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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 2015. The research projects that were completed or published during this year are presented in abstract format. An email address for one of the authors is given for each abstract and a link to the full publication where appropriate.

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

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

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

- **Clinical Research**: Studies that focus on a particular disease or condition within the burden of disease.
- **Health Services Research**: Studies that focus on cross-cutting issues of performance in the health services and relate to issues such as access, continuity, coordination, 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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One of the concerns for men undergoing circumcision, to prevent HIV transmission, is whether this may affect their sexual performance. A study from Zambia showed that erectile function was not affected.

In a district hospital 38% of patients admitted were at risk of venous thromboembolism, but only 5% received prophylaxis. A simple quality improvement cycle that introduced a local protocol for thrombo-prophylaxis increased those receiving prophylaxis to 36%.

Auditing chronic diseases on an annual basis as part of a quality improvement cycle led to moderate but incremental improvements in quality of care over time.

Poor adherence to chronic care may be due to poor health literacy (92% of patients surveyed). Patients with diabetes relate poor adherence to problems with accessing care (poor accommodation of workers and shift work, poor wheelchair access, overcrowding) and poor knowledge of their disease and lifestyle modification. A local study demonstrated that group education for people with diabetes to help them understand their disease and change their lifestyle was cost-effective.

The introduction of point of care testing for HbA1c in people with diabetes significantly increased the speed with which staff and patients received a definitive result. This did not lead, however, to any intensification of treatment, change in clinical practice or improved glycaemic control.

In a national primary care morbidity survey people with non-communicable diseases (NCD) had co-morbid conditions in 48% of patients and multi-morbidity in 14%. Few patients attending care for NCDs had HIV or TB. Mental disorders, which are known to be co-morbid with NCDs, were not recognised.

People attempting suicide at George Hospital came from communities that were chronically stressed and lived in dysfunctional families, where alcohol abuse and poor coping skills were common. It was postulated that psychological interventions may help them deal better with their situations.

A number of studies from Namibia, Nigeria, Uganda, Zimbabwe and Malawi indicated that the challenge of NCDs is extending throughout the African region. The use of automated guidelines on a computer tablet or smart phone could dramatically improve adherence to Integrated Management of Childhood Illness guidelines in nurse practitioners.

There is a need to accommodate the needs of female doctors for more part-time and flexi-time posts in order to retain them in the public sector.

A national position paper on family medicine clarified the roles and contribution of family physicians to the district health services. The goal of one family physician for every district hospital, community health centre and sub-district requires a significant increase in training numbers and supply of family physicians.

The future roles of primary care doctors have been defined in South Africa and compared to primary care doctors in Brazil, India and China. Doctors are expected to be competent clinicians, collaborators, change agents, capability builders, critical thinkers, and supporters of community-orientated primary care.

In South Africa the retention of doctors in rural areas is linked to having a meaningful shared purpose, good relationships within a team, culture of support and visiting specialists, opportunities to practice clinical skills and develop, and to maintain a healthy work-life balance. In Botswana loss of people from rural areas was linked to weak health services, low salaries, unfair human resource policies, poor incentives, and unfavourable conditions for personal and family life.

Organisational culture in public sector primary care services in Botswana echoed findings from Cape Town. Key values experienced by staff were teamwork, patient satisfaction, blame, confusion, job insecurity, not sharing information and manipulation. Cultural entropy was 34%. The organisational values desired by health care workers in both districts were: transparency, professional growth, staff recognition, shared decision-making, accountability, productivity, leadership development and teamwork.

Outreach from specialists to the district health services needs to balance the needs for service delivery and capacity building through good relationships, communication and planning.

A new national Diploma in Family Medicine targeted at primary care doctors has been developed and informed by a national survey of learning needs. The Diploma aims to re-orientate and up-skill primary care doctors as generalists for the future.

A new model of brief behaviour change counselling (based on the 5 As – Ask, Alert, Assess, Assist,
HIV and/or AIDS-related deaths and modifiable risk factors: A descriptive study of medical admissions at Oshakati Intermediate Hospital in Northern Namibia

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Background: High rates of HIV infection have decreased life expectancy in many African countries. Regardless of worldwide efforts to escalate treatment, care and prevention strategies, the number of deaths due to AIDS-related disorders is still high. Local healthcare workers suspect that there are modifiable factors in the care of HIV and/or AIDS patients which can be identified and improved.

Aim: To describe the HIV and/or AIDS-related causes of adult mortality and identify modifiable factors amongst patients admitted to Oshakati Intermediate Hospital, northern Namibia.

Methods: Data was extracted retrospectively and coded using the modified CoDe protocol for AIDS. Modifiable factors relating to the patient, health system or clinical care were identified using a standardised data collection tool.

Results: A total of 177 HIV and/or AIDS patients were identified, 94 (53.1%) were male and 120 (68%) had a CD4 count of less than 200 cells/mL. The common HIV-related causes of death were tuberculosis (25.9%), renal failure (15.8%), Pneumocystis jirovecii pneumonia (11.3%), cryptococcal meningitis (9%), HIV wasting syndrome (7.9%) and AIDS-defining malignancy (7.9%). The analysis revealed 281 modifiable factors; patient-related factors were the most common (153 [54.4%]), followed by health system factors (97 [34.5%]) and healthcare personnel factors (31 [11%]).

Conclusion: Our findings have highlighted the challenges in overall HIV and/or AIDS inpatient care and surrounding primary care facilities. The identification of specific modifiable factors can be used to reduce mortality by providing training as well as rational monitoring, planning and resource allocation.

Erectile function in circumcised and uncircumcised men in Lusaka, Zambia: A cross-sectional study

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**Background:** Evidence from three randomised control trials in South Africa, Uganda and Kenya showing that male circumcision can reduce heterosexual transmission of human immunodeficiency virus (HIV) infection from infected females to their male partners by up to 60% has led to an increase in circumcisions in most African countries. This has created anxieties around possible deleterious effects of circumcision on erectile function (EF).

**Aim:** To compare EF in circumcised and uncircumcised men aged 18 years and older.

**Setting:** Four primary healthcare facilities in Lusaka, Zambia.

**Methods:** Using a cross-sectional survey 478 participants (242 circumcised and 236 uncircumcised) from four primary healthcare facilities in Lusaka, Zambia were asked to complete the IIEF-5 questionnaire. EF scores were calculated for the two groups, where normal EF constituted an IIEF-5 score ≥ 22 (out of 25).

**Results:** Circumcised men had higher average EF scores compared to their uncircumcised counterparts, (p < 0.001). The prevalence of erectile dysfunction was lower in circumcised men (56%) compared to uncircumcised men (68%) (p < 0.05). EF scores were similar in those circumcised in childhood and those who had the procedure in adulthood, (p = 0.59). The groups did not differ significantly in terms of age, relationship status, smoking, alcohol and medication use. A statistically significant difference was observed in education levels, with the circumcision group having higher levels of education (p < 0.005).

**Conclusion:** The higher EF scores in circumcised men show that circumcision does not confer adverse EF effects in men. These results suggest that circumcision can be considered safe in terms of EF. A definitive prospective study is needed to confirm these findings.


Reflections on the illness experience of a family physician

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Tuberculosis is such a part of our everyday lives that I have never stopped to consider the illness experience regularly lived by our patients. As a seasoned family physician in public service, I have initiated hundreds of patients on tuberculosis treatment, simply informing them of their diagnosis and advising them to go to the clinic to obtain their medication. Even with the use of a patient-centred approach and shared decision-making, I did not give much thought to understanding the implications of how this diagnosis impacts on a patient’s life. That was until I was faced with tuberculosis myself.

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A comparison of injuries sustained on artificial and natural soccer turfs among premier soccer league football players in Zimbabwe.

