PRIMARY CARE RESEARCH: 2013

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

Community studied around Madwaleni Hospital. Source: Dr Gubela Mji.

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

Conference discussing African Primary Care Research. Source: Prof Bob Mash

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 2013. The research projects that were completed or published during this year are presented in abstract format. An email address for one of the authors is given for each abstract and a link to the full publication where appropriate.
An important part of the research process is the dissemination of the findings to stakeholders and policymakers, particularly the Department of Health in the Western Cape where the majority of the research was performed.

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

We have framed this body of work in terms of Primary Care Research and the typology suggested by John Beasley and Barbara Starfield: Basic research, Clinical Research, Health Services Research, Health Systems research and Educational 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.

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"SOUND BITES" FOR POLICYMAKERS

Clinical Research

Social and economic development, better education, improved family functioning, empowerment of women, as well as support and acceptance from religious communities may help people to live with and avoid HIV.

The time taken to diagnose and initiate TB treatment could be improved by attention to key factors identified in a study at Elsies River CHC.

The outcomes of TB treatment for people with HIV and TB can be improved by offering an integrated service at which both conditions are managed in one clinic.

The prevention of cervical cancer can be improved by providing access to colposcopy services at the district hospital as opposed to only the regional hospital.

The use of oxytocin during caesarean section may need auditing and feedback to ensure adherence to safe practice as defined by the guidelines.

Evaluation of a programme to improve nutritional behaviour and physical activity amongst leaners in primary school showed little effect on the targeted behaviours.

Quality improvement cycles in our African context can demonstrate significant improvements in the quality of care for diabetes and hypertension over short periods of time.

Blood pressure readings taken in a pragmatic manner as part of usual care were significantly higher than readings taken in the correct standardised way and resulted in erroneous clinical decisions in 17% of patients. Blood pressure readings taken with a wrist sphygmomanometer differed significantly from standardised readings and these devices should be used with caution.

Greater attention to lifestyle modification and new approaches to supporting behaviour change may be needed in hypertension.

Health promotion officers are able to deliver group diabetes education and demonstrate partial adherence to a guiding style of education.

Patients with diabetes were positive about the benefits of attending group diabetes education offered by health promotion officers.

Significant improvements in self-care activities were reported immediately after a group diabetes education programme and results support the introduction of such approaches to patient education.

Decisions on the control of diabetes made on the basis of random blood glucose will be wrong 23% of the time even when the best cut-off of 10mmol/l is used.

Point of care screening for microalbuminuria in primary care is feasible, affordable and likely to have an impact on prevention of end stage renal failure in people with diabetes.

Non mydriatic digital fundoscopy is a cost effective measure in the screening and diagnosis of diabetic retinopathy in primary care.

New national guidelines for the management of acute asthma in adults have been published and should be implemented.

Health Services Research

Emergency equipment, drugs and trolley items were not adequately maintained in an audit of 24-hour primary care facilities, especially for paediatric emergencies.

The organisational culture of the Metro District Health Services is currently not well aligned with the values expressed in Vision 2020, and the goal of delivering patient-centred care. Transformation and leadership development is needed.

Both burnout and depression are common amongst doctors working at district level and in communities. Resilience appears to be protective and may be a useful target for future intervention.

Health Systems Research

The attributes of medical generalism need to be developed throughout community-based and primary care teams, from the community health worker to the primary care nurse to the family physician.

The need to manage co-morbidity with other chronic disease in primary care was found in 69% of patients with diabetes, 56% with osteoarthritis, 51% with COPD, 39% with asthma, 34% with hypertension and 22% with epilepsy. Out of all the patients with non-communicable chronic diseases in primary care only 1% were diagnosed with HIV or TB and only 0.4% with depression or anxiety.

Faith-based organisations have the potential to be an important role player in terms of HIV prevention. However, in order to be more effective, the church needs to take up the challenge of empowering young women, recognising the need for their sexually-active youth to use protection, reducing judgemental attitudes and changing the didactical methods used.

Indigenous health knowledge within older women in Xhosa communities is currently used to recognise and treat illness in rural villages. The health system should look at ways of integrating its approach to health care with the expertise inherent in these trusted older women.

African leaders of the health system see benefits of implementing family medicine, but are concerned about a lack of understanding and recognition for the discipline and policy ambivalence in terms of embracing its potential contribution

Educational Research

This introduction of a new national portfolio for postgraduate training in family medicine in South Africa faces challenges similar to those in other countries. Acceptability of the portfolio relates to having a clear purpose and guide, a flexible format with tools available in the workplace, and appreciating the changing educational environment. The role of the supervisor in direct observations of the registrar and dedicated educational meetings, giving feedback and support, cannot be overemphasized.
The new learning portfolio for postgraduate family medicine training has a significant educational impact in shaping work-place based supervision and training and providing formative assessment. Its acceptability and usefulness as a learning tool should increase over time as supervisors and registrars become more competent in its use.

A summative portfolio assessment tool was developed and shown to be reliable for the total score, but the low reliability of several sections in the PAT led to 12 recommendations regarding the use of the portfolio, the design of the tool and the training of raters.

Consultation with primary care nurse. Source: Dr Andrew Ssekitooleko

CLINICAL RESEARCH:

The Experiences of HIV Positive Individuals Living in an Impoverished Setting

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Background: HIV impacts on a household's socio-economic situation and the impoverished may find themselves more predisposed to HIV. This study aimed to explore how individuals, in an impoverished community, experience HIV/AIDS in their daily lives.

Methods: The study was conducted in Elsies River, Cape Town. Mixed methods included 10 in-depth interviews, 4 focus group interviews and a questionnaire. Interviewees were purposively selected using the criteria: HIV positive, male or female, ages 18-60 years, monthly per capita income <R261, and residing in Elsies River. Systematic sampling was used to identify 61 respondents for the survey.

