

3. STRENGTHENING TECHNICAL & SCIENTIFIC COLLABORATION WITH MEMBER STATES IN THE WHO-AFRO REGION (TOR 4)

3.1 Understanding child lead exposure in Gabarone, Botswana: a pilot study

The WHOCCUH provided financial and technical support to Botswana in order to conduct the first ever survey of children's blood lead levels in that country. The study findings showed similarities between the South African and Botswana situations in that blood lead levels ranged from 1.6 to 28.6 micrograms per decilitre of blood ($\mu\text{g}/\text{dl}$) with a mean of 8.8, median of 7.45 and standard deviation of 5.6. Approximately 31% of children had blood lead levels equal to or above 10 $\mu\text{g}/\text{dl}$ (the internally accepted action level), while 5% of all study children had levels equal to or above 20 $\mu\text{g}/\text{dl}$.

This study represents a unique collaboration between Botswana and South Africa in the field of urban health. Representatives of the WHOCCUH played a significant role in the conceptualisation and implementation of the study, and providing the funding for implementation. The study has stimulated further research on lead exposure and poisoning in Botswana, with a doctoral student, Bontle Mbongwe, now working towards a national assessment of lead exposure in the Botswana.

3.2 Study of Paint Lead Concentrations in Nigeria

Following a publication on the use of lead in paint in South Africa in the journal *Environmental Health Perspectives*, the WHOCCUH was approached by Dr Levi Orish, from the Department of Pharmacology at the Nnamdi Azikiwe

University in Nigeria for assistance with analysing the lead content of paints available in Nigeria. Paint samples are currently being collected in Nigeria, and will be despatched to Johannesburg shortly. It has been agreed that a short joint publication will be written on the findings.

3.3 The Air Pollution Information network of Africa (APINA)

Brendon Barnes attended two workshops of the Air Pollution Information Network of Africa (APINA) – in Dar Es Salaam (Tanzania) and Maputo (Mozambique). The meetings were attended by delegates from Botswana, Malawi, Tanzania, Zimbabwe, Zambia, Mozambique and South Africa, and were in preparation for a Southern African Development Community (SADC) ministerial meeting to be held in Botswana in 2008.

Both trips were funded by APINA. He delivered presentations on indoor air pollution and health, interventions to reduce child air pollution exposure, methods to determine health impacts, statistical considerations in study designs and the formulation of research questions.

Dr Barnes' involvement in APINA activities has resulted in the possibility of indoor air pollution exposure assessments in Malawi, and has also been invited to participate in a meeting in Dar es Salaam in early 2008 to develop a proposal on indoor air pollution research in Tanzania.



4. DEVELOPMENT & UPDATING OF CURRICULA OF HEALTH & ENVIRONMENT-RELATED PROFESSIONALS (TOR 5)

4.1 Module on Environmental Health at the Wits School of Public Health

Angela Mathee coordinates an annually presented module on environmental health for students undertaking the Masters in Public Health programme at the Wits School of Public Health. The course was attended by students from the public health system (middle and senior management), the private sector, research organizations and non-governmental organizations. Two thirds of the students are South African, just under one-third are from countries elsewhere in Africa (in 2007 students from Nigeria, Botswana, Kenya and Lesotho attended the course), and a small proportion from the United States of America, the United Kingdom and other European countries.

The course is taught mainly by WHOCCUH staff, including from the MRC, UJ and the Wits SPH, and covers aspects related to the HEAD and Johannesburg Livelihoods studies, lead poisoning, persistent toxic substances, air pollution, transport and health, the health and safety dimensions of large sporting events such as the 2010 World Cup soccer tournament and climate change. An evaluation showed that the course was very well received, with several requests for expansion over a longer period.



4.2 Revised Edition of the Epidemiology Manual for South Africa

The popular Epidemiology Manual for South Africa, for which the MRC holds copyright, is to be revised for publication in 2007. Angie Mathee was invited to write the chapter on Environmental Epidemiology for the revised version, which is being edited by Drs Rodney Ehrlich and Gina Joubert.

