PRIMARY CARE RESEARCH: 2017

DIVISION OF FAMILY MEDICINE AND PRIMARY CARE, FACULTY OF MEDICINE AND HEALTH SCIENCES, STELLENBOSCH UNIVERSITY

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Family physicians associated with the Division of Family Medicine and Primary Care

INTRODUCTION

This booklet presents the research output from the Division of Family Medicine and Primary Care, Faculty of Medicine and Health Sciences at Stellenbosch University for the year 2017. The research projects that were completed or published during this year are presented in abstract format. An email address for one of the authors is given for each abstract and a link to the full publication where appropriate.

An important part of the research process is the dissemination of the findings to stakeholders and policymakers, particularly the Department of Health in the Western Cape where the majority of the research was performed.

We realise that many people may even be too busy to read the abstracts and therefore I have tried to capture the essential conclusions and key points in a series of "sound bites" below. Please refer to the abstract and underlying study for more details if you are interested.

We have framed this body of work in terms of Primary Care Research and the typology suggested by John Beasley and Barbara Starfield:

- Clinical Research: Studies that focus on a particular disease or condition within the burden of disease.
- Health Services Research: Studies that focus on cross-cutting issues of performance in the health services and relate to issues such as access, continuity, co-ordination, comprehensiveness, efficiency or quality.
- Health Systems Research: Studies that speak more to the broader health system and development of policy.
- Educational Research: Studies that focus on issues of education or training of health workers for primary care.

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"SOUND BITES" FOR POLICYMAKERS AND MANAGERS

Clinical research

A large qualitative evaluation of the HIV programme in the Eastern Cape showed that people still struggle with stigma, discrimination and issues of disclosure in their families, communities and health services. People saw the benefits of taking anti-retroviral medication and found the treatment supporters as well as simple technologies (such as cell phones) helpful in maintaining adherence. People also struggled to take their medication in the context of widespread poverty and food insecurity. Most experiences of the health services were negative with people complaining about staff attitudes, waiting times, inadvertent disclosure, poor and dirty infrastructure, overcrowding and inequitable access.

In Botswana HIV positive women also struggled to access cervical cancer screening due to a weak primary care system (e.g. availability of equipment, laboratory turn around time and access to results), insufficient information on screening and poor communication skills amongst the health care workers.

In Namibia the Prevention of Mother to Child Transmission programme was working well with overall transmission in Onandjokwe at 2%. Amongst the infants that did acquire HIV key modificable factors were the adherence of mothers to antiretroviral therapy and clinic appointments, health workers not intervening when there was evidence of treatment failure and a lack of coordination between the hospital (where mothers gave birth) and primary care facilities (where mothers attended postnatal and child care).

In this same location, factors associated with rifampicin resistance in patients with tuberculosis included previous TB treatment, contact with multi-drug resistant tuberculosis, previous treatment failure and alcohol use.

In Onandjokwe it was also found that most operative deliveries were for obstructed labour due to cephalopelvic disproportion and abnormal presentations. Assisted delivery was almost never attempted and patients received Caesearean sections. A survey conducted amongst pregnant women in the antenatal care clinic showed a prevalence of intimate partner violence of 9% in the previous year. Although this prevalence is lower than some neighbouring countries it still suggests the need for screening and counselling.

In Outshoorn children with severe acute malnutrition were followed up at 6-months and 25% had adverse outcomes (death or poor weight gain) even though they were all HIV negative. This was within the parameters expected of community-based programmes, but still warrants attention to the quality of follow up in primary care.

In Botswana a study of patients with type 2 diabetes found that 63% had chronic kidney disease. Identification and management of these patients was sub-optimal, particularly the use of ACE inhibitors. In Zimbabwe improved management of diabetes was thwarted by significant underlying resource and equipment constraints.

Health services and systems

Patient-centred care is fundamental to effective primary care. A study of recorded primary care consultations in one sub-district in Cape Town found that the median consultation score was low at 25% and that most providers were very bio-medical in

their approach (family physicians would be expected to score 60% at least on this same scale to show effective consultation skills). In contrast to this another study showed that patients seem quite satisfied with their consultations. However the Medical Interview Satisfaction Scale that was used lacked reliability in some of the sub-scales in our context and patient satisfaction may reflect their expectations more than actual quality of clinical care. Interestingly there was little difference in both studies between medical officer and nurse consultations. Another study from Nigeria showed that patients have significant variability in the extent to which they would like family members to be involved in their care and that this may need to explicitly negotiated.

A study exploring coordination of care at a regional hospital found that non-attendance at their outpatient department was largely due to patients being unaware of or confused about their appointment date, not having an easy mechanism to cancel or revise their appointment (e.g. when away, admitted elsewhere or having a family crisis) and issues with transport. Very few actually chose to not attend. Better communication skills and systems are needed to reduce wasted outpatient appointments.

A study in Nigeria looked at use of the International Classification of Primary Care as a more appropriate system for documenting consultations in primary care. They found that it had good convergent validity with the widely used hospital-based International Classification of Disease and could easily be used in primary care, even by those with no specific training.

A study exploring the views of private GPs in Cape Town towards the emerging national health insurance system found a number of concerns. GPs felt excluded from the discourse and that the department of health was antagonistic towards the private sector. They were concerned about how accreditation would be done and the implications for their practices, whether the department had the administrative capacity to organise the system and how reimbursement would happen. They felt some job insecurity, although GPs serving poorer communities were more positive about the potential benefits.

A study from Botswana looked at the implementation of guidelines to reduce maternal mortality and found that facilities with better indicators were also better at coping with staffing and resource constraints and had fewer administrative (e.g. supply chain) and managerial problems (e.g. mechanisms for accountability). Facilities with higher mortality also suffered from a lack of training opportunities, poor teamwork, administrative overload on the clinicians and less patient monitoring.

A series of studies looked at the contribution of family physicians to the district health services in South Africa. Family physicians were evaluated as having a significant impact as clinicians, consultants, leaders of clinical governance, capacity builders and clinical trainers as well as supporters of community orientated primary care. This impact was found to be greater than medical officers in the same locations and was found in both community health centres and district hospitals. District managers reported that family physicians were having a noticeable impact on the performance of health services as well as improved quality of care. Studies also measured a positive impact on quality of care at district hospitals, but not in primary care. There was no correlation between the small supply of family physicians and district level health indicators as yet. Family medicine in South Africa needs to advocate more for the contribution it can make to strengthen the health care system.

In Zimbabwe a study of key stakeholders explored their ideas on the proposed introduction of postgraduate family medicine training. Stakeholders anticipated that family physicians could improve district health services, reduce referrals, increase access to more comprehensive care and improve health outcomes. They did however caution that family medicine was not perceived as an attractive career option and would be difficult to implement in the harsh economic situation. Stakeholders were suspicious of advocacy coming from the private sector and also anticipated that private specialists would feel threatened by family physicians.

In Botswana a study of the primary care workforce showed that although numbers per population were better than in many African countries the workforce was concentrated in urban areas, dominated by foreign qualified doctors and insufficient to meet the future needs of the country. There was a need to train more adequate numbers of local people and ensure a better distribution to rural areas and primary care. Current organisational culture in primary care contributed to high attrition, low productivity and motivation. One way to improve organisational culture was to focus on changing the management style to a more supportive approach to supervision.

Education

A number of studies explored the importance of decentralised training outside of the traditional tertiary academic hospital. Five factors were identified that impact on the success of decentralised training: availability of information and communication technology, ability to offer longitudinal continuous placements, a focus on primary care, alignment of the medical school's mission with decentralisation and being student centred in approach. The Stellenbosch University's Rural Clinical School published the lessons learnt in providing such decentralised training in a rural area with opportunities for longitudinal placement at district hospitals. A scoping review explored approaches to decentralised training and identified a number of cross-cutting issues related to the learning site, community, leadership and governance.

At an undergraduate level a quasi-experimental study demonstrated the value of introducing the Practical Approach to Care Kit guideline to medical students to improve their learning in primary care. At a postgraduate level a study revised the list of core clinical skills for the training of family physicians.

Dr Von Pressentin, a family physician, attends a patient at a district hospital

CLINICAL RESEARCH:

The experiences of HIV positive patients on antiretroviral drugs attending the public service health institutions in the Eastern Cape Province: A qualitative study

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Introduction: In August 2003, a landmark decision was made by the South African government to include the use of antiretroviral drugs in the public health service as part of the comprehensive response to the HIV pandemic. The Eastern Cape Province implemented the decision in May 2004. The aim of this study was to explore the experiences of patients taking antiretroviral (ARV) medication in the public sector of the Eastern Cape Province. The main objective was to explore the personal, health service and contextual related experiences of HIV positive patients on antiretroviral drugs attending the public service health institutions in the Eastern Cape Province with the following specific objectives:

- To explore how patients incorporate the taking of ARVs into their lifestyle.
- To explore the beliefs and feelings of patients regarding their ARVs.
- To explore the positive and negative experiences of patients attending the ARV clinic.
- To explore how others such as family and friends react to their taking of ARVs.
- To explore what they expect of the ARVs.
- To explore what motivates them to take the ARVs.
- To explore the positive and negative forces that affect the patient's ability to adhere to the treatment.
- To understand the social, cultural and contextual issues that impact on the patient's ability to take ARVs.
- To elicit any other unanticipated issues that arise in the patient's context or experience that are important to their ability to take ARVs.

The results of the study will inform the strategies for implementing the antiretroviral programme in the Eastern Cape Province.

Methods: A qualitative study design was used. A purposive sample of HIV positive patients on antiretroviral drugs who met the inclusion criteria were selected from HIV Clinics at Lusikisiki, Mthatha, East London and Port Elizabeth. Data on the experiences of the participants were collected via interviews, from daily narratives in the medicine diaries compiled by the patients, focus groups of patients and patient's treatment supporters/care givers, and participant observation. Data from the individual and focus group interviews were collected until a point of saturation was reached. The data analysis was done using ATLAS-t.i Version 6.2 computer programme for the analysis of qualitative data.