Findings: HIV positive respondents turned to spirituality as a coping mechanism, although they avoided organised religion because of potential discrimination and stigmatisation. Respondents isolated themselves and experienced or feared stigmatisation. Respondents came from unstable families with difficult relationships and continued to live with HIV in this environment. Women, in unstable homes, and with low educational levels appeared particularly vulnerable. Individuals experienced a life of poverty with poor housing, poor work ability, and lack of food for long periods, responsibility for many dependents and to seek government assistance. Respondents appeared to lack insight or were unconcerned about preventing HIV transmission and women were expected to be submissive in their relationships.

Conclusion: Social and economic development, better education, improved family functioning, empowerment of women, as well as support and acceptance from religious communities may help people to live with and avoid HIV.

How long does it take to diagnose sputum positive pulmonary tuberculosis and what are the reasons for delay at Elsies River CHC, Western Cape.

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Background: Pulmonary tuberculosis (PTB) is a significant health issueand more should be done to eradicate the disease. Early TB diagnosis and treatment will ensure a better patient outcome and limit the potential spread to the community. The South African health system has limited resources and relies on passive screening when patients present to health establishments. The health system should be optimized to ensure efficient and effective systems to deal with PTB. One way to improve the system is to ensure early diagnosis and treatment of PTB, and this research study aims to assess this at Elsies River CHC.

Method: A quantitative retrospective observational study that extracted data from medical records to quantify the mean time to diagnose sputum positive TB, and to identify avoidable reasons for delays. The study includes all new sputum positive patients, 16 years and over, started on treatment at Elsies River TB Clinic over a 1-year period.

Results: Out of 80 patient 47 (59%) patients presented directly to the TB clinic and 33 (41%) were referred from the health centre. Diagnosis at the health centre took a mean 32.7 days (SD58.9) and at the clinic 7.6 days (SD13.1). Overall mean time to treatment was 17.9 days (SD40.8). The study identified a number of avoidable factors: failure to recognise TB symptoms early; failure to request sputum test when TB is suspected; ordering tests with low diagnostic potential; poor plans for follow-up; poor follow-up attendance; lack of after hour testing facilities; difficulty in tracking patients.

Conclusion: The mean time to diagnose TB is better for Elsies River TB Clinic than the health centre as these patients presented for testing with a suspicion of PTB. A number of factors were identified that could improve the quality of care and reduce delays in diagnosis and initiation of treatment, particularly at the health centre.

Integrating tuberculosis/HIV treatment: an evaluation of the tuberculosis outcomes of patients co-infected with tuberculosis and HIV in the Breede Valley subdistrict

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Background: The Infectious Disease Clinic of Worcester Hospital introduced an integrated tuberculosis/human immunodeficiency virus (HIV) service in July 2009 to provide comprehensive management to patients who were co-infected with tuberculosis and HIV.

Method: In a retrospective cohort study that was carried out from 1 July 2009 to 31 March 2010, the tuberculosis outcomes of co-infected patients attending the Infectious Disease Clinic for antiretroviral (ARV) treatment and receiving their tuberculosis medication at the Infectious Disease Clinic, were compared with those of patients receiving ARV treatment at the Infectious Disease Clinic and tuberculosis treatment at their local clinic.

Results: Seventy-four per cent of patients completed their treatment and 26% were cured, with no defaults or deaths, in the tuberculosis/HIV integrated cohort. Thirty-eight per cent completed their treatment, 45% were cured, 9% died and another 9% defaulted in the cohort receiving their tuberculosis treatment at a local clinic. This indicates that there was a significantly better tuberculosis outcome in the tuberculosis/HIV cohort (p-value < 0.05).

Conclusion: The significantly better tuberculosis outcome that resulted when tuberculosis and HIV services were integrated, led to services being integrated in the Breede Valley subdistrict.

Publication: SA Fam Pract 2013;55(5):478-479
scientific letter

Impact of introduction of a colposcopy service in a rural South African sub-district on uptake of colposcopy

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Objectives: To describe the establishment of a colposcopy service at a district hospital in a rural sub-district of the Western Cape, South Africa, and assess its impact on colposcopy uptake.

Setting: The Overstrand sub-district, where 80 000 people are served by seven clinics and a district hospital in Hermanus, 120 km from its referral hospitals in Cape Town and Worcester. A colposcopy service was established at Hermanus Hospital in 2008.

Methods: A retrospective double-group cohort study using a laboratory database of cervical cytology results, clinical records and colposcopy clinic registers. Study included all women in the sub-district who required colposcopy on the basis of cervical smears done in 2007 and 2009. Measurements included the numbers of women booked for colposcopy at distant referral hospitals in 2007 and at the district hospital in 2009, the proportions who attended colposcopy, the time from cervical smear to colposcopy, and comparison between the two years.

Results: Uptake of colposcopy booked at distant referral hospitals was 67% in 2007. Uptake improved by 18% to 79% for the district hospital colposcopy service in 2009 (p=0.06). When patients from an area with no public transport to the district hospital were excluded from analysis, the improvement was more marked at 22% (p=0.02). The delay from cervical smear to colposcopy improved significantly from 170 to 141 days (p=0.02).

Conclusion: Establishment of a colposcopy service in a rural sub-district increased uptake of colposcopy and decreased the delay from cervical smear to colposcopy. The service removed 202 booked patients in one year from the colposcopy load of the referral hospitals.

Publication: South African Journal of Obstetrics and Gynaecology 2013;19(3):81-85. DOI:10.7196/sajog.388

Use of oxytocin during Caesarean section at Princess Marina Hospital, Botswana: An audit of clinical practice

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Background: Oxytocin is widely used for the prevention of postpartum haemorrhage. In the setting of Caesarean section (CS), the dosage and mode of administrating oxytocin differs according to different guidelines. Inappropriate oxytocin doses have been identified as contributory to some cases of maternal deaths. The main aim of this study was to audit the current standard of clinical practice with regard to the use of oxytocin during CS at a referral hospital in Botswana.

Methods: A clinical audit of pregnant women having CS and given oxytocin at the time of the operation was conducted over a period of three months. Data included indications for CS, oxytocin dose regimen, prescribing clinician's designation, type of anaesthesia for the CS and estimated blood loss.