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Background: The International Football Federation (FIFA), through their Goal project, renovated Rufaro stadium from natural turf (NT) to artificial turf (AT). This was met with mixed feelings especially with regard to injuries sustained by football players. There is no published scientific data on football injuries in Zimbabwe.

Aim: To determine the frequency of injuries on AT and NT among Premier Soccer League (PSL) players in Zimbabwe.

Objectives: To determine the attitudes of players regarding the different football playing surfaces, and the incidence, severity and injury types on AT and NT.

Methods: The 2013 season’s 16 PSL teams were selected to complete questionnaires and injury report forms. Injuries recorded during matches on AT and NT were analysed. Outcome measures were injury incidence (injuries/1000 player hours (Phrs) of exposure) compared for AT and NT using rate ratios (95% confidence intervals). All statistical significance were set at p<0.05.

Results: A total of 364 injuries occurred during 4455 phrs of exposure giving an injury incidence of 81.7 injuries/1000 phrs. A total of 69 games (1138.5 phrs) on AT revealed an injury incidence of 85.2 injuries/1000 phrs while 201 games (3316.5 phrs) on NT revealed an overall incidence of 80.5 injuries/1000 phrs. This analysis showed no statistically significant difference in the incidence of injury between AT and NT surfaces during matches played, [RR= 1.06; 95% CI: 0.84 – 1.34]. With regard to injury severity, the highest incidence occurred on the AT (31.6/1000 phrs in the mild category) and the lowest incidence was on the NT (1.8/1000 phrs in the severe category). The rate ratios for the severity were however not statistically significant. Comparison of the injuries according to body part injured largely revealed insignificant rate ratios.

Conclusion: Football players believe that the AT is associated with increased risk of injury. There was no significant difference in injury incidence rates and severity between the AT and NT during the 2013 PSL season in Zimbabwe. The incidence of injury in this study was much higher than comparable European studies and is a need for further studies to explore the underlying reasons for this.
Background: Pulmonary embolism (PE) is the most common preventable cause of hospital deaths, and almost all hospitalised patients have at least one risk factor for venous thrombo-embolism (VTE). Despite the availability of highly effective thrombo-prophylaxis, numerous studies worldwide have demonstrated its under-utilisation. The aim of this study was to review and improve the utilisation of thrombo-prophylaxis in the prevention of VTE in hospitalised patients at Oudtshoorn district hospital.

Method: A quality improvement cycle (QIC). Retrospective analysis of files of adult patients admitted to the male and female wards at Oudtshoorn district hospital was performed prior to and after a five-month intervention phase. The target standards for the QIC were: (1) availability of a written hospital policy on VTE prevention; (2) every adult admission should have a formal VTE risk assessment documented; (3) every adult admission who is at risk for VTE should receive thrombo-prophylaxis.

Results: Some 38% of adult patients admitted to Oudtshoorn Hospital, excluding the maternity ward, were at risk of developing VTE. There was no written hospital policy on VTE prevention. This was developed and made available during the intervention. In the pre-intervention group there were no patients who had a documented VTE risk assessment. The post intervention group showed a considerable increase with 45.2% having had a completed VTE risk assessment on admission (p < 0.001). In the pre-intervention group only 4.6% of patients who were at risk of VTE received thrombo-prophylaxis. There was a statistically significant difference in the number of patients at risk who received thrombo-prophylaxis in the post-intervention group where 36% of these patients received thrombo-prophylaxis (p < 0.001).

Conclusions: The study identified a major shortcoming in the prevention of VTE in those patients at risk who were admitted to Oudtshoorn district hospital. An intervention as part of a quality improvement cycle has been able to demonstrate a significant improvement in the detection of patients who are at risk of VTE and a subsequent improvement in appropriate thrombo-prophylaxis. A number of barriers to their implementation have been identified and need to be addressed. This QIC may in time be of value to assist other district hospitals in addressing the issue of VTE prevention.

Background: Multimorbidity in non-communicable diseases (NCDs) is a complex global healthcare challenge that is becoming increasingly prevalent. In Africa, comorbidity of communicable diseases and NCDs is also increasing.

Objectives: To evaluate the extent of multimorbidity among patients with NCDs in South African (SA) primary healthcare (PHC).

Methods: A dataset obtained from a previous morbidity survey of SA ambulatory PHC was analysed. Data on conditions considered active and ongoing at consultations by PHC providers were obtained.

Results: Altogether 18 856 consultations were included in the dataset and generated 31 451 reasons for encounter and 24 561 diagnoses. Hypertension was the commonest NCD diagnosis encountered (13.1%), followed by type 2 diabetes (3.9%), osteoarthritis (2.2%), asthma (2.0%), epilepsy (1.9%) and chronic obstructive pulmonary disease (COPD) (0.6%). The majority of patients (66.9%) consulted a nurse and 33.1% a doctor. Overall 48.4% of patients had comorbidity and 14.4% multimorbidity. Multimorbidity (two or more conditions) was present in 36.4% of patients with COPD, 23.7% with osteoarthritis, 16.3% with diabetes, 15.3% with asthma, 12.0% with hypertension and 6.7% with epilepsy. Only 1.1% also had HIV, 1.0% TB, 0.4% depression and 0.04% anxiety disorders.

Conclusion: About half of the patients with NCDs had comorbidity, and multimorbidity was most common in patients with COPD and osteoarthritis. However, levels of multimorbidity were substantially lower than reported in high-income countries. Future clinical guidelines, training of PHC nurses and involvement of doctors in the continuum of care should address the complexity of patients with NCDs and multimorbidity.

Auditing chronic disease care: Does it make a difference?
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Background: An integrated audit tool was developed for five chronic diseases, namely diabetes, hypertension, asthma, chronic obstructive pulmonary disease and epilepsy. Annual audits have been done in the Western Cape Metro district since 2009. The year 2012 was the first year that all six districts in South Africa’s Western Cape Province participated in the audit process.

Aim: To determine whether clinical audits improve chronic disease care in health districts over time.
Setting: Western Cape Province, South Africa.

Methods: Internal audits were conducted of primary healthcare facility processes and equipment availability as well as a folder review of 10 folders per chronic condition per facility. Random systematic sampling was used to select the 10 folders for the folder review. Combined data for all facilities gave a provincial overview and allowed for comparison between districts. Analysis was done comparing districts that have been participating in the audit process from 2009 to 2010 (‘2012 old’) to districts that started auditing recently (‘2012 new’).

Results: The number of facilities audited has steadily increased from 29 in 2009 to 129 in 2012. Improvements between different years have been modest, and the overall provincial average seemed worse in 2012 compared to 2011. However, there was an improvement in the ‘2012 old’ districts compared to the ‘2012 new’ districts for both the facility audit and the folder review, including for eight clinical indicators, with ‘2012 new’ districts being less likely to record clinical processes (OR 0.25, 95% CI 0.21–0.31).

Conclusion: These findings are an indication of the value of audits to improve care processes over the long term. It is hoped that this improvement will lead to improved patient outcomes.


Improving the quality of hypertension care at Cloetesville Community Day Centre (CDC): A quality improvement cycle
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Introduction: Non-communicable disease is a major cause of morbidity in South Africa. Poor adherence to long-term medication severely compromises the effectiveness of treatment. Multiple factors have been described that affect adherence, with health literacy suggested as an independent predictor of medication adherence. This study explored patients’ health literacy and adherence in a primary health care setting in the Eden district of the Western Cape Province.

Methods: This was a cross-sectional observational study. Two validated questionnaires were used in a primary health clinic. The Morisky 8 item medication adherence questionnaire was used to assess participants’ adherence. To evaluate participants’ health literacy, the Adaptation of the Rapid Estimate of Adult Literacy in Medicine-Revised (REALM-R) to the South African context was used.

