PRIMARY CARE RESEARCH: 2018

Division of Family Medicine and Primary Care, Faculty of Medicine and Health Sciences, Stellenbosch University

UNIVERSITEIT iYUNIVESITHI STELLENBOSCH UNIVERSITY 100 1918·2018

UNIVERSITEIT
iYUNIVESITHI
STELLENBOSCH
UNIVERSITY

100
1918 · 2018

2018

TABLE OF CONTENTS

PRIMARY CARE RESEARCH: 2018

Division of Family Medicine and Primary Care,
Faculty of Medicine and Health Sciences,
Stellenbosch University

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 2018. 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.

Prof Bob Mash rm@sun.ac.za
Division of Family Medicine and Primary Care
www.sun.ac.za/fammed

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

Basic research: Studies that develop the tools for primary care research

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.

"SOUND BITES" FOR POLICYMAKERS AND MANAGERS

Basic

The Medical Interview Satisfaction Scale needs more work for it to be reliable in our context and although patients appeared very satisfied the researchers thought this reflected low expectations more than high quality consultations.

An educational video can improve knowledge of HIV and informed consent in patients invited to enrol in HIV research projects.

Clinical research

HIV and TB

Prevention of mother to child transmission of HIV has been very successful with transmission rates in northern Namibia of 2%. Factors associated with transmission included the mother defaulting ART, health workers failing to respond to treatment failure and poor coordination of care between hospital and primary care.

Modification or change of first line HARRT regime in Botswana was due to side effects and toxicity, patient defaulting and virological failure. Those with abnormal LFTs and pregnant women were more likely to have their regime modified or changed.

The inconsistent use of condoms to prevent HIV was again associated with a complex interplay of social and cultural factors, including less fear of HIV now that ART is available and effective.

Rifampicin resistance for people with TB was associated with previous TB treatment, contact with MDR-TB, treatment failure and alcohol use.

The incidence of TB in people with HIV who received ART regardless of CD4 count was 4.41 / 100 person years. The hazard ratio for those with a CD4 > 500 was 0.27 and the hazard was higher in men.

A quality improvement cycle on TB infection control in the Garden Route failed to show any improvement despite managerial commitment. Most of the improvement was dependent on behaviour change amongst healthcare workers.

Non-communicable diseases

The workplace is an underutilised opportunity to reduce risk factors for NCDs and action research was used to develop a successful Workplace Health Promotion Programme at a commercial power plant. The programme targeted catering, opportunities for physical activity, health and wellness services as well as engagement of and support from management.

Prevention of cervical cancer by cervical smears in HIV positive women was poor due to weak primary care systems (poor accommodation of access and availability of services, poor coordination with laboratories), insufficient health education and poor communication skills.

In Eswatini (Swaziland) the treatment of childhood asthma is very poor with no use of inhaled therapy and poor continuity of care in a context where caregivers believe inhalers to be addictive.

Quality improvement that focuses on prevention of diabetes in primary care can improve measurement of overweight and obesity and counselling on diet and physical activity.

Maternal and child health

Half of pregnancies were unintended in Botswana university students and although they had heard of emergency contraception, few knew the details or intended to use it. Better health education is needed amongst this target group.

Women were unfamiliar with and confused about hormonal implants for contraception and concerned about side effects, while at the same time health professionals failed to provide adequate information and counselling.

The caesarean section rate at a Cape Town district hospital was 29% and mostly attributed to foetal distress, poor progress in labour, cephalo-pelvic disproportion, previous section and big babies. There were no associated maternal deaths.

Management of postpartum haemorrhage can be improved by training staff in obstetric emergencies, providing clear guidelines and standard operating procedures, ensuring all equipment is available and improving monitoring of mothers postpartum.

Follow up of women following sexual assault could be improved by integrating follow up into primary care, reducing negative perceptions of help from police, courts and health services, enhancing continuity by written appointments and being more patient-centred.

Mental health

Mindfulness based stress reduction programmes can decrease stress, improve mood and reduce the frequency of both medical and psychological symptoms.

An in-service training programme in the Garden Route increased the self-rated competence of primary care nurses in mental health care and referrals to the mental health nurse. The training also paved the way for better integration of primary care and psychiatric services in the primary care clinic.

Health services and systems

Family physicians who have been employed in the last 10 years have made an impact on district health services nationally. They are perceived to have improved system performance, particularly comprehensiveness, access and coordination of care, and clinical processes. They have also had a moderate-high impact across all their roles, including clinical governance and capacity building, which is higher than medical officers without postgraduate training. Their impact in district hospitals is more quantifiable than in primary care. As yet numbers are too small to detect a correlation with district health indicators.

In the private sector of Nairobi patients did not perceive that primary care doctors could offer a comprehensive service. The private sector needed to define the package of care, encourage utilisation of primary care rather than hospital care, and consider deploying family physicians to the clinics rather than the hospital.

Primary care doctors and nurse practitioners in a Cape Town sub-district showed poor consultation skills with a lack of patient centredness and skills in medical generalism. Doctors and nurses were not significantly different.

In the Western Cape levels of burnout amongst rural doctors (81%) were similar to rates reported in the Metropole. This is a significant issue for the doctors and the functioning of the district health system. Resilience in family physicians within the Metropole was linked to a sense of purpose, a way of thinking, doing a little of everything, effective leadership skills, supportive networks and self-care.

In Nigeria the coding of primary care with the International Classification of Primary Care (ICPC) was well correlated with the International Classification of Disease (ICD) used in hospitals. ICPC was accurate and easy to use even without training in primary care.

General practitioners in the Eastern Cape were generally positive about the proposed National Health Insurance, but sceptical about the government's capacity to deliver it and asking for more engagement with them and information.

Family oriented primary care in Nigeria was perceived to have multiple levels and types of engagement and patients had a variety of preferences for involving their families.

George Regional Hospital described an initiative on antimicrobial stewardship, while another article explored the possibility of telephone triage to decrease non-urgent visits to the emergency centre.

Education

Undergraduate students on the distributed platform have an influence on the culture of the facility where they are placed and make a contribution to patient care and improved outcomes. They also enrich the work experience of supervisors and change their attitudes towards teaching. Supervisors enjoy the relationship with students, the stimulation that they bring and making a contribution towards future generations of health professionals. They need a closer relationship with the medical school, acknowledgement, capacity building and formative assessment with feedback. They may look more to clinical colleagues and mentors to help them teach. Supervisors of students doing a longitudinal clerkship at district hospitals struggled with a lack of time to teach and lack of structure in the learning. The learning environment was enabling and empowering, but they needed external support for learning and teaching.

The 2019 *Best Publication Award* at the recent South African Association of Health Educationalists (SAAHE) was given to: De Villiers, M., Van Schalkwyk, S., Blitz, J., Couper, I., Moodley, K., Talib, Z., & Young, T. (2017) *Decentralised training for medical students: a scoping review*. BMC Medical Education, 17(1), 196. The work was done as part of Stellenbosch University Collaborative Capacity Enhancement through Engagement with Districts (SUCCEED) project, funded by the Centers for Disease Prevention and Control (CDC).

There is a growing body of evidence that identifies the benefits of decentralised training in health professions education. This scoping review drew together scholarship in the field to better understand the factors that characterise approaches to decentralised training, how it has been implemented and what the outcomes were. The article shows the links between decentralised training and its benefits to students, health services, and communities. The scoping review is a landmark publication that for the first time brings together the science that underpins decentralised training at a local and international level as both scholarly and pragmatic concepts.

African family physicians clinical trainers identified key factors that influenced the quality of training. These included the context or learning environment, diversity of learning styles, use of portfolios for workplace based assessment, and the competence of the trainer, particularly in terms of educational interactions and giving effective feedback. The development of a short course to train clinical trainers demonstrated short term improvement in educational expertise, but researchers recommended further formative assessment and reinforcement to sustain the improvement.

Family physicians in clinical practice said that postgraduate training in family medicine at SU prepared them well and they recommended some improvements to the training programme. The introduction of an e-portfolio in postgraduate training improved the quality of feedback and was easy to use and access. It also improved the monitoring of progress in learning and adequate supervision in the workplace.

Supervisors described the desired characteristics of interns in terms of clinical competence, organisational ability (e.g. to triage and prioritise) and social intelligence (e.g. to adapt to circumstances and work in a team). Diligence, reliability, self-discipline and willingness to 'go the extra mile' were desired attributes of interns.

A case study was published of how e-learning can be provided in challenging and low resource settings such as Liberia.

BASIC RESEARCH:

Members and students of the Division attend a workshop on the use of the Primary Care Assessment Tools: Dr Shoyeb Mohammed, Dr Tabitha Mathose, Dr Klaus von Pressentin, Dr Joleen Cairncross, Dr Michael Pather.

BASIC RESEARCH:

Evaluating the validity and reliability of the Medical Interview Satisfaction Scale in South African primary care consultations.

Eksteen LB, Mash RJ
(rm@sun.ac.za)

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.

Aim: To test validity and reliability of the MISS and evaluate patient satisfaction with consultations.

Setting: Primary care facilities 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.

Publication: Eksteen LB, Mash RJ. Evaluating the validity and reliability of the Medical Interview Satisfaction Scale in South African primary care consultations. Family Practice. 2018 Aug 30.

Impact of an educational video as a consent tool on knowledge about cure research among patients and caregivers at HIV clinics in South Africa

Melany Hendricks, Gonasagrie Nair, Ciara Staunton, Michael Pather
(mpather@sun.ac.za),
Nigel Garrett, Dianno Baadjies, Martin Kidd, and Keymanthri Moodley

Background: Despite increasing access to antiretroviral therapy in low- and middle-income countries, only 54% of eligible individuals were receiving treatment in Africa by 2015. Recent developments in HIV cure research have been encouraging. However, the complex science and procedures of cure research render the informed consent process challenging.

Objective: This study evaluates the impact of a video tool on educating participants about HIV cure.

Methods: A questionnaire assessing the content of the video was administered to adults recruited from two clinics in South Africa. Patients and their care partners, who provided voluntary informed consent, were included in the study. The questionnaire was administered in each participant's home language before, immediately after and at 3 months after viewing the video, in an uncontrolled quasi-experimental 'one group pre-test–post-test' design. Scoring was carried out according to a predetermined scoring grid, with a maximum score of 22.