Results: A total of 139 case records were included. The commonest dose was 20 IU infusion (31.7%). The potentially dangerous regimen of 10 IU intravenous bolus of oxytocin was used in 12.9% of CS. Further doses were utilized in 57 patients (41%). The top three indications for CS were fetal distress (36 patients, 24.5%), dystocia (32 patients, 21.8%) and a previous CS (25 patients, 17.0%). Estimated blood loss ranged from 50 mL – 2000 mL.

Conclusion: The use of oxytocin during CS in the local setting does not follow recommended practice. This has potentially harmful consequences. Education and guidance through evidence based national guidelines could help alleviate the problem.

Publication: Use of Oxytocin during Caesarean Section at Princess Marina Hospital, Botswana: An audit of clinical practice. Afr J Prm Health Care Fam Med. 2013;5(1)
http://dx.doi.org/10.4102/ phcfm.v5i1.418

Evaluation of a school-based nutrition and physical activity programme for Grade 4 learners in the Western Cape province

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Objective: This study aimed to evaluate the effectiveness of the Making the Difference programme (MTDP), an education and activity-based intervention for Grade 4 learners at primary schools in the Western Cape.

Design: This was a cross-sectional, post-intervention survey of an existing programme, using control schools as a comparator.

Setting and subjects: The study involved Western Cape primary schools in the 2009 school year. Schools were randomly sampled from two regions. Four intervention (active in the MTDP) and five control (non-participating) schools (n = 325 learners) were selected.

Outcome measures: The following outcome measures were assessed using an administered questionnaire to learners: learners' knowledge of, attitudes towards, and behaviour in relation to nutrition and physical activity.

Results: A small but significant improvement (eating vegetables and taking lunch boxes to school) was demonstrated with regard to self-reported behaviour in relation to nutrition in the intervention group. However, this behaviour was not explained by differences in barriers to healthy eating, self-efficacy or knowledge, which were not different between the groups, or by perceived social support, which was actually significantly increased in the control group. Groups displayed no differences in physical activity or sedentary behaviour. However, the results showed a significant difference between the groups in terms of a reduction in perceived barriers to physical activity and increased physical activity self-efficacy in the active group.

Conclusion: While the MTDP only had a modest effect on the self-reported nutrition and physical activity behaviour of the learners, results regarding lower perceived barriers to physical activity and increased physical activity self-efficacy were promising.

Publication: S Afr Fam Pract 2013;55(4):391-397

Quality of Diabetes Care: International Hospital, Kampala, Uganda

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Background: The prevalence and burden of diabetes mellitus is quickly rising in Sub-Saharan Africa and yet the health infrastructure is already overwhelmed by the burden of infectious disease. The risk is deemed to be highest in the urban settings and this situation poses a great threat to the productivity of the region. International Hospital Kampala (IHK) is a private hospital in the capital city of Uganda, Kampala seeing mostly insured patients, anecdotal observations indicated gaps in the quality of care given to diabetic patients at the hospital. An audit was performed to assess the overall quality of diabetes care and also to determine the impact of an intervention designed to improve the quality of care.

Methods: The usual steps of a quality improvement cycle were followed.

Results: Four out of six (67%) structural criteria audited were in place; the presence of patient information leaflets, functional glucometers, eye testing equipment and monofilaments. Only four of the eight (50%) process criteria achieved the target standard of 50%; 97% of patients had a BP reading on their last visit, 61% had an HbA1c done, 67% had serum cholesterol done and 69% a creatinine done in the previous year. Two of the three outcomes (67%) achieved the target at baseline; the observed macrovascular complication rate was 9% of the patients attending the hospital. Although the overall perception of quality of care by the staff was good, they proposed interventions to bring about improvement in practice. A team of five primary care nurses working in the outpatient department were trained in the various aspects of diabetes care. The nurses were to ensure that all diabetic patients who visited the hospital had their diabetes care data page updated. A significant difference ($p<0.001$) was noted in BMI recording after the intervention.

Conclusions: This study suggests that the quality of care given to diabetic patients seen at IHK was acceptable, however there was still room for improvement as suggested by the recommendations. The study also demonstrated that the intervention of nurse-led support to diabetes care can be associated with significant improvements in quality of care.

How to improve the quality of care for patients with hypertension at Moshupa clinics, Moshupa district, Botswana: Quality improvement cycle

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Introduction: Although there are no prevalence studies in Botswana, hypertension is thought to be very common. It is commonly asymptomatic, readily detectable by blood pressure measurement and can lead to complications if untreated. Treatment can reduce these complications and yet the quality of care is thought to be poor. The aim of this project was to assess and improve the quality of care for hypertension at Moshupa clinics in Botswana.

Methods: This project was a quality improvement cycle comprising the following steps: establishment of the quality improvement team, setting up of target standards, data collection and analysis, comparison of results to target standards, reflection and planning of change to clinical practice, implementation of the changes, and re-audit after 6-months to detect any improvement in the quality of care. Target standards were set for structure, process and outcome.

Results: 200 participants were included in the audit, 68% women with a mean age of 55 years. In the baseline audit none of the targets standards were met. During the re audit the structural criteria were the most improved with six targets out of nine achieved. The process criteria showed five targets were achieved out of 11 and the outcome criteria met one target out of two. Significant improvement in performance was shown in ten criteria although the target standard was not always met. In the re-audit the target of achieving control (<140/90) in 70% of patients was achieved.

Conclusion: The quality of care of hypertension was suboptimal in our setting as highlighted by the baseline audit. Simple interventions were designed and implemented to improve the quality of care of hypertensive patients. These interventions led to significant improvement in structural and process criteria. A corresponding significant improvement in the control of blood pressure was also seen. It is recommended that the quality improvement process be continued, expanded to other clinics and to other chronic conditions.

Pragmatic versus standardised BP measurement: An analysis of BP measurement in a district hospital in Swaziland

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Background: Measurement of blood pressure (BP) is done poorly due to both human and instrument errors. The standard protocol for measurement is often not followed by healthcare workers.