Results: Of the total 265 patients interviewed the literacy scores were “poor” for 244 (92%) and “good” for 21 (8%). On the self-reported adherence, 204 (77%) reported “low” adherence, 61 (23%) reported “medium” adherence and none reported “good” adherence.

Conclusion: Most participants had poor health literacy and poor to medium adherence to medication. Factors influencing adherence are multiple and diverse. Health literacy might improve adherence but all the factors influencing adherence need to be taken into account.

Background: Non-adherence to diabetes care is a concern at Bishop Lavis Community Health Centre (BLCHC) as it results in many diabetes complications that could have been avoided. The aim was to explore the reasons for people with diabetes in the Bishop Lavis area being non-adherent to diabetes care.

Methods: A qualitative study was undertaken. Focus groups and in-depth interviews were conducted with patients who had uncontrolled blood sugar and non-compliance. The framework method was used to analyse the data.

Results: The main findings in this study were that the following had a negative impact on compliance with diabetes care: (1) poor knowledge of diabetes mellitus; (2) drug treatment barriers such as shift work and not knowing the importance of taking medication regularly; (3) lifestyle adjustment barriers: dietary barriers and lack of exercise; (4) staff and clinic visit problems, for example over-burdened public health-care facilities; and (5) poor support structures including support from family, the community and financially as well as poor infrastructure.

Conclusion: The main findings in this study were consistent with many of the previous studies done on adherence, i.e. patient barriers, disease and drug-regime barriers and doctor–patient relationship barriers. However, in this poverty-stricken area these participants also face other constraints that influence their compliance behaviour. These include (1) over-burdened public health care facilities, (2) insufficient education, (3) poor support structures, (4) infrastructure that is not wheelchair-friendly, (5) unsafe communities, (6) low income and unemployment.


Objective: This study aimed to evaluate the cost-effectiveness of a group diabetes education program delivered by health promoters in community health centers in the Western Cape, South Africa.

Methods: The effectiveness of the education program was derived from the outcomes of a pragmatic cluster randomized controlled trial (RCT). Incremental operational costs of the intervention, as implemented in the trial, were calculated. All these data were entered into a Markov micro-simulation model to simulate clinical outcomes and health costs that were expressed as an Incremental Cost Effectiveness Ratio (ICER).

Results: The only significant effect from the RCT at one year was a reduction in blood pressure (systolic blood pressure _4.65 mmHg (95%CI:_9.18 to _0.12) and diastolic blood pressure _3.30 mmHg (95%CI: _5.35 to _1.26)). The ICER for the intervention, based on the assumption that the costs would recur every year and the effect could be maintained, was 1862 $/QALY gained.

Conclusion: A structured group education program performed by mid-level trained healthcare workers at community health centers, for the management of Type II diabetes in the Western Cape, South Africa is therefore cost-effective. Practice implications: This cost-effectiveness analysis supports the more widespread implementation of this intervention in primary care within South Africa.

Evaluating point of care testing for glycosylated haemoglobin in primary care facilities in the Western Cape

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Introduction: Diabetes Mellitus makes a significant contribution to the burden of disease in South Africa. Monitoring of glycaemic control with HbA1c is imperative in the management of diabetes. Presently, there are no facilities for point of care testing for HbA1c in Western Cape and there are concerns about the cost, feasibility and technical quality of point of care testing.

Aim and objectives: The study aimed at evaluating the costs and consequences for quality of care of introducing point of care testing for HbA1c in patients with diabetes at community health centres in the Western Cape.

Methods: This was a quasi-experimental study with four community health care centres, two matched control sites and two intervention sites. A point of care testing machine for HbA1c was introduced to the intervention sites for 12 months. Patients were randomly selected from the diabetes register in the intervention (N=150) and control sites (N=151) respectively and data collected from patient records. Focus group interviews were done at the intervention sites. Technical quality and cost implications were also evaluated.

Results: Point of care testing for HbA1c in primary health care was feasible and resulted in more immediate feedback to the patients about their level of control (p<0.05). The point of care group had better glycaemic control (p=0.02) though this needs further follow up. Point of care testing did not lead to any change in the frequency of testing or change in clinical practice. Cost analysis showed that R824.33 was saved per 100 tests by using the point of care testing machine when compared with laboratory testing for the same number of tests.

Conclusion: The study demonstrated the feasibility of introducing point of care testing for HbA1c in primary care. Point of care testing resulted in more immediate feedback of results to the patient and possibly better glycaemic control. It however did not lead to change in clinical practice and patient education. The technical quality compared favourably with laboratory testing for HbA1c.

An evaluation of factors underlying suicide attempts in patients presenting at George Hospital emergency centre

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Background: Roughly 130 patients are seen daily in the emergency centre (EC) at George Provincial Hospital (GPH), of whom one or two will have attempted suicide. GPH serves the population of Eden and Central Karoo Districts. Little is known about the circumstances surrounding these suicide attempts. We examined this pattern and formulated a protocol for managing these patients.

Method: All patients attending the EC after attempting suicide between December 2010 and April 2011 were identified from the EC register. Thirty nine patients gave consent and completed a questionnaire. The data were analysed in ExcelR. Additional information was obtained from five members of a focus group.

Results: Patients who attempted suicide had often attempted suicide previously. They came from a community with high levels of longstanding financial and domestic stress, violence, dysfunctional family relationships, alcohol abuse and poor coping skills. Suicide attempts generally involved impulsively taking prescription medication following an argument with a family member. Patients felt abandoned or alone, were physically or mentally abused, were subjected to alcohol abuse, or had underlying anxiety or depression.

Conclusion: Patients who attempt suicide and attend GPH EC come from a chronically stressed community with dysfunctional family patterns and alcohol abuse and lack coping skills. A psychological support team has introduced a suicide-attempt protocol in the EC offering patients an opportunity to deal with their distress and learn better coping skills.

Cervical cancer screening: Safety, acceptability, and feasibility of a single-visit approach in Bulawayo, Zimbabwe

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**Background:** Cervical cancer is the commonest cancer amongst African women, and yet preventative services are often inadequate.

**Aim:** The purpose of the study was to assess the safety, acceptability and feasibility of visual inspection with acetic acid and cervicography (VIAC) followed by cryotherapy or a loop electrical excision procedure (LEEP) at a single visit for prevention of cancer of the cervix.

**Setting:** The United Bulawayo Hospital, Zimbabwe. Methods: The study was descriptive, using retrospective data extracted from electronic medical records of women attending the VIAC clinic. Over 24 months 4641 women visited the clinic and were screened for cervical cancer using VIAC. Cryotherapy or LEEP was offered immediately to those that screened positive. Treated women were followed up at three months and one year.

**Results:** The rate of positive results on VIAC testing was 10.8%. Of those who were eligible, 17.0% received immediate cryotherapy, 44.1% received immediate LEEP, 1.9% delayed treatment, and 37.0% were referred to a gynaecologist. No major complications were recorded after cryotherapy or LEEP. Amongst those treated 99.5% expressed satisfaction with their experience. Only 3.2% of those treated at the clinic had a positive result on VIAC one year later. The service was shown to be feasible to sustain over time with the necessary consumables. There were no service-related treatment postponements and the clinic staff and facility were able to meet the demand for the service.

**Conclusions:** A single-visit approach using VIAC, followed by cryotherapy or LEEP, proved to be safe, acceptable and feasible in an urban African setting in Bulawayo, Zimbabwe. Outcomes a year later suggested that treatment had been effective.


A comparison of lifestyle factors between hypertensive and normotensive patients attending the general outpatients of Federal Medical Centre, Abeokuta, Nigeria

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**Introduction:** Unhealthy lifestyle creates challenges in the optimal management of hypertension. Optimal management of hypertension therefore requires lifestyle modification.

**Objectives:** To compare the frequency of lifestyle factors associated with hypertension and normotensive patients in the general outpatients of Federal Medical Centre, Abeokuta, a developing town in Nigeria.

