



# CDIA

2011 ANNUAL REPORT



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Chronic Diseases Initiative in Africa – ANNUAL REPORT 2011

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CDIA DIRECTOR: Prof Dinky (Naomi) Levitt  
MBChB, MD and FCP(SA)

## Director's Report

The year 2011, the second year since our official launch in late 2009, has been an extremely busy and challenging time for CDIA. Unlike 2010 when our attention was focused on setting up and consolidating the structures for our network and the preparation for the field work for our first set of projects, 2011 has seen an expansion in the scope of our activities. In addition to conducting fieldwork, developing new grant applications, capacity development, and strengthening and growing the network, there has been active engagement in non-communicable disease (NCD) policy issues and preparation for the UN Summit on NCDs, which took place in September 2011.

Our National Heart Lung and Blood Institute and United Health Group (NHLBI/UHG)-funded projects have made substantial progress this year, as have the projects funded from other sources. These are described in detail in the first sections of this report.

The two semi-annual steering committee meetings of the NHLBI/UHG Global Health Initiative attended by Professor Naomi Levitt, Professor Krisela Steyn and Professor Tom Gaziano, regular teleconferences and the initiative's various subcommittees have served as an ideal opportunity to strengthen collaboration between the 11 centres of excellence (COE). A notable outcome has been CDIA's successful application for two grants with other COEs. In the first, CDIA served as the principal investigator for a multi-centre application involving community health workers that include the COEs in Guatemala, Bangladesh and the Mexican-American Border. The second, led by the Guatemala group (PI Manuel Ramirez), includes CDIA and the Dehli COE, and serves to initiate a collaboration with the COHORTS group with a view to providing training in the developmental origins of chronic diseases for members of the COEs.

The NHLBI/UHG Global Health Initiative's subcommittees: 1) epidemiology, 2) community health worker interventions,

3) pulmonary diseases and 4) research training, have had face-to-face sessions at the semi-annual meetings as well as regular teleconferences. The epidemiology subcommittee has made progress in developing strategies to pool data generated by the various COEs. The Community Health Worker group is collating the work of the various COEs on the role of community health workers for chronic disease care. A manuscript has been drafted by these committee members detailing their work. The research training group has responded to calls for proposals from NHLBI for additional research training activities.

Four CDIA students were able to attend the Washington steering committee in October. This meeting was organised with a view to enhancing capacity development and engagement between the students from the various centres. Hilary Rhode, Lungi Tsolekile, Naomi Folb and Shafieka Abrahams-Griessel had the opportunity to present their projects to the members of the COEs in a poster session and also participated in a one-day training programme at NHLBI. Our capacity development activities have been enhanced by the Medtronics Foundation, which has awarded CDIA a two-year grant. This has permitted the advertisement for two additional postgraduate students – one in health economics and the second for a medically qualified doctor who will support the director and the research currently being undertaken and develop a proposal for a PhD. The Medtronics grant will also be used to raise the profile of CDIA through the publishing of regular newsletters, assist in the dissemination of important research findings or policy matters to non-academic audiences and upgrading our website.

CDIA network members played an active role in the South African National Summit on NCDs and its preparatory work, the first Global Ministerial Conference on Healthy Lifestyles and NCD Control held in Moscow, 28 and 29 April 2011 and finally culminating in the UN NCD Summit in September 2011. Network members have also been involved in national and international policy development activities,



non-government organisations and interactions with the community (please see the section starting on page 39).

One of our tasks for 2011 was to expand the network, but we have made much slower progress than expected. Three members of the management committee visited Tanzania to meet with the Tanzanian NCD steering committee and visit various health care services in order to gain a better appreciation of the challenges facing the delivery of care for people with NCDs. Professors Bob Mash, Thandi Puoane and Naomi Levitt engaged in discussions with the committee at the National Department of Health Offices in February 2011, and visited a number of hospitals in Dar Es Salaam – tertiary and district, as well as the tertiary, district and primary level services in Mwanza.

### **“We have begun discussions with a number of new partners and expect to formalise relationships with them in 2012”**

A brief outline of a programme of work was drafted and it was agreed that an MOU would be signed to formalise the relationship between the role players in Tanzania and CDIA. Unfortunately there has been little progress, the MOU has yet to be signed and no collaborative work has taken place. It is hoped that this situation will be resolved in the next few months.

We have begun discussions with a number of new partners and expect to formalise relationships with them in 2012. These are the School of Medicine in Botswana, The Liverpool-Wellcome Centre in Blantyre, Malawi, the African Population Health Research Centre in Nairobi, Kenya, and The Developmental Pathways for Health Research Unit from the University of Witwatersrand.

We have welcomed three new members from our existing institutions to our network: Dr Andre Pascal Kengne of the Medical Research Council, Dr Lisa Micklesfield and

Dr Cathy Draper of the MRC/UCT Research Unit for Exercise Science & Sports Medicine (ESSM).

The directorate has worked well over the past year. Carmelita Sylvester has grown into her position as centre manager and has been ably assisted by Susan Botha. It has become clear, however, that additional administrative support is essential in view of the growing number of projects and the complexities involved in the employment and support of a large number of field workers. The governing board under the leadership of Professor Gregory Hussey has provided important guidance with regard to long-term viability of CDIA, its position within the academic arena both within and beyond South Africa and its relationship with the Department of Health. The management board has provided rigorous oversight and support to the directorate at the two monthly meetings. Further it has enabled the development of a sense of cohesion between the various institutions that comprise CDIA. The scientific advisory panel was not able to meet face to face or even telephonically because of the wide range of time zones of the members. As a result, individual teleconferences were held with the director and associate director. These calls proved to be helpful in ensuring that we maintain focus.

Other than the critical issue of addressing the long-term survival of CDIA, there are numerous challenges to be faced in 2012 and beyond. These include the successful completion of the research studies in the field and increasing the capacity of the directorate to cope with additional administrative demands of the growing number of projects. There is also a need to identify and find funding for additional master's, doctoral and postdoctoral students to increase the body of researchers in the field and in particular, to grow the next generation of NCD researchers. The CDIA network needs to expand within the current member institutions as well as new organisations with a view to permitting the research to be conducted in different settings and by so doing increasing the general nature of the work. Additional office space is needed in order to accommodate the growing number of students and research staff.

## Projects Currently Funded from CDIA Resources



### Project 1:

**Pragmatic cluster randomised controlled trial of a guideline-based intervention to improve the primary care of non-communicable diseases in the Eden and Overberg districts of the Western Cape**

**Research Team:** Lara Fairall, Naomi Levitt, Max Bachmann, Thomas Gaziano, Eric Bateman, Krisela Steyn, Carl Lombard, Merrick Zwarenstein, Beverly Draper, Ruth Cornick, Alan Bryer, Crick Lund, Debbie Bradshaw

**PhD student:** Naomi Folb

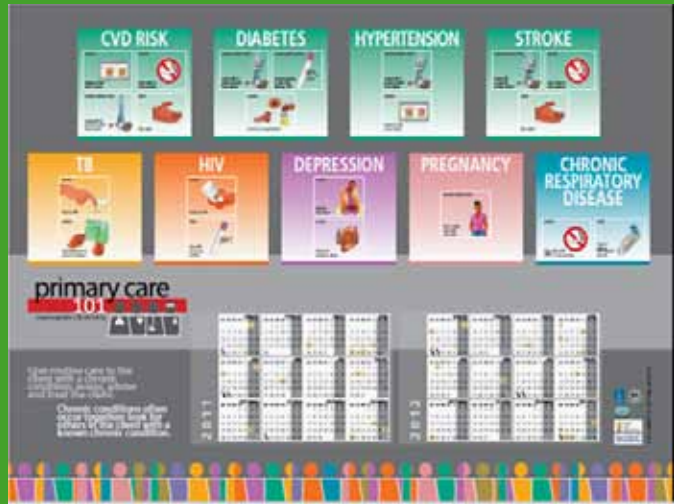


Figure 1: Primary Care 101 desk blotter illustrating key messages ("bottom-line") for priority chronic conditions.