Objectives: There were three main objectives: firstly to assess the difference between BP recorded in a pragmatic way and that recorded using standard BP measurement guidelines; secondly to assess difference between BP measurements done by wrist sphygmomanometer compared to mercury sphygmomanometer; and finally to assess if the differences affect decision to start or adjust hypertension treatment. The study was conducted at RSSC Mhlume hospital, Swaziland

Methods: A cross sectional study. Following consent, BP was assessed in a pragmatic way by nurse practitioner who made treatment decisions. Thereafter, patients had BP re-assessed using standard BP protocol by mercury (gold standard) and wrist sphygmomanometer.

Results: The mean systolic BP was 143 mmHg for pragmatic BP, 133 mmHg for standard BP using mercury sphygmomanometer and 140 mmHg for standard BP assessed using wrist device. The mean diastolic BP was 90 mmHg, 87 mmHg and 91 mmHg for pragmatic, standard mercury and wrist respectively. Pearson and intra-class correlation coefficients were similar for both systolic and diastolic BP and for all BP measurement pairs which were being compared. Bland Altman analyses showed that pragmatic and standard BP measurement were different and could not be used interchangeably. Standard mercury and wrist based methods were not clinically interchangeable. Treatment decisions between those based on pragmatic BP and standard BP agreed in 83.3% of cases; 16.7% of participants had their treatment outcomes misclassified. Twenty-five percent of patients were erroneously started on anti-hypertensive therapy based on pragmatic BP.

Conclusion: Clinicians need to revert to basic good practice and measure BP more accurately to avoid unnecessary additional costs and morbidity associated with incorrect treatment due to disease misclassification. Contrary to existing research, wrist devices need to be used with caution.

Lifestyle modifications in hypertension: An assessment of reported adherence knowledge and attitudes at Mankayane Hospital, Swaziland

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Background: Lifestyle modifications have been shown to lower blood pressure. Many guidelines recommend lifestyle modifications in the management of hypertension. Comprehensive adoption of the relevant lifestyle modifications has the greatest benefit.

Methods: This was a cross-sectional descriptive study with a qualitative component. Information on adherence was collected from 227 participants, using a structured questionnaire utilising Likert scales. In-depth interviews to assess knowledge and attitudes were conducted. Interviews were recorded, transcribed verbatim and analysed.

Results: Reported adherence to salt intake reduction and increased consumption of fruits and vegetables were 81.1% and 90.7% respectively. Reported adherence to exercise and weight reduction were 4.0% and 6.2% respectively. Reported adherence to alcohol intake reduction and smoking cessation were 50.6% and 56.5% respectively. The lifestyle modifications known by most participants were consumption of local vegetables, salt reduction, weight reduction and reduction of fats in the diet. The attitudes towards the recommended lifestyle modifications were mostly positive. Exercise in any form was reported as beneficial, but time to exercise was a major limiting factor. Weight reduction was reported as difficult, but possible. Salt reduction emerged as the most important lifestyle modification. Alcohol and smoking were reported to be addictive and difficult to stop. Increasing consumption of fruits and vegetables emerged as the easiest to adhere to.

Conclusion: Reported adherence to exercise and weight reduction were very low whilst increased consumption of fruits and vegetables and salt reduction had fairly high reported adherences. Participants had more knowledge about increased intake of fruits and vegetables, salt reduction and weight reduction when compared to the other recommended lifestyle modifications. The attitude to the recommended lifestyle modifications was positive with the participants acknowledging that they are important in controlling blood pressure. Greater emphasis may be required on some lifestyle modifications where knowledge is lacking and different approaches to supporting behaviour change may be required.

The ability of health promoters to deliver group diabetes education in South African primary care

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Background: Diabetes makes a significant contribution to the burden of disease in South Africa. This study assesses a group diabetes education programme using a guiding style derived from motivational interviewing in public sector health centres serving low socio-economic communities in Cape Town. The programme was delivered by mid-level health promotion officers (HPOs).

Objectives: The aim of the study was to explore the experience of the HPOs and to observe their fidelity to the educational programme.

Methods: Three focus group interviews were held with the 14 HPOs who delivered the educational programme in 17 health centres. Thirty-three sessions were observed directly and the audio tapes were analysed using the motivational interviewing (MI) integrity code.

Results: The HPOs felt confident in their ability to deliver group education after receiving the training. They reported a significant shift in their communication style and skills. They felt the new approach was feasible and better than before. The resource material was found to be relevant, understandable and useful. The HPOs struggled with poor patient attendance and a lack of suitable space at the facilities. They delivered the majority of the content and achieved beginning-level proficiency in the MI guiding style of communication and the use of open questions. The HPOs did not demonstrate proficiency in active listening and continued to offer some unsolicited advice.

Conclusion: The HPOs demonstrated their potential to deliver group diabetes education despite issues that should be addressed in future training and the district health services. The findings will help with the interpretation of results from a randomised controlled trial evaluating the effectiveness of the education.

Publication: The ability of health promoters to deliver group diabetes education in South African primary care. Afr J Prm Health Care Fam Med. 2013;5(1) http://dx.doi.org/10.4102/ phcfm.v5i1.484

Views of patients on a group diabetes education programme using motivational interviewing in South African primary care: a qualitative study

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Objectives: This study was a qualitative assessment of a diabetes group education programme presented in community health centres of the Cape Town Metro District. The programme offered four sessions of group education and was delivered by trained health promoters using a guiding style derived from motivational interviewing. The aim of the study was to evaluate the programme by exploring the experiences of the patients who attended.

Design: This was qualitative research that utilised in-depth interviews. Thirteen patients who had attended the educational programme, and who each came from a different health centre in the intervention arm of a larger randomised controlled trial, were purposively selected. The interviews were audiotaped, transcribed and then analysed using the framework approach.

Setting and subjects: Patients with type 2 diabetes from community health centres in the Cape Town Metro District.

Results: Patients gained useful new knowledge about diabetes and reported a change in their behaviour, especially with regard to diet, physical activity, medication and foot care. The educational material was experienced positively and enhanced recall and understanding. Health promoters were competent, utilised useful communication skills and structured the material well. There were organisational and infrastructural problems, especially with regard to space within which the groups could meet, and communication of the timing and location of the sessions.

Conclusion: This study supports wider implementation of this programme, following consideration of recommendations resulting from patient feedback.