**Methods:** This case – control study involved 174 hypertensive patients and 176 normotensive controls, aged 30 years and above attending the General Out-Patient Department (GOPD) of Federal Medical Centre Abeokuta. A structured questionnaire was administered and analysed using Stata statistical software.

**Results:** There were 194 female and 156 male patients. The mean age of study participants was found to be 47.54 ±12.05 years. Minimum age was 30 and maximum age was 79 years. Males were 1.29 times more likely to have hypertension than females. From the data, hypertension was found to be commoner in the older age group (p value, 0.001, OR 3.12, 95% CI of 1.33 to 7.30). Hypertension was found to be more prevalent in unskilled workers and those with only a middle school certificate (p=0.001).

Hypertension was positively associated with smokers (OR 2.11, 95% CI of 1.28 to 3.46), alcohol abusers (OR 0.61, 95% CI of 0.31 to 1.22), lack of exercise (OR 1.84, 95% CI of 1.10 to 3.08), BMI greater than 25 (OR 2.27, 95% CI of 1.62 to 3.17), unhealthy diet (OR 2.71, 95% CI -8.24 to 13.66), stress (OR 1.09, 95% CI -5.77 to 7.95) and end organ damage (OR 10.61, 95% CI of 2.24 to 53.00).

**Conclusion:** Results of this study identify association between smoking, alcohol abusers, lack of exercise, BMI greater than 25, unhealthy diet, stress, end organ damage and hypertension. In a developing economy with emerging burden of non-communicable diseases, the need for creating public awareness on issues relating to healthy lifestyle and lifestyle modification is imperative to halt the trend.
A review of quality of care for patients with diabetes in Chitungwiza Hospital, Zimbabwe

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

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

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

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

Dietary knowledge, attitude and practices of diabetic patients at Nsambya Hospital Kampala, Uganda.

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Introduction: Diabetes Mellitus (DM) is on the increase globally and deemed to be at epidemic levels in Sub Saharan Africa. Lifestyle modification particularly following an appropriate dietary pattern is a cornerstone of management. One’s knowledge, attitude and practices (KAP) as well as culture and values influence one’s ability to make the required lifestyle changes. This study was carried out to establish the dietary KAP of diabetic patients attending the diabetic clinic of Nsambya hospital a tertiary private not for profit hospital in Kampala Uganda.

Methods: A convenient sample of 236 patients was used. Their dietary KAP was assessed using a locally modified version of the American Diabetes Association (ADA) Diabetes Self-Management Assessment Research Tool (D-SMART) with some other questions from the University of Michigan Diabetes Research and Training Centre attitude, knowledge and practice questions. The modified version was validated by two local endocrinologists. The 24 hour diet recall method was also used to assess the participants’ regularity and/or frequency of meals and also to find out the commonest components of their diet.

Results: 67.4% of the respondents were older than 46 years of age and 63.1% were females. The females had a mean knowledge score of 57.4 (out of 60) and the males 54.1. Marital status and level of education were found to positively influence one’s knowledge. 82.7% of the respondents had the correct attitude towards DM and its management with marital status found to be the most positively contributing factor. All the respondents had poor scores on the practices section.

Conclusion: There is a gap between the knowledge/attitudes and the practices of the patients at Nsamba. More effective methods of delivery of the Diabetes Self-Management Education (DSME) need to be used and longer term intervention programs established. Further studies especially those exploring factors affecting the DM dietary practices need to be done.
The prevalence and factors associated with ocular complications among patients with type 2 diabetes in Onandjokwe hospital.

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Background: The prevalence of diabetes mellitus and its complications is rising globally and many factors which include sedentary lifestyle, obesity, aging, population growth among others have been attributed to this. Ocular complication adversely affects communities and individuals.

Aim: To determine the prevalence and factors associated with ocular complications among patients with type 2 diabetes at Onandjokwe hospital

Methods: A cross-sectional survey was conducted. Data on presence of hypertension, HIV infection, and level of FPG for 61 patients with diabetes was extracted from the patients’ records. Weight and waist circumference measurement, and eye examination were carried out. Using systematic random sampling, participants were recruited from the two male and female medical wards, and the two medical general outpatient departments.

Results: Of the 61 patients who had eye examinations, 39% had ocular complications with abnormalities in visual acuity, 32 (52%). Other abnormalities included visual field defects 30 (49%), lenticular defects (cataracts) 28 (46%), retinopathy 25(41%), conjunctival defects 25 (41%) and raised intra ocular pressure 15 (25%).

Patients with age greater than 50 years had a slightly higher prevalence of ocular complications 31 (52.5%). However, only BMI (p=0.008) was found to have a statistically significant association with development of ocular complications among the participants with higher BMI increasing risk of ocular complications 8.5 times (Fisher exact 8.5, p-value 0.008).

Conclusion: There was a high prevalence of ocular complications among patients with diabetes in Onandjokwe hospital. BMI was found to be a significant modifiable associated factor among patients with of ocular complications.

A qualitative study of weight loss maintenance in obese Nigerians

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Background: The rising prevalence of overweight and obesity globally is a major public health concern. There are no simple solutions to obesity, weight management is a long term challenge influenced by behavioural, emotional and physical factors. In order to establish effective weight management strategies, overweight and obese people’s experiences with weight management need to be comprehensively understood. This study explores the experiences of adult Nigerians who have been successful at weight loss maintenance.

Aim: To establish effective weight loss maintenance strategies used by overweight and obese adults in Abuja, Nigeria

Method: Qualitative study with in-depth interviews of 7 successful weight losers in Abuja, Nigeria.

Results: Participants employed a combination of multiple dietary strategies and exercise to maintain their weight loss. They reported that they avoided certain meals, substituted meals, practiced portion control, skipped meals, counted calories, avoided eating out, ate many small meals, ate unprocessed foods, ate low calorie meal, and ate mainly fruits and vegetables. Most had a flexible eating restraint behaviour. For most, dancing was the favourite form of exercise. They viewed these changes as life goals. From their report, a sustainable weight loss plan, setting weight loss goals, regular self-monitoring of weight, positive outcomes, positive thinking, positive feedback, self-encouragement and determination, helped them to maintain their weight loss.

Conclusion: This study has helped us understand some of the factors that doctors should consider when giving advice to Nigerian women on maintenance of weight loss. The combination of multiple strategies is consistent with existing literature on successful weight loss maintenance.
Quality of care for patients with non-communicable diseases in the Dedza District, Malawi

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Introduction: In Malawi, non-communicable diseases (NCDs) are thought to cause 28% of deaths in adults. The aim of this study was to establish the extent of primary care morbidity related to NCDs, as well as to audit the quality of care, in the primary care setting of Dedza District, central Malawi.

Methods: This study was a baseline audit using clinic registers and a questionnaire survey of senior health workers at 5 clinics, focusing on care for hypertension, diabetes, asthma and epilepsy.

Results: A total of 82,581 consultations were recorded, of which 2,489 (3.0%) were for the selected NCDs. Only 5 out of 32 structural criteria were met at all 5 clinics and 9 out of 29 process criteria were never performed at any clinic. The only process criteria performed at all five clinics was measurement of blood pressure. The staff’s knowledge on NCDs was basic and the main barriers to providing quality care were lack of medication and essential equipment, inadequate knowledge and guidelines, fee-for-service at two clinics, geographic inaccessibility and lack of confidence in the primary health care system by patients.

Conclusion: Primary care morbidity from NCDs is currently low, although other studies suggest a significant burden of disease. This most likely represents a lack of utilisation, recognition, diagnosis and ability to manage patients with NCDs. Quality of care is poor due to a lack of essential resources, guidelines, and training.