### Background and Objectives

The quality of care for NCDs within public sector primary care clinics is poor. In these clinics, care is predominantly provided by nurses who are often inadequately trained or empowered to manage the care of patients with NCDs. The objectives of this trial are to test the effectiveness of a guideline-based training programme for nurses on the processes and outcomes of NCD care across four priority conditions: hypertension, diabetes, chronic respiratory disease and depression.

### Design

This is a pragmatic cluster randomised controlled trial underway in 38 clinics in the Eden and Overberg districts of the Western Cape, with outcomes evaluated on individual patients. The intervention is 'Primary Care 101' (see box) – a set of evidence-based, carefully designed guidelines

that cover all the conditions likely to be seen among adults in primary care clinics in South Africa. As well as being given the guidelines, nurses receive non-didactic, case-based training in their places of work, provided by usual nurse managers who are equipped as educators for this purpose. The intervention also incorporates task-shifting – once trained in Primary Care 101 nurses have access to expanded prescribing provisions for NCDs.

### Progress

2011 saw initiation of the intervention and fieldwork for this trial. The Knowledge Translation Unit (KTU) at the University of Cape Town Lung Institute led delivery of the intervention, with support from the Western Cape Department of Health. All five trainers from the Eden Training Department and one trainer from Overberg were equipped as facility trainers during five-day live-in training in May 2011. They in turn, trained 98 health workers (81 nurses, four doctors, five pharmacists) at 19 clinics between June and December 2011. Responses to training were, on the whole, overwhelmingly positive. Trainers and nurses welcomed the guidelines, and liked their concise, integrated format and the way in which they clearly set out responsibilities for prescribing and when to refer. The short, on-site format of the training was also valued, and participants reported that this allowed time to digest information and implement recommendations without feeling overwhelmed. Nurses welcomed the opportunity to increase their clinical responsibilities for patients with NCDs and reported feeling empowered by the intervention and expanded prescribing provisions. The task-shifting component did, however, generate some friction between nurses and doctors, now required to follow the same treatment protocols to facilitate effective sharing of clinical care. This resolved as the training advanced, but did require additional facilitation in one large facility where several doctors worked alongside nurses. Nurses also required support to cope with the large backlog of sub-optimal care for NCDs, and several pacing strategies were introduced to help staff introduce the

guidelines without burning out. One of these was to clarify the "bottom-line" for NCD care, in the form of key reminders for priority chronic diseases illustrated on the desk blotter (see figure 1).

The trial fieldwork led by Naomi Folb and Serena van Hagt was initiated in 2011. It proved a substantive undertaking involving 52 fieldworkers, four fieldwork supervisors, 32 netbooks for electronic data collection and three fieldworker training workshops. Over a period of eight months 4 429 patients were enrolled in the trial, including 3 249 people with hypertension, 1 859 with diabetes, 1 168 with chronic respiratory disease and 2 489 at risk of depression. The research team held an investigator meeting in October 2011 to review the baseline data and collection process, and noted extremely high rates of co-morbidity between conditions and poor control, supporting the need for an intervention like Primary Care 101, which integrates the care of NCDs. Rigorous cleaning of participants' prescription data followed to allow robust comparisons with follow-up prescriptions to determine the primary outcome of treatment intensification. Participants are due to be followed-up in 2012, and detailed analyses of the baseline data to determine patient- and system-level predictors of control are planned.

The research team has continued to work closely with the local Department of Health, and reported back to the Eden district management meeting in July and to the National Department of Health in October. The National Department of Health subsequently commissioned a pilot of Primary Care 101 in 42 clinics in the provinces of the North West (Kenneth Kaunda district), Mpumalanga (Bushbuckridge) and Gauteng (West Rand) as part of an initiative to integrate the care of infectious and non-communicable chronic diseases. The National Department has commissioned the University of KwaZulu Natal to evaluate this pilot, with a view to using results from this and the Eden trial to inform a decision regarding national implementation.



The CDIA Directorate: Carmelita Sylvester, Chantal Stuart, Professor Naomi (Dinky) Levitt, Sue Botha and Professor Krisela Steyn.

### Components of Primary Care 101 implementation in the Western Cape

1. 101-page clinical practice guideline divided into two sections: symptoms and chronic conditions
2. Five-day live-in Training the Trainers to Train workshop (accompanied by a facility trainer's manual containing case scenarios)
3. Eight educational outreach sessions to all staff at intervention clinics over a period of several months
4. Expanded prescribing provisions for professional nurses trained in Primary Care 101 to access drugs for non-communicable diseases approved by the Pharmaceutical and Therapeutics Committee of the Western Cape. These allow Primary Care 101-trained nurses to prescribe the following: enalapril and amlodipine for hypertension, simvastatin for cardiovascular risk, glibenclamide and glicazide for diabetes, budesonide for asthma and short-course oral steroids for acute exacerbations of asthma and COPD
5. Desk blotter with reminders of key elements of care for priority chronic conditions (see left)
6. Follow-up support for facility trainers through quarterly workshops, web SMSs and email and telephonic contact with KTU staff





## Project 2:

### Total Cardiovascular Risk Assessment Tools

**Research Team:** Thomas Gaziano, Krisela Steyn, Debbie Bradshaw, Lara Fairall, Naomi Levitt  
**PhD student:** Ankur Pandya

### Background

Screening of patients at high risk of cardiovascular disease is an important public health prevention strategy. Due to the high cost of blood assays associated with such screening, a new and cost-effective non-laboratory-based screening tool for cardiovascular risk prediction was developed. The study has three sections: the first is to compare the ranking of the non-blood based CVD risk tool with the ranking of a number of blood based CVD risk assessment tools in cross-sectional community-based CVD risk factor surveys previously conducted in South Africa; the second is to compare the predicted CVD mortality using the non-laboratory risk score and the data of the first demographic and health survey data of 1998 with the actual CVD mortality recorded in South Africa 10 years later. Thirdly, within the Eden trial (see project 1) a cohort of patients is established whose total CVD risk predictions are calculated and followed to assess the actual mortality recorded over the following five-year period. This data will assist to calibrate the cardiovascular model inputs to result in model predicted outcomes that fit the observed mortality data in South Africa.

### Progress

This year the research team compared the predictive performance and risk discrimination of the non-laboratory-based risk score to five commonly used laboratory-based scores (Framingham CHD and CVD, SCORE for low and high risk settings, CUORE) in a nationally representative population. Predictive performance was assessed using 10-year CVD death and total death as outcomes for receiver operator characteristic (ROC) curve analysis. The evaluation has been performed in 12 South African cross-sectional studies conducted in the country over the past 25 years. The team showed a high Spearman rank correlation of nearly 90% or greater in all the cohorts. Further, at a normal treatment threshold



of 20% risk there was 90% or more agreement in risk stratification. They are in the process of final edits of this manuscript.

The team have completed data collection from the Eden trial on nearly 2 000 subjects for which we will obtain death data over the remaining two years to assess the validation of the tool in a prospective cohort.





## Project 3:

Economic modelling of the impact of preventive and management interventions for chronic diseases

**Research Team:** Thomas Gaziano, Debbie Bradshaw, James Irlam, Lara Fairall, Krisela Steyn  
PhD student: Ankur Pandya

## Background

This research is undertaken to assess the economic impact of prevention and management interventions for chronic diseases. The aim is to develop a CVD prevention and management model that will allow the prediction of CVD events accurately and which could be used in cost-effectiveness analyses of screening and intervention strategies.

