A framework to address key issues of neonatal service configuration in England: the NeoNet multimethods study

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Declared competing interests of authors: Michael Allen is employed as an operational research modeller at the Royal Devon and Exeter NHS Foundation Trust. Sue Prosser is a senior nurse in the Exeter Neonatal Unit and reports a grant contribution from the Royal Devon and Exeter NHS Foundation Trust. Neena Modi is the director of the Neonatal Data Analysis Unit, a member of the NHS England Maternity Transformation Stakeholder Council and president of the UK Royal College of Paediatrics and Child Health. Steve Thornton works with the Royal College of Obstetricians and Gynaecologists and is the chairperson of the Lindsay Stewart Committee. He is also a trustee for Wellbeing of Women, a charity that raises funding for research related to women’s health, and undertakes commercial consultancy [non-financial support was given by Hologic Inc. (Slough, UK), GlaxoSmithKline plc (Brentford, UK) and Ferring Pharmaceuticals Ltd (West Drayton, UK)].

Disclaimer: This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

Published October 2018
DOI: 10.3310/hsdr06350
Plain English summary

The NeoNet multimethods study
Health Services and Delivery Research 2018; Vol. 6: No. 35
DOI: 10.3310/hsdr06350

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When organising neonatal care in England, there is a tension between the centralisation and localisation of services. These services are currently provided at different levels, ranging from neonatal intensive care units (NICUs) to special care units. For the most-ill infants, intensive specialised care delivered in high-volume NICUs (i.e. those that see more ill infants) has been shown to deliver improved health outcomes; however, smaller local units provide easier access and reduce travel times for parents.

Geographic analysis and computer models were used to investigate a range of alternative scenarios for neonatal care, looking at the impact of greater and lower levels of centralisation. The models suggest that having fewer units, especially for intensive care, could potentially improve infant survival rates. Costs and resource implications (e.g. the number of nurses required), as well as the impact on parental travel time, were also investigated using these models.

The results demonstrate the advantages of different service configurations and provide a framework to assist policy-makers in planning neonatal services. We also looked at the most effective way to present these results using a range of graphical and visualisation tools.

When parents were interviewed, it was found that the health of the mother and the baby dominated their concerns. Parental overheads associated with entitlement to unpaid leave, food, travel, accommodation, baby care and parking were also revealed to be important concerns.

Further work is needed to investigate the relationship between maternity and neonatal services and to understand the impact of alternative configurations of care on infant health and well-being.
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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 14/19/08. The contractual start date was in September 2015. The final report began editorial review in July 2017 and was accepted for publication in February 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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