The Epidemiology Manual for South Africa is a popular teaching text within public health in the country.

4.3 Environmental Health Internships for Registrars from the Wits School of Public Health

The placement at the Medical Research Council, for periods of around six months, of Registrars from the Wits School of Public Health in order to gain experience in environmental health research and other initiatives, continued over the past year. In total, over the past three-and-a-half years, seven registrars have received experiential training in environmental health research. This initiative was implemented in order to help meet the environmental health requirements for their specialist qualification in Public Health Medicine. Over the past year, Ntabozuko worked on the HEAD study, while Mamaqhawe Hoohlo is currently working both the HEAD study and 2007 lead exposure survey, with special emphasis on geographical information systems.

4.4 Wits Health Research Day

On 10 May 2007 Nisha Naicker delivered a presentation related to the key lessons learned from the HEAD pilot study at the 2007 Wits School of Public Health Research Day. The presentation was well received, and generated interesting discussions.



5. DEVELOPMENT OF EFFECTIVE & EFFICIENT APPROACHES TO THE DELIVERY OF URBAN HEALTH SERVICES (TOR 6)



5.1 Environmental health practitioners (EHPs) and the implementation of public policy in Johannesburg

A research project is being undertaken by Rob Couch as part of the requirements for completing a M.Phil./PhD qualification at London South Bank University. His research focuses on the factors determining the nature of policy implementation at street level by Environmental Health Practitioners. Rob has completed the data collection phase of his research and is currently in the process of writing up his thesis.

6. PROMOTION OF URBAN HEALTH PROGRAMMES - INTERSECTORAL COLLABORATION (TOR 7)

6.1 Support for Healthy Cities in Namibia

The WHOCCUH was requested to provide support for a WHO-AFRO capacity development workshop on Healthy Cities in Windhoek, Namibia. The workshop took place from 26 to 29 September 2006. Angela Mathee and Rochelle Spadoni travelled to Windhoek to provide technical support and to draft the workshop report. Despite the relatively small Windhoek population, there are many parallels with Johannesburg in terms of environment and health challenges, for example concerns around food quality from street food traders, growing informal settlements and low levels of awareness of environmental health hazards such as lead poisoning.



The WHOCCUH was subsequently requested by WHO-AFRO to provide similar support for a Healthy Cities workshop in Kenya.

7. OTHER ACTIVITIES AND ACHIEVEMENTS

7.1 University of Johannesburg Public Lecture Series

The University of Johannesburg has commenced with a series of public lectures, in which WHOCCUH has played a key role. Under the umbrella of this initiative, Angela Mathee, on 11 June 2007, delivered a lecture entitled “Lead Poisoning in Children: Turning the Tide of a Public Health Tragedy.” On 5 September 2007, Professor Trudy Harpham, chairperson of the WHOCCUH Advisory Panel, delivered a lecture entitled “Urban Public Health: Emerging Global Evidence and Imperatives.”



2005) for examination. The research of six other doctoral students, as well as two further Masters students, is either directly or indirectly associated with the WHOCCUH. Associated with the HEAD study, experiential research training is provided to around 50 environmental health students from the University of Johannesburg each year.

WHOCCUH also play a major role in presenting courses, running or participating in workshops and giving lectures in Johannesburg as well as elsewhere on the African continent.

7.2 Development Partnership for Higher Education (DeLPHE)

A grant application was drafted by Thea de Wet (UJ), Angela Mathee (MRC) and Trudy Harpham (LSBU), and submitted to the British Council. The application was built around the themes of capacity development (especially at doctoral level), publications (with a focus on the HEAD and Johannesburg Livelihoods studies) and research translation (through key meeting with the City of Johannesburg). The application was successful, and the funding will be used to ensure regular meetings of the three applicants, an increased rate of publications, as well as research translation workshops and meetings with urban health and development stakeholders in Johannesburg and elsewhere.