Results: The personal experiences of participants highlighted the importance of the knowledge of one's HIV status through testing, as a gateway to accessing care, although the decision to test was not an easy one due to the fear of stigma and discrimination. Disclosure of HIV status was selective for the same reason. Acceptance of HIV status; use of technology, especially mobile phones; and treatment supporters facilitated adherence to the ARVs. The health benefits of ARVs motivated adherence and outweighed the challenges of the side effects.

Save for a few positive experiences related to the health service, patients had challenging experiences. These included negative health provider attitudes, stigma and discrimination, long waiting times, inadvertent disclosure, lack of person centred care, inequity in access to care, poor infrastructure, overcrowding and unhygienic practices and environment.

The positive contextual experiences related to support from the family and others the participants interacted with. Some family members and others were also responsible for the negative experiences the participants were subjected to, particularly stigma and discrimination. Challenging experiences related to food insecurity and poor socio-economic status featured quite prominently. The socio-cultural experiences mainly related to the effects of traditional medicine in relation to the ARVs, especially when taken concurrently. The healthcare providers discouraged the practice as it could affect the efficacy of the ARVs.

Conclusions: The conclusions were based on the objectives of the study. The incorporation of ARVs into the lifestyle of the patients was facilitated by the treatment supporters and the use of technology, mainly mobile phones. The patients believed that ARVs saved their life and gave them hope to live long enough to fulfil their aspirations in life, e.g., bringing up of their children. Lack of acceptance of HIV status, and drug and alcohol abuse were considered to be some of the serious challenges to adherence and the health benefits of ARVs. A few but inconsistent positive experiences related to the HIV clinic included some practice of person centred care, availability of ARVs, patient education and sharing of experiences with peers. The negative experiences dominated the experiences at the HIV clinic. These included lack of person centred care, the practice of stigma and discrimination by the health care providers, poor unhygienic infrastructure, and fears about the sustainability of the supply of ARVs in the public service. The positive reaction of the family and others in the form of support contributed to improvement in the health of the patients while the negative reactions, especially stigma and discrimination, compromised support and fuelled ill health for the patients. Socio-cultural and other contextual challenges related to the taking of ARVs were the rampant practice of stigma and discrimination against people living with HIV by families and the society at large, leading to lack of support. Poverty, food insecurity and the use of traditional medicine concurrently with ARVs were also highlighted. Other unanticipated issues raised were the importance of the role of the treatment supporters in the care of the people living with HIV and the need to consider those who have no source of income for some form of remuneration. The emerging rising challenge of drug and alcohol abuse in relation to patients on ARVs was highlighted and is a concern. For all the issues raised above, specific recommendations have been made.

Available from: http://scholar.sun.ac.za/handle/10019.1/101058

Risk factors associated with rifampicin resistance in patients with pulmonary tuberculosis at Onandjokwe district hospital, Namibia

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Background: In most African countries the burden of TB and HIV impacts the country's economy and has become a major cause of death in both children and adults. There is an increase of drug resistant TB cases in Namibia. Resistance to rifampicin is of public concern as it is currently the main drug in TB treatment. The aim of the study was to determine the magnitude of rifampicin resistant TB and associated risk factors at Onandjokwe district hospital, Namibia.

Methods: A retrospective unmatched case control study of 1:4 ratio, was conducted using the clinical records over the two year period of 2014 to 2016, from the district registers. Cases were defined as all patients who were diagnosed with rifampicin resistant TB and controls were patients with pulmonary TB sensitive to rifampicin. Data was collected from the patient clinical records as well as the TB register using a standardized data collection tool. Bivariate and multivariate analysis was done to describe the possible association with the risk factors.

Results: A total of 324 patients with pulmonary TB were enrolled and 59 were resistant to rifampicin. The frequency of rifampicin resistance was 3.4% among new patients and 19.8% among previously treated patients. The risk factors strongly associated with rifampicin resistance were: previous TB treatment (OR 41.6, $p<0.001$), contact with MDR TB patients (OR 45.15, $p<0.001$), treatment failure (OR 37.7, $p<0.001$) and alcohol use (OR 6.23, $p=0.013$).

Conclusion: Previous TB treatment, treatment failure as an outcome, contact with MDR TB patients and alcohol consumption were the main predictors of developing rifampicin resistance. Proper management of susceptible TB patients, strengthening of Direct Observed Treatment Short course (DOTS) and contact tracing of MDR TB contacts are key steps to follow in the fight against rifampicin resistant TB.

Modifiable factors within the prevention of mother to child transmission programme associated with failure to prevent HIV transmission in the Onandjokwe district of Namibia.

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Background: Ending new paediatric HIV infections continues to be a global health priority. Cuba and other countries have demonstrated that elimination of mother to child transmission is possible through prevention of mother-to-child transmission (PMTCT) interventions. As Namibia works on improving PMTCT there is a need to identify the local modifiable factors to achieve zero new HIV infections. This study aimed to identify the modifiable factors within the PMTCT programme, which contributed to the acquisition of HIV infection among children in the Onandjokwe District, Northern Namibia.

Methods: A descriptive audit of 59 medical records of mothers and their children under two years, who acquired HIV despite the PMTCT programme between 2014 and 2016.

Results: The study found that overall HIV transmission was only 2%, but 80% of the paediatric HIV infections could be prevented by implementing the existing Namibian PMTCT recommendations. Overall 61% of modifiable factors were related to mothers, 30% to health workers and 10% to the health system. The top three modifiable factors were the mother defaulting ART during pregnancy or breastfeeding, the health worker not intervening when the mother failed the first line ART regimen and poor coordination of care between the hospital and primary care.

Conclusion: Although overall transmission is low with the PMTCT programme, the majority of remaining HIV infections among children under two years could be prevented by addressing the modifiable factors identified in this study.

Obstructed labour as an indication of operative delivery at Katima Mulilo state hospital, Katima Mulilo, Namibia

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Background: Obstructed labour is a major cause of maternal and child morbidity and mortality. However exact estimates are difficult to quantify as causes of death are classified according to the complications such as sepsis, uterine rupture and bleeding. This study aimed to determine the forms of obstructed labour as indications for operative deliveries at Katima Mulilo hospital in the Zambezi region, Namibia.

Methods: All obstetric records of pregnant women who had operative or assisted deliveries during 2011 were selected.

Results: Of the 117 patients, 67 (57.3 %) had obstructed labour, 19 (16.2%) fetal distress, 17 (14.5%) pre-eclampsia and 12 (10.3%) previous caesarean section. Of the factors associated with obstructed labour, cephalopelvic disproportion (CPD) accounted for 19 (28.4%), abnormal presentation 17 (25.4%), delayed first stage 9 (13.4%), delayed second stage 7 (10.4%), breech in primigravida 5 (7.5%), abnormal lie 4 (6.0%), fetal macrosomia 3 (4.5%), cervical dystocia 2 (2.99%) and fetal malpositioning 1 (1.5%). Caesarean section constituted 99.2% of procedures, vacuum extraction 0.8%. Forceps delivery was not used.

Conclusion: Obstructed labour was the indication for the majority of operative or assisted deliveries. Cephalopelvic disproportion and abnormal presentation were the main reasons for obstructed labour. Caesarean section was the commonest intervention and assisted delivery was rarely used.

Prevalence of intimate partner violence and associated factors amongst women attending antenatal care at Outapi clinic, Namibia: A descriptive survey

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Background: Intimate partner violence (IPV) is a significant and largely hidden public health problem for all women and, during pregnancy, can have significant effects on the health of both mother and the unborn baby. Previous Namibian studies suggest rates of IPV as high as 36%, although few studies have been conducted in primary care. The aim was to determine the prevalence of IPV amongst women attending antenatal care at Outapi primary care clinic, Namibia.

Methods: A descriptive survey administering a validated questionnaire to 386 consecutive participants.

Results: The mean age of the participants was 27.5 years (standard deviation = 6.8), 335 (86.8%) were unmarried, 215 (55.7%) had only primary school education and 237 (61.4%) were in their third trimester. Overall, 51 participants (13.2%) had HIV and 44 (11.4%) had teenage pregnancies. The reported lifetime prevalence of IPV was 39 (10.1%), the 12-month prevalence was 35 (9.1%) and the prevalence during pregnancy was 31 (8.0%). Emotional abuse was the commonest type of abuse in 27 (7.0%). The commonest specific abusive behaviour was refusing to provide money to run the house or look after the children whilst the partner spent money on his priorities (4.9%). Increased maternal age was associated with an increase in the occurrence of IPV.

Conclusion: The reported lifetime prevalence of IPV was 10.1%, with emotional abuse being the commonest type of abuse. Prevalence is less than in many neighbouring countries. However, IPV is significant enough to warrant that healthcare providers develop guidelines to assist women affected by IPV in Namibia.

Publication: Bikinesi LT, Mash R, Joyner K. Prevalence of intimate partner violence and associated factors amongst women attending antenatal care at Outapi clinic, Namibia: A descriptive survey. Afr J Prm Health Care Fam Med. 2017;9(1), a1512. https://doi.org/10.4102/ phcfm.v9i1.1512

Factors that delay patients from accessing cervical cancer screening in HIV-infected patients attending Oodi clinic, Botswana

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Background: Low and middle-income countries bear a greater share of the global cervical cancer burden, but have lower screening coverage compared to high income countries. Moreover, screening uptake and disease outcomes are generally worse in rural areas as well as in the HIV positive population. Efforts directed at increasing the cancer screening rates are important in order to decrease cancer-related morbidity and mortality. The aim of the study was to explore the factors that delay patients with HIV from accessing cervical cancer screening at Oodi clinic, Botswana

Methods: Phenomenological qualitative research utilising semi-structured interviews with fourteen HIV positive women, selected by purposive sampling. The interviews were transcribed verbatim and the 5-steps of the framework method, assisted by Atlas-ti software, was used for qualitative data analysis.

