

Strengthening the district health system through family physicians

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In 2007, family medicine was recognised as a new speciality in South Africa and all eight medical schools began training specialist family physicians. The introduction of this new speciality can be regarded as a generic intervention in the district health system intended to strengthen clinical processes and health system performance. Family physicians have been deployed in a variety of ways, which reflects both their breadth of training and the confusion in national and provincial policy regarding their roles in the health system.

This chapter discusses the conceptualisation of the different roles of family physicians; the development of family medicine training programmes; and the deployment of family physicians as part of district management teams, within district clinical specialist teams, within sub-districts, at community health centres, and in district hospitals as both clinical managers and clinicians.

The chapter highlights the findings of studies that have evaluated the initial impact of family physicians on the district health system, and proposes recommendations to enhance the effective contribution of the speciality.

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Introduction

From 1994, the South African government has been committed to the provision of primary health care (PHC) for all through a district health system (DHS).¹ Despite this commitment, government has struggled to provide quality primary and district level health care. In the last 10 years a number of reforms have been introduced to strengthen the DHS. Most notable among these have been the introduction of ward-based outreach teams (WBOTs), the development of district clinical specialist teams (DCSTs), strengthening of school health services, and the improvement of primary care facilities in relation to Ideal Clinic criteria. Another reform that has received less attention is the introduction of the family physician as a specialist in family medicine. Family medicine was recognised as a new speciality in 2007 and family physicians from the new postgraduate training programmes became available for deployment from 2011.²

This chapter describes the challenges and successes in introducing family physicians as a generic intervention to strengthen the DHS, and summarises the initial research findings on the impact of these physicians. The chapter also identifies policy implications and the implementation of policy for family physicians. The different terms used to refer to doctors working in the DHS are defined in Table 1.

Table 1: Terminology used to refer to doctors in the South African district health system, 2018

Term	Definition
Medical generalist	Any practitioner (doctor, nurse practitioner or clinical associate) who diagnoses and manages a wide variety of patients in the DHS.
Medical officer	A doctor employed as a medical generalist in the DHS and not registered as a specialist in family medicine.
General practitioner	A doctor working as a medical generalist in the private sector of the DHS and not registered as a specialist in family medicine.
Family physician	A doctor working as a medical generalist in the DHS and registered as a specialist in family medicine.

