

Application of Methodological Approaches to Global Harmonization of Nutrient Intake Recommendations for Young Children and Women of Reproductive Age

Committee

Robert E. Black

Chair

Robert Black, M.D., M.P.H., is the Edgar Berman Professor in International Health, as well as the director of the Institute for International Programs at the Johns Hopkins Bloomberg School of Public Health. Dr. Black is trained in medicine, infectious diseases, and epidemiology. He has served as a medical epidemiologist at the U.S. Centers for Disease Control and Prevention and worked at institutions in Bangladesh and Peru on research related to childhood infectious diseases and nutritional problems. Dr. Black's current research includes field trials of vaccines, micronutrients, and other nutritional interventions; effectiveness studies of health programs; and the evaluation of preventive and curative health service programs in low- and middle-income countries. His other interests are related to the use of evidence in policy and programs, including estimates of the burden of disease, and the development of research capacity. As a member of the National Academy of Medicine and advisory bodies of the World Health Organization, the International Vaccine Institute, and other international organizations, he assists with the development of policies intended to improve children's health. He chairs the Child Health Epidemiology Reference Group and the Child Health and Nutrition Research Initiative. He currently has projects in Bangladesh, Ghana, India, Malawi, Mali, Peru, Tanzania, and Zanzibar. He has more than 500 scientific journal publications and is co-editor of the textbook *Global Health*. Dr. Black has served on four committees and the Board on International Health (now Global Health) of the National Academies of Sciences, Engineering, and Medicine.

Lindsay H. Allen

Member

Lindsay Allen, Ph.D., has been the Center Director of the USDA, ARS Western Human Nutrition Research Center since 2004. She was formerly a Professor in the Department of Nutrition at The University of California, Davis, where she is now an adjunct Research Professor. Dr. Allen's research focuses on the prevalence, causes and consequences of micronutrient deficiencies, primarily in developing countries. She has evaluated interventions with micronutrient supplements, food fortification and food-based approaches to improve nutritional status, pregnancy outcome and child development, resulting in over two hundred publications from many countries. One of her most important achievements has been to document the widespread high prevalence of vitamin B12 deficiency. Her research investigates the adverse functional consequences of this deficiency on infants, children and women in developing countries and elderly in the USA, and the effects of different interventions to alleviate this deficiency. These interventions have included supplements for lactating women, infants and children, animal source foods (meat and milk), and intramuscular injection of high doses. She is part of a team testing the use of ¹⁴C-vitamin B12, measured by accelerator mass spectrometry, for measuring vitamin B12 absorption and bioavailability in various conditions. Her laboratory is currently collaborating in the development and evaluation of a new combined indicator of vitamin B12 status, cB12. Dr. Allen's laboratory has recently developed efficient mass spectrometry and HPLC methods for the measurement of multiple vitamins simultaneously in human milk. Application of these methods is revealing poor breast milk micronutrient content in some populations consuming poor quality diets, and enabling assessment of the impact of maternal supplementation on breast milk quality. Dr. Allen has served on ten committees of the Food and Nutrition Board, Institute of Medicine, including the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. She has advised many national, bilateral and international organizations including WHO, UNICEF, the Asian Development Bank, the World Bank, PAHO and FAO. She is principal author of the book "What Works? A Review of the Efficacy and Effectiveness of Nutrition Interventions", and of WHO's "Guidelines on Food Fortification with Micronutrients". She served as President of the American Society of Nutritional Sciences and the Society for International Nutrition Research, and Vice President of the International Union of Nutritional Sciences. From the American Society for Nutrition she received the Kellogg Prize for International Nutrition, the Conrad A. Elvehjem Award for Public Service in Nutrition and the McCollum International Lectureship. Dr. Allen is currently a member of the steering committee of the Micronutrient Forum and the International Nutrition Foundation, and Chair of the NIH's Biomarkers in Nutrition and Development Expert Panel on Vitamin B12.

Zulfiqar A. Bhutta

Member

Zulfiqar A. Bhutta, Ph.D., is the Robert Harding Inaugural Chair in Global Child Health at the Hospital for Sick Children, Toronto, Co-Director of the SickKids Centre for Global Child Health and the Founding Director of the Centre of Excellence in Women and Child Health, at the Aga Khan University, unique joint appointments. He also holds adjunct professorships at several leading Universities globally including the Schools of Public Health at Johns Hopkins (Baltimore), Tufts University (Boston), Boston University School of Public Health, University of Alberta as well as the London School of Hygiene & Tropical Medicine. He is a designated Distinguished National Professor of the Government of Pakistan and was the Founding Chair of the National Research Ethics Committee of the Government of Pakistan from 2003-2014. Dr. Bhutta was a member of the Independent Expert Review Group (iERG) appointed by the UN Secretary General for monitoring global progress in maternal and child health MDGs (2011-2015). He represented the global academic and research organizations on the Global Alliance for Vaccines and Immunizations (Gavi) Board and serves on its Evaluation Advisory Committee. Dr. Bhutta is the co-Chair of the Global Countdown for 2015 and 2030 Initiatives from 2006-2017, the co-Chair of the Maternal and Child Health oversight committee of World Health Organization (WHO) Eastern Mediterranean Region (EMRO) and the Chairman of the Coalition of Centres in Global Child Health with its secretariat based at the Hospital for Sick Children, Toronto. He is a technical member of the recently appointed high-level UN Health and Human Rights committee and an executive committee member of Partnership for Maternal, Newborn & Child Health (PMNCH).