State-transition simulation models, also called Markov models, have been developed to assess the cost-effectiveness of the integrated care guidelines for CVD in comparison with the base case. The effects measured are in the life years saved, QALYs and DALYs. Incremental cost-effectiveness (C/E) ratios have been calculated for each of the three strategies compared to the base case under consideration. The US Panel on Cost-effectiveness in Health and Medicine's recommendations are utilised in these analyses.

## Current Progress

The research team has been updating the parameters on a CVD policy model as well as calculating country-specific costs for cardiovascular diseases. They have completed the process of converting the Excel- and TreeAge-based modes into a C++ model. In addition, model parameters are being updated with the current literature. The team is completing the last updates of the mortality estimates from South Africa to calibrate the model. CVD cost estimates using WHO CHOICE data and local cost data have been completed.





## Project 4:

Lifestyle intervention tools: “Putting prevention into practice” package

**Research Team:** Katherine Everett-Murphy, Krisela Steyn, Catherine Draper, Tracy Kolbe-Alexander, Estelle Lambert, Bob Mash PhD student: Zelra Malan

### Background

There is strong evidence to show how risk behaviours can be changed and produce meaningful clinical improvements through brief counselling assistance (Whitlock, 2002). This project set out to produce and pilot a resource package for primary health care providers and community health workers to enable them to offer brief, best practice behavioural change counselling on topics of smoking, diet, weight management and physical activity. The package draws on the 5A construct for brief counselling (Fiore et al., 2008) and comprises educational/motivational resources for patients, a training course for healthcare providers, healthcare provider aids and guidelines on how to integrate brief behavioural change counselling into primary healthcare practice and on how to support patients to set lifestyle modification targets.

### Current Progress

Best practice guidelines and rapid assessment tools have been completed for smoking, diet and physical activity in collaboration with expert working groups, consisting of researchers and practitioners in that particular field.

Patient education/motivational materials on smoking and physical activity have been drafted. The smoking materials have been laid out and designed. These materials make use of a testimonial approach – they include authentic interviews and photographs with members from the proposed target audience who model successful behavioural change.

Regarding diet, a recipe book is being developed, which specifically aims to educate South Africans about the importance of a healthy diet in the prevention and management of chronic disease and to assist them in actively adopting a healthier diet for themselves and their families. It is targeted at communities of low socio-economic status and therefore has a strong emphasis on how to eat healthily on a limited budget. The book is



being developed in partnership with the Heart and Stroke Foundation and funded by Pharmadynamics.

Furthermore, an adult “Road to Health” card has been developed. This tool records and explains vital health indicators and charts individual progress towards behavioural change goals. The purpose of this card is to support the health care provider to introduce the importance of a healthy lifestyle and to discuss and negotiate behavioural change goals with the patient.

A three-day training module on brief behavioural change counselling for NCDs has been developed. This includes a DVD, which demonstrates healthcare provider counselling on lifestyle change. The DVD is aimed at modelling the requisite competencies for health care providers to undertake brief behavioural change counselling on the main risk factors for chronic disease.





## Project 5:

Community health workers (CHW) project

**Research Team:** Thandi Puoane, Naomi Levitt, Krisela Steyn, Kathy Goggin, Delywn Catley  
 PhD student: Lungishwa Tsolokile

### Background

The National and Provincial Department of Health have strongly supported the inclusion of community health workers in the healthcare provider team. This project occurs in collaboration with the Provincial Department of Health in the Western Cape and sets out to define the role of a community health worker in caring for patients with chronic diseases. This aim is to be achieved through a process of consultation with the provincial department, conducting a situation analysis, reviewing existing chronic disease community health worker training materials and ultimately drafting and evaluating a community health worker chronic disease curriculum and training tools.

### Progress

The first project involved an observational study of the CHWs while conducting their daily activities in order to gain deeper insight into their practices and to determine their current roles in prevention and control of chronic NCDs. This was done over a two-month period and revealed the numerous tasks that are conducted

by community health workers which were NCD related. It further revealed the challenges relating to training, supervision and referral patterns of clients. Based on the findings of the observational study, a protocol was developed to survey a larger sample of community health workers in Khayelitsha, to assess their knowledge and practices in general and with respect to chronic diseases in particular. A questionnaire has been drafted and piloted with the target population. The protocol has been passed by UWC's ethics committee and data collection will take place in 2012.

The principal investigator visited the Public Health Unit of the Department of Epidemiology and Preventive Medicine, at Monash University in Melbourne, Australia, to learn more about their research projects relating to community based interventions for NCDs, such as conducting peer support groups for the management and control of diabetes. The challenges faced by peer supporters simulate the challenges faced by community health workers working with clients who have diabetes.





## Project 6:

A randomised controlled trial to evaluate the effectiveness of a group diabetic education programme using motivational interviewing in underserved communities in South Africa

**Research Team:** Bob Mash, Naomi Levitt, Stephen Rollnick, Katherine Everett-Murphy, Krisela Steyn, Merrick Zwarenstein, Hilary Rhode (co-ordinator), Unita van Vuuren, Maureen McRae

**Master's students:** Buyelwa Majikela-Dlangamandla, Annie Botes, Fanie Serfontein, Roland Kaukamp

### Background

Diabetes affects 11% of the adult population in Cape Town and is a major contributor to the burden of disease and mortality. This pragmatic cluster randomised controlled trial aims to evaluate the effectiveness of a group diabetes education programme, guided by Motivational Interviewing, delivered by health promoters in community health centres.

Type-2 diabetic patients attending 17 community health centres have been enrolled in the study. The intervention group are receiving a structured education programme of four sessions, delivered by health promoters to groups of 10–15 diabetic patients at a time. The control group are receiving usual care. The primary outcome of this study is diabetes self-care activity and secondary outcomes include measures of self-efficacy, locus of control, mean blood pressure, mean weight loss, mean waist circumference, mean HbA1c, mean total cholesterol, and diabetes-specific quality of life.

### Progress

#### Implementing the education

A two-day training workshop was held with the health promoters in order to reinforce communication skills and prepare them for the third and fourth sessions of the programme.

The first groups of diabetic patients started with their educational sessions in October and November 2010. The educational sessions were not held from mid-December to end of January due to the summer holidays. The education sessions started again in February 2011 and were completed by the end of March 2011. One health promoter covering two of the sites resigned at the beginning of 2011 and her groups did not complete all the educational sessions.

Sr Buyelwa Dlangamandla visited 36 randomly selected educational sessions between October 2010 and March 2011. She observed and recorded 33 sessions. Structured

field notes were kept which were used to assess the HPOs fidelity to the intervention.

#### Capturing and analysis of baseline data

A data capturer entered all the baseline data onto an Excel spreadsheet which was checked and cleaned by Sr Hilary Rhode and Professor Bob Mash. The data was then analysed by Justin Harvey from the SU Centre for Statistical Consultation.

Professor Mash trained Sr Dlangamandla in use of the Motivational Interviewing Integrity Code and her reliability as a coder was checked by Professor Mash on four initial recordings. Sr Dlangamandla coded all 33 recordings using the MITI and entered her results into an Excel spreadsheet. The data was subsequently analysed as per the MITI manual. Field notes relating to the completeness of the content covered were also captured and analysed.

#### Collection of follow up data

In August 2011, the data collection teams were again recruited for data collection scheduled for September to November 2011. A one-day workshop was held with the HPOs and the data collection teams to plan how to follow up the patients and collect the data at each facility. The field workers were re-trained in how to collect the data. Sr Rhode, one of the field workers, and Dr Malan assisted with visiting the facilities and preparing them for the arrival of the data collection teams and identifying when patients had appointments.

During September to November 2011 the data collection teams visited all the health centres several times to collect the follow up data from patients. Teams also made home visits for specific patients who could not be traced at the health centre. Altogether they were successful in obtaining follow up data on 1 103 patients (deceased 33, moved away 41, refused 22, at work 34, not found 44). Data computerisation and cleaning is in progress.