Results: A total of 88 participants, median age 32.0 years and 86% female, were enrolled and completed the pre- and post-video questionnaires. Twenty-nine (33%) completed the follow-up questionnaire 3 months later to assess retention of knowledge. Sixty-three (72%) participants had a known HIV-positive status. A significant increase (10.1 vs 15.1, P=0.001) in knowledge about HIV and HIV cure immediately after viewing the video was noted. No statistically significant difference in knowledge between HIV-positive and -negative patients was noted at baseline. After 3 months, a decrease in performance participation (14 vs 13.5, P=0.19) was noted. However, knowledge scores achieved after 3 months remained significantly higher than scores at baseline (13.5 vs 9.5, P<0.01).

Conclusions: This research showed that a video intervention improved participants' knowledge related to HIV, HIV cure research and ethics, and the improvement was sustained over 3 months. Video intervention may be a useful tool to add to the consent process when dealing with complex medical research questions

Publication: Hendricks M, Nair G, Staunton C, Pather M, Garrett N, Baadjies D, Kidd M, Moodley K. Impact of an educational video as a consent tool on knowledge about cure research among patients and caregivers at HIV clinics in South Africa. Journal of virus eradication. 2018;4(2):103.

CLINICAL RESEARCH:

Dr Martha Mekebeb in clinical practice

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

Flavia Strato Shayo; Bob Mash
(rm@sun.ac.za)

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.

Aim: This study aimed to identify the modifiable factors within the PMTCT programme, which contributed to the acquisition of HIV infection among children.

Setting: The study was carried out in the Onandjokwe District, Northern Namibia.

Methods: A descriptive audit was undertaken 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 on 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.

Publication: Shayo FS, Mash B. Modifiable factors within the prevention of mother-to-child transmission programme associated with failure to prevent HIV transmission in the Onandjokwe district of Namibia. South African Family Practice. 2019;61(1):24-9.

Acceptance of and adherence to full anti-retroviral therapy for prevention of mother to child transmission in HIV infected pregnant women with CD4 count above 350 at Nhlangano Health Centre, Swaziland.

Ndakit MKF, Blitz J
(juliablitz@sun.ac.za)

Introduction: In Swaziland the prevalence of HIV is amongst the highest in the world. Nhlangano Health Centre (NHC) in collaboration with Medecins Sans Frontiers Switzerland (MSF Switzerland) introduced Highly Active Anti-retroviral Therapy (HAART) among HIV infected pregnant women whose CD4 count was above 350. This new intervention raised concerns on acceptability and adherence which needed to be assessed.

Method: This was a descriptive study which explored the acceptance of and adherence of pregnant women to HAART at Nhlangano Health Centre during 2014-15. The level of adherence was assessed by announced pill counts on subsequent visits. Then, 6 months after initiation, the viral load and a second CD4 count were determined.

Results: 98 participants were recruited and initiated; one later died. 80.6% resided in the rural area and attended secondary school. Majority were single (79.6%). Mean age was 25.4 years. 64.3% booked during the second trimester. Most were multiparous (75.5%). Mean haemoglobin was 11.1g/dl. After 6 months, mean CD4 count was 709.4 up from 554.4 (initial) and 66 (95.6%) had undetectable viral loads. 69 participants (70.4%) were adherent to treatment, 3 (3.1%) failed to suppress the viral load, and 13 refused HAART. The rate of acceptance was 88.3%.

Conclusion: Most of the HIV infected pregnant women who visited the clinic accepted the treatment, their CD4 count increased and they had undetectable viral loads after 6 months. HAART can be successfully initiated in pregnant women with CD4 counts above 350 but should be monitored closely to avoid loss to follow-up.

Reasons for first-time highly active antiretroviral therapy modification: A retrospective survey at the Infectious Disease Care Clinic Princess Marina Hospital, Gaborone, Botswana.

Odumetse-Soriletsile TI. Malan Z
(zmalan@sun.ac.za)

Background: Limited options for highly active antiretroviral therapy (HAART) in resource-constrained countries makes the optimisation of first-line HAART regimens critical in order to improve treatment efficacy and overall prognosis. Relevant data from resource-constrained settings is still limited. HAART has been available in Botswana since 2002, providing a unique opportunity to evaluate the rate of, the reasons for and the factors associated with first-line HAART modification.

Method: This retrospective survey was undertaken at the Princess Marina Hospital Infectious Disease Care Clinic, Botswana. The researcher examined the medical records of all patients who had been initiated on first-line HAART during 2012 and 2013. This was done to determine the rate of, the reasons for and the factors associated with first-line HAART modification.

Results: Of the 199 patients who met the inclusion criteria and had been initiated on first-line HAART, 48 patients (24% –36 female and 12 male) had undergone regimen modification over a median follow-up period of 6.9 months (interquartile range 2.1-19.7 months). Drug toxicity accounted for 52.0% of modifications, 16.8% of patients defaulted, 16.8% had virological failure and 14.6% had their HAART modified due to other reasons. Patients with abnormal liver function tests at initiation of HAART were more likely to have their HAART modified (p=0.010). Pregnant women on triple antiretroviral prophylaxis were also more likely to have their HAART modified (p=0.054).

Conclusion: There was a lower rate of HAART modification compared to previous studies, mainly attributable to drug side effects or drug toxicity. Evaluating patients with abnormal liver function tests prior to HAART initiation may reduce the modification rate. This would then improve drug tolerability while preserving future drug options.

Reasons for inconsistent condom use by young adults in Mahalapye, Botswana

Luhaka Kanda; Robert Mash
(rm@sun.ac.za)

Background: Botswana is one of the countries significantly affected by the HIV and AIDS epidemic. Despite an extensive preventive campaign, the incidence of HIV remains high. Condoms are an important contributor to prevention of new HIV infections, although they are not consistently used by young adults.

Aim: The aim of this study was to explore the reasons why condoms are not consistently used by young adults.
Setting: Mahalapye District Hospital and Airstrip Clinic, Botswana.

Method: This was a phenomenological qualitative study using individual in-depth interviews. Eleven participants were purposively selected, including six males and five females. Data were transcribed and analysed using the framework method.

Results: All participants acknowledged the importance of utilising condoms to prevent unplanned pregnancies and sexually transmitted infections. Reasons not to use condoms were a need to have a child, implied lack of trust or faithfulness, long-term relationships need to please the partner and decreased pleasure. Other contributing factors were lack of knowledge of benefits, less fear of contracting HIV and AIDS as it can now be controlled with medication, influence of tradition, alcohol and drug abuse, peer pressure, power and gender issues and the refusal of the partner. The female condom was largely rejected by young adults in general and by women in particular because of its size and the perception that it is complicated to insert.

Conclusion: The current preventive campaign against HIV and AIDS needs to take cognisance of the factors affecting decisions on the use of condoms by young adults and the obstacles to their use, particularly the new belief that HIV and AIDS is no longer a significant concern.

Publication: Kanda L, Mash R. Reasons for inconsistent condom use by young adults in Mahalapye, Botswana. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-7.

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

RY Msanga, M Pather
(mpather@sun.ac.za)

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.

Incidence of Tuberculosis amongst HIV positive individuals initiating antiretroviral treatment at higher CD4 counts in the HPTN 071 (PopART) trial in South Africa

Peter Bock, Karen Jennings, Redwaan Vermaak, Helen Cox, Graeme Meintjes, Geoffrey Fatti, James Kruger, Virginia Azevedo, Leonard Maschilla, Francoise Louis, Colette Gunst
(Colette.Gunst@westerncape.gov.za),
et al. on behalf of the HPTN 071 (PopART) team

Introduction: Antiretroviral treatment (ART) guidelines recommend life-long ART for all HIV-positive individuals. This study evaluated tuberculosis (TB) incidence on ART in a cohort of HIV positive individuals starting ART regardless of CD4 count in a programmatic setting at 3 clinics included in the HPTN 071 (PopART) trial in South Africa.

Methods: A retrospective cohort analysis of HIV-positive individuals aged >18 years starting ART, between January 2014 and November 2015, was conducted. Follow-up was continued until 30 May 2016 or censored on the date of (1) incident TB, (2) loss to follow-up from HIV care or death, or (3) elective transfer out; whichever occurred first.

Results: The study included 2423 individuals. Median baseline CD4 count was 328 cells/mL (interquartile range 195–468); TB incidence rate was 4.41/100 person-years (95% confidence interval [CI]: 3.62 to 5.39). The adjusted hazard ratio of incident TB was 0.27 (95% CI: 0.12 to 0.62) when comparing individuals with baseline CD4 >500 and <500 cells/mL. Among individuals with baseline CD4 count >500 cells/mL, there were no incident TB cases in the first 3 months of follow-up. Adjusted hazard of incident TB was also higher among men (adjusted hazard ratio 2.16; 95% CI: 1.41 to 3.30).

Conclusions: TB incidence after ART initiation was significantly lower among individuals starting ART at CD4 counts above 500 cells/mL. Scale-up of ART, regardless of CD4 count, has the potential to significantly reduce TB incidence among HIV-positive individuals. However, this needs to be combined with strengthening of other TB prevention strategies that target both HIV-positive and HIV-negative individuals.

Publication: Bock P, Jennings K, Vermaak R, Cox H, Meintjes G, Fatti G, Kruger J, De VA, Maschilla L, Louis F, Gunst C. Incidence of Tuberculosis Among HIV-Positive Individuals Initiating Antiretroviral Treatment at Higher CD4 Counts in the HPTN 071 (PopART) Trial in South Africa. Journal of acquired immune deficiency syndromes (1999). 2018 Jan;77(1):93-101.

Improving tuberculosis infection control in the Mossel Bay sub-district of the Western Cape: A quality improvement project.

Mekebeb MB, Von Pressentin KB
(klausvonp@gmail.com),
Jenkins L

Introduction: Tuberculosis (TB) is a major global health challenge, and South Africa is one of the high-burden countries. A national TB infection control (TBIC) guideline has stipulated three main areas of infection control at health facilities: work practice and administrative control; environmental control; and personal protection for health workers. The purpose of this project was to identify the gaps and address the challenges in TB infection control in the Mossel Bay sub-district in the Western Cape.

