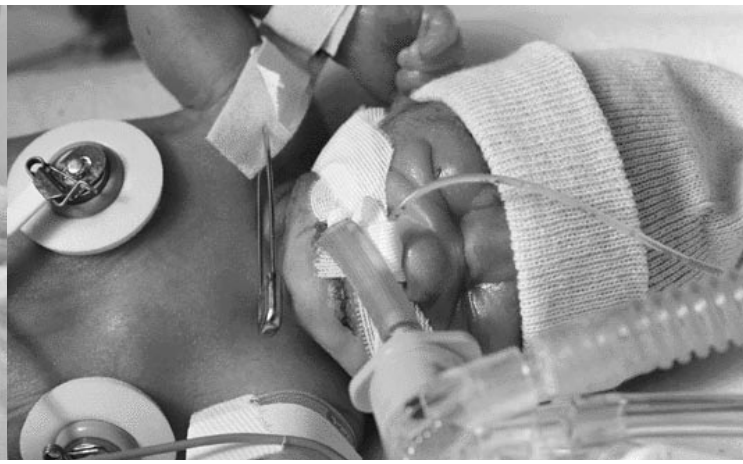
Hospital Services for the Acutely Ill Child in Northern Ireland

Report of a Working Group



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1. INTRODUCTION

1.1. Introduction

1.1.1 The specialty of paediatrics is relatively new, evolving out of general medicine. It is now recognised that children have very specific health care requirements which differ significantly from those of adults. Their special needs have been recognised for over 30 years and have been addressed to a variable degree thus producing inequalities in access to specialist care. In recent years a number of quality standards have been developed by professional bodies (medical and nursing) and by Government, for example, Welfare of Children and Young People in Hospital and the Children Order. A common underlying theme throughout these documents is that services for children should be provided in a suitable environment by appropriately trained staff.

1.1.2 A Working Group, chaired by the Chief Medical Officer was set up to review hospital services for the acutely ill child. It met on 5 occasions and had representatives from hospital paediatrics and neonatology, academic paediatrics, community paediatrics, general practice, public health medicine and nursing (Appendix A). The Working Group also held a seminar on Medical Services for the Acutely Ill Child. Health professionals, health services managers and representatives of Health and Social Services Councils attended.

1.1.3 The Remit of the Group was:

To review current provision of services for the acutely ill child.

To determine the principles on which services should develop, taking account of:

- available evidence and professional guidance;

- the need to deliver a level of care appropriate to the severity of the individual child's illness;

- the need to deploy staff in such a way as to ensure the maintenance and development of skills and expertise.

1.2 Background

1.2.1 Forty to fifty years ago infectious diseases resulted in a large number of children requiring admission to hospital. Over time the number of admissionss has fallen as a result of improvements in social and environmental conditions, and the development 'of vaccines' and antibiotics.

1.2.2 Progress in the understanding and management of disease has led to significant changes in the types of illnesses which now present at hospital. Developments in neonatal and paediatric intensive care have improved survival and prolonged life. New treatments and therapies have increased the quality of life for children suffering from chronic diseases such as cystic fibrosis. Consequences of these improvements include a doubling of life expectancy, children who are generally less sick, and a small but increasing number of children with chronic diseases who now survive into adult life.

1.2.3 Over the last 30 years, the number of births in Northern Ireland has been falling steadily. Population projections indicate that the number of births will continue to fall. Based on the 1996 population estimate the number of children under 15 years is forecast to fall by over 3% by the year 2001 and by almost 9% by 2006.

1.2.4 **Patterns of disease and reasons for admission to hospital are subject to continuous change. Organisation of services needs to change to accommodate this.**

1.3 The nature of acute illness in children

1.3.1 An acute illness can be defined as one which usually requires hospital admission and has a short and relatively severe course. When children first develop symptoms it is often difficult to distinguish between a mild, self-limiting condition and the early stages of a severe potentially life-threatening acute illness. This distinction often requires observation and investigation before the child can be given appropriate care in the most suitable setting.

1.3.2 The vast majority of childhood illnesses are dealt with by parents, in the home, either alone or following consultation with the General Practitioner. The need for admission is however not solely determined by illness severity. Other factors include family and social circumstances together with the availability of community services. Many children may need to be assessed by a paediatrician who will decide the appropriate course of action based on all these factors.

