

Folder eCC\_00010427 is in stage Annual\_Report\_Due

**Name of the University, Hospital, Research Institute, Academy or Ministry**

Queensland Children's Medical Research Institute, University of Queensland

**Name of the Division, Department, Unit, Section or Area**

Department of Children's Health and Environment

**City** Herston **Reference Number** AUS-111

**Title** WHO Collaborating Centre for Children's Health and the Environment

**Report Year** 10-2013 to 10-2014

**1. Please briefly describe the progress made in the implementation of your agreed workplan as WHO collaborating centre during the past 12 months (or the reporting period listed above). Please report on how each workplan activity was implemented, if any outputs have been delivered, if any results have been achieved and if any difficulties have been encountered during this time. If an activity has previously been completed, has not started yet, or been placed on hold, please indicate this.**

**Activity 1**

Title: Capacity building for research on children's environmental health through collaborative projects in low-income or developing countries.

Description: A series of capacity-building collaborative research projects are currently underway or being planned. These projects will involve training researchers in low- and middle-income countries and include:

1. Training researchers in CEH
2. Training researchers in methodology for measuring lung function and in neurobehavioural assessments.
3. Training researchers in integrated environmental health risk assessments.

Training activities have included:

- The Children's Environmental Health Summer Course run in November 2013 at The School of Population Health, UQ. This was attended by approximately 30 students from a wide variety of backgrounds.
- Training courses in Children's Environmental Health (Peter Sly), using WHO training materials and including Dr Maria Neira, WHO PHE as a presenter, and in Integrated Environmental Health Impact Assessments (Paul Jagals, Colleen Lau). These courses were held in conjunction with the Pacific Basin Consortium for Environment and Health Conference held at the East West Center Honolulu in September 2013.
- Workshop on lung function testing in young children (Peter Sly), held at the South African Thoracic Society June 2014. This was attended by health care practitioners from numerous countries in Africa.

**Activity 2**

Title: Develop and co-ordinate the Network of Collaborating Centres for Children's Environmental Health.

Description: Peter and Leith Sly are involved in advising WHO on developing a network of Collaborating Centres in CEH and on how to get the most from this network, as was discussed in the working meeting held at WHO HQ in Geneva on 20/06/2012. Peter Sly organised and Co-chaired (with Dr Maria Neira, WHO) a steering committee meeting to be held in Geneva on 29/10/2012 to further this process. Leith Sly will investigate methods for increasing communication using modern electronic communications and face to face meetings.

Activities have included:

- formation of the WHO network in Children's Environmental Health. This network is led jointly by Peter Sly and Bill Suk (NIEHS WHOCC for Environmental Health Sciences). The network has been meeting by teleconference to plan joint activities to further the CEH agenda.

Publications:

Sly PD, Neira M, Collman G, Carpenter DO, Landrigan PJ, Van den berg M, Diaz Barriga F, Ruchirawat M, Laborde A, Pascale A, Heacock M, Dalmau MT, Suk WA. Networking to advance progress in children's environmental health. *The Lancet Global Health*. 2014 Mar;2(3):e129-e130.

Williams MA, Sly PD. *Journal of Environmental Immunology and Toxicology* 2013; 1(2)

- Sly PD. Environmental Contributions to Chronic Noncommunicable Diseases: Redefining Environmental Diseases. *J Environ Immunol Toxicol*. 2013; 1(2): 51-52.
- Mason R, Tennekes H, Sánchez-Peter Franklin F, Kusel M. Environmental Contributions to Childhood Asthma. *J Environ Immunol Toxicol*. 2013; 1(2): 53-57.
- Sly LJ, Brune Drisse MN. Children's Vulnerability to Their Environment. *J Environ Immunol Toxicol*. 2013; 1(2): 58-65.
- Heffernan AL, Leontjew Toms LM, Sly PD, Muelle JF. Assessing Exposures to Emerging Environmental Contaminants In Children. *J Environ Immunol Toxicol*. 2013; 1(2): 66-74.
- Scott J, Duhig M, Hamlyn J, Norman R. Environmental Contributions to Autism: Explaining the Rise in Incidence of Autistic Spectrum Disorders. *J Environ Immunol Toxicol*. 2013; 1(2): 75-79.
- Grant KL, Carpenter DO, Sly LJ, Sly PD. Environmental Contributions to Obesity and Type 2 Diabetes. *J Environ Immunol Toxicol*. 2013; 1(2): 80-91.
- Symeonides C, Ponsonby AL, Vuillermin P, Anderson V, Sly PD. Environmental Chemical Contributions to ADHD and the Externalising Disorders of Childhood – A Review of Epidemiological Evidence. *J Environ Immunol Toxicol*. 2013; 1(2): 92-104.

