



# DISTRICT HEALTH SERVICES RESEARCH: 2011

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



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# INTRODUCTION

The development of the district health system and primary care in South Africa is currently a priority in South Africa. There is a need for research that assists with this process and provides an evidence base for best practice.

Family medicine is an emerging specialist clinical discipline in South Africa which is beginning to make a useful contribution to this evidence base. The recognition of family medicine as a discipline has led to an increasing number of Masters students who are all required to perform research as part of their training. Masters students are distributed across 8 different University programmes throughout the country and are located in both urban and rural communities. They represent a potentially powerful resource for research in settings outside the traditional academic and tertiary settings.

Academic departments of family medicine are also beginning to develop a cadre of doctoral level and post-doctoral researchers as well as a number of established researchers.

This document presents the research output of the Division of Family Medicine and Primary Care at Stellenbosch University for a 1-year period. The research abstracts are presented to give the reader a brief overview of the range and scope of the work currently being performed, and the potential for future research. Where the work is already published the reference is also given. Where the work is available as a research assignment or thesis the email address of at least one of the authors is available and the work may also be available on SunScholar [www.sun.ac.za](http://www.sun.ac.za)

The booklet is structured according to the burden of disease with work presented under the following headings:

- HIV/AIDS, TB and STIs
- Non-communicable chronic diseases
- Women's and maternal health
- Violence and injury

A further section is included for other topics related to clinical family medicine, the health system as a whole or to the education and training of family physicians.

A brief summary of the key findings is also given at the beginning of each section.





# CLINICAL FAMILY MEDICINE AND DISTRICT HEALTH CARE SYSTEMS

Looking at generalism in the Sub-Saharan African region a study explored how generalist doctors from 8 different countries made sense of their work and what principles guided them. None of these doctors had received any specific postgraduate training in family medicine. Nevertheless their collective understanding of their work, roles and principles involved was congruent with the viewpoint of family medicine experts in the region. This article is one of a series by the same research team that is exploring the concept of generalism and family medicine in an African context. A further article that reports on the viewpoint of key stakeholders from department of health and academic institutions is expected in 2012.

Coming to the national level an important survey of primary care morbidity from 4 provinces and almost 19000 consultations sheds light on the nature of primary care practice. Most care is delivered by nurses and because HIV and TB are largely seen in separate vertical programmes the commonest reason for encounter in primary care was actually hypertension. The study revealed that mental health problems are largely unrecognised and identified the commonest complaints and symptoms that primary care providers have to deal with. The study has implications for the training of primary care providers and guideline development.

A third study reflected on how family medicine has been integrated into the model of the district health system in the Western Cape over the last 15 years. Despite some friction in the relationship between the Department of Health and Universities have managed to collaborate on a model that promises to improve quality of care and strengthen district health systems. This model is important for other provinces to consider and for other countries in the region.

Other studies from the Western Cape examined rational prescribing and patient safety issues and found that prescriptions contained the potential for moderate drug interactions in 42% of cases, severe in 5% and dangerous in 0.5%. Being seen at a specialist department at the regional hospital significantly increased your chance of a drug interaction. This could be related to the additional medications that can be prescribed at this level as well as to a fragmented perspective on the patient as a whole.

Two studies shed light on the doctor's experience. One study looked at career choices made by female doctors and identified a call for more flexibility in the public sector towards the needs of women who are often also mothers of small children. Eight important factors that women use in making career choices were identified. A yet more worrying study in Cape Town found that 76% of all doctors have high levels of burnout. This includes high levels of depersonalisation, which makes patient centred care a difficult goal to achieve. In addition 30% of doctors made diagnostic criteria for moderate-severe depression. These studies point to a need to address the staff experience and organisational culture as a prerequisite for improving the quality of care.

# Perspectives on key principles of generalist medical practice in public service in sub-Saharan Africa: a qualitative study

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## Background

The principles and practice of Family Medicine that arose in developed Western countries have been imported and adopted in African countries without adequate consideration of their relevance and appropriateness to the African context. In this study we attempted to elicit a priori principles of generalist medical practice from the experience of long-serving medical officers in a variety of African countries, through which we explored emergent principles of Family Medicine in our own context.

## Methods

A descriptive study design was utilized, using qualitative methods. 16 respondents who were clinically active medical practitioners, working as generalists in the public services or non-profit sector for at least 5 years, and who had had no previous formal training or involvement in academic Family Medicine, were purposively selected in 8 different countries in southern, western and east Africa, and interviewed.

## Results

The respondents highlighted a number of key issues with respect to the external environment within which they work, their collective roles, activities and behaviours, as well as the personal values and beliefs that motivate their behaviour. The context is characterized by resource constraints, high workload, traditional health beliefs, and the difficulty of referring patients to the next level of care. Generalist clinicians in sub-Saharan Africa need to be competent across a wide range of clinical disciplines and procedural skills at the level of the district hospital and clinic, in both chronic and emergency care. They need to understand the patient's perspective and context, empowering the patient and building an effective doctor-patient relationship. They are also managers, focused on coordinating and improving the quality of clinical care through teamwork, training and mentoring other health workers in the generalist setting, while being life-long learners themselves. However, their role in the community, was found to be more aspirational than real.

## Conclusions

The study derived a set of principles for the practice of generalist doctors in sub-Saharan Africa based on the reported activities and approaches of the respondents. Patient-centred care using a biopsychosocial approach remains as a common core principle despite wide variations in context. Procedural and hospital care demands a higher level of skills particularly in rural areas, and a community orientation is desirable, but not widely practiced. The results have implications for the postgraduate training of family physicians in sub-Saharan Africa, and highlight questions regarding the realization of community-orientated primary care.

## Published:

Reid et al. BMC Family Practice 2011,12:67 <http://www.biomedcentral.com/1471-296/12/67>

# A Morbidity Survey of South African Primary Care

Prof B Mash, Dr L Fairall, Knowledge Translation Unit, Lung Institute, University of Cape Town, Dr O Adejayan, Dr O Ikpefan, Dr J Kumari, Dr S Mathee, Dr R Okun, Dr W Yogolelo.

## Introduction

Recent studies have described the burden of disease in South Africa. However these studies do not tell us which of these conditions commonly present to primary care providers, how these conditions may present and how providers make sense of them in terms of their diagnoses. Clinical nurse practitioners are the main primary care providers and need to be better prepared for this role. This study aimed to determine the range and prevalence of reasons for encounter and diagnoses found among ambulatory patients attending public sector primary care facilities in South Africa.

## Methods

The study was a multi-centre prospective cross-sectional survey of consultations in primary care in four provinces of South Africa: Western Cape, Limpopo, Northern Cape and North West. Consultations were coded prior to analysis by using the International Classification of Primary Care-Version 2 in terms of reasons for encounter (REF) and diagnoses.

## Results

Altogether 18856 consultations were included in the survey and generated 31451 reasons for encounter (RFE) and 24561 diagnoses. Women accounted for 12526 (66.6%) and men 6288 (33.4%). Nurses saw 16238 (86.1%) and doctors 2612 (13.9%) of patients. The top 80 RFE and top 25 diagnoses are reported and ongoing care for hypertension was the commonest RFE and diagnosis. The 20 commonest RFE and diagnoses by age group are also reported.

## Conclusion

Ambulatory primary care is dominated by non-communicable chronic diseases. HIV/AIDS and TB are common, but not to the extent predicted by the burden of disease. Pneumonia and gastroenteritis are commonly seen especially in children. Women's health issues such as family planning and pregnancy related visits are also common. Injuries are not as common as expected from the burden of disease. Primary care providers did not recognise mental health problems. The results should guide the future training and assessment of primary care providers.

## Published

Mash B, Fairall L, Adejayan O, Ikpefan O, Kumari J, et al. (2012) A Morbidity Survey of South African Primary Care. PLoS ONE 7(3): e32358. doi:10.1371/journal.pone.00323582011

# Reflections on the development of family medicine in the Western Cape, South Africa: A 15 year review

Prof B Mash

## Abstract

This article reviews how the model of family medicine has developed over the last 15-years in the Western Cape. It is based in a series of in depth interviews with key role players. This period coincides with the immediate post-Apartheid era in which both the health system and health science education experienced rapid transformation. The new focus on primary health care, the district health system and community-based education provided an opportunity for the discipline of family medicine and primary care to develop. The model that emerged required the family physician to work at both the district hospital and primary care and to have a number of different roles: care-provider, consultant, capacity-builder, supervisor, manager and community-leader. After family medicine was accepted as a new specialty in 2007 the first specialist family physicians will qualify in 2011 and start to consolidate the model that has developed. Although the model shows promise a number of challenges still remain in relation to the health system, relationship between universities and province, discipline of family medicine, research, and training programmes. It is hoped that these reflections will be of value to other provinces in South Africa and other countries in the region that are also thinking of including family physicians in their health systems.

## Published

S Afr Fam Pract 2011;53(6):557-562 [www.safpj.co.za](http://www.safpj.co.za)

# Drug Interactions in Primary Healthcare in the George area, South Africa: A Cross-Sectional Study

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## Aim

To investigate the prevalence of potential drug-drug interactions in primary healthcare clinics in the George subdistrict. Objectives included to investigate and quantify the following risk factors: patient age, poly-pharmacy, gender, multiple prescribers and recorded diagnoses, as well as to identify and quantify the drugs involved, including the level of any drug-drug interactions.

## Design

A descriptive cross-sectional study was performed at four primary healthcare clinics in George from 400 randomly selected patients' files for patients who attended these clinics from 1 February to 30 April 2010. Demographics, recorded diagnoses and all concurrently prescribed drugs were recorded and analysed. The level of drug-drug interaction was classified using the OpeRational Classification of drug-drug interactions designed by Hansten and Horn.