Results: Contextual factors included distance, public transport issues and work commitments. Health system factors included unavailability of results, inconsistent appointment systems, long queues and equipment shortages. Health provider factors included poor patient-centred communication skills, particularly skills in explanation and planning. Patient factors included lack of knowledge of cervical cancer, benefits of screening, effectiveness of treatment, as well as personal fears and misconceptions.

Conclusion: Cervical cancer screening was poorly accessed due to a weak primary care system, insufficient health promotion and information as well as poor communication skills. These issues could be addressed or overcome by alternative technology using one-stop models of testing and treating.

Evaluating the growth, associated co-morbidities and mortality in children under the age of five years, six months after treatment for severe acute malnutrition in the Oudtshoorn sub-district.

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Background: Malnutrition is an important cause of childhood mortality in South Africa. Severe acute malnutrition (SAM) is a major public health problem. The focus of treatment is awareness, early identification and nutritional intervention. With implementation of the revised World Health Organization's (WHO) guideline to diagnose SAM in the Oudtshoorn sub-district of the Western Cape more children were being identified and admitted for treatment. Very little data exists about the outcome of children after being discharged back into the community following treatment for SAM. The aim of the study was to assess the success of the current rehabilitative and nutritional management programme for SAM.

Methods: A descriptive survey was conducted by extracting data from the medical records. All children aged 6-59 months who were admitted for SAM from 2014 to 2016 were included. Weight-for-height, mid-upper-arm circumference (MUAC), peripheral oedema, HIV and TB were recorded. Mortality and repeated anthropometric measurements were captured at six-months in the primary care clinics.

Results: Sixty-three children were included with a median age 52 weeks (IQR 28-92). Six died (9.5%), ten failed to gain weight satisfactorily (15.8%) and overall children showed a median monthly weight increase of 325 grams per child (IQR 192-475). Co-morbidities were seen in 53 (84.1%) and the main conditions were gastroenteritis, TB, anaemia, and respiratory tract infections. All participants were HIV negative. Only 73% of children had a MUAC measured at admission and 27% at follow up in primary care.

Conclusion: Overall 25% of children had an adverse outcome, although weight gain and mortality was within the minimum acceptable standards for community based programmes. Primary care clinics did not perform MUAC measurements adequately and relied only on weight-for-height. The usual co-morbidities were seen, although none of the children were HIV positive.

The prevalence of chronic kidney disease and associated factors among adult patients with Type 2 Diabetes Mellitus in Gaborone, Botswana.

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Background: Chronic kidney disease (CKD) is associated with increased cardiovascular morbidity and overall mortality in patients with diabetes. Early detection and prevention of disease progression is therefore pertinent. Presently in Botswana there is no research on the prevalence of CKD in this high risk population. The aim of this study was to determine the prevalence of CKD and associated factors in adult patients with type 2 diabetes and evaluate their management according to established guidelines at the Diabetes Centre in Gaborone, Botswana.

Methods: This cross sectional study consecutively sampled 408 patients. The estimated glomerular filtration rate (eGFR) and albumin creatinine ratio were used to define renal function. CKD stages were defined according to the National Kidney Foundation (NKF) classification. Variables studied: socio-demographic and clinical parameters, blood and glycaemic control, pharmacological treatments and established complications of diabetes.

Results: The prevalence of CKD and albuminuria was 63% (CKD 95% CI: 59% to 68%). Different stages of CKD were: CKD1 53%, CKD2 30%, CKD3 14%; CKD4 2%, CKD 5 1%. There was poor target glycaemic (38%) and blood pressure control (21%). Angiotensin converting enzyme inhibitors or antagonists were used in 52% of patients with hypertension and only 14% with normal blood pressure and microalbuminuria. Only 41% of patients with elevated low density lipoprotein levels were on statin treatment. Target body mass index was achieved in 19% of the patients and protein restriction in only 8%.

Conclusion

The prevalence of CKD is notably high, a large proportion of which is in early stages. Management of CKD was generally poor owing to poor identification. Periodic screening for albuminuria and eGFR is therefore essential in order to trigger stage appropriate monitoring and treatment.

A review of quality of care for patients living with diabetes at Chitungwiza Central Hospital, Zimbabwe

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Introduction: The quality of care for conditions like diabetes makes a critical difference to outcomes. Poor glycaemic control is associated with a higher risk of complications, with premature mortality and disability such as from blindness and limb amputations. The prevalence of diabetes in Zimbabwe approximates 10% of adults, with predictions of an increasing burden of disease over the next 15 years, including as a complication of anti-retroviral therapy. This study presents an audit of quality of care for diabetes services in an urban public sector setting.

Method: A cross-sectional audit of performance based on Donabedian's structure, process and outcomes framework was assessed from December 2013 to February 2014. The standards established in an earlier 2012 study at Chitungwiza Central Hospital were re-audited to gauge whether improvements had been sustained. The records for 120 patients were systematically selected by sampling every fourth patient as they completed their consultation, over the period of 3 months.

Results: Structural criteria related to clinic equipment improved with the inclusion of ophthalmoscopes, leading in turn to improvements in process through more eye examinations conducted. Resource constraints led to fewer measurements of urinalysis, HbA1c, cholesterol and creatinine, which would detect risk of complications. Foot examinations were less frequently carried out. Ascertainment of outcomes relies in turn on process measurement. If processes are not conducted, it is impossible to measure whether outcomes are favourable or not such as in the case of HbA1c < 7%.

Conclusion: Quality assurance has to become a systematic part of diabetes service provision, with continuous encouragement of staff and strong leadership from hospital management, in order to prevent negative consequences of poor diabetes control.

Publication: B Rigava, S Ray, L Mukavhi. A review of quality of care for patients living with diabetes at Chitungwiza Central Hospital, Zimbabwe. Cent Afr J Med 2016;62(5/8):29-36

An exploration of the knowledge, attitudes and beliefs of Xhosa men concerning traditional circumcision.

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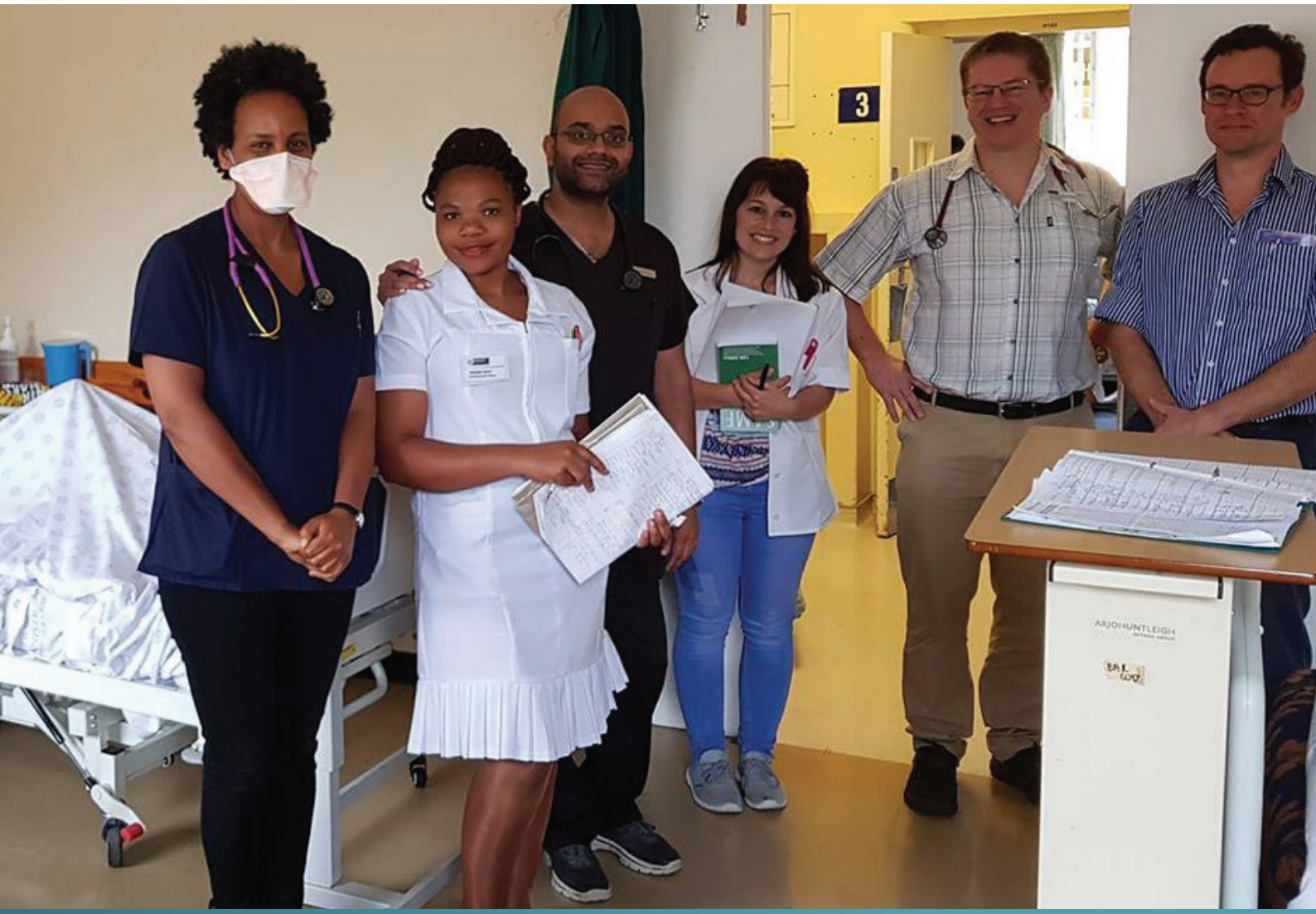
Background: The practice of traditional circumcision is associated with considerable morbidity and mortality, yet there is a paucity of literature that provides an understanding of the cultural values that influence men to choose traditional rather than medical circumcision. The aim of this study was to better understand the culture surrounding traditional circumcision, with a view to addressing morbidity and mortality rates associated with the Xhosa male initiation rituals.