2. FORCES FOR CHANGE

2.1 Professional Guidance

2.1.1 Many factors have a bearing on the direction in which health services for children will develop. General trends in the size of the childhood population, changes in their health status and changes in the pattern of diseases have been mentioned. Numerous bodies, representative of health professions, parents and government have detailed the principles on which such services should be based. One basic tenet is that the health needs of children differ from those of adults. Children require facilities and trained staff appropriate to their particular needs. The grouping of children together, facilitates the provision of high quality care, with immediate access to specialist medical and nursing services. In addition to the clinical considerations attention must be paid to the educational, developmental and environmental needs of the child as part of a family. These principles should be at the forefront of any proposed children's service.

2.1.2 Central to these principles is the need for staff specifically trained in the care of children to ensure the quality of service provided. One key element in ensuring such quality is the utilisation of medical staff, notably the deployment of doctors in training. Traditionally these doctors have undertaken much of the routine work by day and the majority of care at night and at weekends. This model of care has come under increasing pressure in recent years because of two factors:

i. The implementation of the reforms in specialist medical training as recommended in the report Hospital Doctors: Training for the Future (The Calman Report).

ii. Limitations on junior doctors' hours of work.

Both these changes are aimed at enhancing the quality of medical services. They will require that junior medical staff are concentrated onto sites in sufficient number that working conditions are satisfactory and experience and training are maximised. A further factor in the deployment of medical staff at all grades is that there should be sufficient clinical activity for staff to allow maintenance and development of their skills and expertise.

2.1.3 Professional guidance to basic specialist training in paediatrics quantifies the minimum volume of activity considered adequate to ensure satisfactory training at SHO level. Only a limited number of sites can satisfy the requirements for training.

2.2 Policy

2.2.1 *The Regional Strategy for Health and Social Well-Being 1997-2002* sets out a framework for the future direction of acute services. It states that:

"....inpatient acute care will, in the future, be built around the core framework of

the major teaching hospitals - The Royal Group of Hospitals Trust and The Belfast City Hospital Trust - and the other major acute hospitals in each Board area - Altnagelvin, Antrim, Craigavon and Dundonald. While investment, where appropriate, will be made in other hospitals, it is expected that those 6 hospitals will provide the main focus for future investment in inpatient facilities."

2.2.2 A further specific target contained within The Regional Strategy relates to acute hospital bed usage by children. This states:

> "By 2002 there should be a reduction of at least 25% in the total number of acute hospital bed days occupied per annum by children aged 0-15 years."

There are two underlying elements to this target. Firstly, the development of services for children in the community should prevent the admission to hospital of many acutely ill children. Secondly, many children admitted to acute facilities currently are not acutely ill. Their specific needs may be respite or terminal care, protection or rehabilitation. The development of services appropriate to these needs will further diminish utilisation of acute services.

2.2.3 Technological developments and scientific advances result in increasing specialisation. Expectation of the public and health professionals continues to increase as does the cost of providing such care. Northern Ireland's small geographical size and its scattered population make some of these problems more difficult to overcome. The development of telemedicine may aid resolution of this issue but, at present, its impact is difficult to assess fully.

2.2.4 Paediatric cover for consultant-led obstetric units should reflect the policy objectives outlined in Circular HSS(SC) 1/96 - "The Commissioning and Provision of Maternity Services: Policy Guidelines". The policy objectives are:

> "Consultant-led obstetric units should provide cover on a 24-hour on-call basis by Consultant Obstetricians, Consultant Anaesthetists and Consultant Paediatricians. Resident obstetric, anaesthetic and paediatric cover should be available at all times".

The number of sites where this objective can be fulfilled is limited due to the requirements for specialist medical training and junior doctors' hours of work.

3. CURRENT PROVISION OF PAEDIATRIC SERVICES AND ACTIVITY

3.1 Inpatient paediatric services

3.1.1 Inpatient medical paediatric services are currently provided on eight sites. These are situated at:

- Altnagelvin Area Hospital;
- Antrim Area Hospital;
- Coleraine Hospital;
- Craigavon Area Hospital;
- Daisy Hill Hospital;
- Erne Hospital;
- The Royal Belfast Hospital for Sick Children (RBHSC) and
- The Ulster Hospital, Dundonald.

At all these sites there are teams led by a consultant paediatrician providing 24 hour cover. In addition to providing secondary level in-patient care for its natural catchment area, the RBHSC also provides tertiary level care for all of Northern Ireland.

3.1.2 A ninth site at Tyrone County Hospital has inpatient paediatric beds but has no junior paediatric medical staff though a consultant paediatrician from the Erne Hospital visits the paediatric unit Monday to Friday of each week. A number of children are admitted to other hospitals which do not have on site medical paediatric supervision. They are treated by general physicians. These arrangements for care are contrary to the guidance issued by professional bodies including the Royal College of Paediatrics and Child Health. It is inappropriate for junior medical staff who are not involved in the day-to-day management of acutely ill children to be placed in a position where they have responsibility for their care.