Methods: A quality improvement cycle was used to evaluate and improve TBIC according to the national TBIC draft guideline. Two facilities within the sub-district were used, the district hospital and a primary health care clinic. Each had an existing infection and prevention control and occupational health and safety team, which were used as the audit teams.

Results: A baseline assessment was followed by a set of interventions, which failed to show a significant improvement in TBIC. The difference between the pre- and post-intervention TB screening rate was not statistically significant. An assessment of time interval between 101 patients presenting with TB symptoms and diagnosed with TB was four days at baseline and post-intervention. Most of the anticipated improvements were dependent on the health workers' adherence to the local TBIC policies, which emerged as an unexpected finding.

Conclusion: The study found good managerial commitment reflected by the presence of various policies, guidelines, specific personnel and committees to deal with infection control in general. The project has created awareness about tuberculosis infection control among the staff. It also pointed out the complexity of health workers' behaviour towards adhering to policies.

Risk factors for non-communicable diseases in the workforce at a commercial power plant in South Africa

D Schouw, R Mash
(rm@sun.ac.za),
T Kolbe-Alexander

Background: Non-communicable diseases (NCDs) account for more than half of annual deaths globally and nearly 40% of deaths in South Africa. The workplace can be an important setting for the prevention of NCDs.

Objectives: The objectives of this study were to describe the prevalences of reported NCDs and previously identified risk factors for NCDs, as well as to assess risky behaviour for NCDs, and the 10-year risk for cardiovascular disease, amongst the workforce at a commercial power plant in the Western Cape province of South Africa.

Methods: A total of 156 employees was randomly selected from the workforce of 1 743. Questionnaires were administrated to elicit self-reported information about NCDs, tobacco smoking, alcohol use, diet, physical activity and psychosocial stress. Biometric health screening included measurements and calculations of blood pressure, total cholesterol, random glucose, body mass index (BMI), waist circumference and waist-to-hip ratio (WHR). The 10-year risk for cardiovascular disease was calculated using a chart-based validated non-laboratory algorithm.

Results: The study participants had a mean age of 42.8 (25-64) years; 65.2% were male. A quarter (26.0%) smoked tobacco, 29.4% reported harmful or dependent alcohol use, 73.0% had inadequate fruit and vegetable intake, and 64.1% were physically inactive. Systolic and diastolic blood pressure was raised in 32.7% and 34.6% of the study participants, respectively, 62.2% had raised cholesterol, 76.9% were overweight or obese, and 27.1% had abdominal obesity. Overall, 17.4% were diagnosed with hypercholesterolaemia, 17.7% with hypertension, and 16.2% with depression. Around one third (34.1%) had a moderate-to-high 10-year cardiovascular disease risk.

Conclusion: The prevalences of both behavioural and physical risk factors for NCDs amongst the power station study participants were high. There is a need for effective workplace interventions to reduce risk for NCDs. The workplace is ideally suited for targeted interventions.

Publication: Schouw D, Mash R, Kolbe-Alexander T. Risk factors for non-communicable diseases in the workforce at a commercial power plant in South Africa. Occupational Health Southern Africa. 2018;24(5):145-52.

Transforming the workplace environment to prevent non-communicable chronic diseases: participatory action research in a South African power plant.

Schouw D, Mash R
(rm@sun.ac.za),
Kolbe-Alexander T

Background: The workplace is an important setting for the prevention of non-communicable diseases (NCDs). Policies for transformation of the workplace environment for occupational health and safety in South Africa have focused more on what to do and less on how to do it. There are no guidelines and little evidence on workplace-based interventions for NCDs.

Objective: The aim of this study was to learn how to transform the workplace environment in order to prevent and control cardio-metabolic risk factors for NCDs amongst the workforce at a commercial power plant in Cape Town, South Africa.

Methods: The study design utilized participatory action research in the format of a cooperative inquiry group (CIG). The researcher and participants engaged in a cyclical process of planning, action, observation and reflection over a two-year period. The group used outcome mapping to define the vision, mission, boundary partners, outcomes and strategies required. At the end of the inquiry the CIG reached a consensus on their key learning.

Results: Substantial change was observed in the boundary partners: catering services (78% of progress markers achieved), sport and physical activities (75%), health and wellness services (66%) and managerial support (65%). Highlights from a 10-point consensus on key learning included the need for: authentic leadership; diverse composition and functioning of the CIG; value of outcome mapping; importance of managerial engagement in personal and organizational change; and making healthy lifestyle an easy choice.

Conclusion: Transformation included a multifaceted approach and an engagement with the organization as a living system. Future studies will evaluate changes in the risk profile of the workforce, as well as the costs and consequences for the organization.

Publication: Schouw D, Mash R, Kolbe-Alexander T. Transforming the workplace environment to prevent non-communicable chronic diseases: participatory action research in a South African power plant. Global Health Action. 2018;11(1):1544336.

Barriers to accessing cervical cancer screening among HIV positive women in Kgatleng district, Botswana: A qualitative study.

Matenge TG, Mash B
(rm@sun.ac.za)

Background: Low and middle-income countries have a greater share of the cervical cancer burden, but 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 screening rates are important in order to decrease cancer-related morbidity and mortality. This study aimed to explore the barriers to women with HIV accessing cervical cancer screening in Kgatleng district, Botswana.

Methods: A phenomenological qualitative study 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 highlighted unavailability of results, inconsistent appointment systems, long queues and equipment shortages and poor patient-centred communication skills, particularly skills in explanation and planning. Patient factors identified were 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 partly addressed by considering alternative technology and one-stop models of testing and treating.

Publication: Matenge TG, Mash B. Barriers to accessing cervical cancer screening among HIV positive women in Kgatleng district, Botswana: A qualitative study. PloS one. 2018 Oct 24;13(10):e0205425.

The knowledge, attitudes and practices of caregivers of children with asthma attending the Raleigh Fitkin Memorial Hospital, Manzini, Swaziland.

PS Beshah, M Pather
(mpather@sun.ac.za)

Background: Globally, 14% of children are affected by asthma and in low and middle income countries control is often poor. Little research has been conducted on childhood asthma in Swaziland.

Aim: This study aimed to assess the knowledge, attitudes and practices of caregivers of children with asthma who attended the Raleigh Fitkin Memorial Hospital in Manzini, Swaziland.

Methods: A cross sectional descriptive survey was used with simple random sampling to recruit 91 eligible caregivers of children between 2 and 12 years of age with asthma who were seen between December 2015 and December 2017. Selected caregivers were contacted by phone as per the hospital's asthma patient registry. Then, face to face interviews were conducted using a validated semi-structured questionnaire. Data was analyzed using SPSS v21.

Results: A total of 85.7% of respondent knew of and used salbutamol syrup as a reliever, 9.9% used salbutamol syrup as a preventer and none of them knew about or used steroid inhalers. Only 4.4% were confident to use metered dose inhalers. About 80% of participants believed that oral medication was better than inhaled medication. About 80% believed that metered dose inhalers were addictive. All caregivers reported that they did not have regular follow-up appointments with their health care providers.

Conclusion: Knowledge of caregivers related to childhood asthma and its management is very poor at RFMH in Swaziland. Most caregivers had a negative attitude regarding inhalers, which inhibited them from using reliever and controller inhalers appropriately. Poor quality of and commitment to ongoing care as well as a lack of evidence-based national asthma guidelines were also issues. Training of health professionals and provision of adequate caregiver and patient education and counselling is needed.

Improving the quality of care for patients at increased risk for type 2 diabetes at Onandjokwe Intermediate Hospital, Oshikoto region, Namibia.

Kenga D, Von Pressentin K
(klausvonp@gmail.com)

Introduction: Type 2 diabetes accounts for more than ninety per cent of patients with diabetes and its incidence is on the rise in low and middle-income countries. Obesity is the main risk factor for type 2 diabetes.

Aim: The aim of this study was to improve the quality of care provided to patients at increased risk for developing type 2 diabetes.

Setting: Medical outpatient clinic at Onandjokwe intermediate hospital, Namibia.

Method: The steps of the quality improvement cycle were followed.

Results: Two hundred and six participants were recruited in the audit. Ninety one per cent were female and the mean age was 44 years. During the baseline audit, only 2% of participants had their body mass index (BMI) recorded. One month later, after training staff on the importance of documenting non-invasive risk factors of type 2 diabetes and implementing changes to practice, 65% of participants had their BMI and additional risk factors for type 2 diabetes recorded during the re-audit and were provided with diet and physical activity counselling ($p<0.001$).

Conclusion: The quality of care for patients at increased risk for developing type 2 diabetes mellitus in our setting was suboptimal. Simple interventions were designed and implemented to improve the quality of care. A corresponding significant improvement in the documentation of risk factors for type 2 diabetes was observed.

Emergency contraceptive knowledge, attitudes and practices among female students at the University of Botswana: A descriptive survey

Bobby Kgosiemang, Julia Blitz
(juliablitz@sun.ac.za)

Background: Unintended pregnancies are associated with unsafe abortions and maternal deaths, particularly in countries such as Botswana, where abortion is illegal. Many of these unwanted pregnancies could be avoided by using emergency contraception, which is widely available in Botswana.

Aim: To assess the level of knowledge, attitudes and practices of female students with regard to emergency contraception at the University of Botswana.

Setting: Students from University of Botswana, Gaborone, Botswana.

Methods: A descriptive survey among 371 students selected from all eight faculties at the university. Data were collected using a self-administered questionnaire and analysed using the Statistical Package for Social Sciences.

Results: The mean age was 20.6 years (SD 1.62), 58% were sexually active, 22% had used emergency contraception and 52% of pregnancies were unintended. Of the total respondents, 95% replied that they had heard of emergency contraception; however, only 53% were considered to have good knowledge, and 55% had negative attitudes towards its use. Students from urban areas had better knowledge than their rural counterparts ($p= 0.020$). Better knowledge of emergency contraception was associated with more positive attitudes towards actual use ($p< 0.001$). Older students ($p< 0.001$) and those in higher years of study ($p= 0.001$) were more likely to have used emergency contraception.