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Evaluation of the "Take Five School": An education programme for people with Type 2 Diabetes in the Western Cape, South Africa

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Aim: To evaluate the Take Five School (TFS) group education programme for patients with Type 2 Diabetes in South Africa.

Methods: Questionnaires, administered before and after 4 sessions of an hour each of group education, measured the effect on self-care activities in 84 patients from 6 different clinics. Individual interviews with health care workers (HCWs) and focus group interviews (FGI's) with patients explored attitudes.

Results: A significant improvement in adherence to a diabetic diet, physical activity, footcare and the perceived ability to teach others was seen. There was no significant change in smoking or adherence to medication. Qualitative data revealed that comprehensive education was appreciated, that the group process was deemed supportive, that HCWs doubt the effect of education in general and that a combination of group and individual sessions was seen as an option worth exploring. Strengths, weaknesses, opportunities and threats to the TFS are identified. Recommendations are made to improve the programme and its environment.

Conclusion: Significant self-reported improvements in self-care activities after a group-education programme support the view that introducing structured group education for Type 2 Diabetics in a South African public sector primary care context holds promise. Group education for diabetics, especially in resource limited settings, should be sustained and further research should focus on clinical outcomes.

Publication: Primary Care Diabetes 2013;7(4):289-95. doi: 10.1016/j.pcd.2013.07.002.

The validity of monitoring the control of diabetes with random blood glucose testing

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It is important to decide if a patient with diabetes has good glycaemic control in order to guide treatment and to offer behaviour change counselling. Currently, determining random blood glucose (RBG) is usually carried out in primary care in the public sector to make this decision. This study investigates the validity of these decisions. Retrospective data from a district hospital setting were used to analyse the correlation between glycated haemoglobin (HbA1c) and RBG, the best predictive value of RBG, and its predictive properties. The best value of RBG to predict control (HbA1c ≤ 7%) was 9.8 mmol/l. However, this threshold only gave a sensitivity of 77% and a specificity of 75%. Clinicians would be wrong 23% of the time when using RBG to determine glycaemic control. Attempts should be made to make HbA1c more available for clinical decision-making. Point-of-care testing for HbA1c should be considered.

Publication: SA Fam Pract 2013;55(6):579-580 scientific letter

Is screening for microalbuminuria in patients with type 2 diabetes feasible in the Cape Town public sector primary care context? A cost and consequence study

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Background: Type 2 diabetes contributes significantly to the burden of disease in South Africa. Proteinuria is a marker for chronic kidney and cardiovascular disease. All guidelines recommend testing for microalbuminuria because intervention at this stage can prevent or delay the onset of disease. Currently, none of the community health centres (CHCs) in Cape Town test for microalbuminuria, and there are concerns about its costs and feasibility.

Objectives: The aim of this study was to assess the practicality, costs and consequences of introducing a screening test for microalbuminuria into primary care.

Design: Chronic care teams were trained to screen and treat all patients with diabetes (n = 1 675) over a one-year period. The fidelity of screening, costs and consequences was evaluated.

Setting and subjects: Patients with type 2 diabetes and chronic care teams at two community health centres in the Cape Town Metro district.

Outcome measures: Data to evaluate screening were extracted from the records of 342 randomly selected patients. Data to evaluate treatment were taken from the records of all 140 patients diagnosed with microalbuminuria.

Results: Of the patients with diabetes, 14.6% already had macroalbuminuria. Of the eligible patients, 69.9% completed the screening process which led to a diagnosis of microalbuminuria in another 11.7%. Of those who were positively diagnosed, the opportunity to initiate angiotensin-converting enzyme (ACE) inhibitors was missed in 20%, while 49.2% had ACE inhibitors initiated, or the dosage thereof increased. It would cost the health system an additional R1 463 to screen 100 patients and provide additional ACE inhibitor treatment for a year to the 12 that were diagnosed.

Conclusion: The study demonstrated the feasibility of incorporating microalbuminuria testing into routine care. The costs involved were minimal, compared to the likely benefits of preventing end-stage renal failure and the costs of dialysis (estimated at R120 000 per year per patient).

Publication: S Afr Fam Pract 2013;55(4):367-372

Preventing diabetes blindness: Cost effectiveness of a screening programme using digital non-mydriatic fundus photography for diabetic retinopathy in a primary health care setting in South Africa

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Background: South Africa like many other developing countries is experiencing an epidemiologic transition with a marked increase in the non-communicable disease (NCD) burden. Diabetic retinopathy is the most common cause of incidental blindness in adults. A screening programme using a mobile fundal camera in a primary care setting has been shown to be effective in the country. Information on affordability and cost is essential for policymakers to consider its adoption.

Methods: Economic evaluation is the comparative analysis of competing alternative interventions in terms of costs and consequences. A cost effectiveness analysis was done using actual costs from the primary care screening programme.

Results: A total of 14,541 patients were screened in three primary healthcare facilities in the Western Cape. Photographs were taken by a trained technician with supervision by an ophthalmic nurse. The photographs were then read by a medical officer with ophthalmic experience. A cost effective ratio of $1206 per blindness case averted was obtained. This included costs for screening and treating an individual. The cost just to screen a patient for retinopathy was $22. The costs of screening and treating all incident cases of blindness due to diabetes in South Africa would be 168,000,000 ZAR ($19,310,344) per annum.

Conclusion: Non mydriatic digital fundoscopy is a cost effective measure in the screening and diagnosis of diabetic retinopathy in a primary care setting in South Africa. The major savings in the long term are a result of avoiding government disability grant for people who suffer loss of vision.

