UNIVERSITY OF ABERDEEN

NHS Highland

Sustainable Maternity Service Provision in Remote and Rural Areas of Scotland:

The scoping of core multidisciplinary skills and exploration of best practice in the development and maintenance of skills

---

EXECUTIVE SUMMARY

September 2003

Commissioned by:
NHS Education for Scotland

NHS SCOTLAND

Acknowledgements

This study was commissioned by NHS Education for Scotland (grant number CP123). The Research Team would like to acknowledge the advice, support and assistance of both the Steering Group and the Professional Advisory Group whose members are listed below. Special thanks go to the many staff associated with the maternity units in remote and rural areas across Scotland that we contacted. Maternity care professionals helpfully provided information, facilitated access to units, and gave their valuable time to participate in the interviews or complete the postal questionnaire. We are grateful for the interest and the generous participation of all these individuals. Finally our thanks to Moira Napper, Health Economics Research Unit at the University of Aberdeen, who provided help with the literature search along with the staff at the University of Aberdeen Medical Library, Foresterhill, and at the Queen Mother Library, Old Aberdeen.

Research Team

Grant Holders:

Dr Alice Kiger, Director, Centre for Advanced Studies in Nursing, University of Aberdeen (Joint Principal Investigator)

Dr Janet Tucker, Senior Researcher in Reproductive Health, Dugald Baird Centre for Research in Women's Health, Department of Obstetrics and Gynaecology, University of Aberdeen (Joint Principal Investigator)

Mrs Helen Bryers, Midwife, Clinical Project Manager, Implementation Team for Highland Maternity Services Review, NHS Highland

Mrs Jane Caldow, Clinical Trials Co-ordinator, Clinical Research Unit, Department of General Practice and Primary Care, University of Aberdeen

Dr Jane Farmer, Senior Lecturer, Department of Management Studies, University of Aberdeen

Dr Vanora Hundley, Lecturer, Centre for Advanced Studies in Nursing, University of Aberdeen

Dr Edwin van Teijlingen, Senior Lecturer, Department of Public Health, and Researcher, Dugald Baird Centre, University of Aberdeen

Researchers:

Dr Fiona Harris, Research Fellow, Centre for Advanced Studies in Nursing, University of Aberdeen

Ms Jilly Ireland, Research Midwife, NHS Highland

Secretarial support team

Mrs Netta Clark and Mrs Hazel Riley, Department of General Practice and Primary Care, University of Aberdeen

Mrs Helen Robertson, Centre for Advanced Studies in Nursing, University of Aberdeen

Mrs Joaane Coull, Dugald Baird Centre for Research in Women's Health, University of Aberdeen

Steering Group

Mrs Sue Hickie, Professional Officer, NHS Education for Scotland

Dr Sue Kinn, Programme Leader, Nursing Research Initiative for Scotland

Dr Margaret McGuire, Midwifery Development Officer, SEHD/Royal College of Midwives, UK Board for Scotland

Dr Brian McKinstry, Director of Research, NHS Education for Scotland

Dr Tricia Murphy-Black, Professor of Midwifery, University of Stirling

Mrs Monica Thompson, Professional Officer (Midwifery), NHS Education for Scotland

Dr Sally Wyke, Director, Scottish School of Primary Care, NHS Education for Scotland

