Care bundles to reduce re-admissions for patients with chronic obstructive pulmonary disease: a mixed-methods study

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Declared competing interests of authors: Sarah Purdy is a general practitioner, and Jonathan Benger and James Calvert are hospital consultants working in the fields of emergency care and respiratory medicine, respectively. All have endeavoured to ensure that their input to the research has not been biased by their own clinical practice. James Calvert worked with colleagues at the British Thoracic Society to design and evaluate care bundles as an intervention to improve outcomes in a number of different respiratory conditions including chronic obstructive pulmonary disease, pneumonia and asthma. Sarah Purdy is a member of the National Institute for Health Research (NIHR) Health Services and Delivery Research Researcher-led Panel, from 2017 to date. William Hollingworth is a member of the NIHR Health Technology Assessment Clinical Trials Board. Sue Jenkins runs an independent consultancy for public and charitable sector clients, providing strategy and organisation development, leadership coaching and facilitation. Melanie Chalder reports a Medical Research Council Proximity to Discovery award outside the submitted work.

Published June 2019
DOI: 10.3310/hsdr07210

Plain English summary

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Health Services and Delivery Research 2019; Vol. 7: No. 21
DOI: 10.3310/hsdr07210

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**Plain English summary**

Chronic obstructive pulmonary disease (COPD) is the name for a collection of long-term conditions that affect the lungs. It is one of the most common respiratory diseases in the UK and accounts for 10% of hospital admissions each year. Nearly one-third of these patients are re-admitted to hospital within 28 days of discharge.

Care bundles are a group of interventions, each of which is thought to improve patient care. They are a way of ensuring that staff can provide a co-ordinated package of care to patients with COPD at the point that they arrive at, or are sent home from, hospital. Although several small studies have suggested that care bundles lead to better care for patients with COPD, a larger national study was needed to show that these findings are reliable.

By comparing how many patients were re-admitted to hospitals that use care bundles and to hospitals that do not, and studying what happens to patients during their stay and afterwards, we aimed to assess how successful COPD care bundles are. We used information from hospital systems and medical records and from talking to staff, patients and carers and observing care to find out the answers.

Although care bundles were viewed positively by health-care professionals, they do not seem to make a noticeable difference to the experience of patients and carers, future inpatient admissions or patient death rates. Care bundles, particularly admission bundles, were difficult to put in place and few patients actually received them. Hospitals that were not delivering care bundles were doing other similar things to improve care and this will have reduced the impact of the bundles. Care bundles do seem to reduce the number of visits patients with COPD need to make to emergency departments. However, the introduction of COPD care bundles is unlikely to save money for the NHS.
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The research reported in this issue of the journal was funded by the HS&DR programme or one of its preceding programmes as project number 12/130/53. The contractual start date was in May 2014. The final report began editorial review in October 2017 and was accepted for publication in May 2018. 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 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 HS&DR programme or the Department of Health and Social Care.

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