## Results

The prevalence of potential moderate interactions was 42.0%, severe interactions 5.3% and contraindicated combinations was 0.5%. The most common drugs involved in potential drug interactions were enalapril, aspirin, ibuprofen, furosemide and fluoxetine. The most common drugs involved in potentially severe interactions were warfarin, aspirin, fluoxetine, tramadol and allopurinol. Two contraindicated combinations were found: verapamil plus simvastatin, and hyoscine butyl bromide with oral potassium chloride. Increasing age and poly-pharmacy were associated with an increased risk for potential drug-drug interactions. Input from the regional hospital specialist departments greatly increased the risk of being prescribed a potential drug-drug interaction. 81% (17/21) of severe interactions were from this group. The majority of patients in the sample were female (65.5%) but there was no differences in the percentage of drug interactions between males (43.4%) and females (43.1%).

## Conclusion

Potential drug-drug interactions are commonly prescribed in primary healthcare clinics in the George subdistrict. Drug interactions are predictable and preventable. It would seem prudent to put into place a method of reducing the risk. Further research is needed to identify effective interventions suitable for resource constrained settings. The risk factors identified in this study may assist in designing such an intervention.

# Factors influencing career decisions of female doctors at Tshwane District Hospital

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## Background

There is a shortage of medical doctors in the public sector in South Africa and retaining doctors is crucial. The gender profile is changing, with more female than male graduates in South Africa. Research identified some of the reasons why doctors leave the public sector, but the factors influencing career decisions of female doctors at a district hospital have not been explored.

## Aim

To identify the factors that influence career choices of female doctors Tshwane District Hospital (TDH).

## Methods

Mixed methods were used. Work-related challenges and factors influencing career decisions of female doctors were identified in an open in-depth focus group interview. The identified factors were validated through a self-administered questionnaire. Levels of job satisfaction and symptoms of burnout in female doctors were compared to those of males.

## Results

Overtime duty, the workload at TDH, and problems with management were some of the identified challenges facing female doctors. Eight factors influencing career decisions of female doctors were identified: having flexible working hours, being allowed to reduce overtime or work part-time, the salary, having benefits like maternity leave, having a predictable daily work schedule, the opportunity to work with under-privileged patients and having opportunity for academic stimulation and learning. The job satisfaction level of female doctors at TDH was comparable to that of males and both groups reported symptoms of burnout.

## Conclusions

The challenges faced by female doctors contribute to diminished job satisfaction, burnout and poor retention. Improving working conditions and relationships with management are needed. Models that allow flexible work hours and part time work are recommended.

# The prevalence of burnout and depression among medical doctors working in the Cape Town Metropole community health care centres 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 among medical doctors in the context of work-related conditions and the role of resilience as a modifiable factor.

## Methods

A cross-sectional, observational study was conducted on all consenting medical doctors (N=132) working at Cape Town primary health care 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 on 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 with 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 lower scores on the emotional exhaustion and depersonalisation domains of the MBI.

## Conclusion

Both burnout and depression are prevalent problems among doctors working at district level and primary care facilities. Resilience appears to be protective and may be a useful target for future intervention. Improving the patient's experience and the quality of clinical care may be difficult without attention to the staff experience and ability to care.

# Advance directives or living wills- some reflections from General Practitioners and Frail Care Coordinators in a small town in KwaZulu Natal.

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## Background

Living wills have long been associated with end-of- life care. This study explored the promotion and use of living wills amongst general practitioners and frail care nursing coordinators directly involved in the care of the elderly in Howick, Kwa-Zulu Natal. The study also explored their views regarding the proforma living will disseminated by the Living Will Society.

## Participants

Seven general practitioners and three frail care nursing coordinators.

## Design

Qualitative in-depth interviews and analysis, using the Framework method.

## Results

Both doctors and nursing staff understood the concept of living wills and acknowledged their varied benefits to patient, family and staff. They were concerned about the lack of legal status. They felt that the proforma document from the Living Will Society was simple and clear. Despite identifying the low level of use of living wills, they felt that third party organisations and individuals should promote living wills

## Conclusion

GPs and frail care nurse coordinators were knowledgeable of living wills in general and the Living Will Society proforma document in particular. They valued the contribution that living wills can make in the care of the elderly, benefiting patients, their families, health care workers and even the health system. They also valued the proforma living will document from the Living Will Society for its clarity and simplicity. However, both GPs and frail care nursing coordinators viewed the living will process as patient- driven and their main role was as custodians and not advocates of the living will.



# **Integrating rural and remote health into the undergraduate medical curricula -a rural education program for medical students at the Health Sciences Faculty of Stellenbosch University, South Africa.**

Prof H Conradie, Prof B Mash

## **Abstract**

All medical students at the Faculty of Health Sciences at Stellenbosch University, South Africa do a two week rural rotation in their mid-clinical phase at a district hospital. This rotation is a combined rotation in Family Medicine, Community Health and Rehabilitation. In their final year medical students do another 5-week rotation in these disciplines. About a third of students elect to do this rotation at rural sites. Students are exposed to a wide variety of health services in a rural context from home-based care, mobile and fixed clinics, as well as district hospital care, under the supervision of a local doctor. Learning tasks are described as well as assessment. Student experiences are discussed. The implementation of a e-learning project is discussed as well as the development of a rural clinical school with a longitudinal integrated clerkship at the district hospitals.

## **Published**

International Journal of Child Health and Human Development 2011; 4(1): 49-54



# HIV/AIDS, TB and STIs

The prevention of HIV was addressed by a doctoral study that developed and evaluated a peer education programme to reduce risky sexual behaviour amongst teenagers. The study was conducted in the context of the Anglican church, although their youth had a similar risky sexual profile to the general population. The study showed the potential for faith based HIV prevention programmes and demonstrated a significant postponement of sexual debut and increased use of condoms amongst those already sexually active.

Other studies that focused on more preventative issues explored the impact of testing and counselling on HIV negative patients. Although they showed reduced levels of sexual intercourse and STIs the study did not show a statistically significant reduction compared to those who had not received testing. A study on contraception amongst HIV positive women showed a lack of knowledge regarding emergency contraception.

One study explored access to care amongst a group of HIV positive patients in the Eastern Cape and found a range of factors that enabled or hindered access. Poor patient experience and lack of trust in the health service was an important factor as well as the need to travel to the referral hospital to access anti retroviral (ARV) medication with associated costs of travel. A number of patient related factors were also identified. A number of studies explored different aspects of adherence in both patients with HIV and TB.

One study evaluated the success of a local ARV programme and found that 25% of the initial cohort was lost to follow up. Research strongly supported the move away from Stavudine as a component of Regimen 1 in the National ARV Guidelines. Another study emphasized the need to screen for Hepatitis B, even within the new ARV Regimens, and particularly when switching medications.

An evaluation of the prevention of mother to child transmission (PMTCT) programme revealed that 95% of women in the study had an HIV test at the clinic, and 93% had a CD4 count. However, 28% did not receive adequate antenatal PMTCT cover, 33% of patients who required highly active ARV treatment did not receive it, and 34% of women did not receive adequate PMTCT cover during labour.

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# Agents of change: the implementation and evaluation of a peer education programme on sexuality in the Anglican Church of the Western Cape

Dr RA Mash, Prof B Mash, Prof P de Villiers, Prof C Kapp

## Introduction

Religion is important in Africa and many churches are involved in HIV ministry. Prevention programmes, however, are less frequent in the church setting and there is little evaluation of them. If an effective model is found, it can contribute to HIV prevention efforts in Sub-Saharan Africa.

This study was conducted in the Cape Town Diocese of the Anglican Church. Fikelela, an HIV/AIDS project of the Diocese, developed a 20-session peer education programme (Agents of Change) aimed at changing the risky sexual behaviour of youth. Workshops were also aimed at parents.

A conceptual framework for the programme was developed by integrating theories of behaviour change with evidence regarding adolescent sexual relationships and the influence of religion on adolescent sexuality.

The aim of this research was to evaluate the effectiveness and functioning of the programme, to develop a best practice model and to make recommendations for the use of the programme in the wider church.

## Methods

Outcome mapping was used to integrate an approach to the design, monitoring and evaluation of the programme. Changes in project partners, key project strategies and organisational practices were all monitored. Project partners were defined as peer educators, facilitators, young people, clergy and parents. Monitoring allowed an in-depth understanding of which aspects of the programme worked.

Evaluation was designed as a quasi-experimental study that compared non-randomly chosen intervention and control groups. 1352 participants took part at base-line, 176 in returned matched questionnaires in the intervention groups and 92 in the control groups. Reported changes in attitudes, knowledge and sexual behaviour were compared between the two groups.

## Results

The programme was successful at increasing condom usage ( $p=0.02$ ) and raising the age of sexual debut ( $p=0.04$ ), but did not have an impact on increasing abstinence amongst those who were already sexually active ( $p=0.25$ ) or on the number of partners ( $p=0.67$ ).

The main factors leading to the success of the programme were: a well developed curriculum and programme, effective training camps, support of the facilitators for the peer educators, ongoing mentoring and training, role modelling by peer educators, a participatory style of education and positive peer pressure within a strong church based social network. Challenging the church's negative attitude to condoms was also important. The weakest areas of the programme were amongst clergy and parents and in challenging media messages and norms on gender.

The project impact evaluation showed significant differences at baseline between genders in terms of sexual beliefs and behaviour. There was no significant impact of religiosity on sexual activity.

## Conclusions

An initial exploratory quasi-experimental evaluation of the Agents of Change peer education programme in a church-based context found that the age of sexual debut and condom usage was significantly increased. The study demonstrated the potential of faith-based peer education amongst youth to make a contribution to HIV prevention in Africa. Further evaluation of the effectiveness of the programme is however required before widespread implementation can be recommended.

**Implementation:** The programme should be promoted as a youth development programme rather than an HIV prevention programme. Priority should be given to churches in communities with the highest HIV rates. The target group should include younger teens. Peer educators should be selected by peers not by adults.

**Strategies:** The strategies of training camp and quarterly gatherings are effective, but a new strategy needs to be devised to impact the parents.

