

# *Annals of* **Global Health**

## **Children's Health in a Changing Global Environment**

**GUEST EDITORS:** William A. Suk, PhD, and Peter D. Sly, MD, DSc

---

### **EDITORIAL**

#### **1 Ensuring a Bright Future for Children's Environmental Health**

William A. Suk, PhD, and Peter D. Sly, MD, DSc

### **REVIEW ARTICLES**

#### **3 Health Consequences of Environmental Exposures: Causal Thinking in Global Environmental Epidemiology**

Peter D. Sly, MD, DSc, David O. Carpenter, MD, Martin Van den Berg, PhD, Renato T. Stein, MD, Philip J. Landrigan, MD, MSc, Marie-Noel Brune-Duisse, MSc, and William Suk, PhD

#### **10 Health Consequences of Environmental Exposures: Changing Global Patterns of Exposure and Disease**

Philip J. Landrigan, MD, MSc, J. Leith Sly, PhD, Mathuros Ruchirawat, PhD, Emerson R. Silva, PhD, Xia Huo, MD, Fernando Diaz-Barriga, PhD, Heather J. Zar, MD, Malcolm King, PhD, Eun-Hee Ha, MD, Kwadwo Ansorge Asante, DSc, Hamid Ahanchian, MD, and Peter D. Sly, MD, DSc

#### **20 Health Consequences of Environmental Exposures in Early Life: Coping with a Changing World in the Post-MDG Era**

William Suk, PhD, Mathuros Ruchirawat, PhD, Renato T. Stein, MD, Fernando Diaz-Barriga, MD, David O. Carpenter, MD, Maria Neira, MD, and Peter D. Sly, MD, DSc

#### **28 The Impact of Early-Life Exposure to Air-borne Environmental Insults on the Function of the Airway Epithelium in Asthma**

Kirsten Spann, PhD, Natale Snape, PhD, Engin Baturcam, BSc, MSc, and Emmanuelle Fantino, PhD

**41 Effects of Environmental Exposures on Fetal and Childhood Growth Trajectories**

Tongzhang Zheng, PhD, MD, Jie Zhang, MPH Candidate, Kathryn Sommer, BSc Candidate, Bryan A. Bassig, PhD, Xichi Zhang, BSc Candidate, Joseph Braun, PhD, Shuangqing Xu, MD, Peter Boyle, PhD, Bin Zhang, MD, Kunchong Shi, MD, Stephen Buka, ScD, Siming Liu, PhD, Yuanyuan Li, PhD, Zengmin Qian, PhD, Min Dai, PhD, Megan Romano, PhD, Aifen Zou, MD, and Karl Kelsey, MD

**100 Paraoxonase-1 and Early-Life Environmental Exposures**

Judit Marsillach, PhD, Lucio G. Costa, PhD, and Clement E. Furlong, PhD

**111 A Review of Medication Use as an Indicator of Human Health Impact in Environmentally Stressed Areas**

Samantha A. Hollingsworth, PhD, Diane Dabok Kim, MPH, and Paul Jagals, PhD

**119 Early-life Exposure to Widespread Environmental Toxicants and Health Risk: A Focus on the Immune and Respiratory Systems**

Junjun Cao, MS, Xijin Xu, PhD, MD, Machteld N. Hylkema, PhD, Eddy Y. Zeng, PhD, Peter D. Sly, MD, DSc, William A. Suk, PhD, Åke Bergman, PhD, and Xia Huo, PhD, MD

**132 A Systematic Review of Children's Environmental Health in Brazil**

Carmen I.R. Froes Asmus, PhD, Volney M. Camara, DSc, Philip J. Landrigan, MD, MSc, and Luz Claudio, PhD

**ORIGINAL ARTICLES****149 Mercury Mining in Mexico: I. Community Engagement to Improve Health Outcomes from Artisanal Mining**

Andrea Camacho, MS, Evelyn Van Brussel, MD, Leticia Carrizales, MS, Rogelio Flores-Ramirez, PhD, Beatriz Verduzco, MS, Selene Ruvalcaba-Aranda Huerta, LCAS, Mauricio Leon, LCAS, and Fernando Diaz-Barriga, PhD

**156 Children's Environmental Health Indicators in Australia**

J. Leith Sly, PhD, Sophie E. Moore, MSc, Fiona Gore, PhD, Marie Noel Brune, MSc, Maria Neira, MD, Paul Jagals, PhD, and Peter D. Sly, MD, DSc

**169 Long-term Neurotoxic Effects of Early-life Exposure to Tetrachloroethylene-contaminated Drinking Water**

Ann Aschengrau, ScD, Patricia A. Janulewicz, DSc, Roberta F. White, PhD, Veronica M. Vieira, DSc, Lisa G. Gallagher, DSc, Kelly D. Getz, PhD, Thomas F. Webster, DSc, and David M. Ozonoff, MD, MPH

**180 From SARS to Avian Influenza: The Role of International Factors in China's Approach to Infectious Disease Control**

Fiona C. Goldizen, MSc

**189 A Systems Toxicology-based Approach Reveals Biological Pathways Dysregulated by Prenatal Arsenic Exposure**

Jessica E. Laine, MS, and Rebecca C. Fry, PhD

**197 E-Waste Informal Recycling: An Emerging Source of Lead Exposure in South America**

Antonio Pascale, MD, Adriana Sosa, MD, Cristina Bares, PhD, Alejandra Battocletti, MD, María José Moll, MD, Darío Pose, MD, Amalia Laborde, MD, Hugo González, Lic. in Geol., and Gabriella Feola, MSc

**202 Environmental Air Pollutants as Risk Factors for Asthma Among Children Seen in Pediatric Clinics in UKMMC, Kuala Lumpur**

Idayu Badilla Idris, MBBS, MPH, PhD, Hasanain Faisal Ghazi, MBChB, MCommHlth, PhD, Khor Hui Zhibe, Khairul Aliff Khairuman, Siti Kasuma Yahya, Farah Azreen Abd Zaim, Chok Wai Nam, Hazwan Zuhairi Abdul Rasid, and Zaleha Md Isa, BSc, PhD

**COMMENTARIES****209 The Global Health Dimensions of Asbestos and Asbestos-Related Diseases**

Ken Takahashi, MD, PhD, MPH, and Philip J. Landrigan, MD, MSc, on behalf of the Collegium Ramazzini

**214 Comments on the Causation of Malignant Mesothelioma: Rebutting the False Concept That Recent Exposures to Asbestos Do Not Contribute to Causation of Mesothelioma**

Phillip J. Landrigan, MD, MSc, on behalf of the Collegium Ramazzini

**217 Comments on the 2014 Helsinki Consensus Report on Asbestos**

Philip J. Landrigan, MD, MSc, on behalf of the Collegium Ramazzini

**221 Potential Exposure to Arsenic from Infant Rice Cereal**

Courtney C. Carignan, PhD, Tracy Punshon, PhD, Margaret R. Karagas, PhD, and Kathryn L. Cottingham, PhD