### **Activity 3**

Title: Capacity building and setting a research agenda in the impacts of eWaste on Children's Environmental Health.

Description: This activity will be conducted as part of the priority activities of the Network of Collaborating Centres in Children's Environmental Health. Specific activities planned as part of this activity include describing the health impacts of children's exposure to eWaste, including in both informal and formal recycling setting, including:

- o Systematic review of the current evidence
- o Working meeting with experts and representatives of WHO, UNEP, ILO and other International agencies
- o State of the Art publication following the working meeting.
- o Developing a WHO Training module on the impacts of eWaste on CEH, including integrated environmental health risk assessment.
- o A session on eWaste at the Pacific Basin Consortium for Environment and Health conference to be held in September 2013
- o The 4th International Conference in CEH, with a focus on eWaste, to be held in Bangkok in 2014.

A network on the health effects of exposure to improper e-waste recycling practices that involves WHO PHE, UNEP, ILO, UNU and members of the WHO CEH network. Peter Sly is active in this network and Leith Sly runs the electronic communication for the network.

Publications in this area include:

Brune M-N, Goldizen F, Neira M, van den Berg M, Lewis N, King M, Suk WA, Carpenter DO, Arnold RG, Sly PD. Health effects of exposure to e-waste. *The Lancet Global Health*. 2013, June 28.

Grant K, Goldizen FC, Sly PD, Brune M-N, Neira M, van den Berg M, Norman RE. Health consequences of exposure to e-waste: a systematic review. *The Lancet Global Health*. 2013, October 30

Perkins D, Brune Drisse MN, Nxele T, Sly PD. e-Waste: a global hazard. *Annals of Global Health* 2014 (In Press).

#### **Activity 4**

Title: Develop communication strategies to increase awareness about prevention of environmental exposures and environmentally-related diseases in children

Description: A number of communication strategies, involving use of websites, list serves, email alerts and other mechanisms will be investigated as effective methods for communicating with a wide group of recipient's from the general public, environmental health and science professionals, health professionals and other interested parties. Examples of work currently being undertaken or planned under this activity include:

- Healthy Environments for Children Alliance (HECA) newsletter;
- WHO leaflets written in plain language and aimed at parents on CEH issues;
- a newsletter specifically addressing eWaste.

We plan to expand these activities to include a regional focus in the Western Pacific and Asian regions, including specifically targeting issues of regional interest, eg the health effect of e-Waste, and highlight regional activities and achievements.

Communication strategies managed by Leith Sly include: The Healthy Environments for Children Alliance (HECA) monthly newsletter; the Children's Health and Environment Program and WHO CC for Children's Health and Environment websites, hosted at UQ; and the e-waste electronic communication list.

#### **Activity 5**

Title: Develop and deliver high quality education on Children's Environmental Health

Description: The initial WHO training modules of CEH are outdated and need to be updated. We will systematically review and update these modules where required. In addition, we will produce educational materials aimed directly at children and collate teaching materials for use in elementary and high schools.

This activity has not yet commenced

#### **Activity 6**

Title: Organize and participate in WHO training workshops in CEH

Description: Training workshops will be conducted in conjunction with WHO for health care professionals, environmental health officers and other relevant parties. These will be held in conjunction with appropriate national and international conferences in Australia, within the Western Pacific and Asian region and in developing countries elsewhere.

Training courses in Children's Environmental Health (Peter Sly), using WHO training materials and including Dr Maria Neira, WHO PHE as a presenter, and in Integrated Environmental Health Impact Assessments (Paul Jagals, Colleen Lau). These courses were held in conjunction with the Pacific Basin Consortium for Environment and Health Conference held at the East West Center Honolulu in September 2013.

**2. Please briefly describe your collaboration with WHO in regards to the activities of the WHO collaborating centre during the past 12 months (e.g. means of communication, frequency of contact, visits to or from WHO). Please feel free to mention any difficulties encountered (if any) and to provide suggestions for increased or improved communication (if applicable).**

From December 2013 to March 2014 Marie Noel Brune Drisse, the technical officer in PHE, WHO Geneva went on maternity leave. Peter Sly acted as the defacto technical officer for PHE from Brisbane. During this period he oversaw the re-designation of 3 WHO CCs in CEH and organized the application of a proposed centre in Brazil, in conjunction with PAHO.

Peter Sly and Leith Sly visited WHO, Geneva, in March 2014 to handover to Marie Noel Brune Drisse and to meet with Maria Neira and Carlos Dora of the CEH network activities.

Peter Sly provides regular technical and strategic advice to Marie Noel Brune Drisse via teleconferences held approximately once a month.