## New CDIA Projects Initiated in 2011

### Project: SMS-text Adherence Support Study (\*STAR Study)

**Research Team:** Kirsty Bobrow, Tom Brennan, Andrew Farmer (Oxford University, UK), Dinky Levitt (UCT), Krisela Steyn (UCT)

#### Background

Hypertension is a common problem in South Africa. A collaboration between the Department of Primary Care Health Sciences and the Department of Biomedical Engineering at Oxford (UK), and the Chronic Disease Initiative in Africa, is exploring ways to apply technology to improve the assessment and use of medicines in this group of people.

#### Methods

The \*STAR Study, or 'SMS-text Adherence Support Study', is a clinical trial in which patients are randomly allocated to receive different types of support by SMS text message. Participants receive SMS support for a period of 12 months and will have follow-up visits at six and 12 months. The study will be conducted at the Vanguard Health Centre and is funded by the UK Wellcome Trust and the Engineering and Science Research Council.

#### Progress

In preparation for the trial, the research team completed an interviewer-administered user survey investigating access to and use of mobile phones among adults attending primary care chronic disease clinics in Cape Town. The mean age of patients was 53 years and 90% reported that they have regular access to a cell phone (86% own their own phone). The majority of patients make use of SMS-texts and almost half have had their cell-phone number for five years or more.



In order to ensure the intervention was feasible and contained locally appropriate content, the team spent several months developing and testing the intervention with participant test groups from the Bonteheuwel and Langa communities.

The team spent a month integrating research processes with the care delivered by the community health centre. Active recruitment and enrolment began at the end of June 2012.

### Project: An evaluation of community health workers screening for CVD in the community in four developing countries using the non-laboratory total CVD risk factor score.

#### Research Team:

Naomi Levit (UCT), Thandi Puoane (UWC), Thomas Gaziano (Harvard University, USA), Jabulisiwe Zulu (UCT) PhD student: Shafika Abrahams-Gessel (University of Boston, USA)

#### Background

This study proposes to train community health workers to use a non-lab based risk assessment tool to identify persons at high risk for CVD in community settings in South Africa, Bangladesh, Guatemala, and Mexico. The risk tool was developed in the US population and has been tested with good performance in several South African cohorts. It uses age, gender, BMI, blood pressure, smoking status, and history of diabetes mellitus (DM) to calculate an absolute risk score for developing CVD.

#### Methods

The CHW-generated risk scores will be compared for agreement to risk scores generated by a trained health professional. If there is significant overlap in the percent agreement between the two sets of scores, it will demonstrate that low-level health workers such as CHWs can be adequately trained to screen for, and identify, those at high risk for CVD. The referral pattern for high-risk patients from CHWs to a trained health professional at a community health clinic will also be assessed, CHW knowledge levels and retention of knowledge about CVD and its risk factors will be evaluated and the costs of the programme evaluated.

#### Progress

The project proposal successfully applied for funding from the National Heart Lung and Blood Institute of NIH. Planning of the fieldwork is in progress, as is the planning of a PhD protocol.



## Project: A qualitative study of the nutrition patterns of low-income South Africans

**Research Team:** Aniza De Villiers (MRC), Katherine Everett-Murphy (UCT), Debbie Jonathan, Gillian Hill.

### Background

The planning of the dietary intervention tool for the lifestyle modification package required an understanding of the commonly consumed foods, the food preferences and the cheap, healthy options available to the lower socio-economic communities of diverse cultures in South Africa.



### Methods

A total of 23 focus group discussions were planned in Cape Town, Durban, Mthatha, East London, Johannesburg and Pretoria. In addition, several interviews were planned with dietitians and nutrition experts.

### Progress

The protocol was finalised and ethical clearance obtained as an extension of the overall ethical clearance of the Lifestyle Modification tool development project. Planning for the fieldwork was finalised and two pilot focus group discussions completed.



## Project: Alignment of current primary care practices with the PGWC Adult Chronic Disease Management Policy: A case study of Retreat Community Health Centre

**Researcher:** Claire Draper (MMed student)

### Research Objectives

The aim is to assess the alignment of current primary care practices with the Provincial Government of the Western Cape's (PGWC) Adult Chronic Disease Management policy (2009), using Retreat Community Health Centre (RCHC) as a case study. The objectives of this study are to:

- Examine existing and relevant audit data (2009 – 2011) to assess the extent to which processes are being implemented as intended;
- Identify aspects of the audit data that require more in-depth examination or follow up;
- Examine these areas and identify factors influencing the successful implementation of these practices or principles;
- Comment on the extent to which guiding principles of the primary health care approach and family medicine are being implemented in reality; and
- Identify factors influencing the implementation of these principles.

### Methods

Mixed methods have been used: semi-structured interviews and focus groups, document review, and participant observation. Participants in this study included staff employed at Retreat Community Health Centre (RCHC) as well as other key informants involved in the PGWC Adult Chronic Disease Management policy. Data collected using the Integrated Audit Tool for Chronic Disease Management (part of the PGWC Adult Chronic Disease Management policy) formed the basis of the questions used in focus groups. Two focus groups were conducted (four participants per group,

n=8), one with doctors and one with clinical nurse practitioners. Staff members who did not participate in the focus groups were then purposively selected for in-depth interviews (n=10). Participant observation was carried out concurrently with the focus groups and interviews, and extensive field notes were taken from these and other observations while working at RCHC.

### Progress

The audit data from 2009 – 2011 (collected using the Integrated Audit Tool for Chronic Disease Management – part of the PGWC Adult Chronic Disease Management policy) was reviewed in consultation with the PGWC Adult Chronic Disease Management policy document. Based on the findings, guide questions were developed for the focus groups and individual interviews. From August to December the data collection, using these methods, was completed. Audit data was analysed for frequencies, and compared across the three years for which data had been collected (2009 – 2011). Interview and focus group texts are being analysed (manually) using a content analytic approach, and with the assistance of Atlas.ti Qualitative Data Analysis Software (Scientific Software Development GmbH, Berlin, Germany).



## CDIA Members Research Projects Funded from Other Sources



**Professor Debbie Bradshaw**, the Director of the Burden of Disease Research (BOD) Unit has been leading the second National Burden of Disease Study for South Africa. A model to estimate the extent of mis-classified HIV deaths has been developed so that provincial level profiles can be obtained. Progress has been

made by the BOD Unit in estimating the mortality trends from 1997 – 2009.

The BOD Unit has also assisted the Western Cape Department of Health to develop a mortality surveillance system that provides local level statistics. A provincial mortality report for 2009 highlights the variations between health districts, including non-communicable diseases. This project identified the need to train doctors in medical certification of the cause of death and a short course has been offered to doctors working in the public sector using a stepped wedge design to enable an evaluation of the training. The unit is now working with Statistics South Africa, the Department of Health and the Department of Home Affairs to train trainers in a national effort to improve the quality of the cause of death statistics. A detailed training manual and brief flyer have been developed to support this initiative.

The population-based cancer register in a rural setting in Eastern Cape province as part of the BOD Unit of the MRC continues to collect data regularly from 19 participating hospitals. Data have been submitted to IARC for consideration for inclusion in Cancers in Five Continents.



**Dr Thomas Gaziano** leads projects to evaluate the costs of hypertension in South Africa and potential costs vs savings of efforts to reduce blood pressure through reductions in salt intake, increased fruit and vegetable consumption, and increased physical activity. Furthermore Dr Gaziano is involved in a study

with the PRICELESS South Africa project to assess the effect of restricted prescription roles for nurses, who are engaged in task-shifting related to management of hypertension in the South African primary health care system.



