

The Diagnosis of Urinary Tract infection in Young children (DUTY): a diagnostic prospective observational study to derive and validate a clinical algorithm for the diagnosis of urinary tract infection in children presenting to primary care with an acute illness

Alastair D Hay,^{1*} Kate Birnie,² John Busby,² Brendan Delaney,³ Harriet Downing,¹ Jan Dudley,⁴ Stevo Durbaba,⁵ Margaret Fletcher,^{6,7} Kim Harman,¹ William Hollingworth,² Kerenza Hood,⁸ Robin Howe,⁹ Michael Lawton,² Catherine Lises,⁸ Paul Little,¹⁰ Alasdair MacGowan,¹¹ Kathryn O'Brien,¹² Timothy Pickles,⁸ Kate Rumsby,¹⁰ Jonathan AC Sterne,² Emma Thomas-Jones,⁸ Judith van der Voort,¹³ Cherry-Ann Waldron,⁸ Penny Whiting,² Mandy Wootton⁹ and Christopher C Butler^{12,14} on behalf of the DUTY team

¹Centre for Academic Primary Care, National Institute for Health Research (NIHR) School of Primary Care Research, School of Social and Community Medicine, University of Bristol, Bristol, UK

²School of Social and Community Medicine, University of Bristol, Bristol, UK

³Department of Primary Care and Public Health Sciences, National Institute for Health Research (NIHR) Biomedical Research Centre at Guy's and St Thomas' NHS Foundation Trust and King's College London, London, UK

⁴Bristol Royal Hospital for Children, University Hospitals Bristol NHS Foundation Trust, Bristol, UK

⁵Department of Primary Care and Public Health Sciences, Division of Health and Social Care Research, King's College London, London, UK

⁶Centre for Health and Clinical Research, University of the West of England, Bristol, UK

⁷South West Medicines for Children Local Research Network, University Hospitals Bristol NHS Foundation Trust, Bristol, UK

⁸South East Wales Trials Unit (SEWTU), Institute for Translation, Innovation, Methodology and Engagement, School of Medicine, Cardiff University, Cardiff, UK

⁹Specialist Antimicrobial Chemotherapy Unit, Public Health Wales Microbiology Cardiff, University Hospital Wales, Cardiff, UK

¹⁰Primary Care and Population Sciences Division, University of Southampton, Southampton, UK

¹¹Southmead Hospital, North Bristol NHS Trust, Bristol, UK

¹²Cochrane Institute of Primary Care & Public Health, School of Medicine, Cardiff University, Cardiff, UK

¹³Department of Paediatrics and Child Health, University Hospital of Wales, Cardiff, UK

¹⁴Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, UK

*Corresponding author

Declared competing interests of authors: Paul Little is a member of the NIHR Journals Library Board, although he was not involved in the editorial processes for this report, and has provided consultancy work to Bayer Pharmaceuticals.

Published July 2016

DOI: 10.3310/hta20510

Plain English summary

The Diagnosis of UTI in Young Children (DUTY) study

Health Technology Assessment 2016; Vol. 20: No. 51

DOI: 10.3310/hta20510

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

Plain English summary

The DUTY (Diagnosis of Urinary Tract infection in Young children) study was designed to improve the way in which doctors and nurses find out when a young child has a urine infection so that they can start effective treatment earlier.

A total of 7163 children under 5 years old, who were visiting their general practitioner (GP) or a similar NHS service, joined the study. All were unwell or had urine symptoms. We collected details about the child's illness and their general health, and a urine sample. We preferred the urine sample to be collected by a 'clean catch' (straight from the child into a urine container), but where this was not possible we used a 'nappy pad' (a clean towel put into the child's nappy after cleaning their bottom). Once we had the urine, we did a simple test (urine dipstick) at the GP practice. After that, it was sent to a research laboratory to see if there was an infection.

We looked to see if any parent-reported symptoms or doctor-/nurse-reported examination findings or the dipstick test results made a urine infection more likely. We found that they did, especially when children were able to provide a 'clean-catch' sample. These urine infections were more likely when their parents said that children:

- had pain/crying when they passed urine
- had smelly urine
- had had a previous urine infection and
- did not have a severe cough.

Urine infections were also more likely:

- when the doctor/nurse thought that the child was more unwell, and
- when the dipstick test was positive.

ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 4.058

Health Technology Assessment is indexed in MEDLINE, CINAHL, EMBASE, The Cochrane Library and the ISI Science Citation Index.

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Editorial contact: nhredit@southampton.ac.uk

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This report

The research reported in this issue of the journal was funded by the HTA programme as project number 08/66/01. The contractual start date was in January 2010. The draft report began editorial review in July 2013 and was accepted for publication in June 2014. 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 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 HTA 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 HTA programme or the Department of Health.

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