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Guideline for the management of acute asthma in adults: 2013 update

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Acute asthma attacks (asthma exacerbations) are increasing episodes of shortness of breath, cough, wheezing or chest tightness associated with a decrease in airflow that can be quantified and monitored by measurement of lung function (peak expiratory flow (PEF) or forced expiratory volume in the 1st second) and requiring emergency room treatment or admission to hospital for acute asthma and/or systemic glucocorticosteroids for management. The goals of treatment are to relieve hypoxaemia and airflow obstruction as quickly as possible, restore lung function, and provide a suitable plan to avoid relapse. Severe exacerbations are potentially life-threatening and their treatment requires baseline assessment of severity, close monitoring, and frequent reassessment using objective measures of lung function (PEF) and oxygen saturation. Patients at high risk of asthma-related death require particular attention. First-line therapy consists of oxygen supplementation, repeated administration of inhaled short-acting bronchodilators (beta-2-agonists and ipratropium bromide), and early systemic glucocorticosteroids. Intravenous magnesium sulphate and aminophylline are second- and third-line treatment strategies, respectively, for poorly responding patients. Intensive care is indicated for severe asthma that is not responsive to first-line treatment. Antibiotics are only indicated when there are definite features of bacterial infection. Factors that precipitated the acute asthma episode should be identified and preventive measures implemented. Acute asthma is preventable with optimal control of chronic asthma.

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Polio immunisation campaign Cape Winelands District. Source: Department of Health

HEALTH SERVICES RESEARCH

Are we ready for an emergency? An audit of emergency units at community health centres in the Western Cape.

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Introduction: Trauma and emergencies contribute to the quadruple burden of disease in South Africa and being prepared for an emergency requires rapid access to emergency equipment, drugs and emergency trolleys to optimally manage an emergency. This is the first descriptive study looking specifically at essential emergency equipment, drugs and the emergency trolley required for the provision of optimal emergency care at Community Health Centres (CHCs) in the Western Cape Metropole. The aim of the study was to evaluate whether eight 24 hour emergency units at CHCs in the Western Cape Metropole had the appropriate and essential emergency equipment, drugs and emergency trolleys necessary for the delivery of optimal emergency care, using the Emergency Medicine Society of South Africa (EMSSA) guidelines as the audit tool.

Methods: Data collection for the study was conducted at the eight 24 hour CHCs over a 3 month period during the months of June 2012 to August 2012. The data was analyzed using the Statistical Package for Health Sciences (Statistica, version 10 of 2012) and Microsoft Excel.

Results: An average of 62% of all 81 recommended emergency equipment items, 80% of all 43 emergency drugs and 52.4% of all 78 emergency trolley items were found to be present in this survey. Essential emergency paediatric equipment, including bag ventilation devices, Magill's forceps, masks, intraosseous needles and appropriate blood pressure cuffs were found to be absent at 2 CHCs. All CHCs had access to a defibrillator and ECG machine, but these were found to be dysfunctional at 2 CHCs. Expired first line emergency drugs (adrenaline and atropine) were found at certain CHCs. The recording of emergency trolley checklists and stocking of essential emergency items were found to be incongruent, inconsistent and not up to the recommended standard.

Conclusion: Essential emergency equipment and drugs and the functionality of emergency trolleys were found to be inadequate relative to the EMSSA standards.

An assessment of organisational values, culture and performance in Cape Town's primary healthcare services

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Objectives: Improving the quality of primary health care in South Africa is a national priority and the Western Cape Department of Health has identified staff and patient experience as a key component. Its strategic plan, Vision 2020, espouses caring, competence, accountability, integrity, responsiveness and respect as the most important organisational values. This study aimed to measure the personal values of staff, as well as current and desired organisational values.

Design: A cross-sectional survey used the cultural values assessment tool. Data were analysed by the Barrett Value Centre.

Setting and subjects: Staff and managers at five community health centres in the Cape Town Metropole.

Outcome measures: Personal values, current and desired organisational values, organisational entropy and organisational scorecard.

Results: In total, 154 staff members completed the survey. Participants reported personal values that are congruent with a move towards more patient-centred care. The top 10 current organisational values were not sharing information, cost reduction, community involvement, confusion, control, manipulation, blame, power, results orientation, hierarchy, long hours and teamwork. Desired organisational values were open communication, shared decision-making, accountability, staff recognition, leadership development and professionalism. Organisational entropy was high at 36% of all values. Only teamwork and community involvement were found in both the current and desired culture. The organisational scorecard showed a lack of current focus on finances, evolution and patient experience.

Conclusion: The organisational culture of the Metro District Health Services is currently not well aligned with the values expressed in Vision 2020, and the goal of delivering patient-centred care.

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The prevalence of burnout and depression in medical doctors working in the Cape Town Metropolitan Municipality community healthcare clinics and district hospitals of the Provincial Government of the Western Cape: a cross-sectional study

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Aim: This study investigated burnout and depression in medical doctors in the context of work-related conditions and the role of resilience as a modifiable factor.

Method: A cross-sectional, observational study was conducted on consenting medical doctors (n = 132) working at Cape Town Metropolitan Municipality primary healthcare facilities of the Provincial Government of the Western Cape. Data were collected from doctors at 27 facilities by means of a self-administered questionnaire battery, containing socio-demographic information, the Beck Depression Inventory (BDI), the Maslach Burnout Inventory (MBI) and the Connor-Davidson Resilience Scale (CD-RISC).

Results: Of 132 doctors included in the analysis, 76% experienced burnout, as indicated by high scores in either the emotional exhaustion or depersonalisation subscales. In addition, 27% of doctors had cut-off scores on the BDI indicating moderate depression, while 3% were identified to have severe depression. The number of hours, work load, working conditions and system-related frustrations were ranked as the most important contributing factors to burnout. More experienced doctors and those with higher resilience scores had lower levels of burnout, as evident by their lower scores in the emotional exhaustion and depersonalisation domains of the MBI.

Conclusion: Both burnout and depression are prevalent problems in doctors working at district level and in communities. Resilience appears to be protective and may be a useful target for future intervention.

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Exploring indigenous health knowledge in Eastern Cape. Source: Dr Gubela Mji.

HEALTH SYSTEMS RESEARCH

Developing generalism in the South African context

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The largest impact on the South African burden of disease will be made in community-based and primary healthcare (PHC) settings and not in referral hospitals. Medical generalism is an approach to the delivery of healthcare that routinely applies a broad and holistic perspective to the patient's problems and is a feature of PHC. A multi-professional team of generalists, who share similar values and principles, is needed to make this a reality. Ward-based outreach teams include community health workers and nurses with essential support from doctors. Expert generalists – family physicians – are required to support PHC as well as provide care at the district hospital. All require sufficient training, at scale, with greater collaboration and integration between training programmes. District clinical specialist teams are both an opportunity and a threat. The value of medical generalism needs to be explained, advocated and communicated more actively.

