementary manner such that care is connected and coherent",[13] seems closest to the panel's view of longitudinal care. Coordination of care was also ranked low, probably because it was seen as being of theoretical relevance only at this time. First contact care was more likely to be with a nurse, which implies that the family physician may see patients referred by the other members of the team and not be seeing undifferentiated ambulatory patients directly at the "coalface".

While these six characteristics were seen as relevant, they were not prioritised to the same extent as in the international literature on global health and primary care.[14] This seems to be due to the realities of local health systems, health services and the emerging nature of Family Medicine. There is a gap between what the global community is promoting and what African Family Medicine is prioritising and able to deliver.

African Family Medicine, in line with international Family Medicine, also ranked the holistic nature of care highly, particularly the contextual dimension and the centrality of the person (not the disease). The importance of the doctor-patient relationship was also reinforced along with its key characteristics of collaboration, participation, trust, good communication and confidentiality. Opportunistic health promotion and disease prevention were also placed in the top half of the ranking.

In the USA, the discipline of family medicine in recent times has emphasised five key attributes in an attempt to better represent itself to the public and health system:[15]

- A deep understanding of the dynamics of the whole person
- A generative impact on patient's lives
- A talent for humanising the health care experience
- A natural command of complexity
- A commitment to multidimensional accessibility

These attributes particularly reflect the struggle of Family Medicine in the USA to communicate its role in the local health system, but this emphasis seems out of step with African realities. The emphasis on fostering personal growth, intimate doctor-patient relationships over time and mastery of complexity, for example, were not ranked highly by our panel of experts.

Key organisational principles

Although the core values and characteristics are shared largely by African Family Medicine, with differing levels of perceived importance, some of the key organisational principles differ completely. The registration of patients from a defined practice population with a specific family physician or practice, for example, was not seen as relevant and the panel rather supported the concept of being responsible for a defined geographical area or health district.

While home visiting is an important feature of Family Medicine in other countries, it was ranked as of low importance in an African context. When asked about the specific purpose of home visits, the panel saw disabled patients with chronic illness as most likely to be visited. Many comments on home visiting referred to the "difficulty of access" and "first should come equity", whilst others felt it was "still a dream".

Table III: Ranked principles of African Family Medicine

Rank	Score	Principle	1. Principle in action (%)	2. Principle in theory (%)
1	237	Seeing the person and their illness in relation to their context; this may be biomedical, familial, occupational, social, cultural or environmental	42.9	53.6
2	243	An approach that deals with all issues related to health care, for all ages, sexes and regardless of the presenting problem, the organ system involved or the disease	60.7	35.7
3	243	Promoting a holistic assessment which includes biomedical, psychological, social and environmental factors – bridging the dualist distinction between mind/body and physical/psychological illness	42.9	57.1
4	247	A discipline in which the specialist family physician is able to perform most of the common clinical procedures and operations appropriate to the district health system – including the district hospital – and to refer patients appropriately for procedures that are outside the scope of practice	70.0	30.0
5	260	Care that is provided to a person in his/her totality and not for a specific disease or organ system	57.1	39.2
6	262	A discipline in which the specialist family physician requires postgraduate training after the basic medical degree	64.2	32.1
7	286	Committed to utilising resources by decision making that is evidence-based, ethical and sensitive to the personal needs of the patient, as well as equitable and fair to the community and health system	32.1	60.7
8	299	A commitment to care of the person that is open-ended and not for any specific episode of illness or specific disease	46.4	46.4
9	308	A speciality that is fully competent to care for all the common health problems in a specific community	56.0	44.0
10	313	Care for the person in the context of their significant others, household members and family, with the provider sometimes engaging with the whole family or other groups, such as couples	46.4	50.0
11	321	A discipline in which the specialist family physician must also spend time mentoring other practitioners, acting as a consultant, coach or even a teacher	50.0	42.3
12	323	Committed to working effectively in multidisciplinary teams – for example with nurses or social workers	57.1	39.3
13	334	Providing health care at the primary level as well as at the district or rural hospital	39.2	50.0
14	342	Care requiring a provider-patient relationship that in itself may have therapeutic properties	57.1	35.7
15	344	Care requiring a confidential, trusting and effective partnership between provider and patient	53.6	46.4
16	344	Committed to life-long learning	52.0	41.0
17	346	A discipline in which the skills of the practitioner must be tailored to the needs of the community and available specialist resources	56.0	44.0
18	351	Committed to relevant research	37.0	56.0
19	352	Care that encourages participation of the patient in the consultation and mutual decision making.	32.1	67.9
20	357	Committed to integrating most services for patients within one health centre	35.7	57.1
21	360	Focused on patient empowerment, especially in relation to health promotion and chronic disease management	21.4	67.9
22	363	Emphasising the potential of each encounter for disease prevention, health promotion or health education	46.4	53.6
23	364	A discipline in which the specialist family physician acts as a clinical consultant receiving referrals from the rest of the primary medical care team	42.9	42.9
24	364	Connecting the experience of individual patients with the broader public health issues in the health district. Practitioners are able to work with community groups and leaders to develop interventions that improve public health.	17.9	82.1
25	364	Committed to being cost-effective (efficient)	52.0	44.0
26	368	A discipline in which the specialist family physician is responsible for clinical governance and the quality improvement activities within the district health system	14.3	82.1
27	370	The gatekeeper of the health system, as patients have to go through the Family Medicine practitioner to access the rest of the health system	21.4	67.9
28	370	Committed to accessing care that is not limited by disability, geographical, cultural, racial, religious, social, administrative, psychological, or financial barriers	48.0	48.0
29	376	Focused on understanding health-seeking behaviour and the reasons for the encounter with the Family Medicine practitioner	32.1	57.1
30	385	Responsive to the changing health needs of the community, especially in case of pandemics or catastrophes	35.7	60.7
31	386	A discipline in which a team of health workers that includes the doctor is responsible for a defined geographical area	15.0	78.0
33	389	Taking responsibility for coordinating the patient's medical care and avoiding a "collusion of anonymity" between different health workers and specialists	28.6	71.4
34	391	Committed to the importance of ideas, concerns, emotions and reactions that arise in both patient and practitioner	35.7	60.7
35	393	Care requiring expertise in cross-cultural communication and overcoming language barriers	39.2	46.4
36	397	Engaging with the broad network of local community resources and agencies that can assist with helping people	21.4	67.9
37	406	Care provided longitudinally over time to the same person by a number of different providers	39.3	37.5
38	408	Being aware of and acknowledging the patient's use of both lay people as well as traditional and complementary health practitioners	42.9	50.0
39	408	Actively seeking to involve representatives of the community in planning and improving their health care	14.3	78.6