**Content:** The programme should build self-efficacy amongst the youth, develop a critical consciousness about sexual health, provide positive messages rather than fear-inducing ones, address sexual coercion and persuasion, explore the linking of condom use with trust, address inter-generational sex and promote community outreach and advocacy activities.

The programme is effective and meets the threshold of evidence required to be rolled out. It should be rolled out through the Anglican Church with its estimated membership of two million and could be adapted for other denominations as well.

## Published

Mash R, Mash RJ. A quasi-experimental evaluation of an HIV prevention programme by peer education in the Anglican Church of the Western Cape, South Africa. *BMJ Open* 2012;2:e000638. doi:10.1136/bmjopen-2011-000638 <http://bmjopen.bmj.com>

# Contraceptive knowledge, attitude and practices amongst adult HIV positive females in the John Talo Gaetsewe Health District

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## Background

In the John Taolo Gaetsewe Health District it was noted that many women diagnosed HIV positive had unwanted pregnancies. Unwanted pregnancies increase requests for termination, may adversely effect the general health of HIV positive women and risk mother to child transmission of HIV.

## Aim

To study the contraceptive knowledge, attitudes and practices of adult HIV positive women in John Taolo Gaetsewe Health District. The objectives were:

1. To evaluate contraceptive knowledge, perceptions and practices amongst patients presenting for contraception
2. To find out the reasons for use and non use of contraceptives by patients
3. To determine choices of contraceptive methods, use of emergency contraception and barrier contraception such as condoms.

## Methods

A cross sectional descriptive survey was conducted in the rural ARV clinics of the Kuruman and Tshwaragano districts hospitals and the four community health centres in the John Taolo Gaetsewe Health District. 224 were respondents between the ages of 18 and 49 were selected over a 2 month period. The questionnaire had been previously used to evaluate contraceptive practices of women in Northern Tshwane.

## Results

100% of women had knowledge of condoms, 94% injectibles, 87% oral contraceptive pills, 66% female sterilization, 51% emergency contraception, and 3% intrauterine devices. 89% received information from nurses and only 40% from the health educator. 100% of participants had access to oral contraceptive pills and injectibles, but only 2% to intrauterine devices. 100% had a positive perception of injectibles, 74% of female sterilization, 67% of emergency contraception, 61% of oral contraceptive pills, 12% of male sterilization and 8% of intrauterine devices. Women's partners and traditional healers influenced actual use of contraceptives. Non-use was associated with wanting to fall pregnant (22%), side effects (6%) and co-morbid TB (1%)

## Conclusion

Participants had good knowledge and positive perceptions about the readily available contraceptive methods at the local clinics. Awareness of emergency contraception was much lower despite its availability. Intrauterine devices were not an option for these women. The influence of health educators on contraceptive practice was low.



# The role of voluntary counselling and testing in modifying risky sexual behaviour for HIV infection: Cross-sectional study from the 'Wellness Clinic' of a District Hospital in rural Limpopo, South Africa

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## Background

Voluntary HIV counselling and testing (VCT) is considered one of the key strategies in the prevention and control of HIV/AIDS in South Africa. However its role in modifying risky sexual behaviour among patients tested as HIV-negative (primary prevention) is controversial.

## Objective

This study was intended to demonstrate the likelihood of VCT reducing risky sexual practices among patients testing sero-negative for HIV infection.

## Methods

This was a quantitative cross-sectional survey that took place over a period of 3½ months in a district hospital in rural South Africa. A self-administered questionnaire was completed by 54 patients who had VCT and tested sero-negative for HIV infection during the previous 12 months (Study Group). The same questionnaire was filled in by 61 patients who had never received VCT before (Control Group). Both groups consisted of women and men aged 18 years or older. Socio-demographic information, sexual behaviour, willingness to disclose the HIV sero-status with the sexual partner, and readiness to have VCT were asked in the survey.

## Results

The median age was 29 years (Interquartile Range 24-40), with most of the respondents (38%) between the ages of 26 and 35 years. More than 90% of patients in both groups reported being sexually active. Sexual intercourse with more than one partner was significantly lower in the Study group ( $p=0.003$ ). Those who had never received VCT before had a higher (although not significant) incidence of episodes of unprotected sexual intercourse and symptoms of sexually transmitted infections (STIs) (81.9 % and 42.6 % respectively) when compared to the study group (77.7 % and 35.1 %). Most of the participants in both groups did not consider the disclosing of their sero-status an issue of concern for their sexual partner(s). Readiness to receive VCT was significantly higher in the study group ( $p=0.02$ ).

## Conclusions

In this study, people who tested sero-negative for HIV through VCT were associated with a significantly lower number of sexual partners than the control group who did not undergo VCT. Although the VCT group had less unprotected sexual intercourse and less symptoms of STIs than the control group the difference was non-significant.

# A survey to explore factors that delay patients from accessing antiretroviral treatment at an East London Hospital Complex clinic

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## Introduction

The aim of this study was to explore factors that delay patients from accessing antiretroviral treatment at an East London Hospital Complex clinic and to determine the pathway that people from communities in the surrounding area take in order to access antiretroviral treatment at the referral hospital ART clinic

## Methods

The study design was a descriptive cross-sectional survey using both open and closed questions to generate qualitative and quantitative data. 200 adult patients (>18years old) from the local population with a CD4 count of  $\leq 100/\text{mm}^3$  referred to the ART clinic at East London Hospital Complex for the first time during May to October 2011 were interviewed.

## Results

Within the health system, some issues were structural (staffing, availability of CD4 testing), but most were process related and reflected a poor patient experience and lack of trust in the quality of care. Contextual related issues were mainly geographic accessibility (cost and lack of transport, distance to health care facility), stigma and discrimination about HIV. Patient related factors included misperceptions and false beliefs about HIV, low levels of education, socioeconomic factors, lack of family and social support (unavailability of treatment supporter) and poor level of functioning. The majority accessed care via their local primary care clinic and traditional or alternative practitioners did not appear to play a major role.

## Conclusions

This study gives evidence that people living with HIV experience health system, patient and contextual related barriers to access HIV treatment. Many of these factors that reduce access to ART are amenable to change.

# The prevalence of factors known to be associated with adherence to Highly Active Antiretroviral Therapy (HAART) in non-adhering patients at the ARV clinic of Madzikane KwaZulu Memorial Hospital

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## Background

Adherence to HAART is key to any successful HIV programme. In Madzikane KwaZulu Memorial District Hospital ARV Clinic there is an increasing number of patients on and awaiting initiation of HAART. With the paucity of healthcare personnel in this rural district hospital, suboptimal patient preparation for HAART often occurs, and the HAART defaulter rate is on the increase.

## Aim

The aim of this research was to determine the prevalence of factors known to be associated with adherence to HAART in non-adhering patients.

## Methods

A mixed methods descriptive study used a focus group interview and information extracted from patient records to describe patient related, therapy related and facility related factors associated with adherence to HAART. 215 adult patients (60% female) who were non-adherent during a 2 year period were included in the study.

## Results

12.4% of patients identified patient-related factors, 5.8% therapy related factors and 5.7% facility related factors known to be associated with adherence. Majority of the patients (86.1%) had treatment supporters and more than half of the patients (57.2%) were unemployed, but not receiving a disability grant. A total of 62.8% of the patients would prefer to take their ARV at a clinic and not the district hospital. Female gender, unemployment without a disability grant, a longer period on HAART, use of regimen 1A (Stavudine or Tenofovir plus Lamivudine and Efavirenz), single marital status and poorly selected unprepared treatment supporters, were associated with poor HAART adherence. Topmost amongst the associated factors were not belonging to a support group, side effects of medication and the ARV clinic being too far from where the patients live.

## Conclusion

24% of non-adherent patients had factors known to be associated with poor adherence. Efforts should be targeted at enrolling patients in support groups, encouraging the use of HAART regimens that have a good tolerability profiles, and establishing clinic based ARV services.

# A survey to assess the prevalence of Hepatitis B in the adult HIV positive population of the TC Newman ARV centre, Paarl

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## Background

Hepatitis B Virus (HBV) and HIV co-infection in South Africa is estimated between 5-17%; however research determining this prevalence is lacking. With co-infection there is increased risk of liver cirrhosis, end stage liver disease, death as well as higher rates of chronic Hepatitis B infection. Chronic HBV develops in 20% of HIV positive individuals when compared to less than 5% in HIV negative individuals. This also further complicates Highly Active Anti-Retroviral Treatment (HAART).

## Methods

A retrospective observational quantitative, cross-sectional, analytical study was done at the TC Newman Antiretroviral (ARV) centre in Paarl. All adult HIV positive patients that were started on antiretroviral therapy for the time period the new protocol was implemented were analyzed according to their Hepatitis B

Antigen (HBsAg) result as well as for any association with gender, CD4 and age. The new protocol stated that all patients who were to start ARV's had to be tested for Hepatitis B by testing their HBsAg.

## Results

A total of 498 participants were identified of which 40% were male and 60% were female. The HBsAg positivity rate was established at 7.6%. A higher prevalence was found among men, as well as in the age group 50-59 years and in those with a CD4 of 50/ $\mu$ L or less.

## Conclusions

This study supports the need for routine testing of HIV positive patients for Hepatitis B. If not before commencing ART then at least when switching from a regimen, containing Lamivudine (3TC) or Tenofovir (TDF), to a regimen not containing these drugs, in order to prevent acute flare ups of hepatitis.

# Exploring programme design, evaluation of programme performance and describing the clinical outcomes of a public sector based ARV treatment programme in a semi-rural area in the Western Cape over the past 6 years. (2004-2010)

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## Background

A national roll-out of antiretroviral therapy in the public sector was started in 2004, and Paarl was one of the first sites to start these services in the Western Cape. Operational research is required to guide the continuous improvement of such services. This research aimed to describe the characteristics of the treatment cohort started at TC Newman CDC's ARV clinic in Paarl, to determine the retention in treatment rate and to assess the clinical and virological outcomes.

## Methods

A retrospective descriptive study. All adult HIV positive patients that were started on antiretroviral therapy in the given time period were included. Patient and treatment data had been collected in an electronic database (e-register) and were extracted and analysed.