Conclusion: Although awareness of emergency contraception was high, level of knowledge and intention to use were low. There is a need for a targeted health education programme to provide accurate information about emergency contraception.

Publication: Kgosiemang B, Blitz J. Emergency contraceptive knowledge, attitudes and practices among female students at the University of Botswana: A descriptive survey. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-6.

Sexual assault survivors' perspectives on clinical follow-up in the Eden District, South Africa: A qualitative study

Gail Holton, Kate Joyner and Robert Mash
(rm@sun.ac.za)

Background: Although effective follow-up of sexual assault survivors is linked to optimal recovery, attendance at follow-up consultations is poor. It is therefore essential that health care providers maximise the benefit of follow-up care for every sexual assault survivor.

Aim: This study explored the personal experiences of sexual assault survivors to better understand the enablers of, and barriers to, attendance at follow-up consultations.

Methods: This phenomenological qualitative study was conducted at the three hospitals which manage most sexual assault survivors within the Eden District. Using purposive sampling, 10 participants were selected. Consenting participants shared their experiences during semi-structured interviews with the researcher.

Results: Authoritative, client-held documentation was a powerful enabler to accessing follow-up care. Individualised, patient-centred care further enhanced participants' access to, and utilisation of, health care services. The failure of health care providers to integrate follow-up care for sexual assault survivors into established chronic care services was a missed opportunity in the continuum of care. Negative perceptions, based on others' or personal prior experience of police, judicial and health care systems, were further barriers to follow-up care.

Conclusion: This study highlights the need of survivors of sexual assault for integrated, patient-centred care, encompassing principles of good communication. Committed actions of all stakeholders are necessary to tackle negative perceptions that create barriers to follow-up care. A simple practical strategy, the provision of a scheduled appointment on official stationery, is easy to effect at facility level. As a powerful enabler to follow-up care, this should be implemented as a priority intervention.

Publication: Holton G, Joyner K, Mash R. Sexual assault survivors' perspectives on clinical follow-up in the Eden District, South Africa: A qualitative study. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-7.

Factors influencing post-partum women's choice of an implantable contraceptive device in a rural district hospital in South Africa

Francois Potgieter, Paul Kapp & Francois Coetzee
(franna@sun.ac.za)

Background: A single-rod subdermal contraceptive implant containing 68 mg of etonogestrel, ImplanonNXT®, was introduced to the South African healthcare system in 2014. Initially the new device was well received but later uptake tapered off. A need was identified to determine the factors that influence women's choices with regard to the use of ImplanonNXT® in order to improve its uptake. The aim of this study was to explore the factors that influence women's choice of ImplanonNXT®.

Method: A qualitative study was performed, using semi-structured interviews to explore patients' knowledge, attitudes and beliefs regarding ImplanonNXT®. Ten patients were interviewed at Knysna Hospital.

Findings: There was confusion amongst women about the harms and benefits of using ImplanonNXT® and it became apparent contraceptive counselling during pregnancy greatly affects the choices they make. Other factors that influenced the participants' choice with regard to contraception included social influences, preference for familiar methods and the side effect profile of the various options. Perceptions of the adverse side effects of the implantable device added to confusion and fear of this method, which influenced women's ideas about the use of ImplanonNXT®. Poor communication and reluctance from clinic staff to discuss ImplanonNXT® during antenatal visits contributed to poor knowledge about the implantable device and its side effects.

Conclusion: Clearer communication during antenatal visits with pregnant women may address some of the fears and beliefs that surround its side effects, workings and efficacy. The fear of possible side effects should be a focus for counselling and education, as it predominantly contributes to women's confusion and fear of the device. Further research is needed to address this as well as evaluate if interventions such as better counselling and a dedicated team approach can change the attitudes and beliefs of post-partum women towards the ImplanonNXT® device in the South African district health system.

Publication: Potgieter F, Kapp P, Coetzee F. Factors influencing post-partum women's choice of an implantable contraceptive device in a rural district hospital in South Africa. South African Family Practice. 2018;60(6):174-80.

How to improve the quality of care for women with postpartum haemorrhage at Onandjokwe Hospital, Namibia.

Nsangamay T, Mash R
(rm@sun.ac.za)

Background: Postpartum haemorrhage (PPH) is the leading direct cause of maternal morbidity and mortality worldwide. The sustainable development goals include a goal to reduce maternal mortality ratio to 70 per 100,000 live births. In Namibia, the ratio was reported as 265 per 100,000 live births in 2015 and yet little is published on emergency obstetric care. Low and middle-income countries have a disproportionate share of maternal deaths. The aim of this study was to assess and improve the quality of care for women with postpartum haemorrhage (PPH) at Onandjokwe Hospital, Namibia

Methods: A quality improvement cycle audited care in all 82 women with PPH from 2015 using target standards for structure, process and outcomes of care. The audit team then planned and implemented interventions to improve the quality of care over a 10-month period. The audit team repeated the audit on all 70 women with PPH from the same 10-month period. The researchers compared audit results in terms of the number of target standards achieved and any significant change in the proportion of patients' care meeting the predetermined criteria.

Results: In the baseline audit 12/19 structural, 0/9 process and 0/3 outcome target standards were achieved. On follow up 19/19 structural, 6/9 process and 2/3 outcome target standards were met. There was one maternal death in the baseline group and none in the follow up group. Overall 6/9 process and 2/3 outcome criteria significantly improved ($p<0.05$) from baseline to follow up. Key interventions included training of nursing and medical staff in obstetric emergencies, ensuring that guidelines and standard operating protocols were easily available, reorganising care to ensure adequate monitoring of women postpartum and ensuring that essential equipment was available and functioning.

Conclusion: The quality of care for PPH was substandard and yet significantly improved with a number of relatively simple interventions. Other hospitals in Namibia and the region could adopt the process of continuous quality improvement and similar strategies.

A clinical audit of caesarean delivery at Helderberg District Hospital, Somerset West, South Africa.

Oyewumi AA, Pather M
(mpather@sun.ac.za)

Background: Caesarean section deliveries form a key component of maternal health services. This is one of the most effective means of reducing maternal mortality and is an important indicator of access to essential obstetric care in developing countries. In South Africa it is one of the key maternal health indicators used in the evaluation of the safe motherhood programme.

Aim: The aim of this study was to determine the indications and outcomes of caesarean section deliveries at Helderberg Hospital, Western Cape, South Africa.

Methods: A descriptive retrospective audit was performed, reviewing all caesarean sections and other deliveries in 2014. The hospital's ward register was used to manually retrieve each patient folder and, using an agreed upon data collection sheet with clinical staff of the department, data was manually collected and loaded in an Excel spreadsheet and analysed statistically with the help of the statistician at Stellenbosch University. The main variables analysed in the data include the rate, indication and maternal and foetal outcomes of caesarean section.

Results: In total, 3020 women delivered at the Helderberg Hospital and 880 caesarean sections were performed, resulting in an overall caesarean section rate of 29% for 2014. Caesarean sections were due to: foetal distress (33%), poor progress in labour (16%), cephalopelvic-disproportion (15%), previous caesarean section on one occasion (12%), big baby (10%), multiple gestation (8%), failed induction of labour (6%), malpresentation (6%), previous caesarean section on more than one occasion (6%), antepartum haemorrhage (APH) (5%), failed assisted deliveries (5%) and cord prolapse (3%). Peri-operative maternal complication rate was 7%, anaesthetic complications accounted for 2% and post-operative maternal complications were 5%. Foetal mortality was low, at 4%.

Conclusion: The overall rate of caesarean sections at Helderberg Hospital is quite high when compared to similar institutions in the country. It is important to note that the rate of foetal distress, was similar to that in other studies done locally and internationally. Despite the high rate of caesarean section, most of the complications observed in this study were consistent with those found internationally, with no documented maternal mortality which suggests that the caesarean sections are performed competently at Helderberg Hospital.

Examining the impact of a Mindfulness-Based Stress Reduction intervention on the health of urban South Africans

Simon L. Whitesman
(simonwhitesman@icloud.com),
Michelle Hoogenhout, Linda Kantor, Katherine J. Leinberger, Anik Gevers

Background: Mindfulness-based stress reduction (MBSR) has been found to have significant health benefits in studies conducted in the global North.

Aim: This study examined the effects of MBSR on stress, mood states and medical symptoms among urban South Africans to inform future research and clinical directions of MBSR in local settings.

Setting: Participants completed an 8-week MBSR programme based in central Cape Town.

Method: A retrospective analysis of 276 clinical records was conducted. Mindfulness, stress, negative and positive mood, medical symptoms and psychological symptoms were assessed before and after the intervention using self-report questionnaires. We compared pre and post-intervention scores and examined the relationship between changes in mindfulness and changes in stress, mood and medical symptoms.

Results: Mindfulness scores were significantly higher after intervention, both on the Kentucky Inventory of Mindfulness Skills (KIMS) and the Mindful Attention Awareness Scale (MAAS). Changes on the KIMS were associated with reductions in stress, negative mood, psychological symptoms and total medical symptoms, and improvement in positive mood. Changes in mindfulness, as measured by the MAAS, were significantly correlated only with reduced total number of medical symptoms.

Conclusion: This study provides preliminary evidence for the positive health impact of MBSR on urban South Africans, and in turn acceptability and feasibility evidence for MBSR in South Africa and supports the case for larger trials in different local settings.

Publication: Whitesman SL, Hoogenhout M, Kantor L, Leinberger KJ, Gevers A. Examining the impact of a Mindfulness-Based Stress Reduction intervention on the health of urban South Africans. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-5.

Mental health in primary care: Integration through in-service training in a South African rural clinic

Lucy Maconick, Louis S. Jenkins
(Louis.Jenkins@westerncape.gov.za),
Henriette Fisher, Anthony Petrie, Lynnie Boon, Hermann Reuter

Background: Integrating mental health into primary care is a global priority. It is proposed to 'task-share' the screening, diagnosis and treatment of common mental disorders fromspecialists to primary care workers. Key to facilitating this is training primary care workers to deliver mental health care. Mental health training in Africa shows a predominance of short-term, externally driven training programmes. Locally, a more sustainable delivery system was needed.

