How effective are interventions at reducing socioeconomic inequalities in obesity among children and adults? Two systematic reviews

Clare L Bambra,^{1,2*} Frances C Hillier,³
Joanne-Marie Cairns,^{1,2} Adetayo Kasim,²
Helen J Moore³ and Carolyn D Summerbell³

Declared competing interests of authors: none

Published January 2015 DOI: 10.3310/phr03010

Plain English summary

Effectiveness of interventions at reducing inequalities in obesity

Public Health Research 2015; Vol. 3: No. 1

DOI: 10.3310/phr03010

NIHR Journals Library www.journalslibrary.nihr.ac.uk

¹Department of Geography, Durham University, Durham, UK

²Wolfson Research Institute for Health and Wellbeing, Durham University Queen's Campus, Stockton-on-Tees, UK

³School of Medicine, Pharmacy and Health, Wolfson Research Institute for Health and Wellbeing, Durham University Queen's Campus, Stockton-on-Tees, UK

^{*}Corresponding author

Plain English summary

besity is an increasingly common condition in the UK and is associated with diabetes, heart disease, stroke, hypertension, osteoarthritis and certain forms of cancer. Obesity levels are higher in more deprived population groups. Health professionals need to better understand what works to reduce these inequalities between social groups. We used systematic review methods to examine the effectiveness of interventions at reducing inequalities in relation to (1) adult and (2) child obesity and to examine (3) how such public health interventions are organised, implemented and delivered. Our two systematic reviews searched for all studies of interventions available worldwide; we assessed the quality of the studies and then collated and summarised the results. This makes such complex and diffuse information more accessible. Our reviews found 76 studies of inequalities in obesity in children and 103 in adults. This evidence suggested that interventions that aim to prevent, reduce or manage obesity do not increase inequalities and that some interventions reduced the social gradient in obesity or decreased obesity among more deprived groups. For children, school-delivered and environmental interventions, as well as interventions that use community empowerment mechanisms, were potentially effective in reducing obesity in more deprived areas. For adults, primary care-delivered tailored weight loss programmes and community-based weight loss interventions were the most effective, although only in the short term and mainly for low-income women. Studies were generally not of a high quality and there were few UK studies, few studies of society-wide interventions and no studies that assessed the cost of interventions. More UK studies are needed, especially of interventions among men and adolescents.

Public Health Research

ISSN 2050-4381 (Print)

ISSN 2050-439X (Online)

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: nihredit@southampton.ac.uk

The full PHR archive is freely available to view online at www.journalslibrary.nihr.ac.uk/phr. Print-on-demand copies can be purchased from the report pages of the NIHR Journals Library website: www.journalslibrary.nihr.ac.uk

Criteria for inclusion in the Public Health Research journal

Reports are published in *Public Health Research* (PHR) if (1) they have resulted from work for the PHR programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

Reviews in *Public Health Research* are termed 'systematic' when the account of the search appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

PHR programme

The Public Health Research (PHR) programme, part of the National Institute for Health Research (NIHR), evaluates public health interventions, providing new knowledge on the benefits, costs, acceptability and wider impacts of non-NHS interventions intended to improve the health of the public and reduce inequalities in health. The scope of the programme is multi-disciplinary and broad, covering a range of interventions that improve public health. The Public Health Research programme also complements the NIHR Health Technology Assessment programme which has a growing portfolio evaluating NHS public health interventions.

For more information about the PHR programme please visit the website: http://www.nets.nihr.ac.uk/programmes/phr

This report

The research reported in this issue of the journal was funded by the PHR programme as project number 09/3010/14. The contractual start date was in July 2011. The final report began editorial review in July 2013 and was accepted for publication in April 2014. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The PHR editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the PHR programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the PHR programme or the Department of Health.

© Queen's Printer and Controller of HMSO 2015. This work was produced by Bambra et al. under the terms of a commissioning contract issued by the Secretary of State for Health. This issue may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton SO16 7NS, UK.

Published by the NIHR Journals Library (www.journalslibrary.nihr.ac.uk), produced by Prepress Projects Ltd, Perth, Scotland (www.prepress-projects.co.uk).

Public Health Research Editor-in-Chief

Professor Martin White Professor of Public Health, Institute of Health & Society, Newcastle University and Honorary Consultant in Public Health with Public Health England

NIHR Journals Library Editor-in-Chief

Professor Tom Walley Director, NIHR Evaluation, Trials and Studies and Director of the HTA Programme, UK

NIHR Journals Library Editors

Professor Ken Stein Chair of HTA Editorial Board and Professor of Public Health, University of Exeter Medical School, UK

Professor Andree Le May Chair of NIHR Journals Library Editorial Group (EME, HS&DR, PGfAR, PHR journals)

Dr Martin Ashton-Key Consultant in Public Health Medicine/Consultant Advisor, NETSCC, UK

Professor Matthias Beck Chair in Public Sector Management and Subject Leader (Management Group), Queen's University Management School, Queen's University Belfast, UK

Professor Aileen Clarke Professor of Public Health and Health Services Research, Warwick Medical School, University of Warwick, UK

Dr Tessa Crilly Director, Crystal Blue Consulting Ltd, UK

Dr Peter Davidson Director of NETSCC, HTA, UK

Ms Tara Lamont Scientific Advisor, NETSCC, UK

Professor Elaine McColl Director, Newcastle Clinical Trials Unit, Institute of Health and Society, Newcastle University, UK

Professor William McGuire Professor of Child Health, Hull York Medical School, University of York, UK

Professor Geoffrey Meads Professor of Health Sciences Research, Faculty of Education, University of Winchester, UK

Professor John Powell Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), UK

Professor James Raftery Professor of Health Technology Assessment, Wessex Institute, Faculty of Medicine, University of Southampton, UK

Dr Rob Riemsma Reviews Manager, Kleijnen Systematic Reviews Ltd, UK

Professor Helen Roberts Professor of Child Health Research, UCL Institute of Child Health, UK

Professor Helen Snooks Professor of Health Services Research, Institute of Life Science, College of Medicine, Swansea University, UK

Please visit the website for a list of members of the NIHR Journals Library Board: www.journalslibrary.nihr.ac.uk/about/editors

Editorial contact: nihredit@southampton.ac.uk