Professor Bhutta was educated at the University of Peshawar (MBBS) and obtained his Ph.D. from the Karolinska Institute, Sweden. He is a Fellow of the Royal College of Physicians (Edinburgh & London), the Royal College of Paediatrics and Child Health (London), American Academy of Pediatrics and the Pakistan Academy of Sciences. He heads a large research team in Pakistan working on issues of maternal, newborn and child survival and nutrition globally and regionally. Dr. Bhutta has served as a member of the Global Advisory Committee for Health Research for the World Health Organization, the Board of Child & Health and Nutrition Initiative of Global Forum for Health Research, and the steering committees of the International Zinc and Vitamin A Nutrition Consultative Groups. He was a founding Board member of the PMNCH and a board member of the International Center for Diarrheal Diseases Research (2011-2017). Dr. Bhutta was a member of the WHO Strategic Advisory Committee for Vaccines (SAGE) from 2010-15 and the Advisory Committee for Health Research of the WHO EMRO. He is the past-President of the Commonwealth Association of Paediatric Gastroenterology and Nutrition (CAPGAN) and the Federation of Asia-Oceania Perinatal Societies (FAOPS) and as the current President of the International Pediatric Association (IPA 2016-2019), is a leading voice for health professionals supporting integrated maternal, newborn and child health globally.

Dr. Bhutta's research interests include newborn and child survival, maternal and child undernutrition and micronutrient deficiencies. He leads large research groups based in Toronto, Karachi and Nairobi with a special interest in research synthesis, scaling up evidence based interventions in community settings and implementation research in health systems research. In particular his work with community health workers and outreach services has influenced integrated maternal and newborn outreach programs for marginalized populations all over the world. His group's work with the WHO and PMNCH in developing consensus based essential interventions for women, children and adolescents is the dominant set of agreed interventions guiding global policy.

Susan McEvoy

Member

Susan Fairweather-Tait, Ph.D., D.Sc., is Professor of Human Nutrition at the Norwich Medical School at the University of East Anglia. After she was awarded her Ph.D. at King's College London (formerly Queen Elizabeth College), she worked in the food industry for a short while and then moved to the Institute of Food Research, Norwich, initially as a Senior Research Scientist and latterly as Head of the Nutrition Division and Programme Leader for Micronutrients. In 2006, she was offered a personal chair in the School of Medicine, Health Policy & Practice UEA and moved to UEA in early 2007.

Wafaie W. Fawzi

Member

Wafaie Fawzi, M.B.B.S., Dr.PH., is Professor of Nutrition, Epidemiology and Global Health and Chair of the Department of Global Health and Population at Harvard School of Public Health. He completed his medical training at the University of Khartoum, Sudan and his Doctorate of Public Health in 1992 in the Departments of Epidemiology and Nutrition at Harvard School of Public Health. He has experience in the design and implementation of randomized controlled trials and observational epidemiologic studies of perinatal health and infectious diseases, with emphasis on nutritional factors. These include examining the epidemiology of adverse pregnancy outcomes, childhood infections, and HIV/AIDS, TB and malaria among populations in Tanzania, Uganda, Ethiopia, India and other developing countries. Dr. Fawzi has been a Principal Investigator of the MDH HIV/AIDS Care and Treatment Program in Tanzania, which provides for scaling up quality care and treatment services and building operational research capacity. He is a founding member of the Africa Academy of Public Health, a Harvard affiliated organization that aims to train future public health leaders and build strong research collaborations with partners in Africa.

Mary L'Abbe

Member

Mary L'Abbé, Ph.D., M.Sc., is the Earle W. McHenry Professor and Chair of the Department of Nutritional Sciences, Faculty of Medicine, at the University of Toronto, where she leads a research group on Food and Nutrition Policy for Population Health. Dr. L'Abbé is an expert in public health nutrition, nutrition policy, and food and nutrition regulations, with a long career in mineral nutrition research. Her research examines the nutritional quality of the Canadian food supply, food intake patterns, and consumer research on food choices related to obesity and chronic disease. Dr. L'Abbé is a member of several committees of the WHO, including the Nutrition Guidance Expert Advisory Group on Diet and Health and the Global Coordinating Mechanism for NCDs; the former which recently released the WHO Guidelines on Sugars. Dr. L'Abbé was co-chair of the Canadian Trans Fat Task Force, led the Trans Fat Monitoring Program and served as Chair and vice-Chair of the Canadian Sodium Working Group. Before joining the University of Toronto, Dr. L'Abbe was Director, Bureau of Nutritional Sciences at Health Canada. Dr. L'Abbé holds a PhD in nutrition from McGill University and has authored over 180 peer-reviewed scientific publications, book chapters and government reports.