## Results

Out of the 2469 patients that were enrolled for ARV treatment between February 2004 and December 2010, 2254 started locally (the rest transferred in). 64% of them were female (decreasing rate over the years). By June 2011 51.5% of patients were still on ARVs, 6.9% patients had died, 16.7% had been 'transferred out' and 24.7% were reported as 'Lost to Follow-up'. 40% of the attrition of the cohort occurred in the first 6 months, 70% in the first 18 months. Of the 1172 patients remaining, 1023 (87.3%) were still on Regime 1 and 149 (12.7%) on Regime 2.

## Conclusions

The results of this treatment cohort (mortality, treatment retention and regimen durability) equal those in other published treatment cohorts, although very limited comparable data are available. However, the high 'lost to follow-up' rate is of concern and needs further investigation. Changes in the programme structure and environment tend to have an immediate effect on initiation numbers of new patients.

# The reasons for changing HAART in HIV positive patients at the Thusong Comprehensive Care Management and Treatment Site, West Rand District, Johannesburg, Gauteng

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## Objective

To determine the reasons for change or modification of the first line HAART regimen (1a and 1b) in HIV positive patients at the Thusong CCMT site.

## Methods

This study was a quantitative descriptive study using a standardized data collection tool to extract retrospective data from medical records.

## Subjects

Subjects for this study included patients 18 years or older attending the Thusong CCMT site, who were started on HAART regimens 1a or 1b and were on treatment for at least 6 months. The final sample size evaluated was 257 patients.

## Results

There was a high rate (43%) of change or modification of the first line HAART regimen. Majority of the patient's (72%) had their regimen modified due to side effects of the drugs although only a small number (9.7%) of patients had a complete change in the regimen due to virological failure. Stavudine (d4T) associated lipodystrophy was the most common side effect (45.5%) followed by peripheral neuropathy (16.7%), leading to treatment modification.

## Conclusion

The rate of modification or change of first line HAART regimen, at Thusong CCMT, was fairly high (42.6%), and the most common reason for the modification or change was drug related side effects of stavudine (d4T).

# The prevalence of factors contributing to non-adherence to TB treatment in Lukhanji LSA (Queenstown), South Africa

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## Introduction

Tuberculosis remains a problem in Lukhanji Local Service Area (LSA) where the number of patients notified to authorities is reportedly increasing. The aim of this study was to identify the main factors contributing to this situation and to make recommendations.

## Methods

This was an unmatched case-control observational study using the data relating to patients undergoing treatment. The collection of data took place from December 2010 to June 2011. Two groups were studied: (i) those who did not adhere and (ii) those who did adhere to the prescribed treatment. The data from these two groups was compared.

## Results

Data was obtained from 195 patients, 98(50.3%) of whom were non-adherent. The following factors were significantly associated with non-adherence to TB treatment in this community: loss of hope; school or work commitments; patients' marital status; patients' under arrest; lack of social support; involvement in drug abuse; TB denial and tablets not available from the clinics.

## Conclusion

The prevalence of non-adherence to TB treatment in this community was high and a range of factors associated with non-adherence were identified. There is an urgent need for health authorities in this community to take strong action to improve patients' adherence to TB treatment.

# Adherence of HIV/AIDS patients to antiretroviral therapy in a district hospital in Nankudu, Namibia.

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## Background

Non-adherence to highly active antiretroviral therapy (HAART) is a strong predictor of progression to AIDS and death. The main purpose of this study was to determine the current frequency of adherence to HAART in a major HIV/AIDS treatment center in Nankudu District and to identify the local factors contributing to non-adherence.

## Methods

The study was a descriptive survey. The three methods used to measure HAART adherence were: pill counts, pharmacy refill data and self-report. The participants CD4 counts and viral loads were also evaluated. It included a randomly selected sample of 225 adult patients receiving HAART treatment.

## Results

A total of 90% of the patients had an adherence >95%. The major local barriers to adherence included: distance from clinic (100%), lack of food (100%), lack of money (100%), poverty (100%), occupational factors-migration (100%), travel (81%), ran out of medicine (69%), too busy (69%), medication side effects (56%), felt better (56%) and too sick (50%). The major reasons given by the treatment defaulters were similar to those given by the treatment interrupters except for stigma (100% vs. 19%).

## Conclusion

The level of HAART adherence was high. The study revealed that there were more treatment interrupters than defaulters. Financial constraints, travel, running out of ARV medicine, food insecurity, poverty, distance from the clinic, were the major reasons given by the treatment interrupters, while occupational factors, lack of transport, stigma, and long distance of the health facility were the major reasons given by the treatment defaulters.



# A review of the implementation of the prevention of mother-to-child transmission program in the George sub-district, Western Cape

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## Introduction

The most common cause for HIV infection in children in developing countries is the vertical transmission of HIV from mother to child. Without any intervention the vertical transmission rate from mother to child will be between 15-50%. An effective prevention of mother-to-child transmission (PMTCT) program can dramatically reduce this transmission rate to as low as 2-5%. The aim was to review the implementation of the PMTCT program in the George sub-district for 2010.

## Methods

A retrospective descriptive study, based on a record review of patient files, the PMTCT register, and birth registers in the labour ward of George provincial hospital. Every HIV positive pregnant woman from the George sub-district who delivered at the George provincial hospital obstetric unit during 2010 was included.

## Results

95% of women in the study had an HIV test at the clinic, and 93% had a CD4 count. However, 28% did not receive adequate antenatal PMTCT cover, 33% of patients who required highly active antiretroviral treatment (HAART) did not receive it, and 34% of women did not receive adequate PMTCT cover during labour. 86% of babies received their initial PMTCT medication within 72 hours of birth. The one month zidovudine treatment for babies (< October 2010) and six weeks nevirapine treatment (> October 2010) was not documented in 30% and 74% of cases respectively.

## Conclusion

While many aspects of the PMTCT program are being well applied in the George sub-district, there are significant shortfalls in the implementation of the program. Particular points which need to be focused on are improved record keeping, increasing the percentage of HIV positive women receiving adequate antenatal and intrapartum PMTCT, and increasing the percentage of HIV positive women receiving HAART.

# How to improve the detection and management of lactic acidosis in the antiretroviral unit at Bambisana Hospital, Eastern Cape.

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## Introduction

Lactic acidosis is a mitochondrial toxicity, mainly related to stavudine, which has been commonly used in the first line regimen in patients on antiretrovirals. Its incidence ranges from 1.3 to 1.9 cases per 1000 person-years on treatment. Stavudine can be responsible for causing asymptomatic and symptomatic hyperlactaemia as well as more potentially fatal complications such as lactic acidosis. The aim of this study was to initiate improvement in the quality of care for patients on first line ARV treatment who were at risk of hyperlactaemia and lactic acidosis.

## Methods

This study was a quality improvement cycle for patients on first-line antiretroviral treatment (including stavudine) who were at risk of developing hyperlactaemia and lactic acidosis.

## Results

The quality assurance team assessed 13 target standards, none of which were achieved in the baseline audit. The poor quality of care was seen as due to a shortage of staff, poor record keeping, insufficient information, poor laboratory turnover, an absence of supporting medical equipment and an inadequate care of patients with lactic acidosis. Simple changes brought a significant improvement in the detection and care of these patients, with nine of the target standards achieved.

## Conclusion

The quality of care for hyperlactaemia and lactic acidosis was extremely poor at Bambisana Hospital. The quality improvement cycle enabled relatively simple changes to be made at the hospital which led to substantial improvements in the quality of care over a short time period. The poor management of risk identified in this audit supports the decision by the national Department of Health to move to new ARV regimens with a lower risk of lactic acidosis.

**NCD's**  
NCD's



# NON-COMMUNICABLE CHRONIC DISEASES

Non-communicable chronic diseases (NCDs) make up a large part of primary care and the focus here has been on improving the quality of care. Many Masters students have performed quality improvement cycles or audits on topics such as diabetes, cardiac failure, asthma, gout and hypothyroidism. In general the quality of care is sub-optimal and yet improvement is possible with relatively little in the way of interventions. Adherence was also a popular topic.

One study explored the experience of Health Promotion Officers (HPO) with a programme of diabetes group education in the Cape Town Metropolitan District. The intervention involved 4 sessions of education, delivered by mid-level health workers, trained in a guiding style and designed for groups. Sessions focused on understanding diabetes, healthy lifestyle, medication and avoiding complications. This study is part of a pragmatic clustered randomised controlled trial that evaluated the effectiveness of this programme in terms of self-care activities and biological markers such as HbA1c. The results of the trial will be available in 2012.

This qualitative assessment of HPO's perspective on a group diabetes education programme using motivational interviewing showed that HPOs can deliver such a programme with the necessary confidence after adequate training. The HPO's perspective needs to be triangulated with other research projects focused on the patient outcomes and perspectives and evaluation of the HPO's fidelity and competency. This study however supports wider implementation of the educational programme.

Two students evaluated the cost and consequences of introducing point of care testing for microalbuminuria in diabetic patients at two different health centres. In the one health centre the chronic care team showed reasonable fidelity to the protocol and demonstrated the feasibility of screening and treating patients. Under normal working conditions if 100 patients were screened, 12 patients would be diagnosed with macroalbuminuria, and another 15 with microalbuminuria. The balance of costs (annual cost for dialysis per patient is R120,000 and transplant R78,000) and long term benefits (predicted 44% reduction in cumulative incidence of end stage renal failure with optimized intervention) suggests that this represents excellent value for money in a South African primary care setting. The second study demonstrated less fidelity to the protocol at that health centre, but came to similar conclusions.

