



INSTITUTE OF MEDICINE

OF THE NATIONAL ACADEMIES

ROUNDTABLE ON ENVIRONMENTAL HEALTH SCIENCES, RESEARCH, AND MEDICINE

THE INTERPLAY BETWEEN ENVIRONMENTAL EXPOSURES AND OBESITY

AGENDA (updated 3/3/2015)

March 2–3, 2015

National Institute of Environmental Health Sciences
Building 101, Rodbell ABC
111 T.W. Alexander Drive
Research Triangle Park, NC

Workshop Objectives:

The workshop will explore the role of chemical exposures in the development of obesity through sessions focused on a life span view, possible biologic pathways and environmental influences, and effects of food additives and antibiotics. Speakers will make links between exposure to environmental chemicals and increased incidence of weight gain, glucose tolerance and insulin sensitivity, inflammation, and aspects of metabolic syndrome in animal models and human studies. Two panels at the end of the workshop will provide a chance to discuss opportunities for new research and possible policy actions to address exposure to chemicals associated with the development of obesity.

March 2, 2015

8:30 am

Welcome and Objectives

Frank Loy, LL.B.
Roundtable Chair

Linda S. Birnbaum, Ph.D., DABT, ATS, Roundtable Member
Director
National Institute of Environmental Health Sciences

Session 1: Framing the Problem

Objectives:

Explore the multiple pathways involved in the risk of obesity from two perspectives: public health and environmental health. Discuss how these disciplines intersect and diverge in their focus on the causes of obesity. Set the stage for the discussions to follow.

8:45 am

Introduction to Session and Speakers

Frank Loy, Roundtable Chair

8:50 am

Public Health Overview

William H. Dietz, Ph.D. (*by phone*)
Director, Sumner M. Redstone Global Center for Prevention and Wellness
Milken Institute School of Public Health
George Washington University

9:10 am **Environmental Health Overview**
Jerry Heindel, Ph.D.
Health Scientist Administrator, Population Health Branch
National Institute of Environmental Health Sciences

9:30 am **Discussion** (20 minutes)

Session 2: Life Span View of the Role of Chemical Exposures and Obesity

Objectives: Provide a life span view of obesity focusing on chemical exposures from pregnancy to childhood to adulthood.

9:50 am **Introduction to Session and Speakers**
Gwen Collman, Ph.D.
Director, Division of Extramural Research and Training
National Institute of Environmental Health Sciences

10:00 am **The role of prenatal exposure to persistent organic pollutants on childhood obesity: Evidence from epidemiological studies**
Damaskini (Dania) Valvi, M.D, M.P.H, Ph.D.
Research Fellow, Department of Environmental Health
Harvard T.H. Chan School of Public Health

10:30 am **Endocrine-disrupting chemicals, onset of puberty, and obesity**
Frank M. Biro, M.D.
Director of Research, Adolescent and Transition Medicine
Cincinnati Children's Hospital Medical Center
Professor, Department of Pediatrics
University of Cincinnati College of Medicine

11:00 am **Break** (20 minutes)

11:20 am **OBELIX (OBesogenic Endocrine disrupting chemicals: LInking prenatal eXposure to the development of obesity later in life): An integrated approach to studying the in vitro, clinical, and epidemiological effects of endocrine-disruptor exposure prenatally and in early infancy**
Juliette Legler, Ph.D. (*by phone*)
Professor and Deputy Head, Department of Chemistry and Biology
Institute for Environmental Studies
VU University Amsterdam

11:50 am Discussion (50 minutes)

12:40 pm **Lunch Break** (60 minutes)

Session 3: Biologic Pathways and Environmental Influences

Objectives: Discuss biologic pathways involved in obesity and how these could be disturbed by environmental chemical exposures.