Methods: Individual in-depth interviews were conducted with 10 purposively sampled teenagers and adult men. The interviews were recorded, translated, transcribed and analysed using the framework method.

Results: Traditional circumcision was seen as essential to Xhosa culture. Participants rationalised many reasons for participating, including personal growth and development, family and peer pressure, independence and knowledge gained, a connection with ancestors and initiation into manhood. Despite publicity of the dangers of traditional circumcision and the hardships they have to endure, most young men still saw this process as necessary and worthwhile.

Conclusion: Traditional initiation and circumcision are here to stay. The majority of boys still trust the elders and supernatural processes to guide them. However, some participants welcomed government initiatives to reduce human error causing unnecessary death and suffering. Current systems to prevent morbidity and mortality are insufficient and should be prioritised.

Publication: Froneman S, Kapp PA. An exploration of the knowledge, attitudes and beliefs of Xhosa men concerning traditional circumcision. Afr J Prm Health Care Fam Med. 2017;9(1), a1454. https://doi.org/10.4102/phcfm. v9i1.1454



The health care team review antibiotic prescribing at a district hospital

HEALTH SERVICES AND SYSTEMS

How well do public sector primary care providers function as medical generalists in Cape Town: a descriptive survey

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Introduction: Effective primary health care requires a workforce of competent medical generalists. In South Africa nurses are the main primary care providers, supported by doctors. Medical generalists should practice person-centred care for patients of all ages, with a wide variety of undifferentiated conditions and should support continuity and co-ordination of care. The aim of the study was to assess the ability of primary care providers to function as medical generalists in the Tygerberg sub-district of the Cape Town Metropole.

Methods: A randomly selected consultation was audio-recorded from each primary care provider. An assessment tool was used to score 16 skills from each consultation. Consultations were coded for reason for encounter, diagnoses and complexity. Inter- and intra-rater reliability was evaluated.

Results: 45 practitioners participated (response rate 85%) with 20 nurses and 25 doctors. The overall median percentage score was 25.0% (IQR 18.8 – 34.4). Median percentage for nurses was 21.6% (95% CL 16.7 – 28.1) and for doctors was 26.7% (95% CL 23.3 – 34.4) (p = 0.17). Ten of the 16 skills were not performed in more than half of the consultations. Six of the 16 skills were partly or fully performed in more than half of the consultations and these included the more biomedical skills.

Conclusion: Practitioners did not demonstrate a person-centred approach to the consultation and lacked many of the skills required of a medical generalist. Doctors and nurses were not significantly different. Improving medical generalism may require attention to workload as well as to training programmes.

Evaluating patient satisfaction with primary care consultations in the Helderberg sub-district of South Africa.

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Background: Effective primary care is vital for improving health outcomes. Patient-centred consultations are important and one way of assessing this is to evaluate patient satisfaction. The Medical Interview Satisfaction Scale (MISS) has not been used in South Africa. The aim of the study was to test the validity and reliability of the MISS and evaluate patient satisfaction with consultations in the Helderberg sub-district, South Africa

Methods: The MISS tool was adapted and validated by a panel of experts. The internal consistency was evaluated on 150 consultations. The level of patient satisfaction on 23 items, in consultations by nurses and doctors, was measured. Respondents indicated agreement with each item on a scale (1=very strongly disagree, 7=very strongly agree).

Results: The wording of the items were adapted and translated into Afrikaans and Xhosa. There was good overall internal consistency (Cronbach alpha 0.889), but not in all subscales. Patients were most satisfied with rapport (Median score 6.2 (IQR 5.3-5.9)) and understanding of their concerns, fears and beliefs (5.7 (IQR 5.1-6.3)). They were less satisfied with the ability to foster an acceptable management plan (5.5 (IQR 4.5-6.5)) and with accuracy of information (5.0 (IQR 4.2-5.8)). Scores for nurses and doctors were not significantly different.

Conclusion: Further work is needed to improve the reliability of MISS subscales in the South African context and the best internal consistency was found with 21 items. Patients showed high levels of satisfaction with primary care consultations, although other studies suggest this may reflect low expectations rather than high quality consultations.

Exploring the beliefs and attitudes of private general practitioners in the Western Cape towards the proposed national health insurance system

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Introduction: National health insurance (NHI) is now entering the second phase of implementation in South Africa, which will be focusing on the design of private general practitioner (GP) contracts. GP participation in NHI is needed to address severe doctor shortages and achieve national health coverage. GP enrolment in NHI pilot sites was below target levels. An in depth understanding of GPs views on NHI and participation in NHI is needed to aid implementation strategies. The aim of the study was to explore the beliefs and attitudes of private GPs towards the proposed NHI system in the Cape Town metropole, Western Cape.

Methods: This was a phenomenological qualitative study using face-to-face semi-structured interviews. 11 GPs were recruited using purposeful snowball sampling in order to interview a diverse range of GPs from different practices and communities. Data analysis was conducted using the framework approach and Atlas-ti software.

Results: Private GPs felt government's antagonism towards the private sector and their exclusion from NHI policy processes was a barrier to NHI participation. Reservations about NHI stemmed from three main areas: implementation challenges relating to accreditation, reimbursement and infrastructure; negative impact on current practice and job insecurity within NHI. Township solo practitioners were most optimistic about engaging with NHI.

Conclusion: There is a need for better collaboration between government and the private sector to encourage GP participation in NHI. GP contracts need to take into account the practice needs of group versus solo practitioners in addition to addressing practitioners' fears about inferior roles within NHI which could encourage GP emigration.

Barriers and Enablers to implementation of Botswana's national maternal mortality reduction guidelines: A qualitative study

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Introduction: Maternal mortality remains a challenge to Botswana. A number of initiatives have not resulted in improvement and underlying factors have not been well researched locally. The aim of this study was to explore the context specific attitudes and experiences of managers and health professionals towards the implementation of maternal mortality reduction guidelines in Botswana.

Methods: A phenomenological qualitative study used semi-structured interviews at four district hospitals in Botswana. A non-probability sampling technique was used to select both the study sites and the informants. Two facilities with no significant decrease in maternal mortality cases and two which had been recording fewer cases were selected. Content data analysis was done with the help of Atlas.ti.

Results: Policy related issues were shortage of staff and equipment, staff distribution and movement. Both study groups were equally affected by these issues, but facilities with lower maternal mortality developed better coping mechanism. Administratively, long standing unresolved issues such as erratic stock levels, weak disciplinary procedures and limited services at some facilities were reported. Staff morale was reported as low. Fewer administrative issues were reported at facilities with lower mortality. Both clinicians and managers were well aware of the guidelines. Variable patient monitoring, poor team work, too much or repetitive documentation, were commonly reported. Under training and poor on-going learning among healthcare workers was more pronounced at facilities with higher maternal mortalities.

Conclusion: Unresolved administrative issues compounded by policy related issues were barriers to implementation of the guidelines. Furthermore, addressing staff welfare, concerns, negatives attitudes and investing in on-going learning were areas which could enable effective guideline implementation.

Improving access to health care in a rural regional hospital in South Africa: Why do patients miss their appointments?

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Background: Access to health services is one of the Batho Pele ('people first'). The challenges of providing health care to rural geographically spread populations include variations in socio-economic status, transport opportunities, access to appointment information and patient perceptions of costs and benefits of seeking health care. The aim of this research was to gain a greater understanding of the reasons behind non-attendance of outpatient department clinics at George Regional Hospital to allow locally driven, targeted interventions.

Methods: This was a descriptive study. We attempted to phone all patients who missed appointments over a 1-month period (n = 574). Only 20% were contactable with one person declining consent. Twenty-nine percent had no telephone number on hospital systems, 7% had incorrect numbers, 2% had died and 42% did not respond to three attempts.

Results: The main reasons for non-attendance included unawareness of appointment date (16%), out of area (11%), confusion over date (11%), sick or admitted to hospital (10%), family member sick or died (7%), appointment should have been cancelled by clerical staff (6%) and transport (6%). Only 9% chose to miss their appointment.

Conclusions: Improved patient awareness of appointments, adjustments in referral systems and enabling appointment cancellation if indicated would directly improve over two-thirds of reasons for non-attendance. Understanding the underlying causes will help appointment planning, reduce wasted costs and have a significant impact on patient care.

Publication: Frost L, Jenkins LS, Emmink B. Improving access to health care in a rural regional hospital in South Africa: Why do patients miss their appointments? Afr J Prm Health Care Fam Med. 2017;9(1), a1255. https://doi. org/10.4102/phcfm. v9i1.1255

Critical reflections on a visit to an inner-city primary health care clinic in Rio de Janeiro.

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Introduction: Brazil and South Africa share many sociodemographic and health features that provide many learning opportunities. Brazil's national health system, the Sistema Único de Saúde (SUS) prioritised primary health care since 1994, the year democracy came to South Africa. Two family physicians from these countries met in Rocinha favela in Rio de Janeiro, a densely populated area where poverty, danger, drugs, tuberculosis and mental illness are the focus of the health system.

Maria do Socorro Family Clinic: Central to the SUS are the Family Health Teams, consisting of community health workers, nurses, doctors and allied health workers. This clinic in Rocinha has 11 teams, caring for 2700 people each, all visited monthly, preventing illness and promoting health. Patients with mental illness are cared for in a therapeutic residency, with an onsite psychiatrist, psychologist and social worker. The relationships between the health carers and the clinic and the community are collegial and equal, sharing care. Larger than life photos of patients from the community line the walls.

Training: A culture of learning is evident, with 18 family medicine residents, student nurses, a small library and a learning centre at the clinic. Local authorities compensate trainees in family medicine more than traditional specialties.