Laura Martino

Member

Laura Martino, Ph.D., is a senior statistician and, since January 2014, Team Leader of the Systematic Review and Experimental Design Team of the Assistance and Methodological Support Unit at the European Food Safety Authority in Parma (Italy). Before joining EFSA in 2011 she was a detached national expert at the European Statistical Institute (Eurostat) in Luxembourg in the Unit Agricultural Statistics Farms, Agri-Environment and Rural Development LUCAS team. Previously Dr. Martino served as a researcher in methodological statistics at the National Statistical Institute in Rome (Italy) leading the Unit Crop, forestry and hunting statistic in the Department for Statistical production. During this period she was the Italian representative in the LUCAS EEC working groups.

She has extensive experience in the design of observational and experimental studies as well as in the food and feed risk assessment. Dr. Martino's research focuses on modelling association between dietary intake and health outcomes with a specific center on establishing Dietary Reference Values (DRVs), methods for equivalence testing, uncertainty analysis. Her methodological expertise has led to contribution to several methodological guidance documents. She gave lectures on statistical methods in various master training programmes including the BIOSAFE summer school jointly organized by Università Cattolica del Sacro Cuore, Università degli Studi di Milano and EFSA.

Dr. Martino holds a Ph.D. in methodological statistic for scientific research having completed postgraduate training at the University of Bologna and 6-month scholarship at the Texas A&M University at College Station (USA). She is a member of the Italian Statistical Society, the International Biometric Society, the Statistical Modelling Society.

Hildegard Przyrembel

Member

Hildegard Przyrembel, M.D., Ph.D., started her career at the University Children's Hospital Ulm working on a project financed by the German Society for Research on the amino acid requirement of premature infants, combining analytical laboratory work with a clinical education in paediatrics, with special emphasis on inborn errors of metabolism. After moving to the University Children's Hospital Düsseldorf for the continuation of her specialisation in paediatrics, Dr. Przyrembel was, in addition, head of the laboratory for inborn errors of metabolism. This work, in cooperation with the metabolic laboratories of the Hammersmith Hospital, London, and the University Children's Hospital in Utrecht, led to the discovery and definition of two new inborn errors of lysine metabolism. This was also the basis of her inaugural dissertation in 1979.

In 1980, Dr. Przyrembel moved to the University Children's Hospital Rotterdam and the Department of Cell Biology and Clinical Genetics of the Erasmus-University, Rotterdam, to become head of the Unit for Metabolic Disorders and of the Metabolic Laboratory. In cooperation with the Department of Biochemistry, the emphasis of her work shifted to defects in fatty acid oxidation and of the mitochondrial respiratory chain and their accessibility to therapeutic measures. During this period she spent three months at the J.F. Kennedy Institute for Basic Research in Mental Retardation in Denver, Colorado, USA. She was a member of the Dutch Guidance Committee for the Treatment of Phenylketonuria and contributed chapters to Dutch textbooks on paediatrics and medical genetics.

In 1990, Dr. Przyrembel accepted a position in the Unit Nutrition in Medicine at the Federal Institute of Health at Berlin. This included analytical laboratory work, namely the analysis of the composition of non-protein nitrogen in infant formula. She worked predominantly as a consultant in infant and child nutrition and dietetic therapy, both on national and international panels.

Since the foundation of the Federal Institute for Risk Assessment in November 2002, Dr. Przyrembel's tasks were on the assessment of both benefits and risks in connection with dietary habits, including breastfeeding, and connected with the use of ingredients, nutrients, whole foods and with residues (if the latter occur in human milk or foods for infants and children). In 2000, Dr. Przyrembel started as an expert and rapporteur (biotin, calcium, protein and carbohydrates in infant formula) in the working groups on Upper Levels of Vitamins and Minerals, on Infant Formula Composition, and on Food Additives (Nutrient Compounds) of the Scientific Committee on Food of the European Commission.

Dr. Przyrembel was appointed a member of the Scientific Panel on Nutrition, Dietetic Foods and Allergy of the European Food Safety Authority (EFSA) in May 2003. Recent and actual tasks for EFSA include setting nutrient reference values, including upper levels for minerals and vitamins, safety of new ingredients in infant formula, safety of trans-fatty acids, safety and benefits of fish consumption, assessment of the scientific justification of claims in connection with nutrients/foods and nutritional effects of foods consisting of or derived from genetically modified organisms (contribution to >400 EFSA Opinions).

Emorn Udomkesmalee

Member

Emorn Udomkesmalee, Ph.D., is Senior Advisor and Former Director of the Institute of Nutrition of the Mahidol University in Thailand. Currently, she is Adjunct Associate Professor in the Department of International Health at the John Hopkins University in the United States. She received her Ph.D. in nutritional biochemistry and metabolism from the Massachusetts Institute of Technology in 1985. Her post-doctoral training was at the Vitamin and Mineral Nutrition Laboratory in the United States Department of Agriculture. She is currently a member of several international committees related to nutrition advocacy, food policy, micronutrients and implementation science. Her research interests include micronutrient assessment, bioavailability and metabolism; efficacy of food based interventions to address micronutrient deficiencies; maternal and child nutrition policy and program implementation.

Gillian Buckley

Staff Officer