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Multi-morbidity and non-communicable diseases in South African primary health care

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Introduction: Multi-morbidity in non-communicable diseases (NCDs) is growing and increasing the complexity of clinical management. The aim of the study was to evaluate the extent of multi-morbidity amongst patients with NCDs in South African primary health care.

Methods: Analysis of a dataset obtained from a previous morbidity survey of South African primary health care.

Results: Altogether 18856 consultations were included in the dataset and generated 31451 reasons for encounter and 24561 diagnoses. Hypertension was the most common diagnosis encountered (12%) followed by type 2 diabetes (3.9%), asthma (2%), epilepsy (1.9%) and COPD (0.6%). Mean age of patients in diabetes was 56.6 (SD 12.9) years, hypertension 56.4 (SD 13.3) years, epilepsy 37.9 (SD 16.4) years, osteoarthritis 56.9 (SD 13.1) years, asthma 45.5 (SD 18.1) years and COPD 56.8 (SD 10.1) years. Females were in the majority apart from in epilepsy and COPD. 67% saw a clinical nurse practitioner and 33% a doctor. Co-morbidity with other chronic diseases was found in 69% of patients with diabetes, 56% with osteoarthritis, 51% with COPD, 39% with asthma, 34% with hypertension and 22% with epilepsy. Out of all the patients with NCDs only 1% were found to also have HIV or TB and only 0.4% depression or anxiety.

Conclusion: Multi-morbidity is common particularly in patients with diabetes, osteoarthritis and COPD. Levels of multi-morbidity however are substantially lower than reported in more high income countries. Co-morbidity with HIV was very low. There was a lower than expected relationship between NCDs and mental health problems.

Faith-based organisations and HIV prevention in Africa: A review

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Background: Faith-based organisations (FBOs) are potentially an important role-player in HIV prevention, but there has been little systematic study of their potential strengths and weaknesses in this area.

Objectives: To identify the strengths and weaknesses of FBOs in terms of HIV prevention. The questions posed were, (1) 'What is the influence of religion on sexual behaviour in Africa?', and (2) 'What are the factors that enable religion to have an influence on sexual behaviour?'

Method: A literature search of Medline, SABINET, Africa Wide NIPAD and Google Scholar was conducted.

Results: The potential for FBOs to be important role-players in HIV prevention is undermined by the church's difficulties with discussing sexuality, avoiding stigma, gender issues and acceptance of condoms. It appears that, in contrast with high-income countries, religiosity does not have an overall positive impact on risky sexual behaviour in Africa. Churches may, however, have a positive impact on alcohol use and its associated risky behaviour, as well as self-efficacy. The influence of the church on sexual behaviour may also be associated with the degree of social engagement and control within the church culture.

Conclusion: Faith-based organisations have the potential to be an important role player in terms of HIV prevention. However, in order to be more effective, the church needs to take up the challenge of empowering young women, recognising the need for their sexually-active youth to use protection, reducing judgemental attitudes and changing the didactical methods used.

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The health knowledge utilised by rural older Xhosa women in the management of health problems in their home situation, with a special focus on indigenous knowledge

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Rationale: Critical questions have been raised about the overcrowding of primary care services, such as community health centres (CHCs) and clinics in predominantly Xhosa-occupied areas in the Western and Eastern Cape, with clients who present with minor health ailments. Suggestions have been made about the integration and use of indigenous health knowledge (IHK) carried by older Xhosa women in the services as a strategy for managing minor health ailments, and as a way of encouraging appropriate health-seeking behaviour. Preliminary studies have reinforced the need for the revival of the IHK that currently is lying dormant within communities. The studies affirm that such knowledge could be an asset if integrated into, and valued by, the Western biomedical model, and could play a major role in contributing towards alleviating the problem of overcrowding in primary care (PC) services.

Aim: This study primarily explored and described the IHK carried by older Xhosa women and used in the management of health problems in their home situation. Secondary recommendations were made to key stakeholders regarding the use, retainment and integration of the IHK into PC services.

Method: This ethnographic, feminist and emancipatory study used qualitative methods of data collection. Thirty-six (36) older Xhosa women were purposefully selected to participate in four focus group discussions (FGDs), to explore the IHK that they used for managing health problems in their home situation. Sixteen (16) in-depth interviews were conducted with elite older Xhosa women and their family members to validate the findings from the four FGDs. The process of analysis and interpretation was informed by an inductive process of a combination of narrative analysis and the analysis of narratives strategies.

Findings: The findings showed that the older Xhosa women possess IHK regarding the management of minor health problems within the home situation. Assessment, treatment strategies and medications were identified. Functionality and observation were mainly used to diagnose and manage illness. This

approach also includes monitoring the progress, severity and recovery from illness in the patient. The findings further demonstrated that older Xhosa women were also managing illnesses that could be classified as major. They could clearly distinguish between what was health and what was illness in their village. Distance from health care services had an impact on the health-seeking behaviour of the older Xhosa women, with those closer to health care services wanting all illnesses, even those that could be classified as minor health ailments, to be managed by the health service, and those who were farther away from the hospital appearing to manage complex illnesses, and only referring clients with those illnesses to external health care services quite late. The findings further showed communication and attitudinal problems that existed between the clients and health care providers.

Conclusion: Many studies have already challenged the manner in which PHC was implemented in developing countries, as it appeared to focus on the curative approach to disease and left out disease prevention and health promotion. It is within this area that the older Xhosa women appear to express the greatest concern for the health of their homes and villages. The older Xhosa women in the Eastern Cape appear to be struggling with problems of broken family units, and are left behind to struggle to keep the home together, as they lack the necessary resources to do the hard work involved with producing food and building the home and village.

In the light of the promise of National Health Insurance and the revitalisation of PHC, the study proposes that the two major national health policies should take cognisance of the IHK utilised by the older Xhosa women, and that there should be a clear plan as to how the knowledge can be supported within a health care systems approach. A rural health model is proposed by the study to do this.