Conclusion: Brazil has made massive progress in providing universal health coverage over the last 20 years. South Africa, with not too dissimilar challenges, is embarking on this road more recently. The lessons learnt at clinic and community level in this inner-city clinic could be very useful for similar settings in South Africa and other countries.

Publication: Jenkins LS, Goldraich MA. Critical reflections on a visit to an inner-city primary health care clinic in Rio de Janeiro. Afr J Prm Health Care Fam Med. 2017;9(1), a1420. https://doi.org/10.4102/phcfm.v9i1.1420

Reliability and validity of ICPC-2 for coding/classification of diagnoses/ health problems in an African primary care setting.

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Background: Reliable data is crucial to understanding primary care in Nigeria. Although a few studies from Europe and Australia have reported that the International Classification of Primary Care Version 2 (ICPC-2) is a reliable and feasible tool, this is yet to be objectively determined in Africa. The aim of this study was to determine the reliability and validity of ICPC-2 to classify primary care consultations in Nigeria.

Methods: Medical records were systematically selected from general outpatient clinics. Consultations with 220 diagnoses were coded independently using ICPC-2 and the International Classification of Disease Version 10 (ICD-10). Data was analysed for convergent validity, inter-coder reliability and accuracy of ICPC-2 coding by coders with no specific training.

Results: The dataset revealed a strongly positive correlation between ICPC-2 codes and ICD-10 codes (r=0.75). Mean percentage agreement among the ICPC-2 coders was 97.9% at chapter level and 95.6% at rubric level. Similarly, Cohen's kappa coefficients were very good (κ>0.81) and were higher at chapter level (0.94 to 0.97) than rubric level (0.90 to 0.93) between sets of pairs of ICPC-2 coders. An accuracy of 74.5% was achieved by ICD-10 coders who had no previous experience or prior training on ICPC-2 usage.

Conclusion: Findings support the utility of ICPC-2 as a valid and reliable coding tool that may be adopted for routine data collection in the African primary care context. The level of accuracy achieved without training lends credence to the proposition that it is a simple-to-use classification and may be a useful starting point in a setting devoid of any classification system, but which is of substantial public health importance.

Publication: Olagundoye OA, Malan Z, Mash B, van Boven K, Gusso G, Ogunnaike A. Reliability measurement and ICD-10 validation of ICPC-2 for coding/classification of diagnoses/health problems in an African primary care setting. Family Practice. 2018 Jan 17.

The views of key stakeholders in Zimbabwe on the introduction of postgraduate family medicine training: A qualitative study

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Background: Strengthening primary health care (PHC) is a priority for all effective health systems, and family physicians are seen as a key member of the PHC team. Zimbabwe has joined a number of African countries that are considering the introduction of postgraduate family medicine training. Implementation of training, however, has not yet happened. The aim of this study was to explore the views of key stakeholders on the introduction of postgraduate family medicine training in the Zimbabwean health and higher education systems.

Method: Twelve semi-structured interviews were conducted with purposively selected key stakeholders. Data were recorded, transcribed and analysed using the framework method.

Results: Anticipated benefits: More effective functioning of PHC and district health services with reduced referrals, improved access to more comprehensive services and improved clinical outcomes. Opportunities: International trend towards family medicine training, government support, availability of a small group of local trainers, need to revise PHC policy. Anticipated barriers: Family medicine is unattractive as a career choice because it is largely unknown to newly qualified doctors and may not be recognised in private sector. There is concern that advocacy is mainly coming from the private sector. Threats: Economic conditions, poor remuneration, lack of funding for resources and new initiatives, resistance from other specialists in private sector.

Conclusion: Stakeholders anticipated significant benefits from the introduction of family medicine training and identified a number of opportunities that support this, but also recognised the existence of major barriers and threats to successful implementation.

Publication: Sururu C, Mash R. The views of key stakeholders in Zimbabwe on the introduction of postgraduate family medicine training: A qualitative study. Afr J Prm Health Care Fam Med. 2017;9(1), a1469. https://doi. org/10.4102/phcfm. v9i1.1469

Perceptions about family-centred care among adult patients with chronic diseases at a general out-patient clinic in Nigeria.

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Background: Few studies in Africa have described patients' preferences for family involvement in their care. The aim of this study was to explore perceptions of patients with chronic diseases to more family-orientated primary care (FOPC) at the Jos University Teaching Hospital, Jos, Plateau state, Nigeria.

Methods: A phenomenological study design used semi-structured interviews with 21 adult patients.

Results: The patients showed a broad range of preferences from minimal to maximum engagement of family in their care. This preference was influenced by the need for confidentiality, perception of the illness experience and whose opinion they valued most. Patients identified different levels of FOPC from the doctor enquiring about the family history of disease to engaging with family dynamics and relationships. Current family involvement in their care, included inquiring about their health, going with them to the clinic, offering material/social support and health advice. Patients considered the value of FOPC in terms of meeting the information needs of the family, influencing individual health behaviour and addressing family dynamics.

Conclusion: There is a need to be sensitive to the patient's preferences for involvement of the family during consultations. However, depending on the perceived benefits, the family doctor may need to educate and negotiate with the patient the extent to which family members are involved in their care.

Evaluating the impact of family physicians within the district health system of South Africa

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The majority of the South African population are dependent on the public health sector in helping them deal with the quadruple burden of disease, consisting of HIV/AIDS and tuberculosis, maternal and child health problems, non-communicable diseases as well as trauma and violence-related injuries. The post-1994 South African government has embraced the global shift towards primary health care (PHC) as the vehicle for delivering quality health care to all. The health of communities is better in countries with strong PHC-centred health systems. Global evidence supports PHC delivered by primary care teams that include doctors with postgraduate training in family medicine (family physicians). However, the evidence on the contribution of family physicians (FPs) to strengthening health systems is mainly derived from high income countries.

African leaders and policy makers are looking for local evidence on the potential role of FPs, as investment in the training and development of a new cadre of specialists in family medicine represents a significant financial commitment within the health system. According to a 2015 national consensus paper, South African FPs have six roles in the PHC team: care provider to patients, consultant to the PHC team (mainly nurses and doctors), champion of community-oriented PHC, clinical governance leader (focus on quality improvement), clinical trainer of students and registrars, and capacity building of the PHC team members.

FPs are working in various aspects of the South African district health system (DHS), namely district hospitals, primary care facilities (health centres and clinics) and community based PHC teams (community health workers). The DHS consists of all health services relating to the health and wellbeing of a community within a defined geographic area (the health district).

The discipline of family medicine was made a specialty in 2007 by the South African health professions council and resulted in re-structured training of FPs in keeping with the training model of other medical specialities. Graduates from this new training model have entered the DHS since 2011. These graduates are deployed in a heterogeneous manner in the different provinces, which reflect the uncertainty among policy makers and health managers on how best to use FPs in their districts. FPs represent a costly human resource investment in an environment dominated by vertical disease programmes and nurse-driven PHC services. This uncertainty together with the paucity of local evidence paved the way for a national study that was conceptualised in response to a joint funding call of the National Department of Health and EuropeAid in 2013, titled: “Strengthening primary health care through primary care doctors and family physicians”.

This PhD research project represents one component of the overall project that aimed to evaluate the contribution of FPs to the DHS in South Africa. The study aimed to evaluate the impact of FPs within the DHS of South Africa. The study objectives are shown below:

A. To describe the perceived impact of FPs in terms of their six roles within the DHS.
B. To describe co-health workers’ perception of the impact of FPs compared to medical officers who had received no postgraduate training.
C. To compare the perceived impact of FPs

between metropolitan and rural districts, between facility types (district hospitals vs. primary care facilities), as well as by training programme model (graduation before and after 2011).

D. To explore the perceptions of district managers regarding the impact of FPs in the following three domains: health system performance, clinical processes and health outcomes.
E. To assess the influence of FPs at primary care facilities and district hospitals. The influence of FPs was evaluated in terms of two domains: health system performance, and quality of clinical processes across the burden of disease.
F. To evaluate the impact of an increase in FP supply in each district (number per 10 000 population) on key health system performance indicators, key clinical processes and key health outcomes.

The abstracts of the four articles presented for the degree are presented here. Each article describes a different methodological approach towards addressing the central research question.

The perceived impact of family physicians on the district health system in South Africa: a cross-sectional survey.

Background: Evidence from first world contexts support the notion that strong PHC teams contain FPs. African leaders are looking for evidence from their own context. The roles and scope of practice of FPs are also contextually defined. The South African family medicine discipline has agreed on six roles. These roles were incorporated into a family physician impact assessment tool, previously validated in the Western Cape Province.

Methods: A cross-sectional study design was used to assess the perceived impact of FPs across seven South African provinces. All FPs working in the DHS of these seven provinces were invited to participate. Sixteen respondents per enrolled FP were asked to complete the validated 360-degree assessment tool.

Results: A total number of 52 FPs enrolled for the survey (a response rate of 56.5%) with a total number of 542 respondents. The mean number of respondents per FP was 10.4 (SD = 3.9). The perceived impact made by FPs was high for five of the six roles. Co-workers rated their FP's impact across all six roles as higher, compared to the other doctors at the same facility. The perceived beneficial impact was experienced equally across the whole study setting, with no significant differences when comparing location (rural vs. metropolitan), facility type or training model (graduation before and ≥ 2011).

Conclusions: The findings support the need to increase the deployment of FPs in the DHS and to increase the number being trained as per the national position paper.

Publication: Von Pressentin KB, Mash RJ, Baldwin-Ragaven L, Botha RP, Govender I, Steinberg WJ, Esterhuizen TM. The perceived impact of family physicians on the district health system in South Africa: a cross-sectional survey. BMC family practice. 2018;19(1):24.

The bird's-eye perspective: how do district health managers experience the impact of family physicians within the South African district health system? A qualitative study.