Aim: The aim of the study was to develop and evaluate a locally delivered, long-term, inservice training programme to facilitate mental health care in primary care.

Methods: This was a quasi-experimental study using mixed methods. The in-service training programme was delivered in weekly 1-h sessions by local psychiatry staff to 20 primary care nurses at the clinic over 5 months. The training was evaluated using quantitative data from participant questionnaires and analysis of the referrals from primary to specialist care. Qualitative data were collected via semi-structured interviews and 14 observed training sessions.

Results: The training was feasible and well received. Referrals to the mental health nurse increased in quality and participants' self-rated competence improved. Additional benefits included the development of supervision skills of mental health nurses and providing a forum for staff to discuss service improvement. The programme acted as a vehicle to pilot integration in one clinic and identify unanticipated barriers prior to rollout.

Conclusions: Long-term, in-service training, using existing local staff had benefits to the integration of mental health into primary care. This approach could be relevant to similar contexts elsewhere.
Publication: Maconick L, Jenkins LS, Fisher H, Petrie A, Boon L, Reuter H. Mental health in primary care: Integration through in-service training in a South African rural clinic. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-7.

HEALTH SERVICES AND SYSTEMS RESEARCH:

Prof Bob Mash and Dr Joleen Cairncross introduce Living GREAT with diabetes to the health services in different provinces.

The Influence of Family Physicians Within the South African District Health System: A Cross-Sectional Study.

von Pressentin KB, Mash RJ
(rm@sun.ac.za),
Baldwin-Ragaven L, Botha RPG, Govender I, Steinberg WJ, Esterhuizen TM.

Purpose: Evidence of the influence of family physicians on health care is required to assist managers and policy makers with human resource planning in Africa. The international argument for family physicians derives mainly from research in high-income countries, so this study aimed to evaluate the influence of family physicians on the South African district health system.

Methods: We conducted a cross-sectional observational study in 7 South African provinces, comparing 15 district hospitals and 15 community health centers (primary care facilities) with family physicians and the same numbers without family physicians. Facilities with and without family physicians were matched on factors such as province, setting, and size.

Results: Among district hospitals, those with family physicians generally scored better on indicators of health system performance and clinical processes, and they had significantly fewer modifiable factors associated with pediatric mortality (mean, 2.2 vs 4.7,p=.049). In contrast, among community health centers, those with family physicians generally scored more poorly on indicators of health system performance and clinical processes, with significantly poorer mean scores for continuity of care (2.79 vs 3.03; p=.03) and coordination of care (3.05 vs 3.51;p=.02).

Conclusions: In this study, having family physicians on staff was associated with better indicators of performance and processes in district hospitals but not in community health centers. The latter was surprising and is inconsistent with the global literature, suggesting that further research is needed on the influence of family physicians at the primary care level.

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;16(1):28-36.

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

von Pressentin KB, Mash RJ
(rm@sun.ac.za),
Baldwin-Ragaven L, Botha RPG, Govender I, Steinberg WJ, Esterhuizen TM.

Background: Evidence from first world contexts support the notion that strong primary health care teams contain family physicians (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 family physicians across seven South African provinces. All FPs working in the district health system (DHS) of these seven provinces were invited to participate. Sixteen respondents (including the FP) 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 family physicians 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

KB Von Pressentin, RJ Mash
(rm@sun.ac.za),
L Baldwin-Ragaven, RPG Botha, I Govender &WJ Steinberg

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 family physicians (FPs) working within the district health system. 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 regarding 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 district health system according to the national position paper on family medicine.

Publication: Von Pressentin KB, Mash RJ, Baldwin-Ragaven L, Botha RP, Govender I, Steinberg WJ. 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. South African Family Practice. 2018;60(1):13-20.

Reliability measurement and ICD-10 validation of ICPC-2 for coding/ classification of diagnoses/health problems in an African primary care setting.

Olagundoye OA, Malan Z
(zmalan@sun.ac.za),
Mash B, van Boven K, Gusso G, Ogunnaike A.

Background: The routine application of a primary care classification system to patients' medical records in general practice/primary care is rare in the African region. Reliable data are crucial to understanding the domain of primary care in Nigeria, and this may be actualized through the use of a locally validated primary care classification system such as the International Classification of Primary Care, 2nd edition (ICPC-2). Although a few studies from Europe and Australia have reported that ICPC is a reliable and feasible tool for classifying data in primary care, the reliability and validity of the revised version (ICPC-2) is yet to be objectively determined particularly in Africa.

Objectives: (i) To determine the convergent validity of ICPC-2 diagnoses codes when correlated with International Statistical Classification of Diseases (ICD)-10 codes, (ii) to determine the inter-coder reliability among local and foreign ICPC-2 experts and (iii) to ascertain the level of accuracy when ICPC-2 is engaged by coders without previous training.

Methods: Psychometric analysis was carried out on ICPC-2 and ICD-10 coded data that were generated from physicians' diagnoses, which were randomly selected from general outpatients' clinic attendance registers, using a systematic sampling technique. Participants comprised two groups of coders (ICPC-2 coders and ICD-10 coders) who coded independently a total of 220 diagnoses/health problems with ICPC-2 and/or ICD-10, respectively.

Results: Two hundred and twenty diagnoses/health problems were considered and were found to cut across all 17 chapters of the ICPC-2. The dataset revealed a strong positive correlation between selected ICPC-2 codes and ICD-10 codes ($r \approx 0.7$) at a sensitivity of 86.8%. Mean percentage agreement among the ICPC-2 coders was 97.9% at the chapter level and 95.6% at the rubric level. Similarly, Cohen's kappa coefficients were very good ($\kappa > 0.81$) and were higher at chapter level (0.94-0.97) than rubric level (0.90-0.93) 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 primary care classification system for morbidity and mortality registration at such a critical level of 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;35(4):406-11.

Perceptions regarding the scope of practice of family doctors amongst patients in primary care settings in Nairobi

Gulnaz Mohamoud, Bob Mash
(rm@sun.ac.za),
Mohamoud Merali, James Orwa, and Megan Mahoney[5]

Background: Primary care (PC) is the foundation of the Kenyan health care system, providing comprehensive care, health promotion and managing all illnesses across the lifecycle. In the private sector in Nairobi, PC is principally offered by the general practitioners, also known as family doctors (FDs). The majority have no postgraduate training. Little is known about how patients perceive their capability.

Aim: To assess patients' perceptions of the scope of practice of FDs working in private sector PC clinics in Nairobi and their awareness of the new category of family physicians (FPs) and the discipline of family medicine.

Setting: Private sector PC clinics in Nairobi.

Methods: A descriptive survey using a structured, self-administered questionnaire. Simple random sampling was used to recruit 162 patient participants.

Results: Of the participants, 30% knew the difference between FPs and FDs. There was a high to moderate confidence that FDs could treat common illnesses; provide lifestyle advice; family planning (66%) and childhood immunisations (64%). In adolescents and adults, low confidence was expressed in their ability to manage tuberculosis (58%), human immunodeficiency virus (55%) and cancer (33%). In the elderly, there was low confidence in their ability to manage depression (55%), anxiety (57%), urinary incontinence (57%) and diabetes (59%). There was low confidence in their ability to provide antenatal care (55%) and Pap smears (42%).

Conclusion: Patients did not perceive that FDs could offer fully comprehensive PC services. These perceptions may be addressed by defining the expected package of care, designing a system that encourages the utilisation of PC and employing FPs.

Publication: Mohamoud G, Mash B, Merali M, Orwa J, Mahoney M. Perceptions regarding the scope of practice of family doctors amongst patients in primary care settings in Nairobi. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-7.

Strengthening the district health system through family physicians

Robert Mash
(rm@sun.ac.za),
Klaus B. von Pressentini

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.

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 specialty 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 specialty.

Publication: Mash R, von Pressentin KB. Strengthening the district health system through family physicians. South African Health Review. 2018;2018(1):33-9.

Burnout among rural hospital doctors in the Western Cape: Comparison with previous South African studies

Andrew R. Liebenberg; Johan F. (Jr) Coetzee
(franna@sun.ac.za);
Hofmeyr H. Conradie; Johan F. Coetzee

Background: Burnout among doctors negatively affects health systems and, ultimately, patient care.
Aim: To determine the prevalence of burnout among doctors working in the district health system in the Overberg and Cape Winelands districts of the Western Cape Province and to compare the findings with those of previous South African studies.

Setting: Rural district hospitals.

Methods: During 2013, a validated questionnaire (Maslach Burnout Inventory) was sent to 42 doctors working in the district health system within the referral area of the Worcester Hospital, consisting of the Overberg health district and the eastern half of the Cape Winelands.

Results: Response rate was 85.7%. Clinically significant burnout was found among 81% of respondents. High levels of burnout on all three subscales were present in 31% of participants. Burnout rates were similar to those of a previous study conducted among doctors working in the Cape Town Metropolitan Municipality primary health care facilities. Scores for emotional exhaustion (EE) and depersonalisation (DP) were greater than those of a national survey; however, the score for personal accomplishment (PA) was greater. EE and PA scores were similar to that of a study of junior doctors working in the Red Cross Children's Hospital; however, EE was smaller.

Conclusion: This study demonstrates high burnout rates among doctors working at district level hospitals, similar to the prevalence thereof in the Cape Town Metropolitan primary health care facilities. Health services planning should include strategies to address and prevent burnout of which adequate staffing and improved work environment are of prime importance.

Publication: Liebenberg AR, Coetzee Jr JF, Conradie HH, Coetzee JF. Burnout among rural hospital doctors in the Western Cape: Comparison with previous South African studies. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-7.

Antimicrobial stewardship in a rural regional hospital – growing a positive culture

E Junaid, L Jenkins
(Louis.Jenkins@westerncape.gov.za),
H Swanepoel, Z North, T Gould

Antimicrobial stewardship programmes have been introduced worldwide in response to the rise in antimicrobial resistance. The World Health Organization has mandated each Member State to produce a plan to address this problem. We report on the organic development of an antibiotic stewardship programme in a rural regional hospital in a resource-limited setting in South Africa. This has resulted in organisational change with increased awareness, participation, monitoring and education in antibiotic stewardship throughout the hospital.