- 1:40 pm **Introduction to Session and Speakers**
Henry Anderson, M.D., Roundtable Member
State Health Officer
Wisconsin Division of Public Health
- 1:50 pm **Identifying environmental chemicals to test for obesity and diabetes
outcomes: Clues from ToxCast high throughput screening data**
Scott S. Auerbach, Ph.D.
Molecular Toxicologist, Biomolecular Screening Branch, National Toxicology
Program (NTP)
National Institute of Environmental Health Sciences
- 2:20 pm **The effects of persistent organic pollutants (POPs) on adipose tissue function
and inflammation: In vitro and in vivo models and studies in humans**
Robert Barouki, M.D.
Professor
University Paris Descartes
- 2:50 pm **Transgenerational effects of obesogens: Tributyltin**
Bruce Blumberg, Ph.D.
Professor, Developmental and Cell Biology
School of Biological Sciences
Professor, Biomedical Engineering
The Henry Samueli School of Engineering
University of California, Irvine
- 3:20 pm **Break** (20 minutes)
- 3:40 pm **Effects of perinatal exposure to BPA on obesity and metabolic disease later in
life**
Beverly Rubin, Ph.D.
Associate Professor of Integrative Physiology and Pathobiology
Sackler School of Graduate Biomedical Sciences
Tufts University
- 4:10 pm **Effects of environmental chemicals on energy metabolism and insulin
secretion**
Barbara Corkey, Ph.D.
Zoltan Kohn Professor
Boston University School of Medicine
- 4:40 pm **Panel Discussion** (50 minutes)
- 5:30 pm **Adjourn for the Day**

March 3, 2015

8:30 am **Welcome Back and Introduction**
Lynn Goldman, M.D., M.S., M.P.H.
Roundtable Vice-Chair
Dean, Milken Institute School of Public Health
George Washington University

Session 4: Nutrients, Food Additives, Antibiotics

Objectives: Present research on how antibiotics and agents in our food, such as high fructose corn syrup, and artificial sweeteners, may play a role in the development of obesity.

8:40 am **Introduction to Session and Speakers**
Lynn Goldman, Roundtable Vice-Chair

8:50 am **Infectobesity: Obesity of Infectious Origins**
Nikhil V. Dhurandhar, Ph.D. (*by phone*)
Chair, Department of Nutritional Sciences
Texas Tech University

9:20 am **Antibiotics and Obesity**
Charles Bailey, M.D., Ph.D. (*by phone*)
Assistant Professor of Clinical Pediatrics, Divisions of Hematology & Oncology
Children's Hospital of Philadelphia

9:50 am **Sugar and Obesity**
Ayca Erkin-Cakmak, M.D., M.P.H.
Clinical Research Associate
University of California, San Francisco

10:20 am **Non-caloric Sweeteners and Obesity**
Kristina Rother, M.D., M.H.Sc.
Chief, Diabetes, Endocrinology, and Obesity Branch
National Institute of Diabetes and Digestive and Kidney Diseases

10:50 am **Panel Discussion** (50 minutes)

11:40 pm **Lunch Break** (60 minutes)

Session 5: Research Needs

Objectives: Identify opportunities for new research directions based on the discussions at the workshop

12:40 pm **Introduction to Session and Discussants**
Harold Zenick, Ph.D., Roundtable Member
Former Director of the Office of Research and Development,
National Health and Environmental Effects Research Laboratory
U.S. Environmental Protection Agency

12:50 pm

Discussants:

Linda S. Birnbaum, Roundtable Member

Suzette M. Kimball, Ph.D., Roundtable Member (*by phone*)
Acting Director, United States Geological Survey

John M. Rogers, Ph.D.
Director, Toxicity Assessment Division
National Health and Environmental Effects Research Laboratory
U. S. Environmental Protection Agency

Nikhil V. Dhurandhar, Ph.D. (*by phone*)
President, Obesity Society

1:20 pm

Panel Discussion (60 minutes)

Session 6: Policy Solutions

Objectives:

Discuss possible actions to reduce exposure to chemicals associated with the development of obesity.

2:20 pm

Introduction to Session and Discussants

Faiyez Bhojani, M.D., Roundtable Member
Chief Medical Officer, Global Manufacturing and Chemicals
Royal Dutch Shell

2:30 pm

Discussants:

Jeanne Conry, M.D. (*by phone*)
Assistant Physician-in-Chief, Kaiser Permanente
Past President, American Congress on Obstetrics and Gynecology

Judy LaKind, Ph.D. (*by phone*)
President, LaKind Associates, LLC
Adjunct Associate Professor, Department of Epidemiology and Public Health
University of Maryland School of Medicine

Sheela Sathyanarayana, M.D., M.P.H.
Associate Professor, Departments of Pediatrics and Environmental and
Occupational Health Sciences
University of Washington
Member, Council on Environmental Health, American Academy of Pediatrics

Sonya Lunder, M.P.H.
Senior Analyst
Environmental Working Group

3:00 pm

Panel Discussion (50 minutes)

3:50 pm

Closing Remarks

Frank Loy, Roundtable Chair

4:00 pm

Adjourn