**Dr Tracy Kolbe-Alexander** leads a study on the walkability of the University of Cape Town's campus. After the walkability of upper campus was assessed and walking route maps were prepared (in 2010), a pilot study was conducted in 2011. The main aim of the pilot study was to implement an email-based intervention programme among UCT employees to

encourage daily walking. UCT employees (n=28) based at upper campus volunteered to participate in the pilot study. All participants received a pedometer at baseline and weekly steps were downloaded for the 10-week study.

The 10-week intervention comprised messages which gave participants ideas and advice on how to increase daily walking. The control group did not receive the weekly messages or a map in the fourth week but did attend the meetings every week to download the pedometer.

The main outcome of the pilot study was that the intervention group increased their daily steps from baseline to five-week after which there was a decrease. Conversely, the control group increased daily steps taken. The pedometer also measured 'aerobic steps' which were steps taken at a faster pace. The proportion of weekly aerobic steps increased significantly in the intervention group, but not in the control group. These results therefore indicate that, although the intervention group did not increase their daily steps, they did walk faster after the 10-week intervention.

One of the reasons researchers believe that there were improvements in the control group was that the pedometer was not blinded during the 10 weeks and this could have served a motivation for participants to increase daily. In addition, the research assistant inadvertently gave advice to the control group when she went to download the weekly pedometer readings. Furthermore, the mean minutes of physical activity was 354 min/week in the intervention group and 384 min/week in the control group. Thus the employees who volunteered to participate in the research study were already physically active and meeting the recommended 150 minutes per week.

Dr Tracy Kolbe-Alexander is leading a project to develop a 'Fittest City Index'. In 2011 the variables for the calculation of the Fittest City were selected and possible sources of data both at the municipal and provincial level were investigated. Discovery Health employed a biokineticist who performed the data extraction for most of the variables that were identified. She created a data sheet which was sent to an actuary to develop the actual equations. The South African Fittest City is due for completion by the end of 2012.



**Professor Vicki Lambert** has been leading a long-standing research collaboration with the Discovery Vitality Group, both within South Africa, and now in North America. This research collaboration has extended beyond simple descriptive work to now incorporate longitudinal

analysis of health behaviour and subsequent claims, as well as randomised controlled studies, incorporating behavioural economics and financial incentives, as well as a subsidised retail healthy food benefit, and tailored health counselling. Researchers are also working on the validation of a Vitality Age risk score which has been used widely for health risk appraisal, as well as a risk age for senior adults qualifying for medicare.

The Modelling the Epidemiologic Transition Study is a longitudinal survey under the leadership of Professor Lambert designed to assess the association between physical activity levels and relative weight, weight gain and diabetes and cardiovascular disease risk in five population samples at different stages of economic development. The study enrolled 2 500 young adults, ages 25–45; 500 from sites in each of the following countries: Ghana, South Africa, Seychelles, Jamaica and the United States. At baseline, physical activity levels were assessed using accelerometry and a questionnaire with all participants and by doubly labelled water in a subsample of 75 per site. Dietary intake was assessed using multiple 24-hour recalls, body composition estimated using bioelectrical impedance analysis, and health history, social and economic indicators measured by questionnaire. Blood pressure was measured and blood samples collected for measurement of lipids, glucose, insulin and adipokines. Weight will be measured at 12

months and at 24 months, participants will return for a full examination with re-assessment of physical activity by accelerometry. The associations between physical activity, independent of energy intake, and weight and chronic disease risk will be assessed.

The International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE) is a large, multinational study being undertaken in 12 countries. Professor Vicki Lambert is the project leader of the South African arm of the study. The aim is to describe social ecology factors that influence the lifestyle choices and behaviours of children, including the family, school and neighbourhood, as well as the built environment, the social environment and the policy environment. The primary focus of this study is on the determinants of obesity and weight gain over time in 10-year-old children. However, the very nature of the study, and the countries represented require a broader agenda in which the determinants of both under- and over- nutrition may be addressed. It is anticipated that 500 10-year-old children will be studied in each site.

The results of ISCOLE will provide important new information that will inform the development of lifestyle, environmental and policy interventions to address childhood obesity, both globally and locally. The South African site will further seek to address this ecological model in settings in which childhood under-nutrition and stunting are juxtaposed with childhood overweight and adult overweight and obesity.



**Professor Naomi Levitt** is working with Dr Melanie Bertram of the PRICELESS project to assess the cost effectiveness of a retinal camera screening programme for people with diabetes. She and Dr Joel Dave are leading longitudinal and cross-sectional studies examining the metabolic consequences of antiretroviral therapy.



**Professor Krisela Steyn** worked with the health economist Dr Melanie Bertram of the PRICELESS project to assess the economic and mortality impact of the food industry reducing salt in commonly consumed food in the country. A manuscript with this data has been submitted to the South

African Medical Journal. In addition, a study has been conducted under the leadership of Professor Edelweis Wentzel-Viljoen of the North-West University to assess the salt intake in South Africans and to identify those foods that make the major contribution to a high salt intake in South Africans.



**Professor Karen Sliwa** of the Hatter Institute in Cape Town is conducting the Cardiac Disease in Maternity Cohort study that records the clinical presentation, management and outcome of pregnant women with cardiovascular disease, pre- and post-partum. The study also aims to identify risk factors and clinical predictors

of outcome. Clinicians are invited to refer women with known cardiac conditions (e.g. operated congenital heart disease, operated valvular heart disease) or patients with suspected cardiac conditions, during or post pregnancy, to the Cardiac Disease and Maternity Clinic, Groote Schuur Hospital, Cape Town, South Africa. The platform is now being used to expand the cohort to other African sites, e.g. Nigeria (Professor A. Mbakwem, Dr O. Ogah, Dr D. Ojii) and Kenya (Dr O. Forster). To date more than 200 patients have been entered into the cohort.



Another project of the Hatter Institute under the leadership of Professor Karen Sliwa is the cardiac maternity disease prevention and education programme, now in its second round of funding. This project has developed an electronic media-based education programme for pregnant women to prevent cardiac disease and to promote a healthy lifestyle. The program will be expanded to enable Twitter and Facebook messages. To date, the project has produced three videos, namely 'Shortness of Breath', 'Living a Healthy and Balanced Life as a South African Woman' and 'Healthy Breakfast and Herbal Tea'.



**Professor Eric Bateman**, through his board membership of the Burden of Obstructive Lung Disease (BOLD) initiative, has been involved in the preparation of a publication of data from previous and new surveys using the BOLD methodology which enables comparisons of the prevalence of chronic obstructive lung disease (COPD) worldwide. New sites have begun surveys

in the last year. This work has provided opportunities to explore some important questions concerning this disease: 1. Appropriate reference values for lung function in different ethnic groups, 2. The relationship between COPD prevalence, restrictive lung disease and socio-economic deprivation and their link with mortality.

Professor Bateman is also involved in an NIH-funded five-year project examining the development of COPD and lung infections in a cohort of more than 200 adults on stable anti-retroviral treatment for HIV infection. The study is in its third year (PI: Dr Rodney Dawson).





## Monitoring and Evaluation of Health Services

Under the leadership of Ms Unita Van Vuuren, and in collaboration with the family physicians of the Department of Health of the Province of the Western Cape, an integrated audit tool was developed for five chronic diseases: diabetes, hypertension, asthma, COPD and epilepsy. The tool was initially used in the metro region of Cape Town and by 2011 in all 73 districts across the province. The aim of the integrated audit is to evaluate and measure current practice against the standards set. The objectives include comparing the performance of the different health subdistricts in the province and identification of areas that need improvement.

The audit tool comprises a facility, equipment and process audit and a folder review of 10 folders per chronic condition (DM, HPT, asthma, COPD, epilepsy) in each facility. From the data, chronic disease Indicators are developed which include, structural indicators –

equipment required, process indicators (are right procedures being followed), intermediate outcome indicators (are the patients controlled), and long-term outcome indicators (e.g. amputation rate).

