



**PAEDIATRICS**

# **A NATIONAL MODEL OF CARE FOR PAEDIATRIC HEALTHCARE SERVICES IN IRELAND**

## **CHAPTER 24: PAEDIATRIC EMERGENCY MEDICINE**



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**ROYAL  
COLLEGE OF  
PHYSICIANS  
OF IRELAND**

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## 24.0 INTRODUCTION

For many children and their families, the emergency service is the primary contact with the health care system, with the emergency department acting as the 'front door' to the hospital. Emergency departments are responsible for the reception, triage, initial assessment, stabilisation and management of children from birth up to 16 years of age. Presentations to the emergency service are varied, with children attending daily with medical, surgical and psychiatric illnesses as well as accidental and non-accidental injuries.

The role and level of function of a hospital-based emergency service depends on various factors, namely the type of facility in which the service is located, the geographical location and how the service integrates with the local and national health care network. Other important factors include the availability of staffing expertise and support services.



### Paediatric Emergency Medicine

Paediatric Emergency Medicine (PEM) is a relatively new and evolving specialty. PEM specialist training is recognised and facilitated by both the General Paediatric and the Emergency Medicine training programmes. The core principles of PEM are:

- To provide the highest standards of clinical care to children and young people aged 0 to 16 years ;
- To collaborate and communicate with Primary Care, Community Health, Public Health, Health and Social Care professionals (HSCPs), Paediatric Critical Care and other paediatric specialist services to ensure optimum care for children;
- To support the professional development of nurses, advanced nurse practitioners, medical staff and HSCPs within the specialty;
- To provide training for nurses, student nurses, doctors, medical students and pre-hospital personnel within the health service.

## Paediatric Emergency Medicine Core Principles



### Paediatric Emergency Medicine in Ireland

Paediatric emergency care in Ireland is delivered in facilities ranging from departments staffed with consultants in PEM and PEM-trained nurses 24/7 to care delivered in areas in smaller hospitals staffed by local paediatricians and general nursing staff. There is wide geographical variation in the acute and urgent service provided to children and young people and in this document the following definitions are used:

- The term Paediatric Emergency Department in this document is used to describe departments governed by consultants in PEM and PEM-trained nurses, and staffed by paediatric and emergency medicine trainees who provide services 24/7.
- The term Paediatric Medical Emergency Area is used to describe rooms or areas in local or regional hospitals governed by general paediatricians and staffed by paediatric trainees
- The term Emergency Department is used to describe a facility where adults and children attend 24 hours a day governed by Emergency Medicine specialists and trainees.

*1 This is a pragmatic definition to enable care to be standardised across all emergency departments and acute hospitals, and has been agreed by the National Clinical Programme for Paediatrics and Neonatology, the Emergency Medicine Programme, the HSE Quality and Patient Safety Division, and the National Clinical Programmes Unscheduled Care Governance Group. The legal definition of an adult is 18 years.*

### International and National Best Practice in Paediatric Emergency Medicine

*There have been a number of relevant publications on PEM, including:*

- The Development of Paediatric Emergency Medicine in Ireland (ICEMT/IAEM/RCPI, 2010)
- The National Emergency Medicine Programme Report (Health Service Executive, 2012)
- Standards for Children and Young People in Emergency Care Settings (RCPCH, 2012)

These documents detail the standards recommended for children and young people in all emergency care settings. The aim for paediatric emergency care in Ireland is to achieve these standards of care and to uphold the principle that children and young people should receive the same quality of care wherever and whenever they present.

*The following key points in relation to PEM have been highlighted nationally and internationally:*

- The clinical expertise resides within the two specialties of Paediatrics and Emergency Medicine;
- The frequency of emergency consultations is relatively high in the 0-4 years age group
- Parents perceive a far greater urgency when their child is sick compared with when they themselves are sick;
- 0-2 year olds form a vulnerable group in terms of difficulty of diagnosis and propensity to decompensate rapidly;
- Ambulance calls are unusual and very sick children are likely to be brought to the emergency department by their parents;
- Telephone triage in children is difficult as symptoms are often vague and face-to-face consultation is more likely to be required;
- Short Stay Observation Units (SSOUs) have a key role in the provision of high quality care for children;
- Children are strongly affected by the context in which they live, and usually the most important element of this context is their family.