3.2. A&E Services

3.2.1 It is estimated that between quarter and a third of all new attendances at A&E departments are children. The A&E department at the RBHSC is devoted exclusively to children. Trends at this Department over recent years have shown on average an increase of 3% per annum since 1991/92, peaking at almost 28,000 new attendances in 1995/96.

3.2.2 These findings are significant in the context of A&E provision in Northern Ireland. Of the 16 acute hospitals with A&E departments only 8 (taking the Royal Group of Hospitals as one site) have an in-patient paediatric unit on site, from which they can seek advice. The remainder are staffed and supervised in a variety of ways, with only three having an A&E consultant in charge. Whilst some of

these units may have nurses with paediatric experience, many of the medical staff have not had post-graduate paediatric training.

3.2.3 **Children, with anything other than minor injuries, should not be taken to A & E Departments which do not have appropriate paediatric back-up, that is, an on-site paediatric unit.** If in extreme emergencies an acutely ill child is admitted, senior medical and surgical staff should do all possible to stabilise the child and contact the nearest available paediatric opinion. Each unit should have a sufficient number of staff trained in Advanced Paediatric Life Support (APLS) to ensure that an emergency situation can be dealt with appropriately.

3.3 Ambulatory Paediatrics

3.3.1 The term Ambulatory Paediatrics can apply to a wide range of practice. It encompasses assessment of acutely ill children and traditional out-patient paediatric practice including the care of children with a range of chronic disabilities. Such care may be carried out in a variety of locations. The aim of such a service is to provide rapid specialist care without hospital admission whenever possible and, when admission is needed, aim to reduce its duration to a minimum. Where an acute assessment ambulatory service is in place, the children seen have usually been referred by a GP or after attendance at an A&E department. This paediatric service does not provide primary care for children, however it may have a particular role in supporting primary care in areas some distance from an in-patient unit.

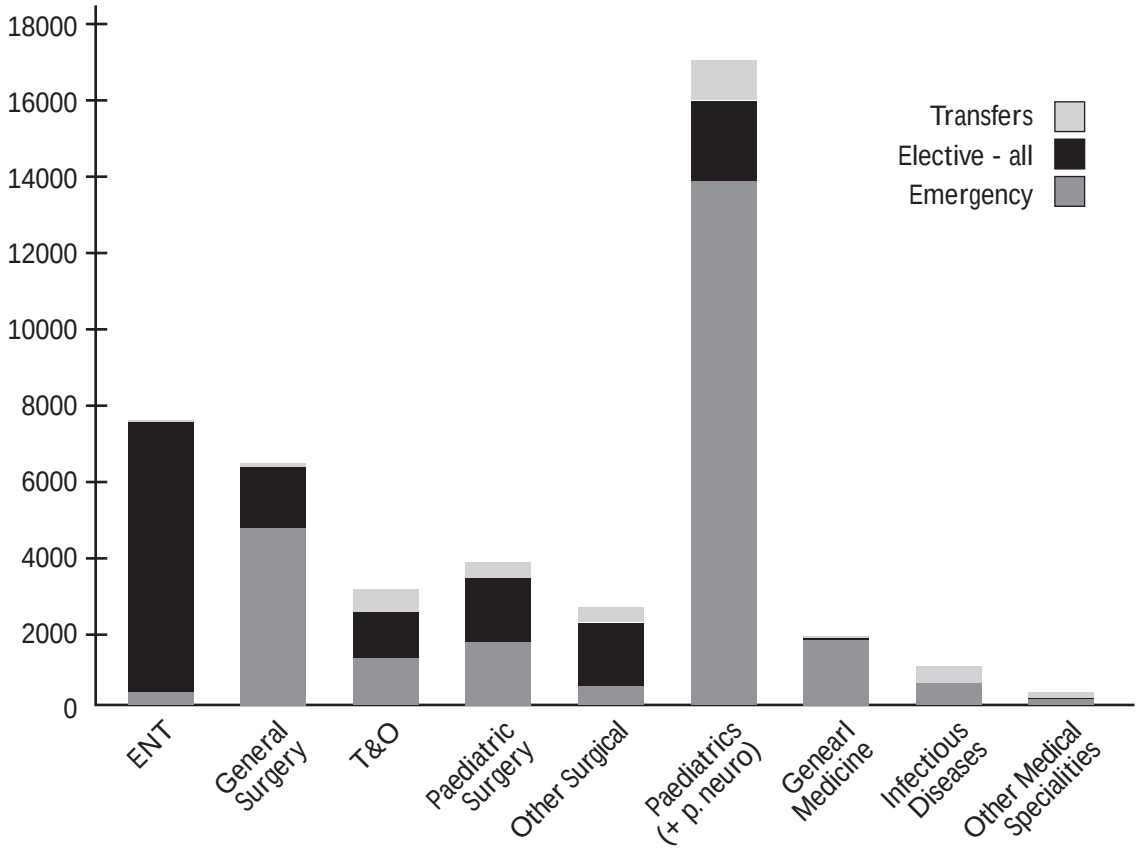
3.3.2 A number of ambulatory units have been established nationally. Northern Ireland's first unit opened at the Mid-Ulster Hospital in April 1996. It has been well received by general practitioners in the area. There has also been a reduction in the number of inpatient admissions of children from its catchment area.The location of ambulatory units, their staffing profile and the hours during which they are operational vary depending on what is the perceived local requirement. These units should have facilities for resuscitation and stabilisation of critically ill children and be able to initiate high dependency care and continue this whilst awaiting transfer to an intensive care unit.

