# **Explaining variation in emergency** admissions: a mixed-methods study of emergency and urgent care systems

Alicia O'Cathain,1\* Emma Knowles,1 Janette Turner,1 Ravi Maheswaran,<sup>1</sup> Steve Goodacre,<sup>1</sup> Enid Hirst<sup>2</sup> and Jon Nicholl<sup>1</sup>

<sup>1</sup>School of Health and Related Research, University of Sheffield, Sheffield, UK <sup>2</sup>Sheffield Emergency Care Forum, Sheffield, UK

**Declared competing interests of authors:** Steve Goodacre is Deputy Chairperson of the National Institute for Health Research Health Technology Assessment Clinical Trials Evaluation and Trials Board.

Published December 2014

DOI: 10.3310/hsdr02480

# **Plain English summary**

## Explaining variation in emergency admissions

Health Services and Delivery Research 2014; Vol. 2: No. 48

DOI: 10.3310/hsdr02480

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

<sup>\*</sup>Corresponding author

# **Plain English summary**

5 ome emergency admissions to a hospital bed may be avoided if all services offering emergency and urgent care services work well. For example, an older person who falls may be looked after by community services in their own home.

We calculated a rate of 'avoidable admissions' for 150 areas in England, taking into account that some areas have more elderly people than others. We got data about the population and range of services in the 150 areas that might help people with health problems; for example ambulance services, accident and emergency departments, general practitioners (GPs), GP out-of-hours services, walk-in centres, community services (district nurses) and social services. We chose six of these areas and interviewed 82 managers and clinicians in them about what they did and did not do to avoid admitting people.

In some areas the rate of avoidable admissions was three times higher than others. Areas with high rates had high levels of deprivation. Many services contributed to the variation. For example, some emergency departments turned more attendances into admissions than others, and some ambulance services treated more people at home than other ambulance services. The people we interviewed described different practices for coding admissions, different levels of integration between health and social services in their areas, and how admissions were the easy or safe option.

Interventions are needed which are tailored to avoid admissions from deprived communities. Having standard coding practices would help to reduce variation.

## **Health Services and Delivery Research**

ISSN 2050-4349 (Print)

ISSN 2050-4357 (Online)

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: nihredit@southampton.ac.uk

The full HS&DR archive is freely available to view online at www.journalslibrary.nihr.ac.uk/hsdr. Print-on-demand copies can be purchased from the report pages of the NIHR Journals Library website: www.journalslibrary.nihr.ac.uk

#### 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 or programmes which preceded 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 Health Services and Delivery Research (HS&DR) programme, part of the National Institute for Health Research (NIHR), was established to fund a broad range of research. It combines the strengths and contributions of two previous NIHR research programmes: the Health Services Research (HSR) programme and the Service Delivery and Organisation (SDO) programme, which were merged in January 2012.

The HS&DR programme aims to produce rigorous and relevant evidence on the quality, access and organisation of health services including costs and outcomes, as well as research on implementation. The programme will enhance the strategic focus on research that matters to the NHS and is keen to support ambitious evaluative research to improve health services.

For more information about the HS&DR programme please visit the website: http://www.nets.nihr.ac.uk/programmes/hsdr

#### This report

The research reported in this issue of the journal was funded by the HS&DR programme or one of its proceeding programmes as project number 10/1010/08. The contractual start date was in August 2011. The final report began editorial review in February 2014 and was accepted for publication in July 2014. 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. 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.

© Queen's Printer and Controller of HMSO 2014. This work was produced by O'Cathain et al. under the terms of a commissioning contract issued by the Secretary of State for Health. 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 acknowledgement 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).

### Health Services and Delivery Research Editor-in-Chief

Professor Ray Fitzpatrick Professor of Public Health and Primary Care, University of Oxford, UK

### **NIHR Journals Library Editor-in-Chief**

Professor Tom Walley Director, NIHR Evaluation, Trials and Studies and Director of the HTA Programme, UK

### **NIHR Journals Library Editors**

**Professor Ken Stein** Chair of HTA Editorial Board and Professor of Public Health, University of Exeter Medical School, UK

Professor Andree Le May Chair of NIHR Journals Library Editorial Group (EME, HS&DR, PGfAR, PHR journals)

Dr Martin Ashton-Key Consultant in Public Health Medicine/Consultant Advisor, NETSCC, UK

**Professor Matthias Beck** Chair in Public Sector Management and Subject Leader (Management Group), Queen's University Management School, Queen's University Belfast, UK

**Professor Aileen Clarke** Professor of Public Health and Health Services Research, Warwick Medical School, University of Warwick, UK

Dr Tessa Crilly Director, Crystal Blue Consulting Ltd, UK

Dr Peter Davidson Director of NETSCC, HTA, UK

Ms Tara Lamont Scientific Advisor, NETSCC, UK

**Professor Elaine McColl** Director, Newcastle Clinical Trials Unit, Institute of Health and Society, Newcastle University, UK

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

Professor Geoffrey Meads Professor of Health Sciences Research, Faculty of Education, University of Winchester, UK

Professor Jane Norman Professor of Maternal and Fetal Health, University of Edinburgh, UK

Professor John Powell Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), 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 Institute of Child Health, UK

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

Please visit the website for a list of members of the NIHR Journals Library Board: www.journalslibrary.nihr.ac.uk/about/editors

Editorial contact: nihredit@southampton.ac.uk