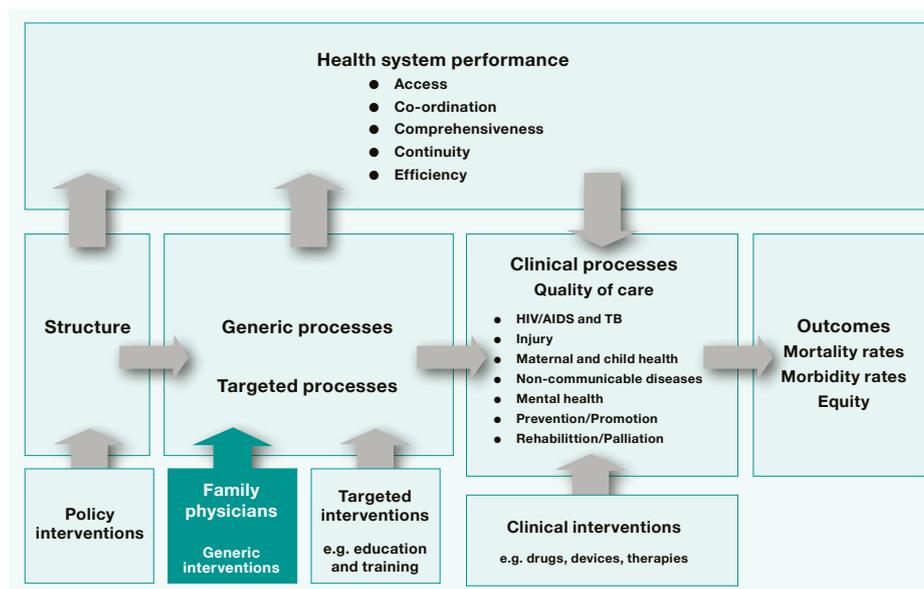
Source: Mash et al., 2015.²

The district health system

In South Africa the DHS is the organisational unit through which PHC is delivered. It has been described by the WHO as “a more or less self-contained segment of the National Health System. It comprises first and foremost a well-defined population, living within a clearly delineated administrative and geographical area, whether urban or rural. It includes all institutions and individuals providing health care in the district, whether governmental, social security, non-governmental, private, or traditional.”³

This study applied a modified Donabedian causal chain model to conceptualise the introduction of family physicians into the DHS (Figure 1).^{4,5} The model consists of three categories, namely structure, process and outcomes, which can be used to plan assessment of the DHS. Structure refers to the context of healthcare delivery and relates to issues defined in national policy such as governance, economics and the workforce. Process issues are split into three categories: generic (organisational processes that cut across multiple programmes, e.g. family physicians); targeted (aimed at a specific programme or condition); and clinical (services at the level of the patient for specific conditions). Generic and targeted processes can affect health system performance in terms of accessibility, continuity, coordination, comprehensiveness of care and efficiency as well as clinical processes.⁶ Clinical processes can be defined as the quality of care for conditions across the burden of disease. The outcomes of this system can be measured in terms of changes in mortality, morbidity and equity.

Figure 1: Conceptual framework for the district health system in South Africa, 2018



Source: Lilford et al., 2010;⁵ von Pressentin et al., 2018.⁴

Family physicians in the DHS

Family physicians can be seen as a generic intervention in the DHS because they potentially impact all clinical processes as well as health system performance. They are trained in the same model as other specialists, with four years of supervised postgraduate clinical training as part of a Master of Medicine degree that culminates in a national Fellowship examination conducted by the College of Family Physicians.

The national learning outcomes for family physicians are aligned with the six key roles envisaged for them within the DHS (Table 2).

Table 2: Six key roles of family physicians in the South African district health system

Role	Description
Clinician	Family physicians are medical generalists (Table 1) who can offer competent care appropriate to the district hospital or primary care.
Consultant	Family physicians are the most highly trained clinicians in the healthcare team, whether this is at primary care or district hospital level. As such they are expected to see more complicated patients referred by clinical nurse practitioners, more junior doctors and clinical associates.
Capacity-builder	Family physicians work in a context where the other members of the healthcare team may have limited training or experience. For example, qualified nurses may train for a further year to become clinical nurse practitioners. Thereafter they can work as medical generalists and take responsibility for 80% of all primary care consultations. ⁷ They often need support to build their capability and confidence. In district hospitals, doctors are often interns or community service medical officers who have little experience and need supervision and guidance from more senior clinicians.
Clinical governance	Family physicians take the lead in improving the quality of clinical care in their facility or sub-district. Clinical governance activities include guideline implementation, quality improvement cycles, clinical teaching, risk management (e.g. morbidity and mortality meetings), and reflection on routine health information (e.g. medication and laboratory use). ⁸
Community-oriented primary care (COPC)	Family physicians are trained in the principles of COPC and to consider the population at risk and not just the patient in their facility. They can be champions of COPC. The introduction of WBOTs provides an opportunity to support the implementation of these principles in practice.
Clinical trainer	Family physicians may have a formal training role in the workplace for undergraduate students (e.g. medical students, clinical associates), interns, or postgraduate students (e.g. registrars).