Rank	Score	Principle	1. Principle in action (%)	2. Principle in theory (%)
40	421	Guiding the patient to access other resources in the community and other parts of the health system	50.0	50.0
41	425	The academic discipline that is the main provider of continuing professional development to doctors in family or general practice	39.2	57.1
42	426	Committed to ethical decision making and behaviour	60.7	35.7
43	429	Engaging with other sectors of society to work in and with communities – e.g. education, social services, housing and so on	10.7	75.0
44	429	Dependent on the cumulative knowledge obtained from the patient by a practitioner – the patient is well known by the practitioner	53.6	39.2
45	433	An approach to organising and managing the whole district health system	14.3	71.4
46	436	Consulting patients in their own homes as well as in health centres and hospitals	14.3	71.4
47	436	Committed to having practitioners living in the same location/environment as their patients	7.1	71.4
48	442	An approach to providing district level health care by doctors, clinical nurse practitioners and medical assistants	25.0	50.0
49	443	Provided by a practitioner who is readily available after normal working hours	28.6	46.4
50	449	Provided by a practitioner who is easily accessed by the patient during normal working hours	63.0	30.0

Note: If all panel members ranked an item first, the score would be 22, if none of the members selected an item in the top 20, the score would be 462. The % does not always amount to 100%, as the response "irrelevant" has not been listed.

Integration of services was seen to operate at team, facility or district levels, rather than at the level of the individual practitioner. Accessibility to a specific practitioner, both during and after hours, was ranked lowest, although the general principle of accessibility to care and removal of barriers was moderately ranked. This may also reflect the reality that access to first-contact care is an issue for primary care nurses and mid-level health workers, more than for family physicians. Clinical teamwork, managing integration, continuity and access in primary care from the community to the district hospital is the complex and direct challenge facing family physicians in Africa. Many of these differences can be explained by the limitations to resources and the informal nature of large urbanising communities.

Involving the community in planning and developing health services was ranked low down and seen as largely theoretical at present. Engaging with complementary and traditional health practitioners was also ranked low down. The panel reached large first-round consensus on the leadership role that Family Medicine can play in clinical governance, inter-sectoral collaboration, community involvement and organising the district health system, but ranked these lower as principles in the third round in the light of resource concerns, as expressed in the feedback.

Scope of practice, clinical knowledge and skills

In terms of the knowledge and skills expected of the family physician, the scope of primary care practice would be expected to demonstrate the most variation due to regional differences in the burden of disease and what has to be managed at the primary care level. This study shows that the African family physician differs most dramatically from his or her counterparts in Europe and America with regard to the need to learn major surgical skills and to work in the district hospital. This was ranked fourth in importance and was the only principle that the panel agreed was already "in action", with the most overwhelming consensus (96%). The family physician was not seen as restricted to the district hospital, however, but as having responsibilities for the whole district, which included working at the primary care level and contributing to broader public health issues.

Emphasis on the broader clinical team comes through clearly, with clinical nurse practitioners being seen as part of the discipline of Family Medicine and mid-level workers as also requiring Family Medicine skills. The role of the family physician in this team is that of a mentor, teacher and consultant and implies that their training should include skills in adult education and teaching.

The need for post-graduate education in Family Medicine was strongly supported and goes against the belief that the undergraduate degree is or should be sufficient to train a Family Physician. The skills requirement is extensive and the panel feels that these skills should also be tailored to local needs, resources and the availability of other specialists. This principle, as well as relevant research skills and life-long learning, was added by the panel in round one and was also ranked in the top half of the third round.

Limitations of the study

The first-round questionnaire took the existing literature as its starting point and, although panel members had the opportunity to add or modify principles, this may have hindered the emergence of new principles unique to the African context. Many of the principles are closely related and, although every effort was made to present the principles as clear and distinct concepts, it is possible that some principles presented more than one idea to the panel. The size of the panel was in line with the use of the Delphi technique elsewhere, but did not represent all possible countries and had a falling response rate in the last round of 60%. The scoring of principles in the final round also showed a significant heterogeneity in the way the panel members ranked the items. The present study therefore makes a new and useful, but not a definitive contribution to the emerging definition of African Family Medicine.

Recommendations/the way forward

The development of a clearer definition in the region will enable comparison between regions, influence local curriculum content and outcomes, as well as inform policy makers and managers of the health system about the contribution of Family Medicine and the role of the family physician. The study points towards the need for greater dialogue and synergy between the training of family physicians, clinical nurse practitioners and mid-level health workers, if indeed they share the same core values, principles and clinical context. The study also provides a benchmark from which to monitor the development of African Family Medicine and the progression of principles from theory to reality. Africa may have lessons to share with other regions regarding the appropriate definition of Family Medicine in developing countries.

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Declarations

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Prior presentation

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Ethics approval

University of Stellenbosch, South Africa granted ethics approval.

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