

# E-health interventions targeting STIs, sexual risk, substance use and mental health among men who have sex with men: four systematic reviews

Rebecca Meiksin,<sup>1</sup> GJ Melendez-Torres,<sup>2</sup>  
Alec Miners,<sup>3</sup> Jane Falconer,<sup>4</sup> T Charles Witzel,<sup>1</sup>  
Peter Weatherburn<sup>1</sup> and Chris Bonell<sup>1\*</sup>

<sup>1</sup>Department of Public Health, Environments and Society, London School of Hygiene & Tropical Medicine, London, UK

<sup>2</sup>College of Medicine and Health, University of Exeter, Exeter, UK

<sup>3</sup>Department of Health Services Research and Policy, London School of Hygiene & Tropical Medicine, London, UK

<sup>4</sup>Library, Archive and Open Research Services, London School of Hygiene & Tropical Medicine, London, UK

\*Corresponding author [chris.bonell@lshtm.ac.uk](mailto:chris.bonell@lshtm.ac.uk)

**Declared competing interests of authors:** GJ Melendez-Torres has received funding for grants made to their institution from the National Institute for Health Research (NIHR), the Medical Research Council and the Department for Digital, Culture, Media and Sport (for the following studies: NIHR131921, NIHR130144, 14/25/11, 17/151/05, 17/44/48, NIHR130538, 14/52/15, NIHR129113, 17/148/05, NIHR130576, NIHR131487, 15/03/09, NIHR200695, 17/149/12 and 14/184/02), and has participated in the Society for Social Medicine's Mid-Career Researchers' Committee. Chris Bonell is the recipient of a NIHR Senior Investigator Award 2021–25 and was a member of the NIHR Public Health Research Research Funding Board from 18 June 2013 to 12 June 2019.

Published March 2022

DOI: 10.3310/BRWR6308

## Plain English summary

E-health interventions for men who have sex with men

Public Health Research 2022; Vol. 10: No. 4

DOI: 10.3310/BRWR6308

NIHR Journals Library [www.journalslibrary.nihr.ac.uk](http://www.journalslibrary.nihr.ac.uk)

## Plain English summary

**M**en who have sex with men are at higher risk of human immunodeficiency virus and other sexually transmitted infections than the general population. They are more likely to drink heavily or use drugs. They are also more likely to experience anxiety or depression. Men experiencing one of these problems are more likely to experience others.

Electronic health (e-health) interventions use applications, websites or other electronic methods to improve health. Among the general population, these can reduce alcohol consumption and address common mental illnesses. They show promise for reducing sexual risks and drug use. There might be a benefit in developing a single e-health intervention addressing these outcomes among men who have sex with men. We reviewed existing studies to see if this looks like a promising approach.

We searched for all studies of e-health interventions targeting men who have sex with men to address sexual risks, substance use and mental ill health. We assessed study quality. We summarised what this research says about the sorts of interventions that have been used and how they are meant to work, what factors affect how well they are delivered/received, whether or not they improve the health of men who have sex with men and whether or not these benefits are worth the money they cost.

We found 37 relevant reports. These suggest that e-health interventions addressing sexual risk, substance use and mental ill health among men who have sex with men are intended to work in similar ways, even when focused on different outcomes. Users liked interventions that were tailored to their personal experiences and needs.

There was limited evidence on whether or not these interventions improve the health of men who have sex with men. They appear to reduce sexual risks and may reduce drug use. There was no evidence on whether or not they reduce alcohol use or mental ill health. There was little information on whether or not the interventions represented value for money. Future research should assess e-health interventions that aim to improve the health of men who have sex with men across more than one of these areas, including areas with less existing evidence (human immunodeficiency virus/sexually transmitted infections, substance use and mental health).

# 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/](http://www.publicationethics.org/)).

Editorial contact: [journals.library@nihr.ac.uk](mailto:journals.library@nihr.ac.uk)

The full PHR archive is freely available to view online at [www.journalslibrary.nihr.ac.uk/phr](http://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](http://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), is the leading UK funder of public health research, evaluating 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.

For more information about the PHR programme please visit the website: <https://www.nihr.ac.uk/explore-nihr/funding-programmes/public-health-research.htm>

## This report

The research reported in this issue of the journal was funded by the PHR programme as project number 17/44/48. The contractual start date was in January 2019. The final report began editorial review in April 2021 and was accepted for publication in September 2021. 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 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 PHR programme or the Department of Health and Social Care.

Copyright © 2022 Meiksin *et al.* This work was produced by Meiksin *et al.* under the terms of a commissioning contract issued by the Secretary of State for Health and Social Care. This is an Open Access publication distributed under the terms of the Creative Commons Attribution CC BY 4.0 licence, which permits unrestricted use, distribution, reproduction and adaptation in any medium and for any purpose provided that it is properly attributed. See: <https://creativecommons.org/licenses/by/4.0/>. For attribution the title, original author(s), the publication source - NIHR Journals Library, and the DOI of the publication must be cited.

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

## NIHR Journals Library Editor-in-Chief

---

**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 Professor of Digital Health Care, Nuffield Department of Primary Care Health Sciences, University of Oxford, UK

**Professor Andrée Le May** Chair of NIHR Journals Library Editorial Group (HSDR, PGfAR, PHR journals) and Editor-in-Chief of HSDR, 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** Consultant in Public Health, Delta Public Health Consulting Ltd, UK

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

**Ms Tara Lamont** Senior Adviser, Wessex Institute, University of Southampton, UK

**Dr Catriona McDaid** Reader in Trials, 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 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, Child and Adolescent Mental Health, Palliative Care and Paediatrics Unit, Population Policy and Practice Programme, UCL Great Ormond Street Institute of Child Health, London, 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

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](mailto:journals.library@nihr.ac.uk)