Introduction: Many countries, especially those from sub-Saharan Africa, are unlikely to reach the Millennium Development Goal for under-5 mortality reduction by 2015. This study aimed to identify the causes of mortality and associated modifiable health care factors for under-5 year-old children admitted to Onandjokwe Hospital, Namibia.

Method: A descriptive retrospective review of the medical records of all children under five years who died in the hospital for the period of 12 months during 2013, using two different structured questionnaires targeting perinatal deaths and post-perinatal deaths respectively.

Results: The top five causes of 125 perinatal deaths were prematurity 22 (17.6%), birth asphyxia 19 (15.2%), congenital anomalies 16 (12.8%), unknown 13 (10.4%) and abruptio placenta 11 (8.8%). The top five causes of 60 post-perinatal deaths were bacterial pneumonia 21 (35%), gastroenteritis 12 (20%), severe malnutrition 6 (10%), septicaemia 6 (10%), and tuberculosis 4 (6.7%). Sixty-nine (55%) perinatal deaths and 42 (70%) post-perinatal deaths were potentially avoidable. The modifiable factors were: late presentation to a health care facility, antenatal clinics not screening for danger signs, long distance referral, district hospitals not providing emergency obstetric care, poor monitoring of labour and admitted children in the wards, lack of screening for malnutrition, failure to repeat an HIV test in pregnant women in the third trimester or during breastfeeding, and a lack of review of the urgent results of critically ill children.

Conclusion: A significant number of deaths in children under 5-years of age could be avoided by paying attention to the modifiable factors identified in this study.

The effect of an automated integrated management of childhood illness guideline on the training of professional nurses in the Western Cape, South Africa

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Background: Reducing under-five mortality rates is a global priority. Although under-five mortality has decreased in South Africa, it is still unacceptably high. The implementation of the Integrated Management of Childhood Illness (IMCI) guideline is a key World Health Organization intervention aimed at reducing under-five mortality. Most primary care consultations are with professional nurses and they are usually trained in IMCI in a year-long primary healthcare diploma, which qualifies them to be a clinical nurse practitioner. This study aimed to evaluate the effect on training outcomes of introducing an automated IMCI guideline.

Methods: Thirty professional nurses enrolled for the diploma course were purposively allocated in a quasi-experimental design to train with either paper-based or automated versions of the guideline. Their knowledge of IMCI was evaluated before and after the initial 12 hours of classroom teaching. Data on assessment, classification and management of children was extracted from the medical records of their consultations during supervised clinical training.

Results: Both groups improved their knowledge of IMCI, but were not significantly different at the end of classroom teaching. Nurses in the automated group performed significantly better in use of the IMCI guideline (p < 0.05): checking immunisations (68% vs. 93%), making a complete assessment (62% vs 100%), prescribing correct medication (50% vs 85%) and correct dose (42% vs 85%).

Conclusion: Use of automated IMCI guidelines showed potential for improved training outcomes. The potential for improved quality of care and clinical outcomes needs to be further studied along with a cost–benefit analysis.


Modifiable pre-natal risk factors for stillbirth in pregnant women of the Omusati Region, Namibia

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Background: Reduction of stillbirth rates is one of the major concerns of the government of Namibia because of the social and economic implications of stillbirth. Access to quality antenatal care, especially at primary health care settings, is important in preventing the risk factors associated with stillbirth. This study assessed the prevalence of some of the modifiable risk factors to reveal potential gaps in their prevention.

Aim: To determine the prevalence of modifiable antenatal risk factors associated with stillbirth in order to determine possible gaps in their prevention.

Setting: The study was conducted at four district hospitals in the Omusati Region, Namibia.

Methods: A descriptive study using recorded antenatal data was used. Data was collected from the records of 82 women at the time that they had a stillbirth, during the period October 2013 to December 2014. The assessed risk factors included maternal characteristics, antenatal care received, medical conditions and obstetric complications.

Results: The study found that 95.1% of women who had a stillbirth had at least one modifiable risk factor. The average prevalence of each of the four categories of risk factors was as follows: quality of antenatal care (19.8%), maternal characteristics (11.4%), medical conditions (8.9%) and obstetric complications (6.5%). The most prevalent individual risk factors included the following: no folate supplementation (30.5%), positive HIV status (25.6%), advanced maternal age (20.7%), grand multigravidity (17.1%), late booking (16.7%), intrauterine foetal growth retardation (13.4%) and alcohol use (12.5%).

Conclusion: A total of 82.4% of the studied modifiable risk factors were prevalent among women who had a stillbirth. Risk factors associated with quality of antenatal care were the most prevalent. While further investigation is needed to determine the causes behind the most prevalent risk factors, health education on the availability and benefits of antenatal care, pregnancy timing and pregnancy spacing may contribute to the reduction of the prevalence of these risk factors.
Factors that influence the rate of caesarean section in Princess Marina Hospital

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Introduction: The raising rate of caesarean section has caused a concern amongst the health care workers and the World Health Organization (WHO).1,2,3,4 In some studies, this raising rate is attributed to increased demand from well-educated patients and lower threshold of decision making amongst health workers to perform caesarean section.

Objective: The objective of this study was to determine the factors that influence the caesarean section rate at Princess Marina Hospital (PMH) so that measures could be put in place to address the modifiable factors that might reduce the rate of caesarean section.

Methods: Obstetrics records of 1000 women who delivered during the study period in PMH were retrospectively reviewed.

Results: The caesarean section rate was found to be 29.4% which is much higher than the WHO recommended rate of 15%. Factors such as parity (OR = 3.36, p-value = 0.03), referral institution (OR = 12.79, p-value = 0.00 for district hospitals) and history of previous caesarean section (OR = 7.51, p-value = 0.00) had a significant association with caesarean section.

Conclusion: In order to reduce the caesarean section rate at PMH, patients referred from district hospitals should be significantly reduced. Possible options include provision of more than one professional who can administer anaesthesia, provision of emergency water and electricity sources in all district hospitals. The long term plan to reduce the rate of caesarean section in our community is to avoid the first caesarean section. In cases where caesarean section is necessary, the first caesarean section could be avoided by standardising the level of care and ensuring that all are performed for medically justifiable reasons. To realise this aim, PMH should develop guidelines for the caesarean section.
China, India, Brazil and South Africa contain 40% of the global population and are key emerging economies. All these countries have a policy commitment to universal health coverage with an emphasis on primary health care. The primary care doctor is a key part of the health workforce, and this article, which is based on two workshops at the 2014 Towards Unity For Health Conference in Fortaleza, Brazil, compares and reflects on the roles and training of primary care doctors in these four countries. Key themes to emerge were the need for the primary care doctor to function in support of a primary care team that provides community-orientated and first-contact care. This necessitates task-shifting and an openness to adapt one’s role in line with the needs of the team and community.

Beyond clinical competence, the primary care doctor may need to be a change agent, critical thinker, capability builder, collaborator and community advocate. Postgraduate training is important as well as up-skilling the existing workforce. There is a tension between training doctors to be community-orientated versus filling the procedural skills gaps at the facility level. In training, there is a need to plan postgraduate education at scale and reform the system to provide suitable incentives for doctors to choose this as a career path. Exposure should start at the undergraduate level. Learning outcomes should be socially accountable to the needs of the country and local communities, and graduates should be person-centred comprehensive generalists.

The contribution of family physicians to district health services: a national position paper for South Africa

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This position paper on Family Medicine in South Africa was written for the National Department of Health in 2014 for the purposes of delivering a comprehensive assessment of the contribution that family physicians could make to the health system, and the issues that need to be addressed in order to realise this contribution. The paper mainly addresses issues in the public sector. It outlines the policy environment, health and health services context, the contribution of family physicians, their role in relationship to other healthcare workers, the initial evidence of their impact, the implications for posts and career pathways and the current state of training programmes, as well as providing key recommendations. The paper represents the viewpoint of the South African Academy of Family Physicians and the College of Family Physicians of South Africa, and attempts to speak with one voice on the current situation and need for future action.