3.3.3 As this type of care is evolving there is a particular need for continuing assessment of the benefit of ambulatory care. Currently standard data collection systems do not have the facility to record information relating to this type of care. Such information is necessary to examine the utilisation of this form of care and evaluate its effectiveness.

3.4 Demands on acute services by children

3.4.1 In each of the three years to March 1997 there were approximately 50,000 in-patient finished consultant episodes (FCEs) of care accorded to children under 15 years of age across all clinical specialties. Figure 1 illustrates the range of specialties to which children are admitted and their mode of admission.

Figure 1 - FCEs by specialty and mode of admission - 1996/97



3.4.2 Almost half of all children admitted to hospital have conditions which are most appropriately treated by specialists in paediatric medicine. The vast majority are emergency admissions (80%) who come mainly via one of two routes - A&E Departments (34%) or direct GP referral (60%).

Table 1
Number and percentage of emergency admissions to hospitals without on-site paediatrics 1996/97.

Age	<1	1 - 4	5 - 9	10 - 14
Hospitals with onsite paediatrics	5,545 (91%)	5,381 (88%)	1,767 (90%)	1,479 (80%)
Hospitals without onsite paediatrics	563 (9%)	704 (12%)	207 (10%)	367 (20%)
Total	**6,108**	**6,085**	**1,974**	**l,846**

3.4.3 Currently, a number of children are admitted to hospitals which do not have continuous on-site medical paediatric supervision. In 1996/97 one in every nine (11%) of emergency admissions in children were to units without 24 hour on-site paediatric cover though the proportion varies depending on the age of the child (Table 1).

3.4.4 The severity of childhood illnesses are difficult to gauge from diagnostic data alone. One means of inferring the severity is to relate the length of stay and place of discharge. In children over one year of age 51% were discharged home within one day of admission and 92% by 4 days. There is a different pattern in the under-ones where 40% remain longer than 5 days and 8% more than 10 days.

4. FUTURE CONFIGURATION OF ACUTE PAEDIATRIC SERVICES

4.1 Service Requirements

4.1.1 The provision of comprehensive health services for children requires good co-operation and joint working across a range of disciplines and settings: for example, between acute hospitals, the community and primary care and child health with social services, education and the voluntary sector. There is a need for flexibility across professional and organisational boundaries.

4.1.2 Paediatric care needs to be provided at a number of different levels ranging from regional inpatient care (including intensive care) through to a community nursing service. Services for the acutely ill child can be provided in a variety of settings depending on the severity of the illness. These include:

i. A regional paediatric unit providing a range of specialist services for tertiary referral.

ii. In-patient units providing general paediatric care.

iii. Ambulatory day unit.

iv. An observation ward or paediatric assessment unit.

v. Paediatric A & E department.

4.1.3 All paediatric units, regardless of size, should be able to establish temporary high dependency or intensive care when needed. However, if the unit has no resident experienced paediatric cover then they should not retain children requiring such levels of care any longer than is necessary to stabilise them for transfer to a larger unit which can provide such care. **Any hospital which may receive an acutely ill child should ensure that their medical and nursing staff have paediatric training or be trained in advanced paediatric life support (APLS).**

4.14 **Those responsible for the organisation and management of hospitals with A & E Departments but without on-site paediatric services, should ensure that parents, GPs, teachers, etc are aware of the scope of services which their unit can provide and the location of the nearest A & E Department which has on-site paediatric cover.**

4.1.5 A small number of acutely ill children will require tertiary level specialist care including paediatric intensive care. **The Royal Belfast Hospital for Sick Children (RBHSC) will provide a tertiary level service. It should continue to develop a comprehensive range of specialist paediatric tertiary referral services.**

4.1.6 **A regional paediatric intensive care retrieval service should be established** (Appendix B). **It should provide a service to all hospitals in Northern Ireland,** where a critically ill child requires transfer to the regional PIC unit. Interhospital transfer of children and neonates not requiring intensive care should be the responsibility of the 'sending' hospital ie the hospital where the patient is located.