Background: Health policy makers in Africa are looking for local solutions to strengthen primary care teams. A South African national position paper (2015) described six aspirational roles of FPs working

within the DHS. However, the actual contributions of FPs are unclear at present; and, evidence is required as to how this cadre may be able to strengthen health systems.

Methods: Using semi-structured interviews, this study sought to obtain the views of South African district health managers about the impact made by FPs within their districts on health system performance, clinical processes and health outcomes.

Results: A number of benefits of FPs to the health system in South Africa were confirmed, including: their ability to enhance the functionality of the local health system by increasing access to a more comprehensive and coordinated health service, and by improving clinical services delivered through clinical care, capacitating the local health team and facilitating clinical governance activities.

Conclusions: District managers confirmed the importance of all six roles of the FP and expressed both direct and indirect ways in which FPs contribute to strengthening health systems' performance and clinical outcomes. FPs were seen as important clinical leaders within the district healthcare team. Managers recognised the need to support newly appointed FPs to clarify their roles within the healthcare team and to mature across all their roles. This study supports the employment of FPs at scale within the South African DHS according to the national position paper on family medicine.

Publication: Von Pressentin K, Mash R, Baldwin-Ragaven L, Botha R, Govender I, Steinberg W. The birds-eye perspective : how do district health managers experience the impact of family physicians within the South African district health system? A qualitative study. South African Family Practice 2017; 4(1):1-8.

Measuring the influence of family physicians within the South African district health system: a cross-sectional observational study.

Background: Evidence of the influence of FPs on health care is required to assist managers and policy makers with human resource planning in Africa. Since the international argument for FPs derives mainly from research in high income countries, this study aimed to evaluate the influence of FPs on the South African DHS.

Methods: A cross-sectional observational study design compared 15 district hospitals and 15 community health centres with FPs to the same number without, across seven South African provinces. Facilities with FPs were compared with matched control facilities in terms of health system performance and clinical processes.

Results: District hospitals with FPs generally scored better in terms of health system performance and clinical processes. Significantly fewer paediatric mortality-associated modifiable factors were found in these district hospitals (mean score intervention 2.2, control 4.7, p=0.049). In contrast, the community health centres without FPs generally scored better in terms of health system performance and clinical processes, with a significant difference in terms of continuity (mean score intervention 2.79, control 3.03, p=0.034) and coordination of care (mean score intervention 3.05, control 3.51, p=0.016).

Conclusions: In this study, district hospitals with FPs generally scored better in terms of health system performance and clinical processes. The suggestion of a lack of or even negative influence in community health centres was surprising, given the global literature, but may have been compounded by the finding that FPs were appointed at centres with higher workloads and therefore greater challenges

in terms of coordination and continuity.

Publication: von Pressentin KB, Mash RJ, Baldwin-Ragaven L, Botha RP, Govender I, Steinberg WJ, Esterhuizen TM. The Influence of Family Physicians Within the South African District Health System: A Cross-Sectional Study. The Annals of Family Medicine. 2018 Jan 1;16(1):28-36.

Examining the influence of family physician supply on district health system performance in South Africa: An ecological analysis of key health indicators.

Background: The supply of appropriate health workers is a key building block in the World Health Organization's model of effective health systems. Primary care teams are stronger if they contain doctors with postgraduate training in family medicine. The contribution of such FPs to the performance of primary care systems has not been evaluated in the African context. FPs with postgraduate training entered the South African DHS from 2011. This study aimed to evaluate the impact of FPs within the DHS of South Africa. The objectives were to evaluate the impact of an increase in family physician supply in each district (number per 10000 population) on key health indicators. All 52 South African health districts were included as units of analysis.

Methods: An ecological study evaluated the correlations between the supply of FPs and routinely collected data on district performance for two time periods: 2010/2011 and 2014/2015.

Results: Five years after the introduction of the new generation of FPs, this study showed no demonstrable correlation between family physician supply and improved health indicators from the macro-perspective of the district.

Conclusion: The lack of a measurable impact at the level of the district is most likely because of the very low supply of FPs in the public sector. Studies which evaluate impact closer to the family physician's circle of control may be better positioned to demonstrate a measurable impact in the short term.

Publication: Von Pressentin K, Mash R, Esterhuizen T. Examining the influence of family physician supply on district health system performance in South Africa: An ecological analysis of key health indicators. African Journal of Primary Health Care and Family Medicine 2017;9(1):1-10.

Main conclusion

This study's contribution to the evidentiary basis for advancing family medicine within South Africa and the African region, draws on its findings from within the FP's circle of influence (co-workers within the same facility), as well as from the vantage point of district managers who are employing FPs. These findings confirm that FPs are making a difference through their six agreed roles, by influencing the district health system's performance and clinical processes across the quadruple burden of disease. The district health system should continue to employ FPs, especially at facility-level within the sub-district, where FPs will be best positioned to exert their direct and indirect effects on patient care. The study findings also provide evidence to support the influence of FPs in the broader African context, as many countries share a similar understanding of the FP roles and a similar health system context. Future research may focus on repeating the study when the FP supply is greater, on understanding the contextual enabling factors and constraints that may influence the ability of FPs to exercise their full potential, as well as on conceptualising the process of FP role clarification and maturation within health care teams.

Determining the causes for the shortage of human resources for primary health care in Botswana and developing a pilot intervention to address the problem

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The global policy on universal health coverage is a commitment to ensuring that all people have access to comprehensive health services without suffering financial hardship. Furthermore, primary healthcare has been recognised as a vehicle to achieving equitable access to comprehensive and cost effective health services. Effective primary healthcare services in many low– and middle-income countries, however, have been hampered by severe shortages and inequitable distribution of the health workforce. Internal migration of health workers from rural to urban areas and from public to private or non-governmental organisations, coupled with regional and international migrations, have exacerbated the shortage and inequity in many of these countries.

The causes of shortages in human resources for health are many and complex and effective mitigating strategies should therefore be comprehensive and context-specific and derived from an adequate understanding of the context. Although Botswana is reported to have shortage of human resources for health, which is worse in rural areas and primary health care, there is a paucity of readily-accessible, integrated and comprehensive information on human resources for health. Moreover, there has not been any research to determine the cause(s) of the shortage which negates evidence based interventions.

A situational analysis of the human resources for primary health care in Botswana was conducted using an analysis of the existing databases as well as conducting focus group discussions with health care workers, the community and policy makers in three health districts. The findings of the situational analysis then informed the subsequent intervention: creating more supportive health management for primary healthcare workers.

Human resources for health in Botswana: the results of in-country database and reports analysis

Background: Botswana is a large middle-income country in Southern Africa with a population of just over two million. Shortage of human resources for health is blamed for the inability to provide high quality accessible health services. There is however a lack of integrated, comprehensive and readily-accessible data on the health workforce. The aim of this study was to analyse the existing databases on health workforce in Botswana in order to quantify the human resources for health.

Method: The Department of Policy, Planning, Monitoring and Evaluation at the Ministry of Health, Ministry of Education and Skills Development, the Botswana Health Professions Council, the Nursing and Midwifery Council of Botswana and the in-country World Health Organization office provided raw data on human resources for health in Botswana.

Results: The densities of doctors and nurses per 10 000 population were four and 42, respectively; three and 26 for rural districts; and nine and 77 for urban districts. The average vacancy rate in 2007/2008 was 5% and 13% in primary and hospital care, respectively, but this is projected to increase to 53% and 43%, respectively, in 2016. Only 21% of the doctors registered with the Botswana Health

Professions Council were from Botswana, the rest being mainly from other African countries. Botswana trained 77% of its health workforce locally.

Conclusion: Although the density of health workers is relatively high compared to the region, they are concentrated in urban areas, insufficient to meet the projected requirements and reliant on migrant professionals.

Publication: Nkomazana O, Peersman W, Willcox M, Mash R, Phaladze N. Human resources for health in Botswana: the results of in-country database and reports analysis. African journal of primary health care & family medicine. 2014 Jan;6(1):1-8.

Stakeholders' perceptions on shortage of healthcare workers in primary healthcare in Botswana: focus group discussions

Background: An adequate health workforce is central to universal health coverage and positive public health outcomes. However many African countries, including Botswana, have critical shortages of healthcare workers, which are worse in primary healthcare. The aim of this study was to explore the perceptions of healthcare workers, policy makers and the community on the shortage of healthcare workers in Botswana.

Method: Fifteen focus group discussions were conducted with three groups of policy makers, six groups of healthcare workers and six groups of community members in rural, urban and remote rural health districts of Botswana. All the participants were 18 years and older. Recruitment was purposive and the framework method was used to inductively analyse the data.

Results: There was a perceived shortage of healthcare workers in primary healthcare, which was believed to result from an increased need for health services, inequitable distribution of healthcare workers, migration and too few such workers being trained. Migration was mainly the result of unfavourable personal and family factors, weak and ineffective healthcare and human resources management, low salaries and inadequate incentives for rural and remote area service.

Conclusions: Botswana has a perceived shortage of healthcare workers, which is worse in primary healthcare and rural areas, as a result of multiple complex factors. To address the scarcity the country should train adequate numbers of healthcare workers and distribute them equitably to sufficiently resourced healthcare facilities.

Publication: Nkomazana O, Mash R, Shaibu S, Phaladze N. Stakeholders' perceptions on shortage of healthcare workers in primary healthcare in Botswana: focus group discussions. PLoS One. 2015 Aug 18;10(8):e0135846.

Understanding the organisational culture of district health services: Mahalapye and Ngamiland Health Districts of Botswana

Background: Botswana has a shortage of healthcare workers, especially in primary health care. Retention and high performance of employees however is closely linked to job satisfaction and motivation which are both highest where employees' personal values and goals are realised. The aim of the study was to evaluate the organisational culture of the district health services as experienced by the primary healthcare workers in the Ngamiland and Mahalapye health districts.

