

ISSN 1368-9800

Volume 12 Number 10 October 2009

# Public Health Nutrition

---

An international journal published on behalf of  
The Nutrition Society by Cambridge University Press



# Public Health Nutrition

Volume 12, 2009 ISSN: 1368-9800

Twelve issues per year

## Aims and Scope

To provide an international peer-reviewed forum for the publication and dissemination of research and scholarship aimed at understanding the causes of, and approaches and solutions to, nutrition-related public health achievements, situations and problems around the world.

*Public Health Nutrition* publishes original and commissioned articles, commentaries and discussion papers for debate.

*Public Health Nutrition* is interested in papers that:

- identify causation relevant at a population level
- develop and test new methods and approaches
- share experience about the development, implementation, and evaluation of programmes of work aimed at improving health

- describe, discuss and debate food and nutrition policy
- debate and propose new models and approaches to improving food and nutrition-related public health, particularly in those populations most at risk and vulnerable
- discuss work-force development and educational issues

*Public Health Nutrition* is interested in research and scholarship that takes a population and preventive approach; and welcomes ideas and suggestions for topics for debate, as well as open contributions for peer review. *Public Health Nutrition* publishes special issues.

This journal is available on the Internet at:  
[journals.cambridge.org/phn](http://journals.cambridge.org/phn)

## International Editorial Board

### Editor-in-Chief

#### Associate Professor Agneta Yngve

Department of Biosciences and Nutrition  
Karolinska Institutet, Novum  
SE 141 57 Huddinge, Sweden  
Fax: +46 8 774 6833  
Email: [phn@nutsoc.org.uk](mailto:phn@nutsoc.org.uk)

### Deputy Editors

#### Professor Barrie Margetts

University of Southampton, UK

#### Dr Roger Hughes

University of the Sunshine Coast,  
Queensland, Australia

#### Professor Marilyn Tseng

California Polytechnic State University  
San Luis Obispo, USA

### Associate Editors

**Dr Faruk Ahmed**, *Kuwait University,*  
*Kuwait*

**Professor Barbara Ainsworth**,  
*Arizona State University,*  
*USA*

**Professor Lenore Arab**,  
*UCLA, USA*

**Professor Thomas Baranowski**,  
*Baylor College of Medicine,*  
*USA*

**Dr Mary Barker**,  
*University of Southampton, UK*

**Dr Ilse De Bourdeaudhuij**,  
*Ghent University, Belgium*

**Dr Francesco Branca**, *World Health*  
*Organization, Denmark*

**Professor Janet Cade**, *University of*  
*Leeds, UK*

**Mr Geoffrey Cannon**, *World Health Policy*  
*Forum, Brazil*

**Associate Professor Marly A. Cardoso**,  
*University of Sao Paulo, Brazil*

**Dr Junshi Chen**, *Institute of Nutrition*  
*and Food Hygiene, China*

**Dr Ian Darnton-Hill**, *UNICEF,*  
*New York, USA*

**Dr Mikael Fogelholm**, *Academy of*  
*Finland, Finland*

**Dr Ann Fox**, *University of Toronto,*  
*Canada*

**Associate Professor Ingibjorg**  
**Gunnarsdottir**, *University of*  
*Iceland & Landspítali University Hospital,*  
*Iceland*

**Professor Emeritus Leif Hambraeus**,  
*Karolinska Institutet, Sweden*

**Dr Allison Hodge**, *University of*  
*Melbourne, Australia*

**Dr Russell Jago**, *University of Bristol, UK*

**Dr Festo Kavishe**, *UNICEF Representative,*  
*Eritrea*

**Dr Nick Kennedy**, *Trinity College Dublin,*  
*Ireland*

**Professor Victor Kipnis**, *National Institutes*  
*on Health, USA*

**Associate Professor Mark Lawrence**,  
*Deakin University, Australia*

**Professor Lauren Lissner**, *University of*  
*Gothenburg, Sweden*

**Ms Kaye Mehta**, *Flinders University,*  
*Australia*

**Professor Carlos A. Monteiro**,  
*University of São Paulo, Brazil*

**Dr Michael Nelson**, *University of*  
*London, UK*

**Professor Kerin O'Dea**, *University of*  
*South Australia, Australia*

**Dr Carmen Perez-Rodrigo**, *Unidad de*  
*Nutrición Comunitaria, Spain*

**Professor Pirjo Pietinen**, *National Public*  
*Health Institute, Finland*

**Dr Joop van Raaij**, *RIVM,*  
*Netherlands*

**Dr Shobha Rao**, *Agharkar Research*  
*Institute, India*

**Dr Aiguo Ren**, *Peking University, China*

**Dr Elio Riboli**, *Imperial College, London, UK*

**Dr David Roberts**, *Independent Consultant*

**Professor Jaap Seidell**, *VU University,*  
*The Netherlands*

**Professor Lluís Serra-Majem**, *University*  
*of Las Palmas de Gran Canaria,*  
*Spain*

**Dr Nelia Steyn**, *Human Sciences*  
*Research Council, RSA*

**Dr Heizo Tanaka**, *Koshien University,*  
*Japan*

**Professor Inga Thorsdottir**, *University of*  
*Iceland, Iceland*

**Professor Antonia Trichopoulou**,  
*University of Athens, Greece*

**Professor Ricardo Uauy**, *London School of*  
*Hygiene & Tropical Medicine, UK,*  
*and INTA, Chile*

**Dr Megumi Utsugi**, *National Institute of*  
*Health and Nutrition, Japan*

**Professor Maria Daniel Vaz de Almeida**,  
*Porto University, Portugal*

**Professor Hester Vorster**, *North West*  
*University, South Africa*

**Professor Susan Walker**, *University of the*  
*West Indies, Jamaica*

## The Nutrition Society

The society has as its objective the advancement of the scientific study of nutrition and its application to the maintenance of human and animal health.

Particulars of The Nutrition Society and application forms for membership are available from the Honorary Secretary,  
The Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush Road, London W6 7NJ, UK.  
Telephone +44 (0)20 7602 0228, Fax +44 (0)20 7602 1756

The Nutrition Society home page is at: <http://www.nutrition-society.org>