# Is screening for microalbuminuria in type 2 diabetic patients feasible in the public sector primary care context: a cost and consequence study in Elsies River Community Health Centre

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## Background

The epidemic of type 2 diabetes poses an enormous and growing burden on health care globally. Developing countries will bear the greatest increase in the burden of this disease. Diabetes is one of the most common causes of kidney failure and nephropathy is a strong predictor of cardiovascular complications and death. Microalbuminuria represents an early pre-symptomatic phase of nephropathy, which can be stopped from progressing to an advanced stage if detected and treated early. The cost effectiveness of this screening and intervention has been shown in high income countries. Microalbuminuria is not currently tested for in the public primary care sector in South Africa.

## Aim

To assess the feasibility of introducing a screening test for microalbuminuria and the associated costs and consequences at Elsies River Community Health Centre (CHC) in the Metropolitan District of Cape Town.

## Method

A cost and consequence study on 581 diabetic patients. Point of care microalbuminuria screening was introduced and fidelity to the protocol measured on a randomly selected representative sample of 171 patients. Interventions included addition of an Angiotensin Converting Enzyme inhibitor to, more intensive glycaemic, blood pressure or lipid control via medication or lifestyle changes and treatment adherence health education. Fidelity to the intervention was measured on the 74 patients diagnosed with microalbuminuria. A focus group interview was conducted with the health workers to explore their views on the feasibility of the screening and intervention. Cost was assessed by estimation of the additional resources required and the likely long term health outcomes extrapolated from available data and literature.

## Results

Under normal working conditions if 100 patients were screened, 12 patients would be diagnosed with macroalbuminuria, and another 15 with microalbuminuria. Screening was completed in 56.2% of all patients with a positive first test. 83.7% of eligible patients were prescribed ACEI and 96.6% of eligible patients had the dose increased. It cost the health system an additional R1225.50 to screen for and treat these patients in the first month. The cost of identifying a patient with microalbuminuria was R73.96 and the cost of treating a patient with the ACEI per month was R7.74. The total cost of identifying and treating one patient for one year with microalbuminuria in this health centre was R154.40.

## Conclusion

The chronic care team showed reasonable fidelity to the protocol and demonstrated the feasibility of screening and treating patients. The balance of costs (annual cost for dialysis per patient is R120,000 and transplant R78,000) and long term benefits (predicted 44% reduction in cumulative incidence of end stage renal failure with optimized intervention) suggests that this represents excellent value for money in a South African primary care setting.

# A Quality Improvement Audit of Diabetes Care in Macassar Community Health Centre

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## Background

The responsibility for the management of diabetes mellitus, a highly prevalent and serious chronic condition, falls mostly on our primary health care services. Macassar Community Health Centre (CHC) in the Western Cape provides care for over 1000 patients with diabetes. Many studies show that disease and case management can improve patient care for chronic illnesses and the researcher decided to assess the management of diabetic patients at this CHC.

## Aim

To perform an audit of diabetes care at the Macassar Community Health Centre and implement a quality improvement cycle.

## Methods

An audit (as part of a quality improvement cycle) was performed to assess the standard of care in 2009. 250 patient folders were selected randomly and assessed. A year of intervention, including training of staff and the use of a patient-held chronic care card subsequently took place. This was followed by a second audit of 250 folders in 2010 and the results were compared.

## Results

Most of the targets for structural outcomes were achieved, yet only 3 out of 13 process outcomes and 3 out of 11 patient outcomes were achieved. In general there was an improvement in all outcomes with the second audit yet some issues will still need particular attention in the next quality improvement cycle. Retinal photography is available and must be better utilised. Foot examinations need to take place more frequently.

## Conclusion

The study was successful in determining the current standard of care of diabetics at Macassar CHC and commencing an ongoing cycle of quality improvement. Performance levels were maybe set too high and could explain the failure to meet the target standards despite improvements.

# Is screening for microalbuminuria in type 2 diabetic patients feasible in the public sector primary care facilities?

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## Background

The aim of this study was to assess the feasibility of introducing a screening test for microalbuminuria and the associated costs and consequences at Kraaifontein Community Health Centre in Cape Town.

## Methods

A cost-and-consequence study, that offered screening to 1094 diabetic patients. A representative random sample of 171 was used to evaluate the screening process. 68 patients out of all those screened were diagnosed with microalbuminuria and their medical records were evaluated for any interventions. Costs of screening and interventions were calculated.

## Results

29.6% of patients were missed or did not complete the screening and 8.2% of patients were diagnosed with microalbuminuria. 82% of diagnosed patients received additional lifestyle counselling, 7.3% were started on or increased their ACE inhibitor and 38.2% had other treatment intensified. 66.2% of patients were already on ACE. The cost of screening 100 patients was R1630.36 and the annual cost of treatment for those identified (8 per 100) was R328. The total cost therefore of screening and treating 100 patients at this health centre was R1958 per year.

## Conclusion

Fidelity to the screening process was poor and there were many missed opportunities for treatment intensification in those diagnosed with microalbuminuria. Nevertheless, given the low cost of screening and treating patients and the high cost of dialysis for end stage renal failure, the intervention at this health centre is still likely to be cost-effective. This study would support the introduction of screening for microalbuminuria in primary care.



# Quality of care in adult diabetic patients in the Graaff-Reinet municipal clinic

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## Introduction

Graaff-Reinet is a rural community in the Cacadau district of the Eastern-Cape with a population of about 45,000 people. Healthcare workers in the area became aware that diabetic control was sub-optimal and that a number of patients were being admitted to the local hospital with complications. Many patients with diabetes do not receive the standard of care required to avoid the complications. High quality care for patients with diabetes has been shown to make a difference.

## Aim

The aim of this study was to investigate the quality of diabetic care patients at the Graaff-Reinet Municipal Clinic.

## Method

A retrospective descriptive study design was used to investigate the quality of care. This study was conducted over a one month time period during April 2008. 82 diabetic patients 18 years and older and who were able to give written informed consent were included in this study. Patient interviews were conducted by healthcare professionals and data obtained from patient files.

## Results

71.9% were female, the mean patient age was 56.8 years and 74.4% were unemployed. Co-morbid diseases were present in 75.7% of patients. 80.5% had a Body Mass Index (BMI) above 25kg/m<sup>2</sup>. The average random blood glucose was 10.8 mmol/L. The mean systolic and diastolic pressure were 150mmHg and 81mmHg respectively. No patients had their glycosylated haemoglobin (HBA1C) tested, 26.8% had an eye examination, 17.1% had a foot examination, 6.1% a lipogram. No patients had their urine tested for microalbuminuria. Self-monitoring of glucose was reported by only 8.5% of patients.

## Conclusion

This study concluded that quality of care of diabetic patients at the Graaff-Reinet Municipality Clinic is suboptimal. Major changes will need to be implemented in order to make a difference to the quality of care. A follow up study will be necessary to investigate whether the implementation of new diabetic strategies and guidelines has resulted in improvements in standards of care.

# Reasons for diabetes patients attending Bishop Lavis Community Health Centre being non-adherent to diabetes care

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## Background

Adherence to diabetes care is an issue of concern at Bishop Lavis Community Health Centre (BLCHC) as it results in so many diabetes patients ending up with complications that could have been avoided.

## Aim

To explore the reasons for people with diabetes in the Bishop Lavis area being non-adherent to diabetes care.

## Method

A qualitative study was undertaken. Three focus groups were held and seven in-depth interviews were conducted. The framework method was used to analyze the data.

## Findings

The main findings in this study were consistent with previous studies suggesting patient-related, disease-related, medication-related and doctor-patient relationship barriers. However, in this poverty-stricken area participants also faced other constraints that included: Over-burdened public healthcare facilities, insufficient education, poor support structures, infrastructure which is not wheelchair-friendly, unsafe communities, low income and unemployment.

## Conclusion

Non-adherence is a topic that has been widely researched over the last couple of years and it appears that the reasons are mostly consistent. However, in poverty-stricken areas it seems as if over-burdened public health services and social problems are the main reasons that need to be addressed. It is thus with great anticipation that we await the NHI plan of the government that will be rolled out as from 2012 to see whether it will improve the quality of health services.

# A qualitative assessment of the effectiveness of a group diabetic education programme using motivational interviewing in underserved communities in South Africa

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## Background

This study was a qualitative assessment of a group diabetes education programme using motivational interviewing (MI) in underserved communities in South Africa. The programme was delivered by health promotion officers (HPOs) who are mid-level workers trained to deliver health education messages. The aim of the study was to explore the experience of the HPOs in the training course and in facilitating the group education sessions, and from an understanding of their perspective to contribute towards an in-depth evaluation of the educational programme.

## Methods

The study made use of three focus group interviews with 14 health promoters who delivered the educational programme in 17 health centres in the Cape Town area. Interviews were recorded and transcribed verbatim. The data was analysed using the Framework method.

## Results

Training was perceived as successful and the use of small group education as the main teaching method mirrored the challenges involved in group diabetes education. HPOs felt confident in their ability to deliver the group education after training. HPOs reported a significant shift in communication style and skills, but felt the new approach was feasible and better than usual. Resource materials were found to be relevant, understandable and useful. HPOs felt that the number of sessions and topics should be increased and that family members should also attend. HPOs struggled with poor patient attendance and a lack of suitable space at the facilities. HPOs reported that patients who attended demonstrated improved self-efficacy and self-care.

## Conclusion

This qualitative assessment of HPOs perspective on a group diabetes education programme using MI showed that HPOs can deliver such a programme with the necessary confidence after adequate training. The HPO's perspective needs to be triangulated with other research projects focused on the patient outcomes and perspectives and evaluation of the HPO's fidelity and competency. This study however supports wider implementation of the educational programme.

# Quality Improvement Cycle for Cardiac Failure in Primary Health Care: Elsies River Community Health Centre, Cape Town

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## Introduction

The study aimed to assess and improve the quality of care for congestive cardiac failure in a public sector, primary health care setting, in Cape Town. There is currently no literature available on the quality of care for the management of congestive cardiac failure in primary health care in South Africa.

## Methods

A disease register was constructed by identifying patients prescribed Furosemide and checking the medical records. Altogether 95 patients with CCF were identified. The study followed the usual steps for a quality improvement cycle.

