

## 1. BACKGROUND

The Centre continues to function within a climate of institutional change, associated with the ongoing transformation process in South Africa, as well as developments at the global level. Professors Andre Swart and Thea de Wet, for example, have been deeply involved in shaping the newly established UJ (an integration of three former tertiary education institutions – Rand Afrikaans University, the Technikon Witwatersrand and two campuses of Vista University). Dr Ihron Rensburg was appointed as Vice-Chancellor and Principal of the University of Johannesburg from 1 April 2006. A key focus for Dr Rensburg is to shape UJ as a leading, internationally recognized African urban university, with particular emphasis on research development.

Formerly Head of the UJ School of Public Health, and a key role player in the activities of the Centre, Professor Swart was also recently appointed to the position of Dean of the UJ's Faculty of Health Sciences. All at the Centre offer Professor Swart our warmest congratulations on this significant achievement.

As part of a process of regular scientific review of MRC Units and Groups, the Health & Development Research Group was evaluated in 2005 in terms of its productivity and achievements over the previous three years. The MRC

Board recently gave effect to a recommendation by the Review Panel, that the Health and Development Research Group be elevated in status within the MRC research system, and re-named as the MRC Environment and Health Research Unit (E&HRU). As the name implies, this change is associated with a stronger focus on environment and health research. This strengthened focus on environmental health research within the MRC E&HRU, is likely to lead to concomitant effects on the scope and focus of work within the Centre. Angela Mathee has recently been formally appointed as Director of the MRC E&HRU, and concomitantly, as Director of the World Health Organization Collaborating Centre for Urban Health.

The Medical Research Council is currently implementing a new research strategy for the period 2005-2010 ([www.mrc.ac.za](http://www.mrc.ac.za)). Of particular relevance to the Centre, is that the new MRC research strategy makes provision for the formation of collaborative relationships with internal and external stakeholders, such as MRC Collaborative Research Groups (CRGs) and MRC National Collaborative Research Programmes (NCRPs). Over the next year the Centre will be exploring opportunities to consolidate its partnership in relation to the new MRC research strategy.

The City of Johannesburg has embarked on a process of rationalization, which will involve reduction of its current eleven administrative Regions to five. This process is associated with significant changes in institutional arrangements. Amongst the potential implications, are that the roles and responsibilities of CoJ staff who have been working within the Centre may change, resulting in a change of Centre staff and work focus areas. The new City of Johannesburg logo is seen alongside.

The University of the Witwatersrand has also slightly adapted its logo. The new version is given here.

At the project level considerable effort has been devoted to building the core project of the Centre – the Health, Environment & Development (HEAD) study, in which all of the partners are involved. The HEAD study is a panel study that examines urban housing conditions and health (health is regarded as a broad concept, including aspects related to physical and psycho-social health) in six different sites



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*Bertrams street scene – a HEAD pilot study site*

across the City of Johannesburg. Importantly, the HEAD study also serves as a research capacity development vehicle, with research training opportunities for undergraduate, Masters and Doctoral students. Over the past year around 50 undergraduate students, one Masters student and one doctoral student have participated in research training programmes or undertaken research under the umbrella of the HEAD study. The number of students is expected to increase over the next year.

Following a pilot study conducted in 2005, the methodology and questionnaire were adapted to respond to the key concerns. Data for year one, of what is planned to be a five-year panel study, were collected through the implementation of cross-sectional surveys in the six study sites during September 2006.

Over the past year the Centre continued with its activities aimed at strengthening and developing capacity within the partnership, building on joint research initiatives, further developing its relationship with WHO-AFRO and increasing joint urban health initiatives with countries elsewhere on the African continent, including Botswana, Ethiopia and Namibia.

This report will outline the main activities and achievement of the Centre over the past year, and provide an indication of the intended focus areas and priorities over the next calendar year.

### 1.1 The Health, Environment and Development (HEAD) Study

The HEAD study will, over a five-year period from 2006 to 2010, examine trends and variations across six sites in socio-demography, household health, housing status, environmental health services, neighbourhood infrastructure, levels of crime and violence, food insecurity, mental health and quality of life.

The six sites, which broadly represent the key types of residential settlements in Johannesburg, are:

Hillbrow – a high rise, densely populated, inner city area.

Bertrams – an inner city suburb characterized by a mix of residential and commercial development. Bertrams is also the site of the main venue for the 2010 Soccer World Cup tournament.