Method: This was across-sectional survey. The participants were asked to select ten values that best described their personal, current organisational and desired organisational values from a predetermined list.

Results: 60 and 67 healthcare workers completed the survey in Mahalapye and Ngamiland districts, respectively. The top ten prevalent organisational values experienced in both districts were: teamwork, patient satisfaction, blame, confusion, job insecurity, not sharing information and manipulation. When all the current values were assessed 32% (Mahalapye) and 36% (Ngamiland) selected by healthcare workers, were potentially limiting organisational effectiveness. The organisational values desired by healthcare workers in both districts were: transparency, professional growth, staff recognition, shared decision-making, accountability, productivity, leadership development and teamwork.

Conclusions: The experience of the primary healthcare workers in the two health districts were overwhelmingly negative which is likely to contribute to low levels of motivation, job satisfaction, productivity and high attrition rates. There is urgent need for organisational transformation with a focus on staff experience and leadership development at all levels of the health system in Botswana.

Publication: Nkomazana O, Mash R, Phaladze N. Understanding the organisational culture of district health services: Mahalapye and Ngamiland health districts of Botswana. African journal of primary health care & family medicine. 2015;7(1):1-9.

How to create more supportive supervision for primary healthcare: lessons from Ngamiland district of Botswana: Co-operative inquiry group

Background: Supportive supervision is a way to foster performance, productivity, motivation and retention of health workforce. Nevertheless there is a dearth of evidence of the impact and acceptability of supportive supervision in low- and middle-income countries. This article describes a participatory process of transforming the supervisory practice of district health managers to create a supportive environment for primary healthcare workers. The aim of the study was to explore how district health managers can change their practice to create a more supportive environment for primary healthcare providers.

Methods: A facilitated cooperative inquiry group was formed with Ngamiland health district managers. Cooperative inquiry group belongs to the participatory action research paradigm and is characterised by a cyclic process of observation, reflection, planning and action. The cooperative inquiry group went through three cycles between March 2013 and March 2014.

Results: 12 district health managers participated in the inquiry group. The major insights and learning that emerged from the inquiry process included inadequate supervisory practice, perceptions of healthcare workers' experiences; change in the managers' supervision paradigm, recognition of the supervisors' inadequate supervisory skills and barriers to supportive supervision. Finally, the group developed a 10-point consensus on what they had learnt regarding supportive supervision.

Conclusion: Ngamiland health district managers have come to appreciate the value of supportive supervision and changed their management style to be more supportive of their subordinates. They also developed a consensus on supportive supervision that could be adapted for use nationally. Supportive supervision should be prioritised at all levels of the health system and it should be adequately resourced.
Publication: Nkomazana O, Mash R, Wojczewski S, Kutalek R, Phaladze N. How to create more supportive supervision for primary healthcare: lessons from Ngamiland district of Botswana: co-operative inquiry group. Global health action. 2016 Dec 1;9(1):31263.

Family medicine in South Africa: exploring future scenarios

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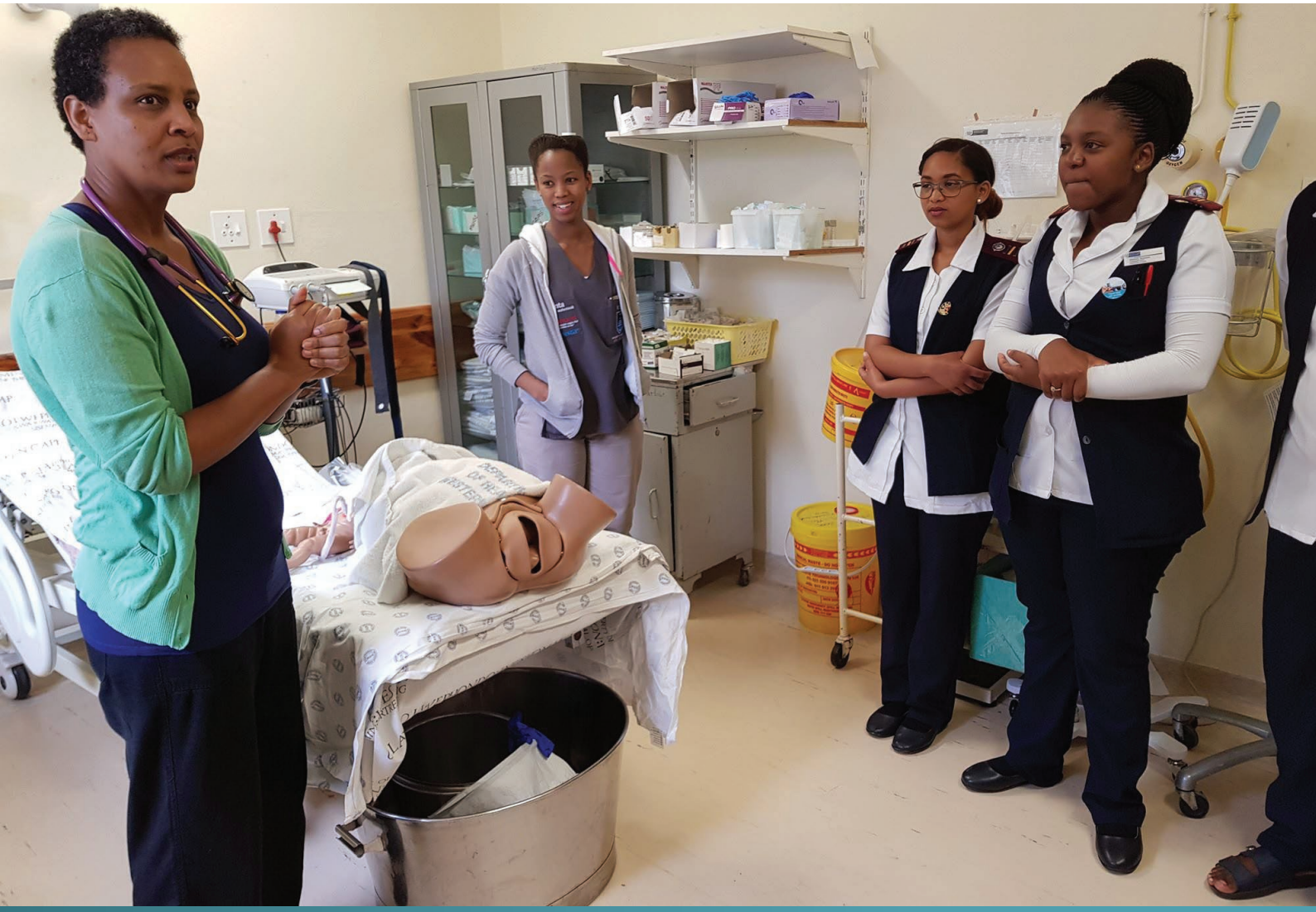
This paper reports on a workshop held at the 19th National Family Practitioners Conference in August 2016. The aim of the workshop was to describe possible future scenarios for the discipline of family medicine in South Africa and identify possible options for action. The workshop led a group of 40 family physicians from academic, public and private sector settings through a scenario planning process developed by Clem Sunter and Chantell Ilbury. After an overview of the current situation the participants reached a consensus on the rules of the game, key uncertainties, future scenarios and options for action. The main message was that the South African Academy of Family Physicians as a professional body needs to take a stronger role in advocating for the contribution of family medicine to government, health managers and the public.

Publication: R Mash & K Von Pressentin (2017): Family medicine in South Africa: exploring future scenarios, South African Family Practice, DOI:10.1080/20786190.2016.1272231



Dr Mekebeb, a family medicine registrar, provides training in obstetric emergencies

EDUCATIONAL RESEARCH

Reaching national consensus on the core clinical skill outcomes for family medicine postgraduate training programmes in South Africa

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Background: Family physicians play a significant role in the district health system and need to be equipped with a broad range of clinical skills in order to meet the needs and expectations of the communities they serve. A previous study in 2007 reached national consensus on the clinical skills that should be taught in postgraduate family medicine training prior to the introduction of the new speciality. Since then, family physicians have been trained, employed and have gained experience of working in the district health services. The national Education and Training Committee of the South African Academy of Family Physicians, therefore, requested a review of the national consensus on clinical skills for family medicine training.

Methods: A Delphi technique was used to reach national consensus in a panel of 17 experts: family physicians responsible for training, experienced family physicians in practice and managers responsible for employing family physicians.

Results: Consensus was reached on 242 skills from which the panel decided on 211 core skills, 28 elective skills and 3 skills to be deleted from the previous list. The panel was unable to reach consensus on 11 skills.

Conclusion: The findings will guide training programmes on the skills to be addressed and ensure consistency across training programmes nationally. The consensus will also guide formative assessment as documented in the national portfolio of learning and summative assessment in the national exit examination. The consensus will be of interest to other countries in the region where training programmes in family medicine are developing.

Publication: Akoojee Y, Mash R. Reaching national consensus on the core clinical skill outcomes for family medicine postgraduate training programmes in South Africa. Afr J Prm Health Care Fam Med. 2017;9(1), a1353. https://doi.org/10.4102/ phcfm. v9i1.1353

Conference report: Undergraduate family medicine and primary care training in Sub-Saharan Africa: Reflections of the PRIMAFAMED network.

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Internationally, there is a move towards strengthening primary healthcare systems and encouraging community-based and socially responsible education. The development of doctors with an interest in primary healthcare and family medicine in the African region should begin during undergraduate training. Over the last few years, attention has been given to the development of postgraduate training in family medicine in the African region, but little attention has been given to undergraduate training. This article reports on the 8th PRIMAFAMED (Primary Care and Family Medicine Education) network meeting held in Nairobi from 21 to 24 May 2016. At this meeting the delegates spent time presenting and discussing the current state of undergraduate training at 18 universities in the region and shared lessons on how to successfully implement undergraduate training. This article reports on the rationale for, information presented, process followed and conclusions reached at the conference.