## Results

There was a mean age of 63.4 years, 21% were male and 75% were females. The results of the initial audit revealed suboptimal management of patients diagnosed with CCF: 53% had an aetiological diagnosis recorded, 24% had a documented functional capacity, 12% of patients had documented precipitating/exacerbating factors, 58% had fluid status documented, and 37% had documentation of their cardiac rate and rhythm.

The intervention consisted of feedback on the audit results and critical reflection with the relevant staff members. The doctors were provided with a printed protocol to refer to for the management of CCF. Clinicians were resistant to change and to taking on new tasks in relation to the management of patients with CCF and decided to only focus on improving the clinical assessment of patients.

The results of the re-audit after 5-months in 40 patients demonstrated improvement in the clinical assessment criteria: 95% of the patients had an aetiological diagnosis recorded in the notes, 50% had a documented functional capacity, 42% had documented precipitating/exacerbating factors documented, 72% had their fluid status documented, and 85% of patients had their cardiac rate and rhythm documented.

## Conclusion

The current quality of care for CCF in primary health care is poor and needs to be improved. The quality improvement cycle led to substantial improvement in the clinical assessment of patients with CCF. Recommendations are made regarding future criteria, which could be included in local audit tools.

# Determination of the standard of care provided in the management of asthma, gout and hypothyroidism by means of a medical audit in a private general practice.

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## Introduction

Asthma, gout and hypothyroidism are common chronic medical disorders encountered in general practice. Optimal disease management according to standard guidelines are fundamental to disease control. This study aimed to assess the quality of care provided in a private general practice to patients with asthma, gout and hypothyroidism.

## Methods

A practice audit and patient questionnaire survey.

## Results

56.7% of asthma patients were well controlled (PEFR readings), 43.3% of patients with gout (serum uric acid) and 66.7% of patients with hypothyroidism (TSH). Acute attacks of asthma and gout occurred in 22.7% and 32.8% respectively. Overall patient understanding of the disease processes of asthma, gout and hypothyroidism were 69.6%, 73.3% and 66.8% respectively. Patient satisfaction ratings for asthma, gout and hypothyroidism care was 93.1%, 93.9% and 89.2% respectively. Patient suggestions for improvement included three dominant themes: better assessment of disease control, education about their chronic disease and implementation of a clearer referral process.

## Conclusion

The study concludes that disease control could be improved if patients are educated about their chronic disease and regularly followed up to assess disease control based on standard management guidelines. Patients' disease education was a major contributing factor to their satisfaction rating. The study confirmed that in spite of high satisfaction ratings, patients were not optimally managed, with substandard disease control.

# Study to determine the factors that affect adherence to treatment in adults with hypertension in Kanye Sub–District Botswana

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## Background

In the context of medical treatment, one may not be able to predict treatment non adherence in chronic conditions like hypertension. The researcher realized that a vast number of hypertensive patient in Kanye, Botswana live with poorly controlled blood pressure. Adherence was identified as one of the factors that impact on treatment outcome. Aim of the study was to determine the factors that affect adherence to treatment in adults with hypertension.

## Method

The study was a cross-sectional study; of 200 adult persons with hypertension who attended the clinics in Kanye. A structured questionnaire was used to collect data.

## Results

There was a significant association between adherence and counselling on the risks of uncontrolled hypertension ( $p < 0.0001$ ), patients' experience with pill burden ( $p < 0.0001$ ), patients understanding of treatment regimen ( $p < 0.0001$ ), patients perception of treatment benefits ( $p < 0.0001$ ), emotional wellbeing ( $p < 0.0001$ ), patients' perception of drug adverse effects ( $p < 0.0001$ ) and cost of medication ( $p = 0.01$ ).

## Conclusion

The study showed that patients who were counselled on the risk of hypertension and understood the treatment regimen adhered better to treatment. The perception of treatment benefits, reduced number of pills taken in a day, good family support and availability of medications were the other factors that affected adherence.







# WOMEN AND CHILD HEALTH

Reducing maternal and child mortality in South Africa is now a top national priority. This is an area that could be focused on more in our research portfolio. Nevertheless a number of interesting studies were performed.

Focusing on adolescents, researchers found that a high level of teenage pregnancy (20% of all deliveries) persists in the Paarl area although it is a relatively stable rate. In the George area it was found that 33% of adolescents were not using contraception despite being sexually active, mostly due to peer pressure and a dislike of condoms.

A study of high school students in Mitchells Plain in Cape Town surveyed the use of different substances. It was found that 50% had smoked tobacco and 51% had used alcohol. Worryingly it was also found that 32% had used marijuana and 9% had used metamphetamines.

In Khayelitsha it was found that women still present late for antenatal care – a mean of 26 weeks at Michael Mapongwana Health Centre. A number of maternal and health provider related factors were identified to help explain this. At Hermanus District Hospital it was found that 12.5% of Caesarean sections may be performed unnecessarily and a number of recommendations were made to improve care during labour. At Princess Marina Hospital in Gabarone, Botswana it was also found that Oxytocin is prescribed in potentially dangerous amounts in 13% of all Caesarean section operations. Oxytocin in some patients may be contributing to poor outcomes.

High rates of anxiety amongst children undergoing elective surgery were also reported at a District Hospital with potentially negative post operative behavioural consequences. Significant levels of anxiety rose from 30% of children in the waiting room to 56% of children at induction of anaesthesia. The need for interventions to reduce levels of anxiety was highlighted.

In terms of women's health a significant delay in the diagnosis and treatment of breast cancer was found in the Overberg District. This appeared due to delays from poor fine needle aspiration technique as well as delays in receiving care at the referral hospital. A difference of 173 days vs. 16 days was found for obtaining surgery in patients from the Overberg compared to patients in the adjacent Worcester area.

Finally a study explored the attitude of a faith based community (Anglican Dioceses of Cape Town) towards rape, sexual coercion and gender based violence. Although many faith based communities in Africa have quite negative attitudes towards issues such as homosexuality and are often incongruent in their messages regarding patriarchy and marriage, this study suggests that the Anglican Church is more positive and could be a useful ally in transforming communities. Nevertheless there were some discriminatory attitudes towards people with HIV and in some areas a lack of willingness to address these issues openly.

# What was the trend of the adolescent pregnancy delivery rate at Paarl Hospital over the past 10 years (1999- 2008)?

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## Background

Despite government strategies to reduce the number of unintended or unplanned pregnancies, the number of adolescent pregnancies in South Africa continues to rise. The aim of this study was to determine the adolescent pregnancy delivery rate at Paarl Hospital and to see what the trend was over a 10 year period (1999-2008).

## Methods

A retrospective observational study obtained data from the birth register at Paarl hospital and therefore information of pregnancy statistics over the 10 year period. This research study included adolescent females giving birth at age 19 years and younger.

## Results

Of the 40576 mothers giving birth at Paarl Hospital, from 1 January 1999 until 31 December 2008, 8182 (20.2%) were adolescents. Adolescents younger than 15 years of age were a total of 200 (2.4%) of the total and showed an upward trend over the 10 year period. The percentage of adolescents' age 15-19 years of age at delivery had stabilized since 2001.

## Conclusions

Adolescent pregnancies are a relevant and significant point of concern in the Paarl area, which is important not only because of its associated socioeconomic problems but also for the health implications such as HIV/AIDS. Attention should be directed to the overall high percentage of teenage deliveries and the increasing trend amongst the younger adolescents.

# Factors influencing the use of contraceptive methods amongst adolescents in George, South Africa

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## Introduction

Sexual activity, risky sexual behaviour and teenage pregnancy are prevalent among adolescents. The aim of this study was to identify the factors that influence the use of contraceptive methods amongst 16 year old adolescents attending high schools in George, South Africa.

## Method

This was a descriptive, cross-sectional study. Consent from parents/guardians and assent from study participants were obtained. Three high schools in George were randomly selected. All 16 year old learners attending these 3 schools were invited to complete a self-administered questionnaire.

## Results

One hundred and eighty four 16-year old adolescents voluntarily took part. The male: female ratio was equal. The average age of sexual debut was 15 years, with 42% using contraception at the time of the study. 33% of the sexually active respondents were not using contraception. Knowledge about contraception was reasonably good, with school, home and friends playing pivotal roles. Condoms were perceived to be to easiest available by the sexually active and non-active respondents, whereas injectable contraception was perceived easily available by the sexually active participants, but not by the sexually inactive participants. Contraception was being used mostly by instruction from parents, but peer pressure played a role here too, as indicated by 20% of the respondents. The most popular reasons for not using contraception, whilst being sexually active, included: Sensation loss with condoms and partner pressure.

## Conclusion

16 year old adolescents attending high schools in George do not differ much from their peers nationally and internationally. Their sexual debut is slightly earlier; therefore their contraception use debut is also earlier. Their knowledge regarding contraceptive methods is acceptable, showing that previous educational programmes are bearing fruit and still need to continue. Friend/peer factors play an important role in the decision making of the respondents. This has been shown in their knowledge gain, access to and reasoning behind the use or non-use of contraception. These should be considered in new strategies aiming to improve the educational programmes.

# The prevalence of substance use and its associations amongst students attending high school in Mitchells Plain, Cape Town

Dr A Mia Hamdulay, Prof B Mash

## Background

In South Africa, there has been an increase in illicit drug trafficking and consumption and associated problems since the 1990s. Mitchells Plain in Cape Town is seen as a community battling with crime, gangsterism, unemployment, overcrowding, substance abuse and poverty. This study evaluated the actual prevalence of substance abuse amongst high school students in this community and factors associated with substance use. In particular, the study evaluated the use of tik (crystal methamphetamine), a relatively new drug.

## Method

A cross-sectional study was performed amongst 12 secondary schools in Mitchells Plain; Grade 8 and Grade 11 classes were randomly selected to produce a sample of 438 learners. The students completed an anonymous questionnaire that contained enquiries on substance use, demographic and school performance details, and personal and sexual risks.