7.3 Capacity Development in the WHOCCUH

The WHOCCUH has been particularly successful at capacity development over the past year, both internally and externally. This year both Angela Mathee and Brendon Barnes have been awarded doctoral degrees, and Tanya Haman has been awarded a Masters degree. Lulu Makene (a Wits SPH student supervised by Mathee) has submitted her research report (using data on housing factors and respiratory ill health from the HEAD pilot study conducted in



7.4 Memorandum of Understanding – City of Johannesburg & Medical Research Council

The City of Johannesburg has requested that a new Memorandum of Understanding (MOU) be drafted with the Medical Research Council to confirm its position as a partner of the WHOCCUH. The legal teams of the two organizations, and the City of Johannesburg have now approved the draft MOU, which will shortly be submitted to the Executive Management Committee of the MRC for approval.

7.5 WHOCCUH in the Media

Following the discovery of lead-contaminated toys manufactured in China and distributed throughout the world, including South Africa, there was considerable coverage of the work of WHOCCUH staff related to lead poisoning. Angela Mathee was requested by WHO to serve as a referral point for the global media in respect of queries related to lead in toys and paint.



During a recent trip to London, Thea de Wet and Angie Mathee were interviewed by the editor of Environmental Health Practitioner, which is the professional magazine of the Chartered Institute of Environmental Health. Two articles, related to the Johannesburg Livelihoods and HEAD studies will appear the magazine’s “International Interviews” column in forthcoming issues.

8. THE WAY FORWARD

The past year has seen further consolidation of efforts in recent years to build the WHOCCUH as a strong, productive and effective partnership. Key in this regard has been the HEAD study. Currently in its second year of data collection, the HEAD study has begun to demonstrate its value in terms of the generation of new information and knowledge, and research capacity development. Various bilateral initiatives such as the MRC/Wits arrangement to provide registrars with environmental health research experience, and the participation of the MRC and UJ, together with LSBU, in the DeLPHE programme, have contributed further to the building of a WHOCCUH team and partnership that is gaining in strength, cohesion and relevance.

A past weakness, and an important challenge for the coming years, will be to ensure that HEAD research findings are published and translated into appropriate urban development, environment and health policies, programmes and projects in Johannesburg and elsewhere. A good example of this has been the series of training workshops arranged by the City of Johannesburg to educate childcare workers throughout the city on the sources, pathways of exposure and health/social effects of lead. This was undertaken as a direct result of WHOCCUH evidence of high levels of lead exposure and low levels of lead hazard awareness in Johannesburg.

An important vehicle to ensure progress in research translation is the DeLPHe grant, which was jointly applied for by the University of Johannesburg (Thea de Wet), the Medical Research Council (Angela Mathee) and London South Bank University (Trudy Harpham). The DeLPHE initiative emphasizes delivery on publications and research translation, which are key elements of the way forward for the WHOCCUH. A further conduit for the translation of

research into action will be the proposed series of HEAD study information sessions (either in the form of monthly lunchtime seminars or longer workshops), where HEAD study findings, together with policy recommendations in the form of RESEARCH BRIEFS will be presented to groups of City of Johannesburg officials and politicians. An associated WHOCCUH goal for the coming year will be to begin to disseminate HEAD-related information to other South African cities, as well as cities elsewhere on the African continent. In this regard the development of working relationships with bodies such as the South African Cities Network (SACN) and the South African Local Government Association (SALGA) will be critical. Mechanisms will also need to be identified to ensure the availability of HEAD study findings to a broader cross-section of South African and African society.

The WHOCCUH will continue to work towards its WHO mandate to build technical capacity in countries throughout Africa, either through the consolidation of current activities, or through expansion of its current net of research and other projects in, for example, Tanzania, Botswana, Namibia, Nigeria and Malawi.

The WHOCCUH will also continue to undertake joint work with, or provide support to, various WHO initiatives, especially those of WHO-AFRO, such as the current work to develop Children's Environmental Health information materials.

While there has been some improvement in the WHOCCUH publications record over the past year, further effort is needed in this regard, and will be a priority activity over the coming year, together with new endeavours to make the WHOCCUH more visible on a local, national and international level.



Staff of the WHOCCUH with members of the Advisory Panel