Source: Mash et al., 2015.²

Training

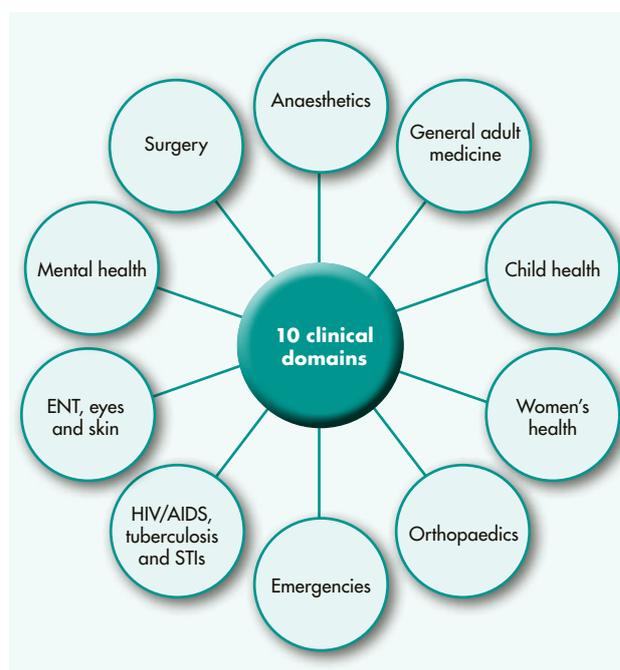
Family physicians are trained to work throughout the DHS in district hospitals, PHC facilities and communities, and are prepared to become the senior clinicians in rural district hospitals, multidisciplinary community health centres, and sub-districts with a variety of clinics. Their training is defined by five national unit standards (Box 1),⁹ 10 clinical domains (Figure 2)² and a list of 242 clinical skills that range from surgical, obstetric and anaesthetic skills appropriate to the district hospital, to skills in community-oriented primary care such as making a community diagnosis.¹⁰

Box 1: National unit standards for South African family physicians

- ❖ Effectively manage himself or herself, his or her team and his or her practice in any sector with visionary leadership and self-awareness in order to ensure the provision of high-quality, evidence-based care.
- ❖ Evaluate and manage patients with both undifferentiated and more specific problems cost-effectively according to the bio-psychosocial approach.
- ❖ Facilitate the health and quality of life of the community.
- ❖ Facilitate the learning of others regarding the discipline of family medicine, primary health care, and other health-related matters.
- ❖ Conduct all aspects of health care in an ethical and professional manner.

Source: Couper et al., 2012.⁹

Figure 2: Clinical domains included in the training of South African family physicians



Source: Mash et al., 2015.²

Throughput

In 2011, the national Human Resources for Health policy identified a gap of 888 family physicians in the public sector.¹¹ By 2017, only 158 new family physicians had graduated from the nine training programmes in the country.¹² The output of new family physicians was limited by a lack of interest in and awareness of the new discipline, a lack of registrar posts, a lack of family physicians as clinical trainers in the DHS, difficulty completing the research component of the degree, and a low pass rate in the national clinical examination.^{2,12} Lack of recognition for family physicians in the private sector, both in terms of scope of practice and remuneration, may have also reduced interest in the training programme.¹² Furthermore lack of family physician posts within the DHS may be creating the perception of limited career opportunities. National initiatives have focused on improving the quality of clinical training¹³ as well as the validity and reliability of the national examination.

Despite these limitations, the number of family physicians in the DHS has increased, which has allowed training to shift from regional and tertiary hospitals to the appropriate context. The ability to supervise research has improved at some of the universities as academic family physicians obtain doctoral degrees. It is hoped that increased exposure of undergraduates and interns to the distributed platform, COPC and family medicine will increase interest in the discipline. The South African Academy of Family Physicians has been negotiating with the private sector and raising the profile of the discipline.¹⁴

The number of family physicians on the national register has increased from 545 in 2013 to 1 064 in 2017.¹⁵ This is largely due to the exemption (grandfathering) of family physicians with a variety of qualifications and from vocational training programmes prior to 2007. These family physicians may not fulfil all of the learning outcomes outlined above and particular care must be taken when employing them in district hospitals to ensure that they have the necessary competencies.