Each facility completes its own audit and analyses its own data providing the facility team with immediate results. Each facility-based chronic care team identifies three areas for improvement. The audit is repeated annually.

In each consecutive year, more community health centres have been participating. The effect is clearly visible in the results of those facilities that have participated since the initiation of the audit system. They have improved and currently perform better than those units that joined the audit process more recently. The role of the chronic disease care team at each facility is critical in improving chronic disease care.

## Capacity Development and Research Training



## University of Cape Town



**PhD student:** Dr Naomi Folb (University of Cape Town Lung Institute)

### Thesis Topic

Effectiveness of an integrated care guideline training programme on the processes and outcomes of chronic diseases in primary care in South Africa: a pragmatic cluster randomised controlled trial.

### Supervisor

Dr L Fairall (University of Cape Town Lung Institute)

### Co-supervisor

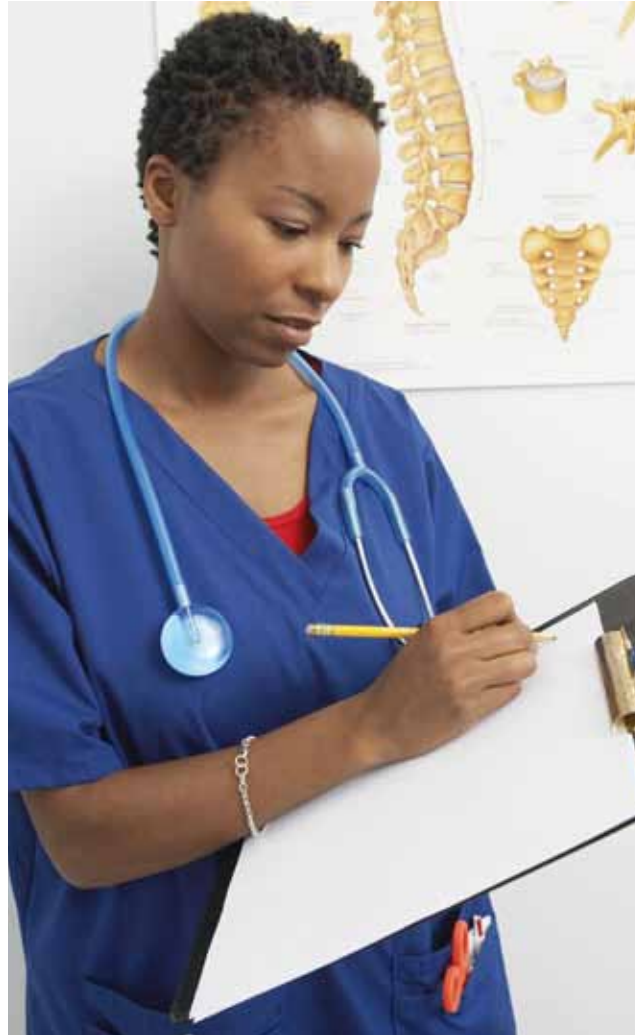
Professor M Bachmann (Norwich Medical School, University of East Anglia, UK)

### Summary

The aim of the study is to test whether an integrated guideline training programme (Primary Care 101) for primary healthcare nurses and doctors improves quality of care for chronic diseases over and above usual training and support. The trial will focus on evaluating four disease groups: hypertension, diabetes, chronic respiratory disease and depression. The study is a pragmatic cluster randomised controlled trial with 38 clinics in the Eden and Overberg districts of the Western Cape randomised to two parallel arms, and outcomes assessed on individual participants.

### Progress

Baseline data was collected from 4 430 participants in 2011. The data cleaning has been initiated and preparation for the follow-up survey is in progress.



**Master of Science in Nursing (MSc):** Sr Buyelwa Majikela-Dlangamandla (diabetes nurse specialist, Division of Medicine, University of Cape Town)

### Thesis Topic

An evaluation of health promoters' adherence to a planned diabetes educational intervention that includes motivational interviewing at community health centres in Cape Town.

### Supervisors

Dr Una Kyriacos, PhD (Nursing), (UCT Division of Nursing & Midwifery)

### Co-supervisor

Professor Bob Mash (MBChB MRCGP FCFP PhD, University of Stellenbosch)

### Summary

The aim of this study is to evaluate the extent to which health promoters in public sector community health centres adhere to motivational interviewing in their delivery of a planned diabetes educational intervention, including adherence to the content and mode of delivery as they had been taught.

### Progress

The protocol was approved by the UCT research ethics committee. The data collection commenced in February and was completed in June 2011. The data analysis is in progress.

**MMED student:** Dr Claire Draper (Family Medicine, School of Public Health and Family Medicine, University of Cape Town)

### Thesis Topic

Alignment of current primary care practices in provincial health adult chronic disease management policy: a case study of Retreat Community Health Centre.

### Supervisors

Dr Catherine Draper (UCT/MRC Research Unit for Exercise Science and Sports Medicine)

### Co-supervisor

Dr Graham Bresick (School of Public Health and Family Medicine, UCT)

### Summary

The overall study purpose is to improve the care and management of patients with chronic diseases within primary health care facilities. The aim is to assess the alignment of current primary care practices with the Provincial Government of the Western Cape's (PGWC) adult chronic disease management policy (2009), using Retreat Community Health Centre (RCHC) as a case study.

### Progress

The protocol was approved by the UCT Research Ethics committee. The data collection was completed from in August – December 2011 and the next step will be the review of the audit data in conjunction with the PGWC adult chronic disease management policy.





## University of the Western Cape (UWC)

**PhD student:** Lungishwa Tsolokile (School of Public Health, University of the Western Cape)

### Thesis Topic

The use of community health workers to improve chronic disease care.

### Supervisors

Professor Thandi Puoane and Professor Helen Schneider of UWC

### Summary

The aim of this project is to identify the current activities of community health care workers in chronic non-communicable disease and to develop a training programme for community health workers to develop their skills to care for patients with chronic conditions

### Progress

The protocol has been approved by the Higher Degrees Committee at the University of the Western Cape and the Provincial Research Ethics Committee. An observational study has been conducted of current CHW practices and a questionnaire developed and piloted for a survey that will be conducted to gain insight into the current knowledge and practices of CHWs working in Khayelitsha.

**PhD student:** Beatrice Nojilana (School of Public Health, University of the Western Cape)

### Thesis Topic

Environmental and policy approaches for population wide interventions to prevent chronic non-communicable diseases: the role of population based data.

### Supervisors

Professor Thandi Puoane (UWC) and Associate Professor Debbie Bradshaw (MRC)

### Summary

The study aims to explore the role of population based data in supporting environmental and policy approaches to prevent chronic non-communicable diseases. It will involve a situational analysis of population wide interventions, an assessment of the impact of the tobacco control on the prevalence of smoking and tobacco-related mortality, and a comparison of environmental and behaviours around smoking and diet in an urban and rural setting to assess the potential for population wide prevention of chronic NCDs.

### Progress made up to the end of 2011

The protocol has been approved by the Higher Degrees Committee at the University of the Western Cape and work has begun on the situational analysis including developing a more detailed proposal to interview people involved in the development and implementation of population wide approaches to explore barriers and experiences. Trends in tobacco-related mortality have been explored.





## University of Stellenbosch (US)

**PhD student:** Zelra Malan (Family Medicine, University of Stellenbosch)

### Thesis Topic

The development, implementation and evaluation of a training intervention for primary health care providers on brief behaviour change counselling and assessment of the provider's competency in delivering this counselling intervention.

### Supervisors

Professor Bob Mash, Department of Family Medicine and Primary Care, US and Dr Katherine Everett-Murphy, CDIA

### Summary

This study aims to determine whether brief behavioural change counselling interventions, based on best practice for smoking cessation, can be applied to the broader range of risk factors that are associated with non-communicable diseases. In addition, if such an intervention is feasible in the unique South African primary health care setting, which category of health care provider is best positioned to take on such a counselling role.