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How far does family physician supply correlate with district health system performance?

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Background: Since 2011, a new cadre of family physicians, with 4 years of postgraduate training, was deployed in the district health services of the Western Cape, and tasked with a considerable range of duties aimed at a general improvement in care and health outcomes. There is a need to evaluate the contribution of these family physicians to the district health system.

Aim: To develop a methodology for describing the correlation between family physician supply and district health system performance, clinical processes and outcomes, and to measure this correlation at baseline.

Method: A cross-sectional study was undertaken that analysed data at an ecological level for the period of 01 April 2011 to 31 March 2012. This was a pilot project analysing data from the first year of a 4-year project. The correlations between family physician supply and 18 health system indicators were assessed within a logic model. The supplies of other categories of staff were also measured.

Results: Although most of the correlations with family physicians were positive, the study was unable to demonstrate any strong or statistically significant correlations at baseline. There were significant correlations with other categories of staff.

Conclusions: This study developed a methodology for monitoring the relationship between family physician supply using routinely collected indicators of health system performance, clinical processes and outcomes over time. Additional research will also be needed to investigate the impact of family physicians and triangulate findings as this methodology has many limitations and potential confounding factors.

What keeps health professionals working in rural district hospitals in South Africa?

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Background: The theme of the 2014 Southern African Rural Health Conference was ‘Building resilience in facing rural realities’. Retaining health professionals in South Africa is critical for sustainable health services. Only 12% of doctors and 19% of nurses have been retained in the rural areas. The aim of the workshop was to understand from health practitioners why they continued working in their rural settings.

Method: The workshop consisted of 29 doctors, managers, academic family physicians, nurses and clinical associates from Southern Africa, with work experience from three weeks to 13 years, often in deep rural districts. Using the nominal group technique, the following question was explored, ‘What is it that keeps you going to work every day?’ Participants reflected on their work situation and listed and rated the important reasons for continuing to work.

Results: Five main themes emerged. A shared purpose, emanating from a deep sense of meaning, was the strongest reason for staying and working in a rural setting. Working in a team was second most important, with teamwork being related to attitudes and relationships, support from visiting specialists and opportunities to implement individual clinical skills. A culture of support was third, followed by opportunities for growth and continuing professional development, including teaching by outsourcing specialists. The fifth theme was a healthy work-life balance.

Conclusion: Health practitioners continue to work in rural settings for often deeper reasons relating to a sense of meaning, being part of a team that closely relate to each other and feeling supported.

Factors influencing female doctors’ career decisions at Tshwane District Hospital, Pretoria

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Introduction: Most doctors at Tshwane District Hospital in Pretoria are women who experience difficulty combining a career with family responsibilities because of lack of flexitime or part-time posts. They are also frustrated by the hospital management’s apparent indifference to their concerns. Consequently, female doctors tend to leave Tshwane District to pursue their careers elsewhere. This study explored factors that influence the career choices of female doctors at Tshwane District Hospital in Pretoria.

Method: Of sixty-two doctors working at Tshwane District Hospital in Pretoria between January 2008 and July 2011, 47 were traced, and 28 completed a four-part, self-administered questionnaire constructed around eight themes that emerged from a focus group discussion involving six female doctors. Questions on levels of burnout and job satisfaction, based on existing validated questionnaires, were included. Of the 28 doctors who completed the questionnaire, 19 were female and nine male. The median age group was 30–39 years.

Results: Forty-six per cent of doctors reported symptoms of burnout, while a worrying 18% reported either persisting symptoms or complete burnout. The majority of female doctors would prefer to work flexitime and to have the option of part-time employment in an academically stimulating environment. Many of the doctors who participated in the study at Tshwane District Hospital plan to pursue their careers outside the public sector in order to balance their family responsibilities with their professional lives.

Conclusion: Female doctors at Tshwane District Hospital reported having low job satisfaction, an inflexible work schedule, a heavy workload and being given little recognition for their contribution. Together, these factors probably account for the high turnover of doctors at Tshwane District Hospital. If doctor retention is to be improved in public sector facilities, such as Tshwane District Hospital, the particular needs of female doctors with family responsibilities must be addressed.

Perceptions of Doctors and Nurses of International Hospital Kampala (IHK) – Out Patient Department and Emergency Unit (OPD&EU), regarding introduction and use of the South African Triage Scale (SATS)

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Introduction: International Hospital Kampala has been having a challenge with how to standardize the triaging and sorting of patients. There was no triage tool to help prioritize which patients to attend to first. Very sick patients who needed urgent attention were often missed.

Methods: This study using qualitative methods sought to introduce the SATS in the IHK OPD/EU and get the perceptions of doctors and nurses who used it for 3-6 months on its worthiness and sustainability. Specific questions were on challenges faced prior to its introduction, strengths and weaknesses, the impact it had on the practice of staff and their recommendations on the continued use of the tool. In-depth interviews were conducted with 4 doctors and 12 nurses.

Results: The SATS tool was found to be necessary, applicable and recommended for use in the IHK setting. It improved the sorting of patients, nurse-patient and nurse-doctor communication. The IHK OPD/EU staff attained new skills with the nurses getting more involved in the care of patients. It is possibly useful in phone triaging and planning of hospital staffing.

Conclusion: Adequate nurse staffing, computer application for automated coding of patients and regular training would foster consistent use and sustainability. Setting up a hospital committee to review the signs and symptoms would rubber stamp its sustainability. The SATS is valuable in the IHK setting because it has improved on the overall efficiency of triaging and care with significantly more strengths realized than weaknesses.

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

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Background: Botswana has a shortage of health care workers, especially in primary health care. Retention and high performance of employees are closely linked to job satisfaction and motivation, which are both highest where employees’ personal values and goals are realised.

Aim: The aim of the study was to evaluate employees’ personal values, and the current and desired organisational culture of the district health services as experienced by the primary health care workers.

Setting: The study was conducted in the Ngamiland and Mahalapye health districts.

Method: This was a cross sectional survey. The participants were asked to select 10 values that best described their personal, current organisational and desired organisational values from a predetermined list.

Results: Sixty and 67 health care workers completed the survey in Mahalapye and Ngamiland districts, respectively. The top 10 prevalent organisational values experienced in both districts were: teamwork, patient satisfaction, blame, confusion, job insecurity, not sharing information and manipulation. When all the current values were assessed, 32% (Mahalapye) and 36% (Ngamiland) selected by health care workers were potentially limiting organisational effectiveness. The organisational values desired by health care workers in both districts were: transparency, professional growth, staff recognition, shared decision-making, accountability, productivity, leadership development and teamwork.

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

Stakeholders’ Perceptions on Shortage of Healthcare Workers in Primary Healthcare in Botswana: Focus Group Discussions

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

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

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

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


Development of Family Medicine training in Botswana: Views of key stakeholders in Ngamiland

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Background: Family Medicine training commenced in Botswana in 2011, and Maun was one of the two sites chosen as a training complex. If it is to be successful there has to be investment in the training programme by all stakeholders in healthcare delivery in the district.

Aim: The aim of the study was to explore the attitudes of stakeholders to initiation of Family Medicine training and their perspectives on the future roles of family physicians in Ngami district, Botswana. Setting: Maun and the surrounding Ngami subdistrict of Botswana.

Methods: Thirteen in-depth interviews were conducted with purposively selected key stakeholders in the district health services. Data were recorded, transcribed and analysed using the framework method.

Results: Participants welcomed the development of Family Medicine training in Maun and expect that this will result in improved quality of primary care. Participants expect the registrars and family physicians to provide holistic health care that is of higher quality and expertise than currently experienced, relevant research into the health needs of the community, and reduced need for referrals. Inadequate personal welfare facilities, erratic ancillary support services and an inadequate complement of mentors and supervisors for the programme were some of the gaps and challenges highlighted by participants.