Publication: Junaid E, Jenkins L, Swanepoel H, North Z, Gould T. Antimicrobial stewardship in a rural regional hospital–growing a positive culture. South African Medical Journal. 2018;108(7).

'Telephone Triage': a possible means of managing the after-hours patient load at primary care facilities in South Africa

AA Adeniji
(Adeloye.Adeniji@westerncape.gov.za),
LH Mabuza

The rate at which routine patients are using the emergency department (ED) to enter into the healthcare system in South Africa's primary care facilities and district hospitals is alarming. The increasing number of patients in the EDs are left to the care of a reduced number of health professionals after hours, at weekends and during public holidays. This circumstantial disproportionality forms the breeding ground for poor patient care, healthcare workers' burnout and inappropriate use of referral pathways.

Not all the patients occupying the ED waiting rooms actually need emergency care. A sizeable number of patients in the waiting line are routine cases that could wait without any undesirable clinical outcomes. This opinion paper looks into the use of telephone triage to reduce after-hours patient loads at district health facilities in South Africa.

Publication: AA Adeniji & LH Mabuza (2018): 'Telephone Triage': a possible means of managing the after-hours patient load at primary health care facilities in South Africa, South African Family Practice, DOI: 10.1080/20786190.2018.1504863

The impact of family physician supply on district health system performance, clinical processes and clinical outcomes in the Western Cape Province, South Africa (2011-2014)

Rekai L. Chinhoyi; Moleen Zunza; Klaus B. von Pressentin
(klausvonp@gmail.com)

Background: A revised family physician (FP) training programme was introduced in South Africa in 2007. A baseline assessment (2011) of the impact of FP supply on district health system performance was performed within the Western Cape Province, South Africa. The impact of an increased FP supply within this province required re-evaluation.

Aim: To assess the impact of FP supply on indicators of district health system performance, clinical processes and clinical outcomes in the Western Cape Province. The objectives were to determine the impact of FPs, nurses, medical officers (MOs) and other specialists

Setting: The study sample included all five rural districts and eight urban sub-districts of the Western Cape Province.

Methods: A secondary analysis was performed on routinely collected data from the Western Cape Department of Health from 01 March 2011 until 30 April 2014.

Results: The FP supply did not significantly impact the indicators analysed. The supply of nurses and MOs had an impact on some of the indicators analysed.

Conclusion: This study did not replicate the positive associations between an increase in FP supply and improved health indicators, as described previously for high-income country settings. The impact of FP supply on clinical processes, health system performance and outcome indicators in the Western Cape Province was not statistically significant. Future re-evaluation is recommended to allow for more time and an increase in FP supply.

Publication: Chinhoyi RL, Zunza M, von Pressentin KB. The impact of family physician supply on district health system performance, clinical processes and clinical outcomes in the Western Cape Province, South Africa (2011-2014). African Journal of Primary Health Care & Family Medicine. 2018;10(1):1-10.

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

Renaldo Christoffels and Bob Mash
(rm@sun.ac.za)

Background: 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 this 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 adult consultation was audio-recorded from each primary care provider in the sub-district. A validated local assessment tool based on the Calgary-Cambridge guide was used to score 16 skills from each consultation. Consultations were also coded for reasons for encounter, diagnoses and complexity. The coders inter- and intra-rater reliability was evaluated. Analysis described the consultation skills and compared doctors with nurses.

Results: 45 practitioners participated (response rate 85%) with 20 nurses and 25 doctors. Nurses were older and more experienced than the doctors. Doctors saw more complicated patients. Good inter- and intra-rater reliability was shown for the coder with an intra-class correlation coefficient of 0.84 (95% CI 0.045–0.996) and 0.99 (95% CI 0.984–0.998) respectively. The overall median consultation score was 25.0% (IQR 18.8–34.4). The median consultation score for nurses was 21.6% (95% CL 16.7–28.1) and for doctors was 26.7% (95% CL 23.3–34.4) ($p = 0.17$). There was no difference in score with the complexity of the consultation. 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 how access to care is organised as well as to training programmes.

Publication: Christoffels R, Mash B. How well do public sector primary care providers function as medical generalists in Cape Town: a descriptive survey. BMC family practice. 2018;19(1):122.

The perceptions of general practitioners on National Health Insurance in Chris Hani district, Eastern Cape, South Africa.

Gaqavu MM, Mash R
(rm@sun.ac.za)

Introduction: The South African health system is at a crossroads. Public health care is struggling to provide quality care to 86% of the population, while private health care costs have been spiralling out of control for the 16% of the population that it serves. National Health Insurance (NHI) intends to provide universal health coverage to all South Africans, with equity and quality as its tenets. The participation of private general practitioners(GP) in NHI is essential to ensure access to quality primary care.

Aim: To explore perceptions of GPs on NHI in Chris Hani district, Eastern Cape, South Africa.

Methods: Descriptive phenomenological qualitative study using semi-structured individual interviews of twelve GPs from six municipalities. Data analysis used the framework method assisted by Atlas.ti software.

Results: GPs in Chris Hani district felt that NHI would improve health and benefit society. They felt that NHI will be of particular benefit to poor and rural people as it will improve access to healthcare. Lack of governmental administrative capacity and a human resource plan were seen as barriers to implementation of NHI.

GPs felt that NHI would benefit them through a single purchaser system and support more comprehensive care. GPs were concerned about a lack of information on primary care packages, accreditation, remuneration and patient allocation. GPs felt that NHI might disadvantage solo GPs.

GPs felt that NHI implementation could be improved by actively engaging with GP organisations. Improvement of existing government health facilities and continued medical education were seen as possible ways to better implement NHI.

Conclusion: GPs in this study were generally positive about NHI as they thought it would benefit both patients and providers. However, they had concerns regarding the capacity of government to implement NHI, the implications for solo GPs and needed more information. Government needs to actively engage GPs on NHI implementation.

Exploring resilience in family physicians in the Cape Metropole: a qualitative study.

Renaldo Christoffels and Bob Mash
(rm@sun.ac.za)

Background: Despite the high prevalence of burnout among doctors, studies show that some doctors who choose to remain in primary health care (PHC) survive, even thrive despite stressful working conditions. The ability to be resilient may assist family physicians (FPs) to adapt successfully to the relatively new challenges they are faced with. This research seeks to explore resilience through reflection on the lived experiences of FPs who have been working in PHC.

Aim: To explore the resilience of FPs working in PHC in the Cape Metropole.

Setting: Conducted among FPs in PHC in the Cape Town Metropole, Western Cape Province, South Africa.

Methods: A phenomenological qualitative study interviewed 13 purposefully selected FPs working in the public sector PHC in the Cape Metropole. Data was analysed using the framework method.

Results: The mean Resilience Scale was moderate. Six key aspects of resilience were identified namely, having a sense of purpose, a way of thinking, doing a little bit of everything, effective leadership skills, having a support network and attention to self-care.

Conclusion: The aspects which contributed to FP resilience are multi-faceted. Our exploration of resilience in FPs in the Cape Metropole corroborates previous studies done. To ensure physician wellness and improved patient outcomes, we recommend that individual and relational strategies be implemented in the absence of long term policy changes.

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

Kenneth Yakubu, Zelra Malan
(zmalan@sun.ac.za),
Maria C. Colon-Gonzalez, and Bob Mash

Background: Few studies in Africa have described patients' perceptions about family-centred care (FCC).

Aim: The aim of this study was to explore perceptions of FCC among patients with chronic diseases.

Setting: The study was conducted at a general outpatient clinic (GOPC) in Jos, north-central Nigeria.

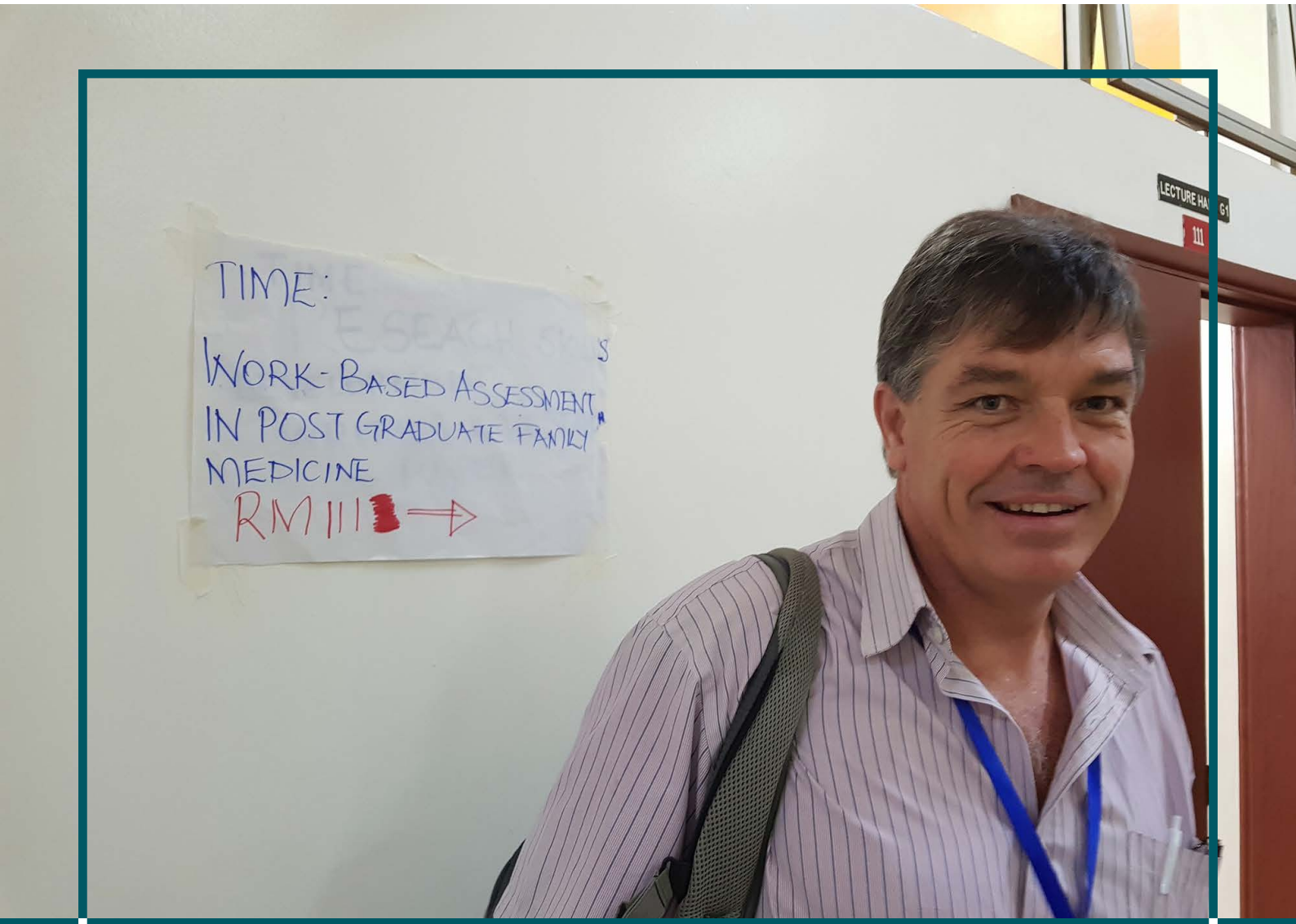
Methods: We used a mixed-methods study design and conducted structured and semi-structured interviews with 21 adult patients with chronic diseases at a general outpatient clinic in north-central Nigeria.