### Progress

Protocol developed and accepted by PhD and Ethics Committee, University of Stellenbosch, November 2010. In 2011 the training manuals were developed, and the project and fieldwork logistics arranged.

**MMed (FamMed) student:** Dr Stephanus Johannes Serfontein (University of Stellenbosch)

### Thesis Topic

Views of patients on a group diabetic education programme using motivational interviewing in underserved communities in South Africa: A qualitative study.

### Supervisors

Professor Bob Mash, Department of Family Medicine and Primary Care, US

### Summary

The aim of this project was to evaluate the effectiveness of a diabetes group education programme through a qualitative analysis of feedback from the participants. Patients expressed that they gained useful new knowledge about diabetes. The use of educational material was experienced positively and enhanced recall and understanding of information. The general experience was that the health promoters were competent, utilised useful communication skills and the structure of sessions was suitable. Patients reported a change in behaviour especially with diet, physical activity, medication and foot care. There were organisational and infrastructural problems experienced specifically with regards to the suitability of the venue and communication of information regarding the timing and location of the sessions.

Patients experienced the programme as successful and reported that they benefitted from attending and wished that other diabetics could also be granted the opportunity. This study supports the wider implementation of this programme following consideration of some recommendations resulting from patient feedback.

### Progress

Project completed and the student graduated in 2011.



**MMed(Fam Med) student:** Dr Annie Botes  
(University of Stellenbosch)

**Thesis Topic**

A qualitative assessment by health promoters of the effectiveness of a group diabetic education programme using motivational interviewing in underserved communities in South Africa.

**Supervisor**

Professor Bob Mash (Department of Family Medicine and Primary Care, US)

**Summary**

The aim of this project was to evaluate the effectiveness of a diabetes group education programme through a qualitative analysis of feedback from the trained health promoters who had provided the diabetes education programme to patients with the condition. The health promoters's perspective on a group diabetes education programme was that they could deliver such a programme with the necessary confidence after adequate training.

**Progress**

Project completed and the student graduated in 2011.



**MMed(Fam Med) student:** Dr Roland Kaukamp  
(University of Stellenbosch)

**Thesis Topic**

Determination of the cost of a group diabetes education programme delivered by health promoters trained in motivational interviewing.

**Supervisor**

Professor Bob Mash (Department of Family Medicine and Primary Care, US)

**Summary**

The costing of the group diabetes education programme.

**Progress**

The collection of the costs related to the intervention is in progress.

**MED (Fam Med) student:** H.O Ibrahim

**Thesis Topic**

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.

**Supervisor**

Professor Bob Mash

**Progress**

Project complete and student graduated in 2011.

**MfamMED student:** D. Stapar

**Thesis Topic**

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

**Supervisor**

Professor Bob Mash

**Progress**

Project complete and student graduated in 2011.





## University of Harvard

**PhD student:** Ankur Pandya, (Graduate School of Arts and Science, Harvard University, USA)

### Thesis Topic

Applying health decision science methods to optimise cardiovascular disease screening and projection models.

### Supervisors

Professor Milton C. Weinstein, Dr Thomas A. Gaziano, and Professor David Cutler of Harvard University

### Summary

Each of the three chapters of this dissertation leveraged total cardiovascular (CVD) risk scores to assess the overall impact of screening policies and secular trends affecting various individual risk factors. These models proved to be useful tools to improve CVD risk screening and projection efforts.

### Progress

The dissertation is complete and was successfully defended on April 6, 2012. It is entitled "Optimizing Cardiovascular Disease Screening and Projection Efforts in the United States". The abstract is available at: <http://www.healthpolicy.fas.harvard.edu/graduates/?appSession=232164384691015&RecordID=96&PageID=3&PrevPageID=2&cpipage=1&CPISortType=&CPorderBy=&cb>

CurrentRecordPosition=3

The first chapter has been published in PLoS One and the second chapter has been submitted to a peer-reviewed journal.

**DrPH student:** Shafika Abrahams-Gessel (University of Boston, USA)

### Thesis Topic

Determining the impact of training on the beliefs about the risk factors for non-communicable diseases (NCDs), or chronic diseases (CDs) and the longer-term impact of the training experience itself on community health workers (CHWs) who will be trained to screen for individuals at high risk in population-based settings in the township of Khayelitsha, Cape Town, South Africa.

### Supervisors

Professor Deborah Bowen, Chair of the Department of Community Health Sciences/BUSPH (chair); Dr Thomas Gaziano, Brigham and Women's Hospital/Harvard School of Public Health; Dr Matthew Fox, Department of International Health/BUSPH; Dr Judith Bernstein; Community Health Sciences Department/BUSPH.

### Summary

This study aims to assess the experiences of community health workers (CHWs) in training for a non-invasive risk-screening tool for cardiovascular disease (CVD) in the community setting. The impact of the cultural norms related to weight, perceptions of the roles of CHWs in the community and health care settings, the training materials, and challenges plus opportunities for scaling up the training and use of this tool plus its impact on policy related to integrating prevention of CVD programs into the primary care setting, will all be assessed.

### Progress

Protocol currently under review by Dr PH Doctoral Committee. The student's thesis committee has already approved the protocol. The training manuals will be developed and completed in 2012.





## Other Capacity Development Activities

The School of Public Health at the University of Cape Town again ran a Chronic Disease Module in their master's in public health (MPH) course in 2011 over a six-month period. This is an elective module in the MPH programme of the school. Five CDIA members participated in teaching on the course.

The Winter School course of the University of the Western Cape on NCDs was cancelled in 2011 due to a lack of subscriptions.

A successful application for funds from Medtronic Foundation allowed the creation of two master's and one PhD fellowship in chronic diseases. These were advertised towards the end of 2011 and excellent applications were received.

At the University of Stellenbosch (US), Professor Bob Mash of the Division of Family Medicine, continues to teach post-graduate students in family medicine about chronic diseases and health systems. He is

supervising one PhD student and five master's students on chronic disease research projects. Professor Mash was guest editor of an edition of the *Current Allergy and Immunology Journal* on the theme of primary care, with the focus on the management of chronic asthma in adults and children.

James Irlam travelled to Boston in Fall 2010 and spent 10 days working closely with Dr Gaziano on an analysis related to rheumatic heart disease in South Africa.

Harvard undergraduate Neil Patel spent eight weeks in the summer of 2011 working with the Eden trial. He interacted with both the field workers in the Eden district through site observation and the data coordination group at the Lung Institute.

Professor Naomi (Dinky) Levitt and Krisela Steyn and other CDIA members met with several postgraduate students who are interested in exploring chronic disease projects for their research projects.

## CDIA Network Members' Participation in Policy Development and Interaction with Non-governmental Organisations and the Community

The United Nations Summit on the prevention and control of NCDs held on 19th and 20th September 2011 was a focal point for all those interested in ensuring that NCDs are given the appropriate attention and priority by governments, departments of health, funders and civil society, given the extent of the current and projected future burden. There were numerous national and international activities that culminated in the UN Summit, in which Professor Bongani Mayosi participated.

CDIA members played an active role in the planning of the National NCD Summit in July 2011. Under the leadership of Professor Debbie Bradshaw, Krisela Steyn, Naomi Levitt and Ms Beatrice Nojilana, a policy brief detailing the growing tide of NCDs was written for the South African meeting. Professors Krisela Steyn and Debbie Bradshaw presented working papers for the summit and they also acted as facilitators at the commission discussions. Professor Vicki Lambert and Dr Tracey Kolbe-Alexander prepared working documents on physical activity. Numerous members of CDIA participated in the South African Meeting. At the meeting, a number of targets were accepted by the members of the summit to reduce the impact of NCDs in South Africa.