Professional Advisory Group

Professional Expertise	Name	Designation	Location
Midwife-led maternity care	Joanne Thorpe and Jaki Lambert	Clinical Midwifery Specialist	Lochgilphead, Argyll
Midwife Development and ALSO trainer	Sarah MacLeod	Midwifery manager	Midwifery Unit at the Belford in Fort William
GP: special interest in community maternity care and remote and rural issues	A. Gordon Baird (R&R GPs Network)	General Practitioner	Dumfries & Galloway
GP: special interest in community maternity and intrapartum care	Liz Coutts	General Practitioner	Lerwick, Shetland
IT and Telemedicine in Training	Beverly Beasant	NES researcher on Telemedicine in Training	Postgraduate Centre, University of Dundee
Obstetrician (community-based local antenatal care protocols & primary care training)	Norman Smith	Consultant, Director of Clinical Obstetric Services	Aberdeen Maternity Hospital
Ambulance Service Training	Bill Haining	Scottish Ambulance Services	The Scottish Ambulance College, Barony Castle
Neonatal Nurse Practitioner (training responsibilities)	Rita Finlayson	Advanced Neonatal Nurse Practitioner	Raigmore Hospital, Inverness
Neonatologist, Grampian-wide neonatal resuscitation training programme	Mike Munro	Consultant neonatologist	Aberdeen Maternity Hospital
Remote and Rural Health Care Issues	David Godden	Professor of Remote and Rural Health Care Issues, University of Aberdeen	Clinical Professor and Director Highlands and Islands Health Research Institute, Inverness.
Patient representative	Helen MacLean	Western Isles Health Council	Benbecula Office
Course Leader, Midwifery	Anne MacKay	Senior Lecturer	School of Nursing & Midwifery Faculty of Health & Social Care Robert Gordon University, Aberdeen

Executive Summary

Background to the study

Health care provision in remote and rural areas of Scotland is a current cause for concern. With respect to maternity services, there are particular issues around falling fertility rates and medical workforce capacity, accompanied by a policy climate that is encouraging further centralisation of acute services. There are important implications for the sustainability of safe, local maternity care if the reduction in geographical access to acute consultant-led obstetric and neonatal services continues.

A Framework for Maternity Services in Scotland (SEHD 2001) describes seven types of settings for delivery of care according to variations in demographic and geographic characteristics. The Framework notes the paucity of evidence about UK remote and rural health care and highlights the problems encountered by professionals providing maternity care in such settings. One key problem highlighted is competency for practice. This issue includes identifying what core skills and competencies are required to practise in remote or rural settings and how these can be developed, maintained and updated. The scoping exercise reported here was commissioned to identify the educational and skills training required for maternity care professionals in remote and rural areas of Scotland. Furthermore it sought to explore how best to deliver that training to enable the workforce to provide high quality maternity care, especially intrapartum care, within new and sustainable configurations of services (SEHD 2001).

The Expert Working Group on Acute Maternity Services (EGAMS) was tasked with implementing the Framework throughout Scotland, considering how appropriately trained and skilled professionals would provide appropriate, safe and sustainable intrapartum care throughout Scotland (SEHD 2002), and among the group's recommendations were a number related to remote and rural settings. The EGAMS report provides a key reference point for elements of the study reported here, which took place from November 2002 to June 2003. The focus of this scoping exercise was on maternity workforce skills and competencies required to support safe, appropriate and accessible intrapartum care in remote and rural settings.

There is scant evidence about quality and remote and rural maternity services, or about professional competency, skills development and training needs of staff working in these settings and how these needs might be met. It is against this background, and the uncertainty about relative safety and appropriateness of care models, that we undertook this scoping exercise to produce:

- an inventory of the required skills and competencies in the wider maternity care workforce in Scotland
- scoped recommended skills and competencies required for a multidisciplinary team in remote and rural settings
- remote and rural professionals' views on current and future skills requirements to deliver high quality maternity service, and their preferences for training
- identified innovative approaches to teaching and continuing education for maternity care professionals in remote and rural settings.

Aim and objectives of the study

The aim of the project was to scope core multidisciplinary skills and explore best practice in the development and maintenance of those skills required for sustainable maternity service provision in remote and rural areas in Scotland.

There were 4 objectives, one of which was in two parts. They were:

1. To review the range of professional skills/competencies required by the wider Scottish obstetric/maternity work force

2a. To scope those professional skills/competencies essential for safe, accessible and high quality maternity care in remote and rural environments with particular reference to the outcomes of the Expert Group on Acute Maternity Services (SEHD 2002) (intrapartum care)

2b. To scope those professional skills/competencies essential for safe, accessible and high quality maternity care in remote and rural environments through discussion (interview) with health care professionals in the field

3. To explore how the achievement and maintenance of professional skills and competency might be met

4. To identify extant innovative, multidisciplinary approaches to teaching and continuing education for maternity care professionals within a remote and rural context.