Results: Patients described FCC using progressive levels of family engagement including the doctor inquiring about history of similar disease in the family, information sharing with family members and fostering of family ties. They described current family involvement in their care as either inquiring about their health, accompanying them to the clinic or offering material or social support and health advice. Also, patients considered the value of FCC based on how it meets information needs of the family, influences individual health behaviour and addresses family dynamics. Those who were literate and older than 50 years of age favoured FCC during history taking. Those who were literate, aged lesser than 50 years and had poor disease control showed preference for FCC during treatment decision-making.

Conclusion: The acceptability of FCC is a complex synthesis of age, socio-economic status, literacy and disease outcomes. Patients older than 50 years, with good treatment outcomes, and those without formal education may need further education and counselling on this approach to care.

Publication: Yakubu K, Malan Z, Colon-Gonzalez MC, Mash B. Perceptions about family-centred care among adult patients with chronic diseases at a general outpatient clinic in Nigeria. African journal of primary health care & family medicine. 2018;10(1):1-1.

EDUCATIONAL RESEARCH:



Prof Louis Jenkins prepares to lead a workshop on Workplace-Based Assessment in postgraduate Family Medicine in Kampala, Uganda.

Implications for faculty development for emerging clinical teachers at distributed sites: a qualitative interpretivist study.

Blitz J
(juliablitz@sun.ac.za),
De Villiers M, Van Schalkwyk S.

Introduction: Medical faculties have the responsibility to graduate competent health professionals and a consequent obligation to assure the quality and effectiveness of their students' clinical teaching. Many institutions are responding to rural workforce needs by extending clinical training from the traditional academic teaching hospital to include rural and remote sites. It is incumbent upon medical schools to consider how this might impact on the faculty development of these clinicians as teachers. The study aimed to develop an understanding of how clinicians working at distant resource-constrained and new training sites viewed their early experiences of clinical teaching. This was with a view to informing the development of initiatives that could strengthen their role as teachers.

Methods: Qualitative research using an interpretive approach was used to reach an understanding of the views and subjective experiences of clinicians. Participants were emerging clinical teachers at distant peri-urban, rural and remote sites in South Africa. In-depth interviews were conducted with all nine clinicians meeting these criteria. The interviews were coded inductively looking for underlying meanings, which were then grouped into categories.

Results: The findings clustered into three inter-related themes: relationships, responsibilities and resources. The clinicians take pleasure in developing learning relationships that enable students to have a good experience by participating actively in the clinical environment, value what students bring from the medical school in terms of clinical advances and different perspectives, and in the contribution that they feel they are making to creating a more appropriately trained future healthcare workforce. However, they yearn for a closer relationship with the medical school, which they think could acknowledge the contributions they make, while also offering opportunities for them to become more effective clinical teachers. They also feel that they have a role to play in both curriculum re-alignment and student evaluation. These clinicians felt that the medical school has a responsibility to let them know if they are doing 'the right thing' as clinical teachers. Interestingly, these participants see trusted clinical colleagues and mentors as a resource when needing advice or mentorship concerning clinical teaching.

Conclusion: This study adds to an understanding around designing faculty development initiatives that meet the needs of clinicians at distant sites that take on the role of clinical teaching. There remains the need to impart particular strategies to support the learning of particular kinds of knowledge that is commonly dealt with in faculty development. However, there may be an additional need for faculty developers to embrace what is known about rural doctor social learning systems by overtly designing for incorporation of the foundational three Rs: relationships, responsibilities and resources.

Publication: Blitz J, De Villiers M, Van Schalkwyk S. Implications for faculty development for emerging clinical teachers at distributed sites: a qualitative interpretivist study. Rural and Remote Health 2018; 18: 4482. https://doi.org/10.22605/RRH4482

Teaching Medical Students in a New Rural Longitudinal Clerkship: Opportunities and Constraints.

De Villiers M
(mrdv@sun.ac.za);
Conradie H;Van Schalkwyk S

Background: Medical schools in Africa are responding to the call to increase numbers of medical graduates by up-scaling decentralized clinical training. One approach to decentralized clinical training is the longitudinal integrated clerkship (LIC), where students benefit from continuity of setting and supervision. The ability of family physician supervisors to take responsibility for the clinical training of medical students over a longer period than the usual, in addition to managing their extensive role on the district health platform, is central to the success of such training.

Objective: This study investigated the teaching experiences of family physicians as clinical supervisors in a newly introduced LIC model in a rural sub-district in the Western Cape, South Africa.

Method: Nine semi-structured interviews were conducted with six family physicians as part of the Stellenbosch University Rural Medical Education Partnership Initiative (SURMEPI) five-year longitudinal study. Code lists were developed inductively using Atlas.ti v7, they were compared, integrated, and categories were identified. Emerging common themes were developed.

Findings: Three overarching themes emerged from the data, each containing subthemes. The rural platform was seen to be an enabling learning space for the LIC students. The family physicians' experienced their new teaching role in the LIC as empowering, but also challenging. Lack of time for teaching and the unstructured nature of the work emerged as constraints. Despite being uncertain about the new LIC model, the family physicians felt that it was easier to manage than anticipated.

Conclusion: The centrality of the rural context framed the teaching experiences of the family physicians in the new LIC, forming the pivot around which constraints and opportunities for teaching arose. The African family physician is well positioned to make an important contribution to the upscaling of decentralized medical training, but would need to be supported by academic institutions and health service managers in their teaching role.

Publication: de Villiers M, Conradie H, van Schalkwyk S. Teaching medical students in a new rural longitudinal clerkship: opportunities and constraints. Annals of global health. 2018;84(1).

Family medicine training in Africa: Views of clinical trainers and trainees

Louis S. Jenkins
(Louis.Jenkins@westerncape.gov.za)
and Klaus von Pressentin

Background: This article reports on the findings of a workshop held at the joint 5th World Organisation of Family Doctors (WONCA) Africa and 20th National Family Practitioners Conference in Tshwane, South Africa, in 2017. Postgraduate training for family medicine in Africa takes place in the clinical workspace at the bedside or next to the patient in the clinic, district hospital or regional hospital. Direct supervisor observation, exchange of reflection and feedback, and learning conversations between the supervisor and the registrar are central to learning and assessment processes.

Objectives: The aim of the workshop was to understand how family medicine registrars (postgraduate trainees in family medicine) in Africa learn in the workplace.

Methods: Thirty-five trainers and registrars from nine African countries, the United Kingdom, United States and Sweden participated. South Africa was represented by the universities of Cape Town, Limpopo, Pretoria, Sefako Makgatho, Stellenbosch, Walter Sisulu and Witwatersrand.

Results: Six major themes were identified: (1) context is critical, (2) learning style of the registrar and (teaching style) of the supervisor, (3) learning portfolio is utilised, (4) interactions between registrar and supervisor, (5) giving and receiving feedback and (6) the competence of the supervisor.

Conclusion: The training of family physicians across Africa shares many common themes. However, there are also big differences among the various countries and even programmes within countries. The way forward would include exploring the local contextual enablers that influence the learning conversations between trainees and their supervisors. Family medicine training institutions and organisations (such as WONCA Africa and the South African Academy of Family Physicians) have a critical role to play in supporting trainees and trainers towards developing local competencies which facilitate learning in the clinical workplace dominated by service delivery pressures.

Publication: Jenkins LS, Von Pressentin K. Family medicine training in Africa: Views of clinical trainers and trainees. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-4.

Training of workplace-based clinical trainers in family medicine, South Africa: Before-and-after evaluation.

Mash R
(rm@sun.ac.za),
Blitz J, Edwards J, Mowle S.

Background: The training of family physicians is a relatively new phenomenon in the district health services of South Africa. There are concerns about the quality of clinical training and the low pass rate in the national examination.

Aim: To assess the effect of a five-day course to train clinical trainers in family medicine on the participants' subsequent capability in the workplace.

Setting: Family physician clinical trainers from training programmes mainly in South Africa, but also from Ghana, Uganda, Kenya, Malawi and Botswana.

Methods: A before-and-after study using self-reported change at 6 weeks (N = 18) and a 360-degree evaluation of clinical trainers by trainees after 3 months (N = 33). Quantitative data were analysed using the Statistical Package for Social Sciences, and qualitative data wereanalysed thematically.

Results: Significant change ($p < 0.05$) was found at 6 weeks in terms of ensuring safe and effective patient care through training, establishing and maintaining an environment for learning, teaching and facilitating learning, enhancing learning through assessment, and supporting and monitoring educational progress. Family physicians reported that they were better at giving feedback, more aware of different learning styles, more facilitative and less authoritarian in their educational approach, more reflective and critical of their educational capabilities and more aware of principles in assessment. Despite this, the trainees did notreport any noticeable change in the trainers' capability after 3 months.

