Interventions to reduce mortality from in-hospital cardiac arrest: a mixed-methods study

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Declared competing interests of authors: none

Published January 2019
DOI: 10.3310/hsdr07020

Plain English summary

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Health Services and Delivery Research 2019; Vol. 7: No. 2
DOI: 10.3310/hsdr07020

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A substantial proportion of patients who experience a cardiac arrest in hospital have shown signs of deterioration for up to 8 hours before the event, which includes signs that have not been identified or acted on by staff. Only around 15% of patients who experience a cardiac arrest will leave the hospital alive. To tackle these avoidable deaths, the NHS has introduced a number of services to improve the means of identifying and caring for acutely ill patients on hospital wards. These include track-and-trigger systems (TTSs) (charts that help nurses to track a patient’s condition and trigger a call for help when needed), outreach teams comprising staff with critical care skills who visit the wards and provide extra support, tools to ensure good communication between the wards and response teams, and education. This study explored which of these services were having the most impact. By looking at trends of in-hospital cardiac arrests and survival after arrest over a 5-year period in 106 hospitals, we found that the introduction of a national standard track-and-trigger tool for the NHS (the National Early Warning Score) and electronic, rather than paper, versions of the tool were associated with reductions in cardiac arrest rates of 7.5% per year in the hospitals where they were introduced, but not with differences in survival from cardiac arrests. The presence of outreach teams did not appear to confer any additional benefit across time, but increasing intensity, as reported in 2015, was associated with improvements in cardiac arrest survival. More research is required to identify whether or not such teams contribute to the benefits of TTSs, for example by helping educate ward staff.
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This report
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 12/178/18. The contractual start date was in May 2014. The final report began editorial review in November 2017 and was accepted for publication in April 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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