Study design

The methods incorporated in the study included an extensive literature review along with a skills inventory, and empirical work which included both quantitative and qualitative methods of data collection.

Field work was undertaken in three phases:

Phase 1 *– Mapping of settings:* Diverse types of remote and rural maternity units in Scotland were mapped in a stratified sampling frame. From this, 10 sites were selected by purposive sampling for site-based case studies to be carried out in Phase 2. An additional 10 matched sites were selected for use in Phase 3.

Phase 2 – *Site case studies and staff interviews:* Individual qualitative interviews were conducted with key professional staff at each site. The interview sample, which totalled 72, was proportionately representative of each unit's maternity care team composition, grades and years of experience. It included community-based staff, transport personnel/ paramedics and lead clinical carers for intrapartum care in hospital – e.g. midwife/ neonatal nurse/ obstetrician/ surgeon/ anaesthetist/ maternity care assistant. In addition, tertiary level clinical directors with responsibility for neonatal intensive care retrieval teams, where they existed, were included.

Phase 3 – *A wider postal survey presenting Phase 2 results:* A questionnaire was developed on the basis of information from the literature review and the findings that emerged from the qualitative interviews. The survey was carried out with the Phase 2 respondents plus staff from the second tier of units identified in Phase 1, to check for agreement with the qualitative findings and to identify any gaps. A total of 160 questionnaires were sent out and 124 completed forms were returned, a response rate 77.5%

Study findings

Background and required competencies

- Definition and regulation of the range of skills and competencies required by the maternity care workforce are prescribed by professional bodies, interpreted in educational curricula, and they demonstrate increasing specialism as new medical technologies become routine.
- The 28 identified remote and rural units in this study showed wide diversity in their remoteness and rurality, in their annual numbers of deliveries and in their professional skill mix and levels of care provided. The maternity care team structures were local solutions to meet their existing local contexts.
- The census confirmed that further change and centralisation were already taking place in acute maternity service configurations in Scotland, perhaps ahead of the preparedness of the staff to deliver the recommended devolved models of intrapartum care for low risk women in stand-alone community midwife units.
- Inventories in the EGAMS report (2002) note core competencies for the maternity care workforce and for women at increased risk. Two additional recommended competencies to maintain access and safety for remote and rural sites caring for low risk women are noted as Ventouse lift-out and ultrasound scanning.

Views of rural maternity care staff about required competencies

Findings from the staff interviews and questionnaires highlight that:

- Maternity care teams in rural settings communicate and work well together
- Levels of self-assessed competence in most skills were high
- Around half the respondents felt competent in perineal repair, newborn examinations, breech delivery and prescribing drugs
- Few respondents felt competent in Ventouse lift-out and US scanning
- When asked about the skills required for their jobs, respondents did not tend to list individual clinical skills, but highlighted competence *and* confidence, and more generic skills, e.g. communication and their knowledge and experience of the rural context, particularly in relation to risk assessment and decisions to transfer.
- Maternity care staff in rural and remote settings expressed concern about potential obstetric emergencies, but felt that staff in urban referral hospitals did not always appreciate the distance and travel barriers that might affect their cautious risk assessment and decisions to transfer.

Achieving and maintaining skills in training

- There is a tension between, on the one hand, the acceptability, perceived quality and applicability of evidence-based national guidelines for decision-making, and on the other hand, clinical practice as an art in identifying the 'at-risk' woman. This issue requires further exploration.
- On-going changes in CPD requirements (e.g. defined numbers of cases required to maintain skills) were a cause for concern in low-throughput rural units. These requirements, along with medical workforce pressures and increasing clinical specialisation, were seen to threaten the sustainability of any acute maternity services in small district general hospitals due to lack of obstetric, general surgical, paediatric or anaesthetic cover.
- Numbers of cases required for gaining and maintaining competence may be arbitrarily set and based on expert panel opinion and may be at odds with the literature on variation in learning and skills decay in individuals. Our results showed either a reluctance to state a number, or

wide uncertainty and variation in staff opinion about the numbers of cases needed to maintain different competencies.