Riverlea Extension 1 – a degraded township constructed to provide mass-based low cost housing in the apartheid era.

Braamfischerville – located in Soweto, this is a low-cost housing delivery initiative developed under the umbrella of the Reconstruction and Development Programme (RDP).

Hospital Hill – a growing informal settlement located near a hospital in Lenasia.

Westdene – a rapidly changing middle-income suburb to the west of central Johannesburg.



*Bertrams – a HEAD pilot study site*

The HEAD study has a strong focus on research capacity development, especially for undergraduate students in environmental health. Currently the HEAD study also provides the framework for the doctoral research of a MRC research intern, Daphney Conco. Daphney is undertaking a study of women's coping strategies and quality of life in relation to food insecurity across a selection of the HEAD study sites.

Nisha Naicker, a registrar from the School of Public Health at the University of the Witwatersrand, based a report that she compiled as part of the requirements for a Specialist qualification in Public Health Medicine, on data from the HEAD study.

Lulu Makene, a Masters in Public Health student from the University of the Witwatersrand is conducting analyses on the relationship between housing factors and respiratory ill health using HEAD study data.

### **1.1.1 Lessons from the Pilot Study**

A pilot study implemented in 2005 was helpful in guiding the development of the logistical plan and methodology for the first year of data collection for the HEAD study, which was undertaken in September 2006. Changes that were made to the original plan included switching from systematic to random sampling and considerable revision of the original questionnaire. The student training programme

implemented prior to the commencement of fieldwork was expanded and strengthened with greater involvement of the study team.

Presenting preliminary findings from the HEAD pilot study at the PHASA conference – 2006

### **1.1.2 The HEAD Study – New Developments**

Over the past year, long-term database management support for the HEAD study has been secured from the MRC Biomedical informatics Research Division. Appropriate data management systems will be of particular importance as the HEAD study progresses, and in terms of longitudinal analyses.

Associated with the HEAD data management system, was the implementation of a pilot exercise during recent HEAD fieldwork, in electronic data capture whilst in the field, with the aid of hand-held Personal Digital Assistant (PDA) technology. At the end of each day's fieldwork, the data were downloaded into a central database. This new approach to data collection was piloted during 2006, alongside the collection of data on hard copy questionnaires. It is planned that during the second year of HEAD data collection, exclusive use will be made of electronic data capture methods. In this regard also, the MRC Biomedical informatics Research Division will provide key expertise.

As part of data collection for year one of the HEAD study,



Presenting preliminary findings from the HEAD pilot study at the PHASA conference - 2006

global positioning system (GPS) coordinates for each dwelling site were recorded using GPS technology that was specially purchased for this purpose. The use of GPS technology will be particularly helpful in tracking changes in Hospital Hill (the informal settlement site), and in graphical representation of heterogeneity within and across the six study sites.

### 1.1.3 Statistical Support for the HEAD study

Statistical support has been secured for the duration of the HEAD study from Professor Piet Becker of the MRC Biostatistics Unit. Professor Becker will advise on the statistical approach, and his office will also provide services such as "double punching" of data collected by two independent data processors, prior to data cleaning and analyses.

### 1.1.4 Research Translation

A special effort will be made over the next year to ensure that the findings of the HEAD study are made widely available to inform urban housing and health decisions at various levels (local, provincial and national). In this regard, interaction with the City of Johannesburg, housing and planning departments at all levels of government and agencies such as the Independent Development Trust (IDT) will be key.

### 1.1.5 Future Challenges

Whilst originally developed mainly as a vehicle for research capacity development, the value of the HEAD study as a source of useful information has increasingly been recognized. In this regard, concerns such as data quality will have to be addressed, for example through allocating credits to student performance during fieldwork and further strengthening of student training in interviewing techniques. Discussions are underway towards consolidating the HEAD study as an important experiential compo-

nent of student training in Environmental Health at the University of Johannesburg.

Other aspects of the study that might be strengthened include improved liaison with communities prior to fieldwork and mechanisms for feeding back key findings to communities.

### 1.2 Lead Hazard Awareness Campaign – City of Johannesburg

Following evidence from MRC studies of widespread lead poisoning in young Johannesburg children, and low levels of public awareness of lead hazards (see Section 2.2), the Health Department of the City of Johannesburg implemented a lead hazard awareness campaign. The campaign was initially implemented in inner city areas, but subsequently extended throughout the metropolis. The MRC contributed a large number of posters and fact sheets to support the campaign.