4.1.7 Babies born in Consultant-led obstetric unit should have access to a wide range of supporting services, and in particular, a 24-hour presence of medical and nursing staff with neonatal expertise. This ideal does not represent the current position in Northern Ireland. All births, where perinatal problems are considered more likely, should take place at hospitals with the appropriate facilities. In recognition that such problems may arise unexpectedly, **a dedicated regional neonatal retrieval service should be established** (Appendix B).

4.2 Organisation of paediatric services.

4.2.1 The number of sites capable of delivering 24 hour inpatient care of the requisite quality is constrained by the availability of suitably experienced medical staff throughout the 24 hour period together with the need to have an adequate caseload to develop and maintain skills.

4.2.2 The pressures towards increasing specialisation and centralisation have to be balanced against access for geographically isolated populations. However, **no unit should attempt to provide continuing high dependency or intensive care for acutely ill neonates or children in the absence of experienced resident cover.**

4.2.3 In accordance with the Regional Strategy for acute hospital services **the main focus for acute paediatric hospital care will be at the RBHSC, Ulster, Antrim, Altnagelvin and Craigavon Hospitals. These five centres will form a solid framework around which paediatric services will be built.** In addition the RBHSC will provide a regional paediatric intensive care service.

4.2.4 **Smaller Paediatric units outside of the 5 main centres will be needed for the foreseeable future to allow access for geographically isolated populations.** However, for the reasons outlined earlier in the report these units will only be able to provide a limited level of care. **They will not be able to offer comprehensive training packages for junior doctors and in addition consultants and specialist nurses will have difficulty in retaining a full range of skills and expertise. In order to ensure that these difficulties are overcome it is recommended that no small unit will exist as a discrete entity, but rather will be twinned with one of the 5 main units.** The most effective arrangement would be the aggregation of specialist paediatric consultants and nurses into one team which delivered care to a specified population, rather than to a single hospital.

4.2.5 **Children should be admitted to the nearest hospital which can provide the most appropriate level of care. Organisational boundaries should not dictate the place of treatment.** The primary determinants of the hospital of admission should be natural patient flows, travel times, the nature and severity of the illness.

4.2.6 **Any new organisational structures which may be put in place should take account of the need for a comprehensive service and the importance of integration between hospitals and community. Management arrangements should reflect such integration of services.** Within a geographical area a lead provider or responsible body could be identified to provide specialist services for the acutely ill child. They would be responsible for the whole spectrum of specialist paediatric care, employment of staff and maintenance of their skills. Such a provider would also have responsibility for training and education, audit of the service etc.

4.3 Training and staffing

4.3.1 Small paediatric units cannot offer comprehensive training packages for junior doctors. However, **these doctors could spend part of their time gaining valuable training experience in a small unit as part of a training rotation with a main unit.** This could allow comprehensive training programmes for all grades of junior staff. Any such rotation should be organised in close association with consultants of both units. **The Training Committee of the Postgraduate Council is best placed to consider how this mechanism can best be implemented.**

4.3.2 Consultants working in smaller units should have the opportunity of maintaining their skills and expertise. This can be facilitated in a number of ways, these include consultants working in neighbouring hospitals grouping together to provide services to all children in the area who have an illness which lies within their special interest. These consultants may also have a sessional appointment in the larger unit. Strong partnerships can be developed between large and small units. Some regional sub-specialists provide outreach clinics. These clinics will provide an educational opportunity for consultants at the local hospital. Arrangements should be in place so that consultants in smaller hospitals could attend a specialist clinic at the regional centre or elsewhere.

4.3.3 It is now universally accepted that the nursing needs of children can best be met by specialist children's nurses. Within Northern Ireland there has been an increasing demand for specialist children's nurses as Providers attempt to improve and consolidate hospital services and further develop children's community services. The Chief Nursing Officer is currently undertaking a review of the nursing services for the acutely ill child - it will include workforce planning, training and development.

4.4 Audit, CME and Non-Service Activities.

4.4.1 There is a need to adapt to a constantly evolving environment in health care. **Two activities that are crucial to the ongoing development of clinical practice are medical/clinical audit and continuing medical education**. The former to evaluate current practice, the latter to consolidate best practice or develop new skills. Both have staffing and resource implications as their pursuit should not adversely affect service provision.