Publication: Besigye I, Mash R, Essuman A, Flinkenflögel, M. Conference report: Undergraduate family medicine and primary care training in Sub-Saharan Africa: Reflections of the PRIMAFAMED network. Afr J Prm Health Care Fam Med. 2017;9(1), a1351. https:// doi.org/10.4102/phcfm. v9i1.1351

Decentralised training for medical students: Towards a South African consensus

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Introduction: Health professions training institutions are challenged to produce greater numbers of graduates who are more relevantly trained to provide quality healthcare. Decentralised training offers opportunities to address these quantity, quality and relevance factors. We wanted to draw together existing expertise in decentralised training for the benefit of all health professionals to develop a model for decentralised training for health professions students.

Method: An expert panel workshop was held in October 2015 initiating a process to develop a model for decentralised training in South Africa. Presentations on the status quo in decentralised training at all nine medical schools in South Africa were made and 33 delegates engaged in discussing potential models for decentralised training.

Results: Five factors were found to be crucial for the success of decentralised training, namely the availability of information and communication technology, longitudinal continuous rotations, a focus on primary care, the alignment of medical schools' mission with decentralised training and responsiveness to student needs.

Conclusion: The workshop concluded that training institutions should continue to work together towards formulating decentralised training models and that the involvement of all health professions should be ensured. A tripartite approach between the universities, the Department of Health and the relevant local communities is important in decentralised training. Lastly, curricula should place more emphasis on how students learn rather than how they are taught.

Publication: De Villiers MR, Blitz J, Couper I, et al. Decentralised training for medical students: Towards a South African consensus. Afr J Prm Health Care Fam Med. 2017;9(1):a1449. https://doi.org/10.4102/phcfm.v9i1.1449

Decentralised training for medical students: a scoping review

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Background: A growing body of literature identifies the benefits of decentralised clinical training for students, the health services and the community. A scoping review was done to identify approaches to decentralised training, how these have been implemented and what the outcomes of these approaches have been in an effort to provide a knowledge base towards developing a model for decentralised training for undergraduate medical students in lower and middle income countries (LMICs).

Methods: Using a comprehensive search strategy, the following databases were searched, namely EBSCO Host, ERIC, HRH Global Resources, Index Medicus, MEDLINE and WHO Repository, generating 3383 references. The review team identified 288 key additional records from other sources. Using pre-specified eligibility criteria, the publications were screened through several rounds. Variables for the data-charting process were developed, and the data were entered into a custom-made online Smartsheet database. The data were analysed qualitatively and quantitatively.

Results: 105 articles were included. Terminology most commonly used to describe decentralised training included 'rural', 'community based' and 'longitudinal rural'. The publications largely originated from Australia, the USA, Canada and South Africa. 56% described decentralised training rotations for periods of more than six months. Thematic analysis identified four themes; student learning, the training environment, the role of the community, and leadership and governance.

Conclusions: Evident from our findings are the multiplicity and interconnectedness of factors that characterise approaches to decentralised training. The student experience is nested within a particular context that is framed by the leadership and governance that direct it, and the site and the community in which the training is happening. Each decentralised site is seen to have its own dynamic that may foreground certain elements, responding differently to enabling student learning and influencing the student experience.

Publication: De Villiers M, Van Schalkwyk S, Blitz J, Couper I, Moodley K, Talib Z, Young T. Decentralised training for medical students: a scoping review. BMC Medical Education 2017; 17(1):196,13.

Evaluating the effect of the Practical Approach to Care Kit on teaching medical students primary care: Quasi-experimental study.

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Background: South Africa is committed to health reforms that strengthen primary health care. Preparing future doctors to work in primary care teams with other professionals is a priority, and medical schools have shifted towards community-based and decentralised training of medical students. The aim of the study was to evaluate the effect on student performance of the Practical Approach to Care Kit (PACK) (an integrated decision-making tool for adult primary care) during the final phase of medical student training at Stellenbosch University.

Methods: Mixed methods involving a quasi-experimental study and focus group interviews. Student examination performance was compared between groups with and without exposure to the PACK during their clinical training. Student groups exposed to PACK were interviewed at the end of their rotations.

Results: Student performance in examinations was significantly better in those exposed to the PACK. Students varied from using the PACK overtly or covertly during the consultation to checking up on decisions made after the consultation. Some felt that the PACK was more suitable for nurses or more junior students. Although tutors openly endorsed PACK, very few modelled the use of PACK in their clinical practice.

Conclusion: The use of PACK in the final phase of undergraduate medical education improved their performance in primary care. Students might be more accepting and find the tool more useful in the earlier clinical rotations. Supervisors should be trained further in how to incorporate the use of the PACK in their practice and educational conversations.

Publication: Mash R, Pather M, Rhode H, Fairall L. Evaluating the effect of the Practical Approach to Care Kit on teaching medical students primary care: Quasi-experimental study. Afr J Prm Health Care Fam Med. 2017;9(1), a1602. https://doi.org/10.4102/phcfm.v9i1.1602

Breaking new ground: lessons learnt from the development of Stellenbosch University's Rural Clinical School

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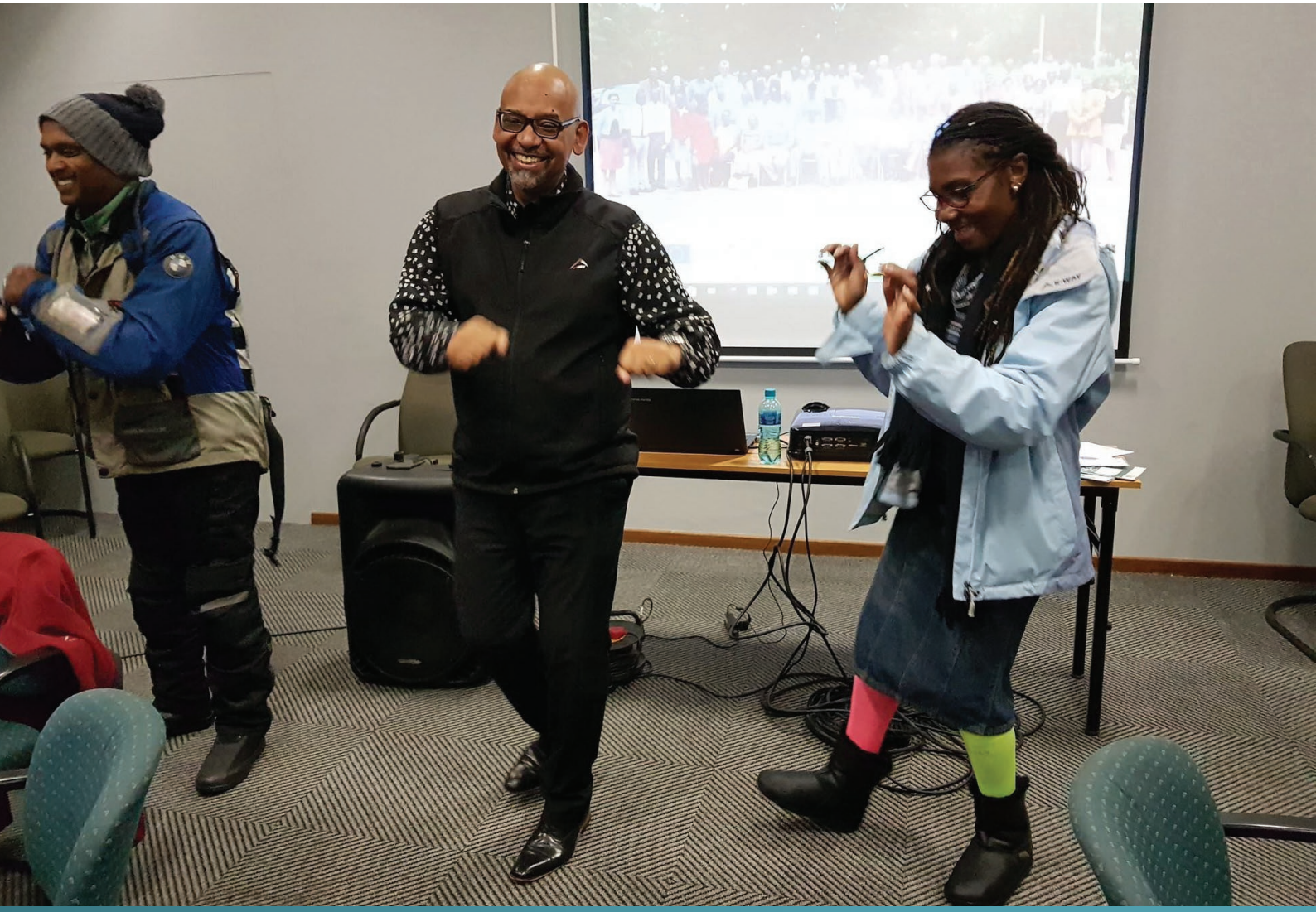
Training health professionals in rural areas increases their preparedness for rural practice and their subsequent likelihood of working in a rural area. In 2011, Stellenbosch University (SU) instituted a year-long training of final-year medical students at a rural training site. This longitudinal training model was subsequently adopted by other health professions in 2013. The nature of the training and the context within which it occurs facilitate a unique learning experience for the students, and has positive spin-offs for other role-players. This case study presents the training model followed at SU's Rural Clinical School (RCS). Drawing on five years of research, we describe some of the ways in which the RCS training model has influenced the role-players. Key lessons learnt are outlined from both educational and health system perspectives. It is recommended that all health professions students be exposed to training in rural areas, including continuous longitudinal rotations

Publication: Van Schalkwyk S, Blitz J, Couper I, De Villiers M, Muller J. Breaking new ground: lessons learnt from the development of Stellenbosch University's Rural Clinical School. South African Health Review 2017; 20(1):71-75.



Dr Govender, Dr Pather and Sr Rhode, members of the Division of Family Medicine and Primary Care, celebrate at a capacity building workshop

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