- Current post-registration assessment of competence is mainly subjective self-assessment of skills with increasing use of professional portfolios and supervision or peer review. The reliability of self-assessment may be poor as objective appraisal of true levels of skill.

Views of rural maternity care staff about teaching and CPD

- The views of rural maternity care staff about existing training indicated that there were many courses available and their perceived quality was good.
- There were problems about distance to training venues and ensuring cover in small rural staff establishments, and about attempts at updating through placements in large units that did not meet respondents' needs in terms of access to numbers of cases required.
- Respondents highlighted the need for specific training from the rural perspective.
- Although half of our respondents had access to teleconferencing facilities, they were rarely used in many cases.
- Proxy methods of training using mannequins, teleconference and IT and fire drills were seen as helpful, but hands-on experience was most desirable and highly valued by staff.
- Multidisciplinary training was widely acceptable to our respondents with some concern about how the level of the course would be pitched to meet all the professionals' needs.

Approaches and innovations in teaching and CPD

- Staff reported a range of new ideas and practices in place as part of their local solutions to maintaining competencies and ensuring they were up to date. Initiatives appeared to be often unsupported by training funds for implementation and evaluation.
- There is little evidence of 'what works' in innovative maternity care training for remote and rural staff.
- Broader sourcing of evidence around evolving and overlapping professional roles, how much practice is required to maintain competencies, and reliability in assessment will further inform development of training for this sector at a time of rapid change.
- The potential of teleconferencing for training and seeking expert consultation has been perceived but not yet realised. From the literature there was a marked lack of empirical evidence about its effectiveness and cost-effectiveness.

Recommendations

- The planned national multi-disciplinary post-graduate training programme for maternity services in Scotland to support EGAMs recommendations should be evaluated.

- The investment in telehealth technology should be underpinned by technical support, ensured reliability and quality, and training for users; evaluation of appropriateness of course content for this medium and empirical evidence of its effectiveness should be sought.

- Pre-registration rural placements could help to recruit staff from all professions towards supporting the sustainability of services.

- Post-registration staff should complete rural placement modules towards support of recruitment and retention in rural staffing. This might also create stronger links in the extended maternity care team and improve communication and consensus between urban and rural health care professionals in risk assessment.

- Efforts should be made to identify methods for reliable, objective assessment of competence in maternity care skills. Methods of self-assessment could then be accompanied by more rigorous objective appraisal by assessors, with potential areas of concern highlighted as lessons are learned from audit, risk-management and critical incident analysis.

- There should be closer identification and development of what constitutes the local maternity care team, and crucially, ways to strengthen relationships and improve communication between rural staff and their colleagues in referral units should be sought.

- In a hierarchical maternity care system, one key measure of quality of care is the appropriateness of care according to the risk status of women and decisions to transfer. Ways to support reliable risk-assessment and decision-making should be tested to help ensure appropriate care. This will be necessary for sustainability of community-based intrapartum care for low risk women in rural areas.

- The devolution of routine intrapartum care for low risk women in midwife-led stand-alone units serving remote and rural populations should be further evaluated.

References

Scottish Executive Health Department (SEHD) (2001) *A Framework for maternity services in Scotland.* Scottish Executive Health Department. Edinburgh: Tactica Solutions.

Scottish Executive Health Department (SEHD) (2002) *Implementing A Framework for Maternity Services in Scotland* – Report of the Expert Group on Acute Maternity Services (EGAMS). Edinburgh: Scottish Executive Health Department.
[http://www.scotland.gov.uk/library5/health/egas.pdf]