Conclusion: The results support a short-term improvement in the capability of clinical trainers following the course. This change needs to be supported by ongoing formative assessment and supportive visits, which are reported on elsewhere.

Publication: Mash R, Blitz J, Edwards J, Mowle S. Training of workplace-based clinical trainers in family medicine, South Africa: Before-and-after evaluation. African Journal Of Primary Health Care & Family Medicine. 2018;10(1):1-6.

Consequences, conditions and caveats: a qualitative exploration of the influence of undergraduate health professions students at distributed clinical training sites

Susan van Schalkwyk; Julia Blitz
(juliablitz@sun.ac.za);
Ian Couper; Marietjie de Villiers; Guin Lourens; Jana Muller and Ben van Heerden

Background: Traditionally, the clinical training of health professionals has been located in central academic hospitals. This is changing. As academic institutions explore ways to produce a health workforce that meets the needs of both the health system and the communities it serves, the placement of students in these communities is becoming increasingly common. While there is a growing literature on the student experience at such distributed sites, we know less about how the presence of students influences the site itself. We therefore set out to elicit insights from key role-players at a number of distributed health service-based training sites about the contribution that students make and the influence their presence has on that site.

Methods: This interpretivist study analysed qualitative data generated during twenty-four semi-structured interviews with facility managers, clinical supervisors and other clinicians working at eight distributed sites. A sampling grid was used to select sites that proportionally represented location, level of care and mix of health professions students. Transcribed data were subjected to thematic analysis. Following an iterative process, initial analyses and code lists were discussed and compared between team members after which the data were coded systematically across the entire data set.

Results: The clustering and categorising of codes led to the generation of three over-arching themes: influence on the facility (culturally and materially); on patient care and community (contribution to service; improved patient outcomes); and on supervisors (enriched work experience, attitude towards teaching role). A subsequent stratified analysis of emergent events identified some consequences of taking clinical training to distributed sites. These consequences occurred when certain conditions were present. Further critical reflection pointed to a set of caveats that modulated the nature of these conditions, emphasising the complexity inherent in this context.

Conclusions: The move towards training health professions students at distributed sites potentially offers many affordances for the facilities where the training takes places, for those responsible for student supervision, and for the patients and communities that these facilities serve. In establishing and maintaining relationships with the facilities, academic institutions will need to be mindful of the conditions and caveats that can influence these affordances.

Publication: Van Schalkwyk S, Blitz J, Couper I, De Villiers M, Lourens G, Muller J, Van Heerden B. Consequences, conditions and caveats: a qualitative exploration of the influence of undergraduate health professions students at distributed clinical training sites. BMC Medical Education. 2018;18(1):311.

'Going the extra mile': Supervisors' perspectives on what makes a 'good' intern

M de Villiers
(mrdv@sun.ac.za),
B van Heerden, S van Schalkwyk

Background: Much has been published on whether newly graduated doctors are ready for practice, seeking to understand how to better prepare graduates for the workplace. Most studies focus on undergraduate education as preparation for internship by investigating knowledge and skills in relation to clinical proficiencies. The conversion from medical student to internship, however, is influenced not only by medical competencies, but also by personal characteristics and organisational skills. Most research focuses largely on the interns' own perceptions of their preparation. Supervisors who work closely with interns could therefore present alternative perspectives.

Objectives: To explore the views of medical intern supervisors on the internship training context, as well as their perspectives on attributes that would help an intern to function optimally in the public health sector in South Africa (SA). This article intends to extend our current understanding of what contributes to a successful internship by including the views of internship supervisors.

Methods: Twenty-seven semi-structured interviews were held with medical intern supervisors in 7 of the 9 provinces of SA. The data were thematically analysed and reported using an existing framework, the Work Readiness Scale.

Results: The intern supervisors indicated that interns were challenged by the transition from student to doctor, having to adapt to a new environment, work long hours and deal with a large workload. Clinical competencies, as well as attributes related to organisational acumen, social intelligence and personal characteristics, were identified as being important to prepare interns for the workplace. Diligence, reliability, self-discipline and a willingness to work ('go the extra mile') emerged as key for a 'good' intern. The importance of organisational skills such as triage, prioritisation and participation was foregrounded, as were social skills such as teamwork and adaptability.

Conclusions: This article contributes to our understanding of what makes a successful medical internship by exploring the previously uncanvassed views of intern supervisors who are working at the coalface in the public health sector. It is envisaged that this work will stimulate debate among the medical fraternity on how best to prepare interns for the realities of the workplace. Educational institutions, health services and interns themselves need to take ownership of how to instil, develop and support these important attributes.

Publication: De Villiers M, Van Heerden B, Van Schalkwyk S. 'Going the extra mile': Supervisors' perspectives on what makes a 'good'intern. South African Medical Journal. 2018;108(10):852-7.

Introducing an E-learning Solution for Medical Education in Liberia

S. Walsh, M.R. de Villiers
(mrdv@sun.ac.za)
and V.K. Golakai

Background: The Ebola virus epidemic and civil war in Liberia left the country in need of strengthening the health workforce. E-learning in medical education provides relevant learning opportunities for students, develops faculty competencies, and assists with the retention of healthcare workers. The Stellenbosch University Rural Medical Education Partnership Initiative (SURMEPI), the College of Health and Life Sciences (COHLS) at the University of Liberia (UL), and the Health Resources and Services Administration (HRSA) formed a partnership to create an e-learning solution for the COHLS.

Objective: This article outlines the implementation of an e-learning solution for the COHLS in Monrovia, and describes the challenges met, the key successes achieved, and the lessons learnt.

Methods: An initial scoping visit to Liberia was followed by three further on-site visits. Problems identified were: very limited or no network and computer resources, no internet connection, intermittent power, and lack of IT skills. We followed an evolutionary approach to infrastructure implementation by trying various solutions before settling on an offsite-hosted solution using Software as a Service (SaaS). Local staff were upskilled to administer this while remote support from Stellenbosch IT was provided. A stable internet connection was established. Staff and students can access the Learning Management System (LMS) 24/7 using mobile devices and laptops. Workshops were held where staff were taught how to produce online teaching material. Each class has at least one teaching assistant to assist lecturers with uploading and indexing material on the LMS. A benchmarking visit by COHLS faculty to Stellenbosch University took place, during which an e-learning strategic plan was drawn up. Further online workshops were conducted, and teaching materials were placed on the new LMS.

Outcomes: The intranet that was established consisted of internet connection and software as a service in the form of Office 365, providing access to several products and services. The e-learning model attended to technology and human resources simultaneously. The e-learning strategy aimed to improve teaching and learning at the COHLS, boost the number of qualified doctors, reduce the workload on lecturers, and be scalable in the future.

Conclusion: It is challenging to implement e-learning in medical education. Inadequate infrastructure, limited bandwidth, lack of skilled IT staff, unreliable power supply, time commitment, and ongoing maintenance all need to be overcome. The creation of an e-learning solution for the COHLS over a period of 15 months was enabled by the common vision and close collaboration of the three partners. This model can potentially be replicated across other faculties in the University of Liberia and other educational institutions in Liberia.

Publication: Walsh S, De Villiers MR, Golakai VK. Introducing an E-learning Solution for Medical Education in Liberia. Annals Of Global Health. 2018 Apr 30;84(1):190-7.

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

LE Crowley, R Mash
(rm@sun.ac.za)

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

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

Methods: A quantitative, cross-sectional descriptive survey of postgraduate students who completed the MMed programme between 2005 and 2013.

Results: A total number of 49 respondents out of 120 possible graduates participated in this study (a response rate of 40.8%). 80% of graduates were practising in South Africa (mostly in the Western Cape), 52% public sector, 25% private sector and 23% in a mix. About half the respondents worked in primary care and a quarter in district hospitals. Their scope of practice included: first contact care, seeing referred patients, mentoring other healthcare workers, leadership, management and clinical governance. Overall respondents felt the programme prepared them well for all the exit outcomes and clinical practice. The on-line compulsory modules were generally rated as more relevant compared to the elective modules. The clinical rotations in primary care and district hospitals were viewed as more relevant than those in the regional/central hospitals.

Although the overall rating were high, there were areas identified that needed more attention during the training programme: better supervision and mentoring in the workplace; more time for clinical governance; and better preparation for the national critical reading paper.

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

Implementing and evaluating an e-portfolio for postgraduate family medicine training in the Western Cape, South Africa.

De Swardt M, Jenkins L
(Louis.Jenkins@westerncape.gov.za)

Background: In South Africa it is compulsory to submit a portfolio of learning to qualify for the national exit exam of the College of Family Physicians of South Africa to qualify as a family physician. A paper-based portfolio has been implemented thus far and the need for an electronic portfolio (e-portfolio) was identified.

Aim: To describe and evaluate the implementation of an e-portfolio for the training of family medicine registrars in the Western Cape province of South Africa.

Methods: Convergent mixed methods were used. A quasi-experimental study compared paper- and e-portfolios and semi-structured in-depth interviews were conducted with 11 information rich respondents. Quantitative data was captured from the paper portfolios of registrars in 2015 and compared with the e-portfolios of registrars in 2016.

Results: Most respondents found the e-portfolio easier to use and more accessible. It made progress easier to monitor and provided sufficient evidence of learning. Feedback was made easier and more explicit. There were concerns regarding face-to-face feedback being negatively affected. It was suggested to have a feedback template to further improve feedback. There was a statistically significant improvement in general feedback from the paper portfolio in 2015 to the e-portfolio in 2016. Although not statistically significant, there was an increase in the usage of the e-portfolio, compared to the paper portfolio.

Conclusion: The e-portfolio is an improvement on the paper-based portfolio. It is easier to access, more user-friendly and less cumbersome. It makes feedback and monitoring of progress and development of registrars easier and more visible and provides sufficient evidence of learning. Its implementation throughout South Africa is recommended.

PRIMARY CARE RESEARCH: 2018

Division of Family Medicine and Primary Care, Faculty of Medicine and Health Sciences, Stellenbosch University

Family Medicine and Primary Care
Stellenbosch University
Box 241
Cape Town
8000
SOUTH AFRICA
Tel +27 21 938 9061
Fax +27 21 938 9153
www.sun.ac.za/fammed