External article

10.3310/MHYR6729

‘Smart’ BLE wearables for digital contact tracing in care homes during the COVID-19 pandemic—a process evaluation of the CONTACT feasibility study

This page provides information about a publication describing research funded by the Health Technology Assessment programme under award number NIHR132197, which has been published in a third-party journal. For information about copyright and reproduction of the original publication, please see the publisher’s website.

Publication

Thompson CA, Daffu-O’Reilly A, Willis T, Gordon A, Noakes C, Khaliq K, *et al*. ‘Smart’ BLE wearables for digital contact tracing in care homes during the COVID-19 pandemic—a process evaluation of the CONTACT feasibility study. *Implement Sci Commun* 2024;**4**:155. https://doi.org/10.1186/s43058-023-00533-0

Abstract

Background

Rapid and mass transmission of the SARS-CoV-2 virus amongst vulnerable people led to devastating effects from COVID-19 in care homes. The CONTACT intervention introduced Bluetooth Low Energy ‘smart’ wearable devices (BLE wearables) as a basis for automated contact tracing in, and feedback on infection risks and patterns to, care homes to try and improve infection prevention and control (IPC). We planned a cluster randomised controlled trial (RCT) of CONTACT. To be feasible, homes had to adopt CONTACT’s technology and new ways of working. This paper reports on the process evaluation conducted alongside CONTACT’s feasibility study and explains why it lacked the feasibility and acceptability for a definitive RCT.

Methods

This mixed method process evaluation used Normalisation Process Theory (NPT) qualitative (interviews, field notes, study case report forms and documents, and observation) and quantitative (survey instruments, counts of activity) data to plan, implement, and analyse the mechanisms, effects, and contextual factors that shaped the feasibility and acceptability of the CONTACT intervention.

Results

Thirteen themes within four core NPT constructs explained CONTACT’s lack of feasibility. Coherence: the home’s varied in the scale and extent of commitment and understanding of the technology and study procedures. Leadership credibility was important but compromised by competing priorities. Management and direct care staff saw CONTACT differently. Work to promote (cognitive participation) and enact (collective action) CONTACT was burdensome and failed to be prioritised over competing COVID-19-related demands on time and scarce human and cognitive resources. Ultimately, staff appraisal of the value of CONTACT-generated information and study procedures (reflexivity) was that any utility for IPC was insufficient to outweigh the perceived burden and complexity involved.

Conclusions

Despite implementation failure, dismissing BLE wearables’ potential for contact tracing is premature. In non-pandemic conditions, with more time, better co-design and integration of theory-driven implementation strategies tailored to care homes’ unique contexts, researchers could enhance normalisation in readiness for future pandemic challenges.

Trial registration

ISRCTN registration: 11,204,126 registered 17/02/2021.

Funding

This publication was funded by the Health Technology Assessment programme as a part of award number NIHR132197.

This article reports on one component of the research award CONtact TrAcing in Care homes using digital Technology (CONTACT) – A pragmatic cluster randomised controlled trial, cost-effectiveness evaluation and theory-informed process evaluation. For more information about this research please view the award page [https://fundingawards.nihr.ac.uk/award/NIHR132197]

DOI

https://doi.org/10.1186/s43058-023-00533-0