The South African government appears to have worked on a goal of 0.2 family physicians per 10 000 population in their HR policy,¹¹ while the World Bank's experts have suggested an absolute minimum of three family physicians per 10 000.² The current supply of family physicians in 2015 was reported as 0.1 per 10 000 compared with rates of 0.2 per 10 000 in Brazil and 1.2 per 10 000 in China.¹⁶ High-income countries report rates of 4–12 per 10 000.¹⁶ In South Africa, the distribution of family physicians between the public and private sectors is not equitable and the rate within the public sector is reported as 0.03 per 10 000 population.¹⁷

Assimilation into the DHS

Government policy has been mixed with regard to family physicians. On the one hand, the National Development Plan¹⁸ recognised family physicians as custodians of clinical governance in the health district, and papers on National Health Insurance recognised them as key role players in district hospitals.¹⁹

On the other hand, policymakers appear to have been confused by the notion of medical generalists (Box 2) who are trained and registered as specialists in family medicine. For example, human resource policy saw them as a sub-speciality of internal medicine and calculated that the country needed more ophthalmologists than family physicians.¹¹ In some provinces, family physicians were employed in regional and tertiary hospitals because the DHS was not meant to employ specialists. In some policy documents, family medicine was conceptualised as a department within the district hospital rather than as being responsible for the entire hospital.¹⁹

Box 2: Definition of medical generalism

"Medical generalism is an approach to the delivery of healthcare that routinely applies a broad and holistic perspective to the patient's problems.

Its principles will be needed wherever and whenever people receive care and advice about their health and wellbeing.... The ability to practise as a generalist depends on one's training, and on the routine use of skills that helps people to understand and live with their illnesses and disabilities, as well as helping them to get the best out of the healthcare options that are available and appropriate for their needs."

"It involves:

- (a) seeing the person as a whole and in the context of his or her family and wider social environment;
- (b) using this perspective as part of the clinical method and therapeutic approach to all clinical encounters;
- (c) being able to deal with undifferentiated illness and the widest range of patients and conditions;
- (d) in the context of general practice, taking continuity of responsibility for people's care across many disease episodes and over time; ...
- (e) co-ordinating his or her care as needed across organisations within and between health and social care."

Source: Howe et al., 2013.²⁰

The introduction of DCSTs was both an opportunity and a further contradiction for family physicians. On the positive side, there was funding for each district in the country to have a post for a family physician; on the negative side, the teams were focused solely on maternal and child health and positioned as external specialists coming to assist the district. It was not intended that family physicians come to the district from regional hospitals, but rather that they be part of the fabric of health services within the district. They were also trained to be generalists and not focused on only one of the important clinical processes.

Employment of family physicians

National policy is clearer on the contribution of family physicians to district hospitals than on their contribution to PHC. The role of family physicians in strengthening PHC facilities and WBOTs has not been as clearly conceptualised.

Perhaps as a result of this confusion at national level, provinces have been unsure about employing family physicians. Family physicians are also expensive and provinces have had to consider the opportunities against the costs of investment. However, the situation has been different in the Western Cape where the skills gap in rural district hospitals²¹ was recognised in 1998, and family physicians were employed to meet this gap from 2005 onwards.²² Currently most district hospitals in the province have family physicians, as do a growing number of the community health centres in towns and metropolitan areas. In other provinces, such as the Eastern Cape, family physicians were located in central hospitals until quite recently, and the skills gap in rural district hospitals still exists.²³ In the city of Tshwane in Gauteng, the Department of Family Medicine at the University of Pretoria championed the establishment of COPC as an approach to universal health coverage.²⁴ Here, family physicians have a clearer role in supporting the WBOTs and other PHC services. In KwaZulu-Natal, the initial focus was on creating family physician posts in DCSTs and district hospitals, with some family physicians working in clinical manager posts at community