Understanding of family medicine in Africa: a qualitative study of leaders' views

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Background: The World Health Organization encourages comprehensive primary care within an ongoing personalised relationship, including family physicians in the primary healthcare team, but family medicine is new in Africa, with doctors mostly being hospital based. African family physicians are trying to define family medicine in Africa, however, there is little clarity on the views of African country leadership and their understanding of family medicine and its place in Africa.

Aim: To understand leaders' views on family medicine in Africa.

Design and setting: Qualitative study with in-depth interviews in nine sub-Saharan African countries.
Method: Key academic and government leaders were purposively selected. In-depth interviews were conducted using an interview guide, and thematically analysed.

Results: Twenty-seven interviews were conducted with government and academic leaders. Responders saw considerable benefits, but also had concerns regarding family medicine in Africa. The benefits mentioned were: having a clinically skilled all-rounder at the district hospital; mentoring team-based care in the community; a strong role in leadership and even management in the district healthcare system; and developing a holistic practice of medicine. The concerns were that family medicine is: unknown or poorly understood by broader leadership; poorly recognised by officials; and struggling with policy ambivalence, requiring policy advocacy championed by family medicine itself.

Conclusion: The strong district-level clinical and leadership expectations of family physicians are consistent with African research and consensus. However, leaders' understanding of family medicine is couched in terms of specialties and hospital care. African family physicians should be concerned by high expectations without adequate human resource and implementation policies.

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Supervising registrar and completing the learning portfolio. Source: Dr Louis Jenkins.

EDUCATIONAL RESEARCH

The national portfolio for postgraduate family medicine training in South Africa: a descriptive study of acceptability, educational impact, and usefulness for assessment

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Background: Since 2007 a portfolio of learning has become a requirement for assessment of post-graduate family medicine training by the Colleges of Medicine of South Africa. A uniform portfolio of learning has been developed and content validity established among the eight postgraduate programmes. The aim of this study was to investigate the portfolio's acceptability, educational impact, and perceived usefulness for assessment of competence. Methods: Two structured questionnaires of 35 closed and open-ended questions were delivered to 53 family physician supervisors and 48 registrars who had used the portfolio. Categorical and nominal/ ordinal data were analysed using simple descriptive statistics. The open-ended questions were analysed with ATLAS.ti software.

Results: Half of registrars did not find the portfolio clear, practical or feasible. Workshops on portfolio use, learning, and supervision were supported, and brief dedicated time daily for reflection and writing. Most supervisors felt the portfolio reflected an accurate picture of learning, but just over half of registrars agreed. While the portfolio helped with reflection on learning, participants were less convinced about how it helped them plan further learning. Supervisors graded most rotations, suggesting understanding of the summative aspect, while only 61% of registrars reflected on rotations, suggesting the formative aspects were not yet optimally utilised. Poor feedback, the need for protected academic time, and pressure of service delivery impacted negatively on learning.

Conclusion: This first introduction of a national portfolio for postgraduate training in family medicine in South Africa faces challenges similar to those in other countries. Acceptability of the portfolio relates to a clear purpose and guide, flexible format with tools available in the workplace, and appreciating the changing educational environment from university-based to national assessments. The role of the supervisor in direct observations of the registrar and dedicated educational meetings, giving feedback and support, cannot be overemphasized.

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http://www.biomedcentral.com/1472-6920/13/101

The national portfolio of learning for postgraduate family medicine training in South Africa: experiences of registrars and supervisors in clinical practice

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Background: In South Africa the submission of a portfolio of learning has become a national requirement for assessment of family medicine training. A national portfolio has been developed, validated and implemented. The aim of this study was to explore registrars' and supervisors' experience regarding the portfolio's educational impact, acceptability, and perceived usefulness for assessment of competence.

Methods: Semi-structured interviews were conducted with 17 purposively selected registrars and supervisors from all eight South African training programmes.

Results: The portfolio primarily had an educational impact through making explicit the expectations of registrars and supervisors in the workplace. This impact was tempered by a lack of engagement in the process by registrars and supervisors who also lacked essential skills in reflection, feedback and assessment. The acceptability of the portfolio was limited by service delivery demands, incongruence between the clinical context and educational requirements, design of the logbook and easy availability of the associated tools. The use of the portfolio for formative assessment was strongly supported and appreciated, but was not always happening and in some cases registrars had even organised peer assessment. Respondents were unclear as to how the portfolio would be used for summative assessment.

Conclusions: The learning portfolio had a significant educational impact in shaping work-place based supervision and training and providing formative assessment. Its acceptability and usefulness as a learning tool should increase over time as supervisors and registrars become more competent in its use. There is a need to clarify how it will be used in summative assessment.

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Reliability testing of a portfolio assessment tool for postgraduate family medicine training in South Africa

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Background: Competency-based education and the validity and reliability of workplace-based assessment of postgraduate trainees have received increasing attention worldwide. Family medicine was recognised as a speciality in South Africa six years ago and a satisfactory portfolio of learning is a prerequisite to sit the national exit exam. A massive scaling up of the number of family physicians is needed in order to meet the health needs of the country.

Aim: The aim of this study was to develop a reliable, robust and feasible portfolio assessment tool (PAT) for South Africa.

Methods: Six raters each rated nine portfolios from the Stellenbosch University programme, using the PAT, to test for inter-rater reliability. This rating was repeated three months later to determine test–retest reliability. Following initial analysis and feedback the PAT was modified and the inter-rater reliability again assessed on nine new portfolios. An acceptable intra-class correlation was considered to be > 0.80.

Results: The total score was found to be reliable, with a coefficient of 0.92. For test–retest reliability, the difference in mean total score was 1.7%, which was not statistically significant. Amongst the subsections, only assessment of the educational meetings and the logbook showed reliability coefficients > 0.80.
Conclusion: This was the first attempt to develop a reliable, robust and feasible national portfolio assessment tool to assess postgraduate family medicine training in the South African context. The tool was reliable for the total score, but the low reliability of several sections in the PAT helped us to develop 12 recommendations regarding the use of the portfolio, the design of the PAT and the training of raters.

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