Conclusion: Family Medicine training is welcomed by stakeholders in Ngamiland. With proper planning introduction of the family physician in the district is expected to result in improvement of primary care.

Factors influencing specialist outreach and support services to rural populations in the Eden and Central Karoo districts of the Western Cape

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**Background:** Access to health care often depends on where one lives. Rural populations have significantly poorer health outcomes than their urban counterparts. Specialist outreach to rural communities is one way of improving access to care. A multifaceted style of outreach improves access and health outcomes, whilst a shifted outpatients style only improves access. In principle, stakeholders agree that specialist outreach and support (O&S) to rural populations is necessary. In practice, however, factors influence whether or not O&S reaches its goals, affecting sustainability.

**Aim and setting:** Our aim was to better understand factors associated with the success or failure of specialist O&S to rural populations in the Eden and Central Karoo districts in the Western Cape.

**Methods:** An anonymous parallel three-stage Delphi process was followed to obtain consensus in a specialist and district hospital panel.

**Results:** Twenty eight specialist and 31 district hospital experts were invited, with response rates of 60.7% – 71.4% and 58.1% – 74.2% respectively across the three rounds. Relationships, communication and planning were found to be factors feeding into a service delivery versus capacity building tension, which affects the efficiency of O&S. The success of the O&S programme is dependent on a site-specific model that is acceptable to both the outreaching specialists and the hosting district hospital.

**Conclusion:** Good communication, constructive feedback and improved planning may improve relationships and efficiency, which might lead to a more sustainable and mutually beneficial O&S system.

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The roles and training of primary care doctors: China, India, Brazil and South Africa

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China, India, Brazil and South Africa contain 40% of the global population and are key emerging economies. All these countries have a policy commitment to universal health coverage with an emphasis on primary health care. The primary care doctor is a key part of the health workforce, and this article, which is based on two workshops at the 2014 Towards Unity For Health Conference in Fortaleza, Brazil, compares and reflects on the roles and training of primary care doctors in these four countries. Key themes to emerge were the need for the primary care doctor to function in support of a primary care team that provides community-orientated and first-contact care. This necessitates task-shifting and an openness to adapt one’s role in line with the needs of the team and community. Beyond clinical competence, the primary care doctor may need to be a change agent, critical thinker, capability builder, collaborator and community advocate. Postgraduate training is important as well as up-skilling the existing workforce. There is a tension between training doctors to be community-orientated versus filling the procedural skills gaps at the facility level. In training, there is a need to plan postgraduate education at scale and reform the system to provide suitable incentives for doctors to choose this as a career path. Exposure should start at the undergraduate level. Learning outcomes should be socially accountable to the needs of the country and local communities, and graduates should be person-centred comprehensive generalists.

The self-reported learning needs of primary care doctors in South Africa: a descriptive survey

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Background: Strengthening primary health care in South Africa is a prerequisite for the successful introduction of National Health Insurance. Primary care doctors from both the public and private sectors are an essential contributor to achieving this goal. In order to prepare these doctors for their future role, a national diploma training programme is being developed. This study aimed to evaluate the learning needs of primary care doctors and to assist with the design of the diploma.

Methods: A descriptive survey of 170 primary care doctors (80 medical officers and 90 private practitioners), from eight provinces in South Africa, in terms of their use of 30 key guidelines, performance of 85 clinical skills and confidence in 12 different roles.

Results: Doctors had read the majority of the guidelines (20/30), but few had been implemented in practice (6/30). All of the doctors had been trained in the clinical skills; however, none had taught these skills to others in the last year. Primary care doctors reported having performed the majority of the skills within the last year (70/85). Doctors had performed 7/12 roles in the last year, while 5/12 had not been engaged with. The weakest roles were those of change agent and community advocate, while the strongest roles were competent clinician, capability builder and collaborator. There were a number of significant differences (p < 0.05) between the learning needs of medical officers and private practitioners.

Conclusion: These findings will help guide the development of a new Diploma in Family Medicine programme for South Africa.


A situational analysis of training for behaviour change counselling for primary care providers, South Africa

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Background: Non-communicable diseases and associated risk factors (smoking, alcohol abuse, physical inactivity and unhealthy diet) are a major contributor to primary care morbidity and the burden of disease. The need for healthcare-provider training in evidence-based lifestyle interventions has been acknowledged by the National Department of Health. However, local studies suggest that counselling on lifestyle modification from healthcare providers is inadequate and this may, in part, be attributable to a lack of training.

Aim: This study aimed to assess the current training courses for primary healthcare providers in the Western Cape.

Setting: Stellenbosch University and University of Cape Town.

Methods: Qualitative interviews were conducted with six key informants (trainers of primary care nurses and registrars in family medicine) and two focus groups (nine nurses and eight doctors) from both Stellenbosch University and the University of Cape Town.

Results: Trainers lack confidence in the effectiveness of behaviour change counselling and in current approaches to training. Current training is limited by time constraints and is not integrated throughout the curriculum – there is a focus on theory rather than modelling and practice, as well as a lack of both formative and summative assessment. Implementation of training is limited by a lack of patient education materials, poor continuity of care and record keeping, conflicting lifestyle messages and an unsupportive organisational culture.

Conclusion: Revising the approach to current training is necessary in order to improve primary care providers’ behaviour change counselling skills. Primary care facilities need to create a more conducive environment that is supportive of behaviour change counselling.

Development of a training programme for primary care providers to counsel patients with risky lifestyle behaviours in South Africa

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Background: We are facing a global epidemic of non-communicable disease (NCDs), which has been linked with four risky lifestyle behaviours. It is recommended that primary care providers (PCPs) provide individual brief behaviour change counselling (BBCC) as part of everyday primary care, however currently training is required to build capacity. Local training programmes are not sufficient to achieve competence.

Aim: This study aimed to redesign the current training for PCPs in South Africa, around a new model for BBCC that would offer a standardised approach to addressing patients’ risky lifestyle behaviours.

Setting: The study population included clinical nurse practitioners and primary care doctors in the Western Cape Province.

Methods: The analyse, design, develop, implement and evaluate (ADDIE) model provided a systematic approach to the analysis of learning needs, the design and development of the training programme, its implementation and initial evaluation.

Results: This study designed a new training programme for PCPs in BBCC, which was based on a conceptual model that combined the 5 As (ask, alert, assess, assist and arrange) with a guiding style derived from motivational interviewing. The programme was developed as an eight-hour training programme that combined theory, modelling and simulated practice with feedback, for either clinical nurse practitioners or primary care doctors.

Conclusion: This was the first attempt at developing and implementing a best practice BBCC training programme in our context, targeting a variety of PCPs, and addressing different risk factors.


Qualitative evaluation of primary care providers experiences of a training programme to offer brief behaviour change counselling on risk factors for non-communicable diseases in South Africa

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Background: The global epidemic of non-communicable disease (NCDs) has been linked with four modifiable risky lifestyle behaviours, namely smoking, unhealthy diet, physical inactivity and alcohol abuse. Primary care providers (PCPs) can play an important role in changing patient’s risky behaviours. It is recommended that PCPs provide individual brief behaviour change counselling (BBCC) as part of everyday primary care. This study is part of a larger project that re-designed the current training for PCPs in South Africa, to offer a standardized approach to BBCC based on the 5 As and a guiding style. This article reports on a qualitative sub-study, which explored whether the training intervention changed PCPs perception of their confidence in their ability to offer BBCC, whether they believed that the new approach could overcome the barriers to implementation in clinical practice and be sustained, and their recommendations on future training and integration of BBCC into curricula and clinical practice.