4.4.2 To date, much of the regional specialist expertise has been provided by consultants who hold a joint health service/university post. With increasing demands from both these interesets it has become more difficult to fulfil each of these roles to a deserved standard. Regional sub-specialist expertise should not reside in a single academic clinician. It would be more appropriate if clinical academics acted in support of a consultant based regional service. The relationship between tertiary services, the academic department of Child Health and secondary services would benefit from clarification and strengthening.

5. RECOMMENDATIONS

1. Patterns of disease and reasons for admission to hospital are subject to continuous change. Organisation of services need to change to accommodate this.

2. Children, with anything other than minor injuries should not be taken to A & E Departments which do not have appropriate paediatric backup, that is, an onsite paediatric unit.

3. Any hospital which may receive an acutely ill child should ensure that their medical and nursing staff have paediatric training or be trained in advanced paediatric life support (APLS).

4. Those responsible for the organisation and management of hospitals with A & E Departments, but without onsite paediatric services, should ensure that parents, GPs, teachers, etc are aware of the scope of services which their unit can provide and the location of the nearest A & E Department which has onsite paediatric cover.

5. The Royal Belfast Hospital for Sick Children (RBHSC) will provide a tertiary level service. It should continue to develop a comprehensive range of specialist paediatric tertiary referral services.

6. A Regional Paediatric Intensive Care Retrieval Service should be established. It should provide a service to all hospitals in Northern Ireland.

7. A dedicated Regional Neonatal Retrieval Service should be established.

8. No unit should attempt to provide continuing high dependency or intensive care for acutely ill neonates or children in the absence of experienced resident cover.

9. The main focus for acute paediatric hospital care will be at the RBHSC, Ulster, Antrim, Altnagelvin and Craigavon Hospitals. These five main centres will form a solid framework around which a paediatric service will be built.

10. Smaller paediatric units outside of the five main centres will be needed for the foreseeable future to allow access for geographically isolated populations.

    They will not be able to offer comphrensive training packages for junior doctors and in addition consultants and specialist nurses will have difficulty in retaining a full range of skills and expertise. In order to ensure that these difficulties are overcome it is recommended that no small unit will exist as a discrete entity, but rather will be twinned with one of the five main units.

11. Children should be admitted to the nearest hospital which can provide the most appropriate level of care. Organisational boundaries should not dictate the place of treatment.

12. Any new organistional structures which may be put in place should take account of the need for a comprehensive service and the importance of integration beween hospitals and the community. Management arrangements should reflect such integration of services.

13. Junior doctors could spend part of their time gaining valuable training experience in a small unit as part of a training rotation with a main unit. The Training Committee of the Postgraduate Council is best placed to consider how this mechanism can best be implemented.

14. Two activities that are crucial to the ongoing development of clinical practice are medical/clinical audit and continuing medical education.

6. BIBLIOGRAPHY

Audit Commission	Child First - a study of hospital services (1993)
British Association of Paediatric Surgeons	A guide for purchasers and providers of paediatric surgical services (March 1995)
British Paediatric Association	Towards a combined child health service (March 1991)
British Paediatric Association	Tertiary services for children and young people; a review of the present position and future needs (September 1995)
British Paediatric Association	The care of critically ill children (December 1993)
British Paediatric Association	Future configuration of paediatric services (May 1996)
British Paediatric Association	Purchasing Health Services for Children and Young People Volume 1 (Consultation document - October 1994)
British Paediatric Association	The transfer of infants and children for surgery (February 1993)
Department of Health and Social Services	Charter Standards for services for children and young people (1996)
HMSO (Department of Health)	Welfare of children and young people in hospital (1991)
NHS Executive	Child Health in the Community: A Guide to Good Practice (September 1996)
British Association of Perinatal Medicine	Standards for hospital providing neonatal intensive care (January 1996)
NHS Management Executive/BMA	Report of the Joint Working Party on Medical Services for Children (November 1992)
Royal College of Paediatrics and Child Health	Ambulatory Paediatric Services in the UK (March 1998)
Royal College of Paediatrics Child Health	Children's Surgical Services (December 1996)

JCC	The Pattern of Medical Services for Children: Medical Staffing and Training (1997)
CSAG	Neonatal Intensive Care - and availability of specialist services - second report (1995)
NHSE	A bridge to the future: nursing standards, education and workforce planning in paediatric intensive care. Report of the Chief Nursing Officer's taskforce (July 1997)
NHSE	Paediatric intensive care "A Framework for the Future" (July 1997)

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REGIONAL WORKING GROUP ON HOSPITAL SERVICES FOR THE ACUTELY ILL CHILD

Report of the Sub-Group on Paediatric Intensive Care and Neonatal and Paediatric Inter-hospital Transport

SUMMARY

PAEDIATRIC INTENSIVE CARE

NATIONAL GUIDANCE

Paediatric Intensive Care has been the subject of a number of major national reports commissioned by the Department of Health. 1.2. These reports have focused on the configuration of services, standards and training.

