A multifaceted intervention to reduce antibiotic prescribing among CHIldren with acute COugh and respiratory tract infection: the CHICO cluster RCT

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Disclosure of interests

Full disclosure of interests: Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at https://doi.org/10.3310/UCTH3411.

Primary conflicts of interest: Peter Blair, Padraig Dixon, Jenny Ingram, Jeremy Horwood, Patricia Lucas, Christie Cabral, Nick Francis, Elizabeth Beech, Martin Gulliford, Sam Creavin, Janet Lane and Alistair Hay were all co-investigators of the CHICO trial, so they were in receipt of NIHR funding. Alistair Hay is a member of the NIHR EME Committee and, at the time of funding, was a member of the NIHR HTA Committee. Jane Lane is a member of a clinical trials unit in receipt of NIHR support funding. Sam Creavin's institution receives payments for the EMIS® development time, Wellcome trust doctoral fellowship and their NIHR ACL. Sam Creavin has a membership with HTA PCCPI Panel –May 2018, HTA

Prioritisation Committee A (out of hospital) – May 2018–March 2022 and NICE diagnostic advisory committee – October 2022 to the present. Martin Gulliford was a member of the HSDR Funding Committee – May 2016–May 2019.

Trial registration: This trial is registered as ISRCTN11405239 (date assigned 20 April 2018) at www.controlled-trials.com (accessed 5 September 2022). Version 4.0 of the protocol is available at: https://www.journalslibrary.nihr.ac.uk/ (accessed 5 September 2022).

EudraCT number: Not required as non-CTIMP study.

Published December 2023
DOI: 10.3310/UCTH3411

Plain language summary

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Health Technology Assessment 2023; Vol. 27: No. 32
DOI: 10.3310/UCTH3411

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

Plain language summary

Coughs and colds (also known as respiratory tract infections) are the most common reason that children are taken to family doctors and nurses in primary care. These clinicians are not always sure how best to treat them and often use antibiotics 'just in case'. There are now concerns that clinicians are using antibiotics too often, and that this is increasing the number of resistant bugs (bacteria that cannot be killed by antibiotics). We wanted to see if using a scoring system of symptoms and signs of illness to help clinicians identify children very unlikely to need hospital care as well as listening to parents' concerns and giving them a personalised leaflet with care and safety advice, reduced antibiotic use. We recruited practices rather than patients, so did not need individual patient consent. The two main outcomes were the rate of antibiotics dispensed for children and number of children admitted to hospital for respiratory tract infections, using routinely collected data for 0–9-year-olds. We recruited 294 general practitioner practices, which was 95% of the total needed; 144 were asked to use the intervention and 150 to continue providing usual care (controls); only 12 practices subsequently withdrew (6 related to the pandemic). The average number of times the intervention was used was 70 per practice (by an average of 9 clinicians) over 12 months. There was no evidence that the antibiotic dispensing rate in the intervention practices differed from control practices. Further analyses showed an overall reduction in dispensing levels and intervention usage during the pandemic. The rate of hospitalisation for respiratory tract infection in the intervention practices was similar to the control practices. In the interviews, we found that clinicians liked the intervention and used it as a supportive aid during consultations, especially for borderline cases, rather than a tool to change prescribing behaviour.

Health Technology Assessment

ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 3.6

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This report

The research reported in this issue of the journal was funded by the HTA programme as project number HTA 16/31/98. The contractual start date was in March 2018. The draft report began editorial review in June 2022 and was accepted for publication in November 2022. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the draft 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 and Care 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, the HTA 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, the HTA programme or the Department of Health and Social Care.

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