Methods: This was a qualitative study that used verbal feedback from participants at the beginning and end of the training course, and twelve individual in-depth interviews with participants once they had returned to their clinical practice.

Results: Although PCP’s confidence in their ability to counselling improved, and some thought that time constraints could be overcome, they still reported that understaffing, lack of support from within the facility and poor continuity of care were barriers to counselling. However, the current organisational culture was not congruent with the patient-centred guiding style of BBCC. Training should be incorporated into undergraduate curricula of PCPs for both nurses and doctors, to ensure that counselling skills are embedded from the start. Existing PCPs should be offered training as part of continued professional development programmes.

Conclusions: This study showed that although training changed PCPs perception of their ability to offer BBCC, and increased their confidence to overcome certain barriers to implementation, significant barriers remained. It is clear that to incorporate BBCC into everyday care, not only training, but also a whole systems approach is needed, that involves the patient, provider, and service organisation at different levels.

Methods: This was a qualitative study that used verbal feedback from participants at the beginning and end of the training course, and twelve individual in-depth interviews with participants once they had returned to their clinical practice.

Strengthening primary health care through primary care doctors: the design of a new national Postgraduate Diploma in Family Medicine

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Strengthening primary health care is a national priority in South Africa, in order to improve quality of care and health outcomes, reduce inequity and to pave the way for National Health Insurance. The World Health Organization and World Health Assembly both recommend the inclusion of a primary care doctor with postgraduate training in Family Medicine in the primary healthcare team. Currently, medical practitioners without postgraduate training, and those who may need re-orientating and upskilling for the future re-engineered primary care system, are the largest pool of doctors in South Africa. Most of these doctors are of an age and at a stage in their careers where it is unlikely that they will train to be a family physician.

This article reports on a national process to design a Postgraduate Diploma in Family Medicine which will meet the learning needs of primary care doctors in both the public and private sectors as they prepare for the future. A year-long process included two national stakeholder workshops, a survey of learning needs and two additional expert workshops before consensus could be reached on the design of the new diploma programme.

The future roles and competencies required of primary care doctors, learning outcomes congruent with these roles, and an educational design, which could be delivered at scale commensurate with the national need by all of the relevant higher education institutions, were envisaged during this process.

The design of this diploma, presented here, will now be developed into a revised or new programme by the higher education institutions, and implemented from 2016 onwards.


International Classification of Functioning, Disability and Health: Catalyst for interprofessional education and collaborative practice.

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Patient-centred and community-based care is required for promotion of health equity. To enhance patient-centred interprofessional care, the World Health Organization recommends using the framework of the International Classification of Functioning, Disability and Health (ICF). Stellenbosch University’s Interprofessional Education and Collaborative Practice (IPECP) strategy has promoted using ICF since 2010. Undergraduate medical students on rural clinical placements are expected to use ICF in approaching and managing patients. Students’ ability to develop interprofessional care plans using ICF is assessed by a team of preceptors representing various health professions. This study explored the experiences of medical students and their preceptors using ICF in IPECP, and how patients perceived care received. Associative Group Analysis methodology was used to collect data for this study. In total, 68 study participants were enrolled of which 37 were medical students, 16 preceptors and 15 patients. Students found ICF enabled a patient-centred approach and reinforce the importance of context. Patients felt listened to and cared for. Preceptors, obliged to use ICF, came to appreciate the advantages of interprofessional care, promoting mutually beneficial teamwork and job satisfaction. The value of integrating IPECP as an authentic learning experience was demonstrated as was ICF as a catalyst in pushing boundaries for change.

‘We have to flap our wings or fall to the ground’: The experiences of medical students on a longitudinal integrated clinical model

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Background: In 2011, Stellenbosch University introduced a district hospital-based longitudinal integrated model for final-year students as part of its rural clinical school. The present study is an analysis of students’ experiences during the first 3 years of the programme.

Methods: All 13 students who started the programme between 2011 and 2013 were interviewed. Thematic networks linking recurrent issues were developed and transcripts were analysed against this framework using ATLAS.ti.

Results: Two major themes emerged. These were ‘preparation for being a doctor’ and ‘academic/exam preparation’. Students were overwhelmingly positive about the working atmosphere and their preparation for clinical practice and felt that their learning had been facilitated by the flexibility of the programme and the requirement to take responsibility. This contrasted with their academic (‘book’) learning, which was characterised by uncertainty about expectations, particularly regarding exams and parity with learning at the central teaching hospital. The flexibility of the integrated approach was seen as a problematic lack of structure when it came to academic learning. Negative academic emotions were compounded by some frustration about administrative issues early in the programme.

Conclusions: The district hospital-based longitudinal integrated model has great potential as a teaching platform for final-year students; however, students remain concerned about academic learning. Potential strategies to reduce student anxiety include more opportunities for dialogue between rural students and specialist teaching platforms, clearly communicated expectations – both about what the students can expect from the programme and about what is expected from them – and administrative excellence.

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Examining the effects of a mindfulness-based professional training module on mindfulness, perceived stress, self-compassion and self-determination

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Background: Mindfulness-based interventions (MBIs) have been shown to be effective in a wide range of health-related problems. Teaching and research with regard to MBIs have largely been conducted in the USA and Europe. The development of teachers of MBIs requires that they embody the practice of mindfulness and acquire pedagogical competencies. Stellenbosch University and the Institute for Mindfulness South Africa have launched a new and innovative training programme consisting of 4 modules, with a blend of residential retreats and e-learning. Internationally, this is the first study that specifically investigates the effects of mindfulness on the mental state of health professionals being trained to teach MBIs in their clinical practice.

Objectives. To evaluate the first 9-week module in terms of its effect on mindfulness practice, self-determination, self-compassion and perception of stress.

Methods: This is a before-and-after study of 23 participants, using 4 validated tools: Kentucky Inventory of Mindfulness Skills, Self-Determination Scale, Self-Compassion Scale, Perceived Stress Scale.

Results: There were significantly increased scores (p<0.05) for all 4 aspects of mindfulness practice (observing, describing, acting with awareness and accepting without judgement) and self-compassion. There was also a significant decrease in the perception of stress, but no effect on self-determination scores, which were already high at baseline.

Conclusion: Potential teachers of MBIs in South Africa demonstrated significant gains in their own mindfulness practice and self-compassion as well as decreased perception of stress during the first module of the training programme. Further research will follow as this group completes the entire programme.

Academic achievement of final-year medical students on a rural clinical platform: Can we dispel the myths?

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Background: There is a growing body of literature relating to the establishment of rural clinical training platforms for medical students describing many positive outcomes, particularly in the case of extended placements. However, students’ fears about their academic achievement while at these sites remain a key concern.

Objectives: The study set out to compare the academic achievement in end-of-rotation assessments and final examinations of final-year medical students at a rural clinical school (RCS) with those of their peers at the academic hospital complex (AHC).

Methods: A cross-sectional study, comparing the marks of three successive cohorts of RCS and AHC students (2011 -2013) using t-tests and confirmed with non-parametric rank-sum tests, was conducted. The consistency of the effect of these results across cohorts was assessed by fitting regression models with interaction terms between cohort and group, and tested for significance using F-tests. Independent t-tests were conducted to evaluate differences in the mark attained between the two groups. A p-value <0.05 was considered statistically significant.

Results: Comparison of student marks attained across six of the disciplines offered at the RCS suggested there was no difference between the RCS and AHC in each of the three cohorts at baseline. A comparison of the end-of-rotation means showed that RCS students achieved significantly better results in some disciplines. A similar trend was observed for the final examination results across all seven disciplines.

Conclusion: Despite small numbers, this study suggests that students who spend their final year at the RCS are not disadvantaged in terms of their academic achievement. Medical students’ concerns regarding academic achievement for those placed at rural clinical sites appear to be unfounded. Students who potentially could be placed at these sites should be made aware of this evidence.
