Social norms interventions to change clinical behaviour in health workers: a systematic review and meta-analysis

Sarah Cotterill,1* Mei Yee Tang,1 Rachael Powell,2 Elizabeth Howarth,1 Laura McGowan,2 Jane Roberts,3 Benjamin Brown4,5 and Sarah Rhodes1

1Centre for Biostatistics, School of Health Sciences, Faculty of Biology Medicine and Health, The University of Manchester, Manchester Academic Health Science Centre, Manchester, UK
2Manchester Centre for Health Psychology, Division of Psychology and Mental Health, School of Health Sciences, Faculty of Biology Medicine and Health, The University of Manchester, Manchester Academic Health Science Centre, Manchester, UK
3Outreach and Evidence Search Service, Library and E-learning Service, Northern Care Alliance, NHS Group, Royal Oldham Hospital, Oldham, UK
4Health e-Research Centre, Farr Institute for Health Informatics Research, Faculty of Biology Medicine and Health, The University of Manchester, Manchester Academic Health Science Centre, Manchester, UK
5Centre for Primary Care, School of Health Sciences, Faculty of Biology Medicine and Health, The University of Manchester, Manchester Academic Health Science Centre, Manchester, UK

*Corresponding author sarah.cotterill@manchester.ac.uk

Declared competing interests of authors: none

Published October 2020
DOI: 10.3310/hsdr08410

Plain English summary

Interventions to change health worker behaviour
Health Services and Delivery Research 2020; Vol. 8: No. 41
DOI: 10.3310/hsdr08410

NIHR Journals Library www.journalslibrary.nihr.ac.uk
Plain English summary

It is important to encourage health workers to perform clinical behaviours appropriately for efficient use of health service resources and improved patient health outcomes. Sometimes health workers do not follow recommended practice, for example when blood tests are not ordered when required or when the wrong medication is prescribed. Social norms interventions are approaches that are used by health services with the aim of changing the future clinical behaviour of health workers; this approach works by exposing a health worker to the beliefs, thoughts, opinions or behaviours of their peers. For example, an e-mail sent to a doctor stating how often their colleagues prescribe antibiotics compared with their own number of prescriptions is an example of the behaviour change technique social comparison. A communication from a well-respected person in support of the behaviour is an example of credible source. This study aimed to summarise all of the evidence on using social norms interventions to change the clinical behaviours of health workers.

The researchers found 106 relevant studies. Most of the studies focused on doctors, although other health workers were also involved. Commonly targeted behaviours were the prescribing of medicines, ordering of tests and managing of health conditions. Social norms interventions can have a moderate effect on the clinical behaviour of health workers and can also improve patient health outcomes, but the magnitude of the effect varies greatly between studies. Both social comparison and credible source were found to be effective ways of changing clinical behaviours of health workers and improving patient health outcomes. The effectiveness of social comparison could be boosted when combined with a prompt, such as a computer pop-up that gives a reminder about antibiotic prescribing guidelines when a general practitioner tries to prescribe antibiotics.
Criteria for inclusion in the Health Services and Delivery Research journal

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

HS&DR programme

The HS&DR programme funds research to produce evidence to impact on the quality, accessibility and organisation of health and social care services. This includes evaluations of how the NHS and social care might improve delivery of services.

For more information about the HS&DR programme please visit the website at https://www.nihr.ac.uk/explore-nihr/funding-programmes/health-services-and-delivery-research.htm

This report

The research reported in this issue of the journal was funded by the HS&D programme or one of its preceding programmes as project number 17/06/06. The contractual start date was in May 2018. The final report began editorial review in September 2019 and was accepted for publication in April 2020. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HS&DR 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 HS&DR programme or the Department of Health and Social Care. 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 HS&DR programme or the Department of Health and Social Care.

© Queen's Printer and Controller of HMSO 2020. This work was produced by Cotterill et al. under the terms of a commissioning contract issued by the Secretary of State for Health and Social Care. 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 acknowledgment 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).
Editor-in-Chief of **Health Services and Delivery Research** and NIHR Journals Library

**Professor Ken Stein**  Professor of Public Health, University of Exeter Medical School, UK

**NIHR Journals Library Editors**

**Professor John Powell** Chair of HTA and EME Editorial Board and Editor-in-Chief of HTA and EME journals. Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), UK, and Senior Clinical Researcher, Nuffield Department of Primary Care Health Sciences, University of Oxford, UK

**Professor Andrée Le May**  Chair of NIHR Journals Library Editorial Group (HS&DR, PGfAR, PHR journals) and Editor-in-Chief of HS&DR, PGfAR, PHR journals

**Professor Matthias Beck**  Professor of Management, Cork University Business School, Department of Management and Marketing, University College Cork, Ireland

**Dr Tessa Crilly**  Director, Crystal Blue Consulting Ltd, UK

**Dr Eugenia Cronin**  Senior Scientific Advisor, Wessex Institute, UK

**Dr Peter Davidson**  Consultant Advisor, Wessex Institute, University of Southampton, UK

**Ms Tara Lamont**  Senior Scientific Adviser (Evidence Use), Wessex Institute, University of Southampton, UK

**Dr Catriona McDaid**  Senior Research Fellow, York Trials Unit, Department of Health Sciences, University of York, UK

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

**Professor Geoffrey Meads**  Emeritus Professor of Wellbeing Research, University of Winchester, UK

**Professor John Norrie**  Chair in Medical Statistics, University of Edinburgh, 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 Great Ormond Street Institute of Child Health, UK

**Professor Jonathan Ross**  Professor of Sexual Health and HIV, University Hospital Birmingham, UK

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

**Professor Ken Stein**  Professor of Public Health, University of Exeter Medical School, UK

**Professor Jim Thornton**  Professor of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, University of Nottingham, UK

**Professor Martin Underwood**  Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, UK

Please visit the website for a list of editors: [www.journalslibrary.nihr.ac.uk/about/editors](http://www.journalslibrary.nihr.ac.uk/about/editors)

**Editorial contact:** journals.library@nihr.ac.uk