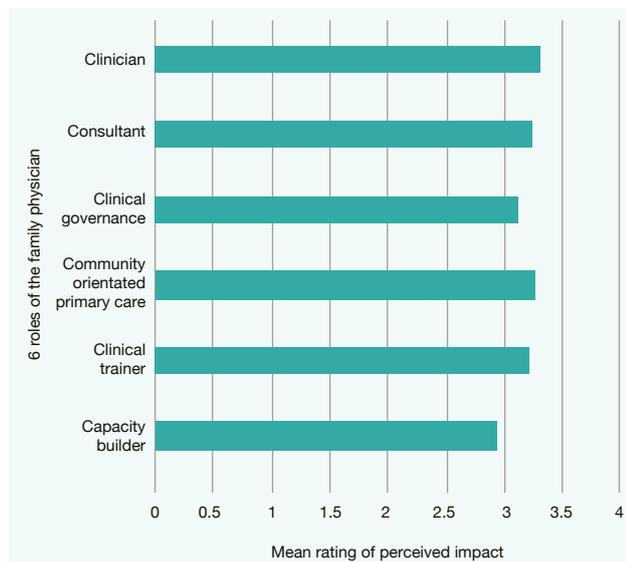
health centres.²⁵ Consequently, the different employment strategies in different provinces has led to a heterogeneous picture and a lack of uniformity in approach.

Effect of family physicians on health system performance

A family physician impact assessment tool was validated in the Western Cape²⁶ and subsequently used in a national survey of family physicians.²⁷ The tool was structured around the six roles of family physicians described in Table 2, and the perceived impact of 52 family physicians was rated by 542 of their managers, colleagues and subordinates in seven provinces. Limpopo and the Eastern Cape were excluded as they did not form part of the service-learning footprint of the universities that participated in the study. Family physicians came from district hospitals and community health centres as well as from the new and older training programmes. The impact of the family physician was rated on a scale from 0 to 4 for each of the six roles, with the scores interpreted as follows: < 1.5: no impact in this area; ≥ 1.5 but < 2.5: little impact in this area; ≥ 2.5 but < 3: moderate impact in this area; and ≥ 3 : high impact in this area.

Figure 3 summarises the findings and shows that respondents felt that family physicians had a high impact in their roles as clinicians, consultants, leaders of clinical governance, champions of COPC and clinical training, and a moderate impact as capacity builders.

Figure 3: Perceived impact of family physicians across seven South African provinces, 2018



Source: Von Pressentin et al., 2018.²⁷

Respondents were also asked to compare the impact of family physicians with the impact of other medical officers; family physicians were reported as being more impactful across all six roles. No significant difference was noted between family physicians in district hospitals and community health centres, from urban and rural areas, and from older and newer training programmes.

District managers reported that employment of family physicians led to improved patient access to more comprehensive care at

lower levels of the health system.²⁸ As clinicians, they were seen to bring a more advanced skill set to manage complicated patients, resulting in fewer referrals to regional or tertiary hospitals. As consultants and capacity builders, family physicians were seen to share their skills and competence, which also resulted in fewer and more appropriate referrals. Within facilities, they were credited with improving patient flow and triage, particularly in emergency centres. In some provinces, family physicians are reported to have shaped the development of COPC and shared their expertise with the WBOTs in the community.²⁴

An observational study was not able to verify the perceptions of district managers, although scores for the availability of signal functions related to child care were found to be better in district hospitals with family physicians than in those without.⁴ Patients in primary care felt that there was less coordination and continuity of care in facilities with family physicians, although family physicians were often located in facilities with higher workloads.⁴

Supportive organisational environments

The impact of family physicians on health system performance depends on a supportive organisational environment. A number of factors have been identified in this regard.