## Results

Lifetime and annual prevalence rates were: alcohol (50.6%/41.0%), tobacco smoking (49.7%/36.2%), cannabis (32.1%/21.1%), crystal methamphetamine (9.2%/4.6%), ecstasy (4.4%/2.7%), mandrax (2.1%/0.9%), solvents (3.0%/0.9%) and cocaine (0.9%/0.9%). Illicit substance use was significantly associated with age (OR 1.6; CI 1.2–2.2), substance use by other members of the household (OR 2.8; CI 1.2–6.3), carrying a knife (OR 10.9; CI 4.2–28.8), attempted suicide (OR 3.7; CI 1.4–9.5) and higher sexual risk (OR 1.6; CI 1.2–2.3).

## Conclusion

The prevalence of substance use amongst adolescent students attending high schools in Mitchells Plain, Cape Town, is high for all substances relative to national and international figures. Government officials, educators and health care workers are alerted to the need for more comprehensive interventions to prevent and treat substance abuse in this and similar communities.

## Published

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# A review of the delay in diagnosis and management of breast lumps in the Theewaterskloof sub district in the Western Cape

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## Background

Breast cancer is the most feared and common female malignancy in the world. About one in ten women in South Africa will be diagnosed during her lifetime with this disease. The outcome of breast cancer treatment is dependent on early detection and swift subsequent management. A lack of research exists in South Africa about diagnostic and treatment delay factors. A situational analysis is currently underway to improve the breast cancer service in the country. Even less is known about the delays in rural health care.

## Aim

This study examined delays during the diagnosis and treatment of breast lumps in the Theewaterskloof (TWK) sub district in the Western Cape.

## Methods

322 patients from Caledon hospital and surrounding clinics and 322 randomly selected patients from Worcester hospital surgical clinic, who presented during 2007-2010, were retrospectively studied.

## Results

The mean breast lump diagnostic period at TWK was 45 days versus 16 days at Worcester Hospital. Breast cancer diagnostic times were 38 days and 19 days respectively. More alarming was the difference in breast surgery delay of 173 days at TWK versus 16 days at Worcester hospital. Cytological adequacy i.e. Fine Needle Aspiration (FNA) and core needle biopsy between the institutions are also reported.

## Conclusion

In conclusion it is suggested that regular training in FNA is required to improve the cytological adequacy at TWK. Long delays in surgical waiting periods can be addressed by referring TWK breast cancer patients to Worcester hospital after diagnosis.

# Late booking at the Michael Mapongwana antenatal clinic, Khayelitsha: Understanding the reasons

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## Background

The uptake of antenatal care is universally recommended in the first trimester. While working in the Michael Mapongwana antenatal clinic (ANC) in Khayelitsha, the researcher noticed that late booking was prevalent, with consequent impaired antenatal care and increased potential for adverse outcomes. The objective of this qualitative study was to understand why women book late at this specific ANC.

## Methods

Twenty-three in-depth, open-ended interviews were conducted with 23 late bookers (i.e. who booked after 18 weeks) who attended the ANC between June and October in 2009. The interviews were recorded, transcribed, and analysed according to the “Framework” model.

## Results

The mean gestational age at booking was 26.4 weeks (range: 20 to 34 weeks). The majority were multigravid, unmarried and unemployed. A high occurrence of previous or current obstetric problems was noted. Important personal barriers included ignorance of the purpose of antenatal care, ignorance of ideal booking time, and denial or late recognition of an unplanned pregnancy. Provider barriers appeared to be significant, especially the cumbersome booking system, absence of an ultrasound service, and perceived poor quality of care.

## Conclusion

A combination of personal and provider barriers contributed to late booking at this clinic - it seems that the perceived effort of attending this antenatal service outweighed the perceived value thereof. Provider barriers should be addressed by accommodating patients’ needs, optimising nurse-patient interaction, provision of an ultrasound service and improvement of the booking system. Public awareness of early booking and the holistic value of antenatal care should also be enhanced.

# Are we doing unnecessary caesarean sections at Hermanus Hospital?

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## Background

The rate of caesarean sections (CS's) at Hermanus District Hospital, Western Cape in 2008 was 26%. This was even higher than the referral hospital's rate (19.3%) and substantially higher than the acceptable international goal of 10-15%. The aim of this study was to evaluate the indications for all the CS's performed at Hermanus Hospital in 2008 and ascertain whether the decision to perform the CS's were appropriate.

## Methods

This was a retrospective descriptive study which examined the indications for all the CS's performed at Hermanus Hospital in 2008 and classified them as having either an appropriate or inappropriate indication.

## Results

Of the 312 CS's performed the most common indications were: foetal distress (FD) 89(29%), cephalo-pelvic disproportion (CPD) 78(25%), breech presentation 25(8%), elective CS for 2 or more previous caesarean sections 22(7%), failed induction 19(6%), abruptio placentae 17(5%), poor progress 16(5%) and previous CS with poor progress 15(5%). Thirty nine (12.5%) of the total CS's performed were deemed to have been performed 'inappropriately'. The most common inappropriate indications were: foetal distress, elective CS for previous CS and poor progress.

## Conclusion

A 12.5% inappropriate indication rate for the CS's done shows that unnecessary CS's are being done at Hermanus District Hospital. Recommendations were made to address the situation.

# Use of Oxytocin during Caesarean Section at Princess Marina Hospital, Botswana: an audit of clinical practice

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## Introduction

Oxytocin is widely used as an uterotonic agent for preventing post partum haemorrhage. In the setting of caesarean section (CS) the dose and mode of administration of oxytocin differs according to different guidelines. Most of the guidelines available, recommend a slow intravenous bolus of 5 iu or an infusion of 20 iu over two hours. Recent studies on the prophylactic use of oxytocin at caesarean section show that lower doses are adequate. Many clinicians still use high doses. Inappropriate doses of oxytocin have been identified as contributory to some cases of maternal deaths. The main aim of this study was to clinically audit the current standard of practice with regards to the use of oxytocin during CS at a referral hospital in Botswana.

## Methods

A clinical audit of pregnant women having a CS and given oxytocin at the time of the operation was conducted over a three month period. Data including indications for CS; dose regimens of oxytocin; prescribing clinician designation; type of anaesthesia used for the CS; and estimated blood loss.

## Results

A total of 139 patients were included. A wide variety of dosing regimens were observed. The most common 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(41%) patients. The top three indications for CS were fetal distress 36(24.5%), dystocia 32(21.8%) and a previous CS 25(17%). Estimated blood loss (EBL) ranged from 50-2000 ml. General anaesthesia was the most popular type of anaesthesia used during the study, accounting for 64% compared to 36% where spinal anaesthesia was used. In emergency CS general anaesthesia was used in 81/115 (70.4%) of mothers as opposed to 8/24 (33.3%) of elective CS.

## Conclusion

The use of oxytocin during CS in the local setting does not generally follow recommended practice and current literature. This has potentially harmful consequences such as increased maternal morbidity and mortality. Education and guidance by evidence based national practice guidelines and protocols could help alleviate the problem.



# The prevalence of preoperative anxiety in children and association with cultural and socio-economic background at Rahima Moosa Mother and Child Hospital, South Africa

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## Background

A significant number of children appear to experience anxiety in the preoperative period, which may lead to maladaptive post-surgical behaviour. The aim of this study was to conduct a survey to determine the prevalence of preoperative anxiety in children, and to investigate any associations with cultural and socio-economic factors. The study also aimed to determine the need for additional interventions to reduce preoperative anxiety and whether socio-economic and cultural factors allowed for the identification of children at particular risk of anxiety.

## Methods

The sample included 113 participants, aged 2-12 years, undergoing minor elective surgery under general anaesthesia at Rahima Moosa Mother and Child Hospital in Johannesburg. All eligible children were included in the survey and were not separated from their parents in the waiting area or operating theatre. Anxiety levels were measured in the waiting room, on entering the operating theatre, and at induction of anaesthesia, using the modified Yale Preoperative Anxiety Scale (m-YPAS). Demographic and socio-economic details were obtained via a short questionnaire. m-YPAS scores >30 demonstrate high anxiety.

## Results

Children were significantly ( $p < 0.01$ ) more anxious on entering theatre (m-YPAS median score of 41 [23-55]), and on induction of anaesthesia (46 [23-61]), than in the waiting area (23 [23-41]). m-YPAS scores were >30 in 30% of children in the waiting area, 52% of children on entering the operating theatre, and 56% of children at induction of anaesthesia. Older children experienced less anxiety ( $p < 0.01$ ). Demographic and socio-economic factors (sex of the child, race, language, nationality, parent's education, parent's employment, parent's income, and single parenthood) were not shown to have a significant association with an increase in anxiety in the child at induction of anaesthesia.

## Conclusion

Children experienced significant anxiety in the preoperative period particularly during induction of anaesthesia, which is comparable with previous studies, despite maintaining parental presence. Socio-economic and cultural factors do not appear to predict anxiety. Reduction of preoperative anxiety therefore requires further consideration in our setting for selected children, which may involve the use of additional psychological or pharmacological techniques.

# Attitudes to sexual coercion and rape within the Anglican Church, Cape Town: A cross sectional survey

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## Introduction

South Africa is reported to have one of the highest rates of sexual violence in the world and has the worst known figures for gender-based violence for a country not at war. Male dominance in sexual relationships as well as the role of traditional masculinity has made women vulnerable and encouraged the spread of HIV/AIDS. The study aimed to determine to what extent the Anglican Church in the Cape Town Diocese was contributing to or challenging rape-supportive attitudes, sexual coercion and gender inequality.