CURRENT SERVICE

In Northern Ireland Paediatric Intensive Care (PIC) is provided in one unit - the Regional Paediatric Intensive Care Unit - located in the Royal Belfast Hospital for Sick Children (RBHSC). The unit has physical capacity for six beds and six Intensive Care beds are currently funded. There are no dedicated High Dependency Care beds in the current PIC Unit.

A new PIC unit is due to open in mid 1998, as part of the current capital development in RBHSC. This new unit will have the physical capacity for a total of 12 PIC/HDC beds.

KEY ISSUES

1. TRAINING

Nursing

While all of the nurses in the Regional PIC unit are children's trained, only a minority are trained in Paediatric Intensive Care. Members identified a lack of appropriate training course locally.

Medicine

In recent years, specialist training in Paediatric Intensive Care has required a period of training in a centre in Great Britain or North America. All of the current consultant staff are Consultant Anaesthetists.

Significant changes to the UK medical training requirements for Paediatric Intensive Care are currently being planned by the Royal Colleges. It is expected that in future doctors in higher specialist training in Paediatrics, Anaesthesia or Surgery will be able to undertake specialist training in Paediatric Intensive Care.

2. UNMET NEED

There is evidence of unmet need for paediatric intensive care, with requests for admission being refused because all the beds are full; infants and children being cared for in inappropriate locations eg neonatal intensive care, adult intensive care; major elective surgery postponed because no PIC bed is available.

3. HIGH DEPENDENCY CARE

There are currently no dedicated high dependency beds within the regional PIC Unit. High dependency care within the RBHSC is provided within the PIC Unit and the general wards. It is estimated that 15% of beds in paediatric medical wards are occupied by children requiring high dependency care.

4. SURGERY ON CHILDREN

Surgical care of children who are likely to require access to PIC should be provided within RBHSC. This should include:

- Neurosurgery
- Surgery on upper airways
- Complex orthopaedic surgery
- Burns and emergency plastic surgery
- Cardiac surgery

5. AGE RANGE

There is variation within Northern Ireland regarding admission policies for teenagers/adolescents which creates problems, particularly in relation to transfer between units. Acute illness among teenagers/adolescents presents different service needs than do chronic health problems in this age group or acute illness in other age groups.

CONCLUSIONS AND RECOMMENDATIONS

1. The Sub-Group endorses the reports from the National Co-ordinating Group and the Chief Nursing Officers Task Force on Paediatric Intensive Care.[1,2] In particular the Sub-Group wishes to highlight the following:

    i. In Northern Ireland Paediatric Intensive Care should continue to be provided in a single location within the centre for regional paediatric services.

    ii. There is a need to expand Paediatric Intensive Care capacity in Northern Ireland*.

iii. 'Step down facilities'/high dependency care should be provided within the Paediatric Intensive Care Unit*.

iv. There is a need for appropriate Paediatric Intensive Care nurse training courses locally.

v. There is a need to strengthen workforce planning for Paediatric Intensive Care in Northern Ireland, with improved co-ordination of workforce planning and education/training programmes.

vi. A specialist retrieval service for transporting critically ill children should be established.

2. The arrangements for Cardiac Surgery and Post-Operative Intensive Care for children in Northern Ireland should be reviewed.

3. Surgical care of children likely to require access to Paediatric Intensive Care should be provided in RBHSC.

4. There is a need to review policy in relation to the age range of children's services. There should be a uniform but flexible approach throughout Northern Ireland.

5. There is a need to develop acute services to better meet the needs of adolescents.

6. Formal follow-up of PIC patients and clinical audit are essential elements of quality services.

7. Children requiring high dependency care should be cared for in a designated high dependency area within consultant-led paediatric inpatient units by appropriately trained staff.

8. Support for parents/carers/family of neonates and children receiving intensive care is important. This should include arrangements to facilitate transport. Consideration should be given to the provision of a flexible taxi service.

* During the preparation of this document additional funding has been agreed to increase the PIC and HDC beds in the regional PICU (to 7 and 4 respectively).

NEONATAL AND PAEDIATRIC INTERHOSPITAL TRANSPORT

BACKGROUND

Neonates (ie first four weeks of life) and older children are transferred by ambulance between hospitals for a number of reasons. In the case of acutely ill neonates and children this is usually to specialist services, which are not available at the original (sending) hospital. In some cases, neonates and children are transferred to another hospital when their clinical condition has improved, generally so that they can be closer to home.