First is the extent to which family physicians are used as 'gap fillers' to push the queue.^{28,29} If there are insufficient medical officers then family physicians are often required to prioritise frontline clinical care and neglect their other roles. The number of practitioners, mix of senior and junior doctors, and turnover may all impact on the family physician's roles. Sometimes they are asked to fill a gap left by another specialist at the referral hospital or to work as a clinical manager. It should be noted that family physicians are trained as clinicians and not managers, although they are expected to offer leadership in all their roles.⁸ Although they may take responsibility for clinical governance they are trained to influence corporate governance (e.g. supply chain, finances, human resources) rather than be responsible for it.⁸ In the current South African context leadership is a critical capacity for the family physician as newly qualified specialists enter a rapidly changing or evolving health system, with huge expectations placed on them to make a difference.

A second key factor is their relationship with local managers and the prevailing management style.⁴ Local managers need to understand the training and roles of family physicians and work in collaboration with them.²⁸ A management style that is too controlling, restrictive or misdirected may stifle the family physician's ability to have an impact.²⁸

Lastly, the district policy environment is also important in terms of role clarification and support from the district management team and the availability of financial resources and support services to enable functions such as clinical governance.²⁸

District managers also reported some ambivalence regarding the impact of family physicians on the health system versus the educational system. Their role as clinical trainer was perceived as taking time away from service delivery, and as benefiting the university more than the health services. At the same time, managers recognised that students contributed positively to patient care, often attracted other infrastructure and resources, and also performed practical research.²⁸

Effect of family physicians on clinical processes

District managers reported that family physicians have had a positive impact on clinical processes for chronic diseases, particularly HIV, TB, mental health and non-communicable diseases, as well as maternal, child and emergency care.²⁸ Their impact appears to be mediated by direct clinical care, capacity building and clinical governance activities. Managers reported that care offered by nurses, doctors, registrars and community health workers was improved by input from family physicians. Managers also reported that family physicians engaged with implementation of guidelines, protocols or standard operating procedures as well as quality improvement cycles, review of adverse events and learning from routine data.

Effect of family physicians on health outcomes

District managers reported that while it was too early to detect an effect on district health outcomes, this could become apparent over time and with the wide-scale deployment of family physicians.²⁸ This viewpoint was confirmed by an ecological study that did not find any correlation between family physician supply and district health indicators across the country.¹⁷ However, an observational study comparing facilities with and without exposure to a family physician, found that in-hospital rates for child, neonatal and perinatal mortality were better in facilities with a family physician, and that the number of modifiable risk factors associated with these deaths was significantly improved.⁴ The observational study matched facilities for province, rural or urban location as well as bed size and adjusted for confounders such as outreach from general specialities at the referral hospital and bed utilisation rate. However, it was not possible to measure all potential confounding factors.

Conclusions

Family physicians were first introduced into the DHS as a generic intervention in 2011. Evidence suggests that in the short term they have already had a positive impact on health system performance and key clinical processes. Policy on the role of family physicians in the health system has been largely positive, although sometimes contradictory and confusing. The supply of family physicians has been limited by a range of factors affecting the recruitment of registrars, clinical training, assessment, and career progression. There is little evidence of impact on health outcomes as yet, as it is still too early to measure. A longer timeframe and larger numbers of family physicians are needed.

Recommendations

- In order to strengthen PHC, teams with higher-level expertise and greater breadth of engagement at community level are required. Family physicians should provide PHC teams with the additional expertise they need to provide effective COPC.
- National government should ensure a congruent understanding of the role of family physicians in HR, PHC, DHS and NHI policy documents.
- Provincial government should employ family physicians at scale in the DHS, in district hospitals, community health centres and sub-districts. Provinces should plan to create more family

physician posts within the DHS as well as more registrar posts to enable a greater supply of family physicians. The numbers need to double to be on a par with Brazil, and increase by a factor of 30 to meet the World Bank target (three family physicians per 10 000 population).²

- District managers and their management teams should understand and support the different roles of the family physician, avoid using them as 'gap fillers', and create a supportive environment within which they can maximise their impact.
- Researchers should continue to monitor and evaluate the impact of family physicians on the DHS in order to inform policymakers, district managers and educational programmes.

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