The first Global Ministerial Conference on Healthy Lifestyles and Non-communicable Disease Control was held in Moscow on 28 and 29 April 2011. The conference was organised jointly by the Russian Federation and the Secretariat and saw more than 90 ministers of health in attendance. The purpose of the meeting was to bring NCDs to the attention of ministers of health and to prepare

them for the United Nations Summit on NCDs that was held in September 2011. Professor Krisela Steyn was on the scientific advisory committee that planned this important meeting.

Professor Bob Mash served on the Minister of Health's Task Team to formulate the membership of the District Specialist Teams that will support the development of the District Health Services in South Africa.

Professor Eric Bateman continues his work with the Global Alliance against Chronic Respiratory Diseases (GARD), a WHO collaboration. He also serves as Chair of the Global Initiative for Asthma (GINA). Major contributions include updating the asthma management workshop report annually and the preparation of a chapter on distinguishing asthma from COPD in adults in primary care, in a collaboration between GINA and GOLD (Global Obstructive Lung Disease initiative) for inclusion in both the GINA and GOLD workshop reports. This document focuses on poorly-resourced countries where spirometry is not immediately available.

The fundamental work done under the leadership of Dr Lara Fairall, of the Knowledge Translation Unit of the University of Cape Town's Lung Institute, merits particular mention. Her group initially developed the 'PALSA Plus' training programme for health care providers to support them to implement evidence based clinical guidelines on chronic respiratory diseases, tuberculosis and HIV/AIDS. This serves as a demonstration project of the Global Alliance against Chronic Respiratory Diseases and is presented as a

model for low-middle-income countries for improving quality of care for chronic diseases. New countries interested in implementing similar programmes are Brazil (a pilot project in Rio de Janeiro by Professor Camargo) and in Mexico (Professor Jose Perez Padilla, General Director of the National Institute of Respiratory Diseases, Mexico City) and Botswana (through the University of Botswana). Dr Fairall has subsequently led the study of 'Primary Care 101' that was detailed earlier (project 1).

The South African National Department of Health is also piloting 'Primary Care 101' in an USAID-funded project at three demonstration sites in South Africa where an 'integrated chronic disease care model' is being evaluated. Other public and private sector health service providers are investigating the use of the 'Primary Care 101' chronic disease model of care for future use in health service settings. The results of the CDIA-funded pragmatic randomised controlled trial will contribute significantly to the potential role out of this important tool to improve chronic disease care in resource scarce settings.

In South Africa, many other CDIA members also work with the provincial or national government departments supporting them in the development of a variety of policies for chronic diseases or to support the development of research in the country.

Bongani Mayosi of the Department of Medicine at UCT hosted the National Health Research Summit in July 2011, in his capacity as Chairman of the National Health Research Committee the Summit has produced a report on the priorities for health research in South Africa – the report has been adopted by the national Department of Health as the 'road map' for health research for the next 10 years.

Katherine Everett-Murphy has been working with the Western Cape Provincial Department of Health on implementing a pilot programme for pregnant women, which addresses multiple risk behaviours

during pregnancy – including substance abuse, smoking and alcohol use. It also integrates a strong focus on mental health. The intervention involves training lay counselors, social workers and midwives in providing brief behavioural change counseling, as well as psychosocial support to pregnant women attending public sector antenatal services. Improving the referral systems to mental health professionals is also an important objective. The intervention is currently being piloted in the Mitchells Plain Maternal Obstetric Unit in Cape Town.

Professor Krisela Steyn served as advisor to the National Department of Health on the working committee that formulated the proposed regulations to reduce salt in South African food. The working committee had extensive consultations with nutrition experts and representatives of the food industry.

Professor Vicki Lambert and Dr Tracey Kolbe-Alexander are engaged in policy activities relating to physical activity nationally and internationally. Dr Tracy Kolbe-Alexander is also working with the Province of the Western Cape's Department of Health to develop a workplace health programme.

CDIA members have also been involved with South African advocacy groups and in interactions with the community. Professor Naomi Levitt is president of Diabetes South Africa. Professor Krisela Steyn has been appointed on the South African Heart and Stroke Foundation's newly created advisory panel.

A health awareness day for teens at Soweto's Ibhongo Secondary School in Soweto was led by Professor Karin Sliwa-Hahnle and a team consisting of several professors, physicians, dieticians, nurses and basic science students from the Soweto Cardiovascular Research Unit, the University of the Witwatersrand and the Hatter Institute for Cardiovascular Research in Africa, University of Cape Town. This initiative was part of a campaign to increase awareness among African teenagers about the numerous issues concerning healthy lifestyles.

## CDIA Funders in 2011

We would like to acknowledge our funders. Without their support, NCDs would still constitute a neglected area of health research.

### United Health Company, USA

- Total funding amounts to US\$1 million over five years. Annually renewable.
- Funding cycle: From Sept 2009 to August 2014

### National Heart Lung and Blood Institute of the NIH, USA

- Total funding amounts to US\$2 million over five years. Pay and claim contract.
- Funding cycle: From 8 June 2009 to 7 June 2014.
- Supplementary funding of US\$498 916 shared with Guatemala, Mexican-American Borders and Bangladesh
- Centres of Excellence. Pay and claim contract.
- Funding cycle: July 2011 to June 2014

### Cancer Association of South Africa

- Total funding amounts to US\$68 571 (R480 000) over three years. Annually renewable.
- Funding cycle: From 1 June 2010 to 30 May 2013

### International Development Research Centre of Canada

- Total funding amounts to US\$37 048.44 (Canadian dollars \$38 000) for one year.
- Funding cycle: 17 March 2010 to 16 March 2011

### International Diabetes Federation (BRIDGES project)

- Total funding amounts to US\$65 000 over two years.
- Funding cycle: From 1 April 2010 to 31 March 2012

### Medtronics Foundation

- Total funding amounts to US\$300 000 over two years.
- Funding cycle: From March 2011 to February 2013

### Department of Medicine and Faculty of Health Sciences, University of Cape Town

- Research facilities and accommodation for CDIA administrative office.



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## Financial Statements

Income and expenditure statement for 12 month period (January to December)

	NOTE	2011	2010
Income		9 923 464.98	4 274 787.82
Grants - Restricted	1	6 758 624.00	2 522 523.62
Grants - Unrestricted	1	3 035 596.47	1 697 334.88
Net Financing Income (Interest received from investments)	2	129 244.51	54 929.32
Expenditure		6 429 737.50	3 741 540.80
Personnel		2 567 496.00	1 430 841.83
Travel		622 763.65	236 645.75
Operating costs and supplies		1 217 466.69	441 472.04
Bursaries		267 200.00	409 450.00
Subcontracts		1 754 811.16	1 223 131.18
Lung Institute		1 008 502.52	422 408.71
Harvard University		746 308.64	800 722.47
Surplus		3 493 727.48	533 247.02
Capital invested	3	3 389 832.24	1 590 658.41
Total		6 883 559.72	2 123 905.43



## Notes

### **Basis of Accounting**

The income and expenditure statement was drawn up based on the cash basis of accounting.

### **Exchange Rate**

The exchange rate used to convert United States dollars to South African rands is the average weighted exchange rate of the ruling exchange rate on the dates that the funds were received by the recipient.

### **Grants Restricted/Unrestricted**

Grants unrestricted represents funding received in advance of expenditure for operational costs and bursaries. Grants restricted represents expenditure incurred on projects for which there are commitments from funders, including funding not yet received by year end.

### **Net Financing Income**

Interest received from capital acquired since 2008.

### **Investments**

Unrestricted funding invested through UCT portfolio, receiving a market-related interest rate.



## Contact

**Carmelita Sylvester**

Centre Manager

021-406 6572

**Sue Botha**

Administrator

<http://www.health.uct.ac.za/research/groupings/cdia/>