The transfer of acutely ill neonates and children in ambulances is a hazardous process. There is increasing evidence that adverse events occurring during transfer can be significantly reduced by the use of skilled, specialist retrieval teams.[3-5] The provision of such services is recommended by the National Co-ordinating Group on Paediatric Intensive Care and the British Association of Perinatal Medicine. [1,6]

CURRENT SERVICES

Every hospital in Northern Ireland providing maternity or general hospital services will transfer an acutely ill neonate or child, at some time. In most cases the neonate or child is accompanied by a trained paramedic. A trained nurse or midwife and/or a doctor accompanies the neonate or child, if indicated by the neonate's or child's clinical condition, and if staff are available. These staff are part of the ward complement. There is therefore a reduced staff complement in the unit until the transport team returns. Similar arrangements operate in most parts of the United Kingdom.

A recent audit of transfers to the regional PIC Unit in RBHSC has identified important shortcomings in service provision.

KEY ISSUES

1. AVOIDABILITY OF INTERHOSPITAL TRANSFERS

Members considered that changes in a number of aspects of current services could reduce the need for interhospital transfers or neonates and children.

These include:

i. clinical practice eg antenatal booking practice for high risk pregnancies.
ii service arrangements eg policies governing the ambulance service in relation to transporting children (in emergency situations) to the nearest Accident and Emergency Unit with paediatric services on site, rather than the nearest Accident and Emergency Unit.
iii. the development of a 24-hour community paediatric nursing service in Northern Ireland could enable some children to be discharged home rather than transferred to a local hospital.

iv. aggregation of services for neonates and children currently provided in the Royal Group of Hospitals into one hospital would reduce ambulance transfers of acutely ill neonates and children on this site.

2. EQUIPMENT

Problems relating to a lack of compatibility of equipment such as incubators and ambulances and a range of health and safety issues for patients and staff has been reported at a local and national level.[7]

CONCLUSIONS AND RECOMMENDATIONS

1. A regional paediatric intensive care retrieval service should be established. The service should be available 24 hours a day. The clinical input should be provided by a team consisting of consultants in Paediatric Intensive Care and a paediatric nurse trained in paediatric intensive care, with appropriate paramedic and technical support. The service should be based in the regional PIC unit and should provide a service to all hospitals in Northern Ireland, where a critical child requires intensive care support during transport.

2. A regional neonatal intensive care retrieval service should be established. This service should be co-ordinated and directed by a consultant neonatologist. The service should be available 24 hours a day. Transport should be performed by paediatricians and/or neonatal nurse specialists trained in neonatal transport with appropriate neonatal nurse, paramedic and technical support. The service should be based in the regional neonatal intensive care unit.

3. Clear policies and procedures should be agreed for the regional retrieval services including arrangements for a central contact point and designated responsibilities.

4. A regional co-ordinating group for neonatal and paediatric interhospital transport should be established. The group should include ambulance, medical, nursing and technical staff.

5. Interhospital transfer of neonates and children not requiring intensive care should be the responsibility of the 'sending' hospital ie the hospital where the patient is located. Each hospital should have written policies and procedures for the transfer of neonates and children to another hospital.

6. Consideration should be given to incubators and other equipment being held at a smaller number of locations, rather than in each unit as is currently the case.

7. Clinical audit is an essential element of quality retrieval services.

REFERENCES

1. Department of Health. Paediatric Intensive Care "A framework for the Future". Report from the National Co-ordinating Group on Paediatric Intensive Care to the Chief Executive of NHS Executive, 1997.

2. Department of Health. A Bridge to the Future. Nursing Standards, Education and Workforce Planing in Paediatric Intensive Care. Report of The Chief Nursing Officer's Task Force, 1997.

3. Macnab AJ. Optimal escort for interhospital transport of paediatric emergencies. J Trauma 1991; 31: 205-9.

4. Edge WE, Kanter RK, Weigle CGM, Walsh RF. Reduction in morbidity in inter-hospital transport by specialised Paediatric staff. Crit Care Med. 1994; 22: 1186-91.

5. Britto J, Nadel S. Maconochie I, Levin M, Habibi P. Morbidity and severity of illness during interhospital transfer: Impact of specialist paediatric retrieval team. Br Med J 1995; 311: 836-9.

6. British Association of Perinatal Medicine. Standards of hospitals providing neonatal intensive care. 1996.

7. Field D, Milligan D, Skeoch C, Stephenson T. Neonatal Transport: Time to Change?; Arch Dis Child 1997; 76: F1-2.