Colleen Lau is coordinating a project with the WHO Country Office and the Ministry of Health, Fiji on "Eco-epidemiology of leptospirosis in Fiji".

**3. Please briefly describe any interactions or collaborations with other WHO collaborating centres in the context of the implementation of the above activities (if any). If you are part of a network of WHO collaborating centres, please also mention the name of the network, and describe any involvement in the network during the last 12 months.**

The main collaborations with other WHO CCs have been via the CEH network. This network is jointly led by Peter Sly and Bill Suk. Partners to this network include:

- The Department of Public Health and Environment, World Health Organization, Geneva Switzerland
- WHO Collaborating Centre for Children's Health and Environment, Queensland Children's Medical Research Institute, The University of Queensland, Brisbane, Australia
- WHO Collaborating Centre for Environmental Health Sciences, The National Institute for Environmental Health Sciences, Research Triangle Park, USA
- WHO Collaborating Centre in Environmental Health, University at Albany, Rensselaer, USA
- WHO Collaborating Centre in Children's Environmental Health Mount Sinai Medical Center, New York, USA
- WHO Collaborating Centre for Capacity Building and Research in Environmental Health Science and Toxicology, Chulabhorn Research Institute, Bangkok, Thailand
- WHO Collaborating Centre on Health Risk Assessment and Children's Environmental Health, Universidad Autonoma de San Luis Potosi, Mexico
- WHO Collaborating Centre in Human Environmental Toxicology, Montevideo, Uruguay.
- The Collegium Ramazzini
- The Pacific Basin Consortium for Environment and Health
- International Society for Children's Health and the Environment.
- International Society of Doctors for the Environment

Publications involving WHO CC collaborations include:

- Williams MA, Sly PD. Journal of Environmental Immunology and Toxicology 2013; 1(2)
- Sly PD. Environmental Contributions to Chronic Noncommunicable Diseases: Redefining Environmental Diseases. J Environ Immunol Toxicol. 2013; 1(2): 51-52.
  - Mason R, Tennekkes H, Sánchez-Peter Franklin F, Kusel M. Environmental Contributions to Childhood Asthma. J Environ Immunol Toxicol. 2013; 1(2): 53-57.
  - Sly LJ, Brune Drisse MN. Children's Vulnerability to Their Environment. J Environ Immunol Toxicol. 2013; 1(2): 58-65.
  - Heffernan AL, Leontjew Toms LM, Sly PD, Muelle JF. Assessing Exposures to Emerging Environmental Contaminants In Children. J Environ Immunol Toxicol. 2013; 1(2): 66-74.
  - Scott J, Duhig M, Hamlyn J, Norman R. Environmental Contributions to Autism: Explaining the Rise in Incidence of Autistic Spectrum Disorders. J Environ Immunol Toxicol. 2013; 1(2): 75-79.
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  - Symeonides C, Ponsonby AL, Vuillermin P, Anderson V, Sly PD. Environmental Chemical Contributions to ADHD and the Externalising Disorders of Childhood – A Review of Epidemiological Evidence. J Environ Immunol Toxicol. 2013; 1(2): 92-104.

Norman RE, Carpenter DO, Scott J, Brune MN, Sly PD. Environmental exposures: an underrecognized contribution to noncommunicable diseases. *Rev Environ Health* 2013;28(1):59-65

Brune M-N, Goldizen F, Neira M, van den Berg M, Lewis N, King M, Suk WA, Carpenter DO, Arnold RG, Sly PD. Health effects of exposure to e-waste. *The Lancet Global Health*. 2013, June 28.

Grant K, Goldizen FC, Sly PD, Brune M-N, Neira M, van den Berg M, Norman RE. Health consequences of exposure to e-waste: a systematic review. *The Lancet Global Health*. 2013, October 30

van den Berg M, Sly PD. Protecting the human fetus against effects of Bisphenol A. *The Lancet Diabetes and Endocrinology*. 2013, October.

Sly PD, Neira M, Collman G, Carpenter DO, Landrigan PJ, Van den berg M, Diaz Barriga F, Ruchirawat M, Laborde A, Pascale A, Heacock M, Dalmau MT, Suk WA. Networking to advance progress in children's environmental health. *The Lancet Global Health*. 2014 Mar;2(3):e129-e130.

Perkins D, Brune Drisse MN, Nxele T, Sly PD. e-Waste: a global hazard. *Annals of Global Health* 2014 (In Press).

**4. Please briefly describe any type of technical, programmatic, advisory or other support received from WHO during the past 12 months for the implementation of the agreed activities listed above (if any).**

WHO PHE is involved in advising the CC and the Network in CEH on WHO priorities in this area.