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## Annotation

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### Neonatal Transport: time to change?

Neonatal transport services in the United Kingdom have developed over the past 25 years largely in response to local needs, and because of the efforts of individual enthusiasts. The result has been a disparate service often, but not exclusively, provided by larger neonatal units, and usually, without specific funding. Many other countries have taken a different approach, relying on dedicated transport services to carry out all transfers. However, the geography of the United Kingdom, with relatively short distances between hospitals, meant that it was feasible, on the whole, for individual units to offer this service without too much disruption to their daily work.<sup>2</sup> In only a minority of areas (such as the Northern Region of England and the West coast of Scotland) has a more structured service emerged with a small number of hospitals taking on responsibility for all neonatal transfers.

Studies which have examined these different approaches have proved hard to interpret.<sup>2-5</sup> Providing matched control groups or carrying out randomised controlled trials in this type of intervention is, of course, extremely difficult and ultimately outcome also depends, to a large extent, on the centre receiving the baby.<sup>6,7</sup>

The limited market for neonatal transport equipment has resulted in a restricted choice of specialist items and a long lead time for manufacturer modifications. Many tertiary units have spent time and ingenuity developing their own engineering solutions, and as a consequence, the systems used can best be described as "non-standard." To compound these problems, in many areas there has been little or no dialogue with the relevant ambulance authority, and compatibility between the vehicle and the equipment used to support the baby has largely been a matter of chance.

A number of events and organisational developments in the United Kingdom have highlighted the shortcomings of these arrangements and have raised the issue of whether the present approach to intensive care retrieval should be changed. The first incident was a road traffic accident in the Northern Region involving an ambulance returning to Newcastle with a baby requiring intensive care.<sup>8</sup> In response to this, the Medical Devices Agency carried out a review of neonatal and paediatric intensive care transfers in the United Kingdom ("TINA"). The report highlighted various problems.<sup>9</sup> Some of the more important include:

- (a) The standard devices used to secure transport incubators in ambulances were totally inadequate to provide restraint in the event of an accident. Indeed, on closer consideration it was clear that even if the clamps were able to hold the trolley during impact the chassis of a standard ambulance was not.
- (b) It was unreasonable to expect that any transport system weighing more than 200 lbs could be safely carried in a standard ambulance (some systems exceeded 700 lbs).
- (c) The validity of indemnity arrangements for staff injured in any accident and using such equipment

seemed unclear, given that the situation was known to be unsafe.

- (d) Existing Health and Safety legislation regarding the lifting and handling of heavy equipment was regularly breached by neonatal transport systems.<sup>10</sup>
- (e) There were no adequate systems for securing the baby within the incubator during the journey.
- (f) Arrangements for staff training were patchy.
- (g) Use of air transport was associated with many additional hazards which appeared to have been fully addressed by only one transport service in the United Kingdom.

During the past few years there have, of course, been many changes with regard to the working of junior doctors; the high pressure specialty of neonatal intensive care has been subject to particularly close regulation. These changes have compounded difficulties regarding the staffing of neonatal flying squads. Only a few units have sufficient specialist medical and nursing cover to fill this role reliably and supervise the rest of the service.

In view of all the above it is not surprising that across the country units are struggling to provide a reliable and safe service. Already new approaches are emerging with increased cooperation between units, and ambulance authorities more closely involved in discussions. But will this be enough? It seems that now is the time to at least consider the use of more radical alternatives, in particular, dedicated transport services. However, it cannot be assumed that experience elsewhere—Australia, for example—can be applied directly to the United Kingdom with its smaller land mass and higher population density. For each area of the country, birth rate, geography, and existing referral patterns must all be considered in relation to any possible change in the system.

The potential advantages of a dedicated transport service are obvious: compatibility of incubators and ambulances; greater use of integral vehicle equipment and hence reduced trolley weight; increased safety for staff and babies; round the clock availability; better training.<sup>10,11</sup>

There are potential disadvantages. Many units are concerned that such a system would distort existing referral patterns. Problems of this type must be dealt with by ensuring that:

- (a) the transport service has responsibility to all units equally;
- (b) the transport service only moves babies rather than taking decisions about whom to move and where.

These latter decisions are properly the responsibility of the referring and receiving hospitals. It would be inevitable that some transport services would be slower (if a team had to come from a base many miles away) but it has always been the case that the early care of a baby must be the responsibility of those on the spot.<sup>12</sup> The existence of specialist transport teams would not diminish in any way the importance of good resuscitation and stabilisation at birth.

Cost must be a consideration and would become explicit rather than hidden within the neonatal service as a whole,

as is normally the case at present. There is no reason why a specialist transport service should, necessarily, be more expensive than existing arrangements, particularly if staff are seconded for fixed periods from hospitals that currently provide a retrieval service. There may be significant savings in terms of equipment. However, any serious appraisal of alternative arrangements must look at cost in some detail.

Recent media attention on paediatric intensive care has highlighted the fact that problems of access and availability are considerably worse than for neonatal intensive care. Despite the recent increase in provision, transport remains central to the smooth running of the service. Most units are small and have little flexibility in terms of staff to provide a 24 hour retrieval service. Problems of safety, training, and equipment compatibility are identical with those experienced by neonatal intensive care units. The availability of a specialist transport service could resolve these difficulties.

For several years now a group established by the European Union has been looking at the issue of standardisation in relation to the use of ambulance transport in general. Progress with this initiative has been slow and there are fundamental problems with intensive care transport in the United Kingdom which need to be addressed in the short term. A UK forum has been established with representation from the Royal College of Paediatrics and Child Health, the British Association of Perinatal Medicine, the Paediatric Intensive Care Society, the Medical Devices Agency, Ambulance Trusts and equipment manufacturers to start a dialogue between the relevant parties regarding operational matters such as equipment. However, issues of strategy remain.

Given the structure of the reformed NHS, with its lack of a strategic forum, it is the professional groups who must provide the impetus for any change. Local discussion involving intensivists (neonatal and paediatric), nurses, ambulance staff and purchasers must consider the existing service honestly against the alternatives in terms of

availability, safety (for patients and staff), quality and cost effectiveness. At a national level the relevant professional bodies have a responsibility to establish standards which will help guide these discussions and establish a framework for future practice.

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D FIELD

*Department of Neonatal Medicine,  
University of Leicester LE1 5WW*

D MILLIGAN

*Department of Neonatology,  
Royal Victoria Infirmary,  
Newcastle upon Tyne*

C SKEOCH

*Department of Paediatrics,  
The Hospital for Sick Children,  
Glasgow.*

T STEPHENSON

*Department of Child Health,  
University of Nottingham*