## Method

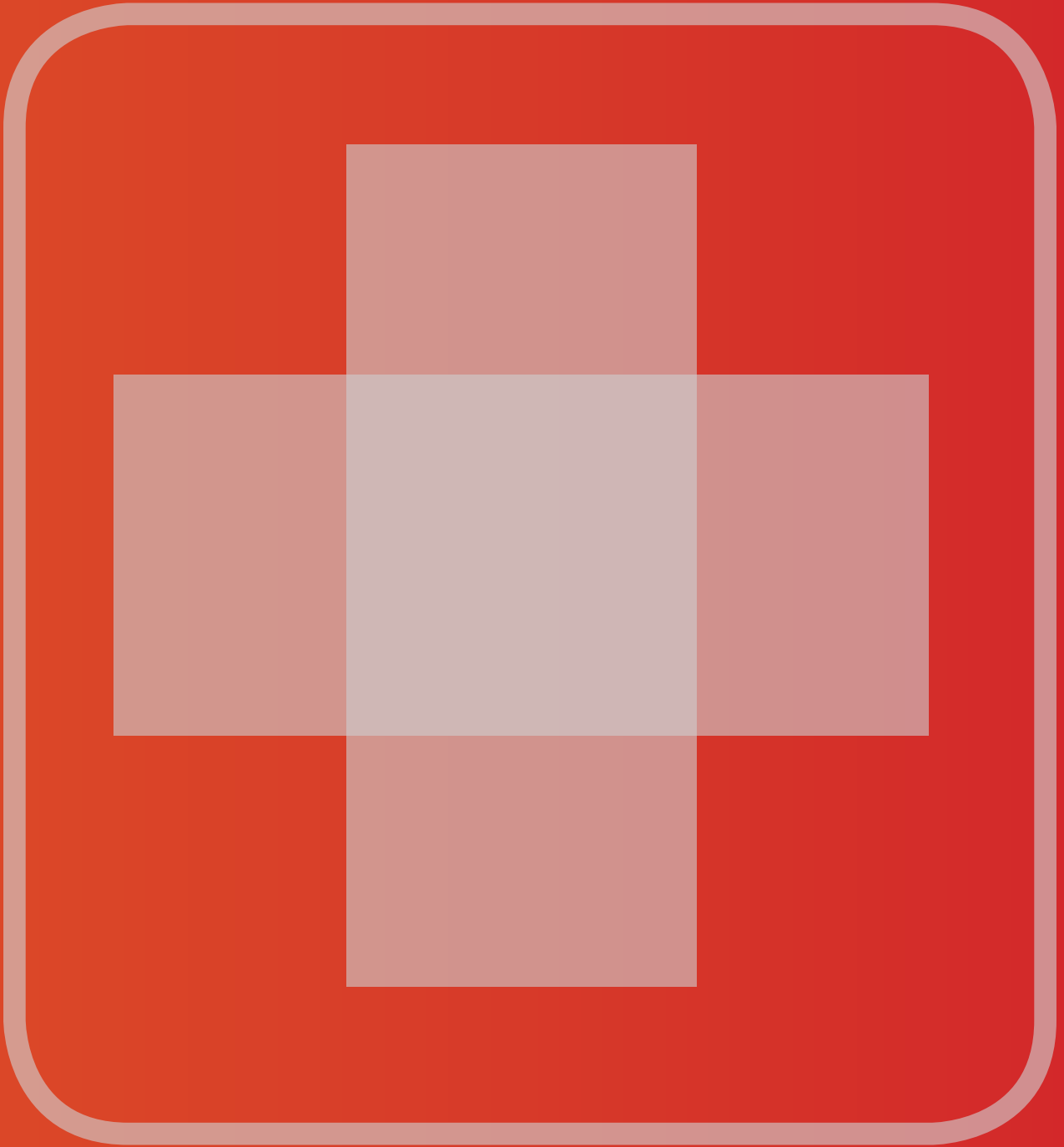
A cross sectional survey of 21 churches that were selected by random sampling, stratified in terms of the membership numbers and predominant racial composition of the congregation. All people who attended the church on the study day were asked to complete a questionnaire.

## Results

581 respondents of which 380 were females (65.4%), 184 were males (31.1%). In general, the Anglican Church espoused attitudes that did not create an environment conducive to sexual coercion, gender violence and rape. 94.9% of respondents agreed that the church leadership considers rape and domestic violence to be important. There were some potentially discriminatory attitudes towards those living with HIV and different archdeaconries had different degrees of openness towards issues of rape, divorce, marriage and domestic violence.

## Conclusion

In general the Anglican Church in the Diocese of Cape Town espoused progressive attitudes that stand in contrast to more conservative and discriminatory attitudes reported in other denominations and African countries. This implies that this faith based organization may be a useful ally in addressing these issues in South African society.







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# TRAUMA, VIOLENCE AND EMERGENCIES

Although interpersonal violence and road traffic accidents make a significant contribution to the burden of disease there is much less clinical research performed in this area. Two studies did address this issue.

Firstly an audit of the case mix at George Regional Hospital emergency room revealed that 65% of patients were triaged as green and 27% as yellow. This implies that the majority of patients currently presenting to the regional emergency room could be managed in primary care if such a service was available in the area after hours. The district management should consider the costs and consequences of providing a 24 hour primary care facility such as is currently offered in Cape Town.

Secondly results were published from a doctoral study which looked at the implementation and evaluation of a protocol for the screening and management of intimate partner violence in primary care. The article published in 2011 from this study addressed the issue of whether intervening was experienced as beneficial to the women. At 1-month follow up 75% of the women reported that the service had been useful and there was high adherence to many aspects of the management plan (e.g. 100% of women followed through on obtaining a protection order). Two aspects of the intervention appeared particularly useful. Firstly the comprehensive nature of the approach that dealt with clinical, forensic, psychological, legal and social aspects; and secondly the style of interaction which was collaborative, empathic and respectful of women's autonomy.

# Exploring the reasons for suicide attempts at George Regional Hospital, South Africa

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## Background

Attempted suicides place a huge burden on emergency services and repeated suicide attempts are very common. Patients presenting with attempted suicides are a daily occurrence in George Provincial Hospital Emergency Centre. The high prevalence of attempted suicide, together with very little interventional strategies in our district, prompted this study. The study aimed at differentiating the dominant factors among the known reasons for suicide specifically in the Eden-and Central-Karoo Districts. The information collected in this study will assist with the development of a local intervention for patients attempting suicide.

## Method

A quantitative and qualitative prospective descriptive hospital based study. All patients presenting to George Hospital Emergency Centre with attempted suicide during a specific three month period were asked to complete a questionnaire containing demographic information, questions on reasons why they attempted suicide as well as associated factors. A two hour focus group discussion was held with patients who indicated that they were willing to participate in such a group.

## Results

Reasons for attempted suicide were, 54% disagreement with a loved one, 33% stress at home, 18% consumption of alcohol in the preceding 24-hours, 15% financial worries, 13% previous attempted suicide by friend/family member, 10% intimate partner violence and 10% psychiatric illness. Themes emerging from the focus group discussion included; feeling abandoned by a significant other, emotional abuse by people in the community, alcohol abuse by partners or household members, stress and loneliness.

## Conclusions

The emergency centre consultation could be an important opportunity to intervene. Problematic relationships and stressful home situations are the main reasons people attempted suicide. Suggested interventions include an appointment card in hand and weekly group sessions facilitated by a psychologist.

# After hours case mix at George provincial hospital emergency centre: A descriptive study

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## Introduction

Emergency care of patients in South Africa has become a priority, with the establishment of emergency medicine as a specialty, development of a triage scoring system, and upgrading of facilities and services. It is suspected that a significant proportion of primary health care patients are presenting after hours to level 2 emergency facilities. Little is known about the nature or acuity levels of patients presenting after hours to the George provincial hospital Emergency Centre.

## Methods

A retrospective descriptive study was performed at George Hospital in May 2010 to determine the afterhours case mix and workload. A total of 2560 patients presented at the emergency centre and was triaged according to the Cape Triage Score (CTS). The case mix was analyzed according to a pre designed Microsoft Excel data sheet.

## Results

75% were adults and 25% were paediatric cases. 65% of patients were triaged green, 27% yellow, 5% orange and 2% red. Apart from trauma related cases, respiratory and gastrointestinal problems were the most common presentations. The workload included on average fifty four patients per afterhours weekday, 138 patients per 24-hour weekend days and 147 for the public holiday.

## Discussion

This study demonstrated that a significant number of the afterhours case mix presenting at George provincial hospital emergency centre consists of green and yellow level cases, many of which would be more appropriately managed at a level 1 health care facility. Attention should be given to re-organisation of the district level platform to care for these patients outside of the level 2 emergency centre.



# The value of intervening for intimate partner violence in South African primary care: project evaluation

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## Objectives

Intimate partner violence (IPV) is an important contributor to the burden of disease in South Africa. Evidence-based approaches to IPV in primary care are lacking. This study evaluated a project that implemented a South African protocol for screening and managing IPV. This article reports primarily on the benefits of this intervention from the perspective of women IPV survivors.

## Design

This was a project evaluation involving two urban and three rural primary care facilities. Over 4e8 weeks primary care providers screened adult women for a history of IPV within the previous 24 months and offered referral to the study nurse. The study nurse assessed and managed the women according to the protocol. Researchers interviewed the participants 1 month later to ascertain adherence to their care plan and their views on the intervention.

## Results

In total, 168 women were assisted and 124 (73.8%) returned for follow-up. Emotional (139, 82.7%), physical (115, 68.5%), sexual (72, 42.9%) and financial abuse (72, 42.9%) was common and 114(67.9%) were at high/severe risk of harm. Adherence to the management plan ranged from testing for syphilis 10/25 (40.0%) to consulting a psychiatric nurse 28/58 (48.3%) to obtaining a protection order 28/28 (100.0%). Over 75% perceived all aspects of their care as helpful, except for legal advice from a non-profit organisation. Women reported significant benefits to their mental health, reduced alcohol abuse, improved relationships, increased self-efficacy and reduced abusive behaviour. Two characteristics seemed particularly important: the style of interaction with the nurse and the comprehensive nature of the assessment.

## Conclusion

Female IPV survivors in primary care experience benefit from an empathic, comprehensive approach to assessing and assisting with the clinical, mental, social and legal aspects. Primary care managers should find ways to integrate this into primary care services and evaluate it further.

## Published

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