*Key recommendations include:*

- All children must be visually assessed within minutes of arrival, and 95% receive an initial triage assessment within 15 minutes of arrival or registration
- Emergency care facilities where both adults and children present should have audio-visual separation of children from adults
- All acute paediatric care settings should have paediatric emergency medical governance
- The Irish Children's Triage Tool is the recommended tool for children presenting to paediatric emergency services
- A resuscitation area specific for children should be designated with weight and age appropriate equipment and guidelines readily available
- Emergency care settings treating more than 10,000 children per year should have:
  - A paediatric trained nurse on duty within the department at all times
  - A designated PEM consultant responsible for training and delivery of care
  - Medical and nursing staff with experience in paediatric care
  - Facilities for full resuscitation and monitoring of high dependency children
  - A direct route to the radiology department that avoids other areas of the emergency department
  - A cubicle with a door, for consultations where privacy and confidentiality are paramount
  - Appropriate areas suitable for breastfeeding and nappy changing
  - A play specialist service to cover peak times
- Requirements for analgesia should be assessed at triage using an appropriate pain score and treatment of pain delivered promptly
- All units where children present acutely should have staff capable of initiating basic airway management and basic life support
- Robust systems should be available to inform primary care services about each child's attendance to the emergency department
- Children and young people should be considered in major incident plans and paediatric emergency services should be involved in major incident exercises
- The recommended age cut off for paediatric emergency care is 16 years (eve of 16th birthday)

## 24.1 CURRENT SERVICE PROVISION

Children with acute medical needs access services in many ways. The roles of the paediatric emergency department (PED), the general practitioner (GP), the GP out-of-hours services and the emergency medicine facilities in hospitals are not clearly defined and of necessity there are many 'local solutions' in place. The current model of care for PEM has evolved differently outside and within the Dublin area. This section explores the current service in the regional and local hospitals outside Dublin and in the Dublin paediatric hospitals.

The National Clinical Programme for Paediatrics and Neonatology clinical leads and programme manager visited all hospitals providing paediatric services in 2012-13, and noted the following in relation to paediatric emergency care outside of Dublin:

- There were differences in location of paediatric emergency care facilities within hospitals with an arbitrary division into 'medical' and 'trauma' patients;
- Paediatricians were managing the burden of acute and unscheduled medical care;
- There was a lack of observation facilities in paediatric medical emergency areas and emergency departments;
- The level of paediatric experience of doctors assessing children was variable;
- The number of paediatric-trained nurses was frequently below recommended levels of at least one per shift;
- There was a relative lack of written guidelines for common conditions;
- GPs referred directly to paediatric wards in many hospitals;
- The age cut off for admission to paediatric wards varied greatly from 12 -17 years;
- Admission rates varied across the country, and were as high as 50% in some areas;
- Emergency department cubicles dedicated to children were in scant supply;
- Few emergency departments could be considered child- or family-friendly;
- There was little or no separation of children from adults.

### *Other considerations reported by the PEM lead of the National Emergency Medicine Programme:*

- Recording of patients attending acute services varies because patients have no single point of access. Data is therefore not readily available.
- Child protection training may not be delivered to staff in emergency departments.
- Streaming of patients into 'trauma' or 'medical' in an emergency department or paediatric emergency area is often variable and unstructured, with arbitrary designations applied.
- A single area for paediatric resuscitations is not available in all hospital settings.
- There is currently no designated lead for paediatric emergency care in many acute hospitals.
- In some hospitals, children are assessed by doctors who have no paediatric training.
- Access to child and adolescent mental health services (CAMHS) is variable, with no nationally agreed pathways for acute presentations.

## Current Services in Paediatric Emergency Departments in Dublin

2014	Our Lady's Children's Hospital, Crumlin	Children's University Hospital, Temple Street	Tallaght Hospital Paediatric Emergency Department
Attendances	34,770	48,343	31937
Consultants	3	3	3
Registrars	7	7	6
SHOs	7.5	8 (+1 Admissions SHO)	5
ANPs	1	2	1
Nursing	24.5 total (clinical staff and support CNMs)	27.7 Actual WTE 35.9 Budgeted WTE	17.5
Admission rate	14%	8%	15%
0800-1600hrs percentage attendance	45%	47%	45%
1600-2000hrs percentage attendance	26%	26%	28%
2000-2400hrs percentage attendance	18%	19%	19%
2400-0800hrs percentage attendance	11%	8%	8%

(Report by the Paediatric Emergency Medicine Group, 2014)

## Strengths and Weaknesses of PEM Services in Dublin

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>All are stand-alone PEDs with complete audiovisual separation of children from adults (Tallaght Hospital) or located in paediatric only hospitals (Crumlin, Temple Street)</li> <li>All are using the Irish Children's Triage Tool</li> <li>Excellent cross-site relationships with lead in PEM elected and joint recruitment of NCHDs</li> <li>Regular cross-site multidisciplinary meetings and operations meeting</li> <li>Microsystems management teams in place in all three departments</li> <li>Similar Emergency Department Information System (EDIS) in the three departments allowing sharing and of cross-site data and performance indicators with opportunities to explore any differences as they arise</li> </ul>	<ul style="list-style-type: none"> <li>There are variations in staffing levels and supports across the three sites</li> <li>Numbers attending have been increasing year on year – with no corresponding increase in staffing</li> <li>Not enough senior staff to provide a consultant- and ANP-delivered service at peak times</li> <li>Acute shortage of middle grade medical staff</li> <li>No access to EDIS between the three Paediatric Emergency Departments</li> <li>No dedicated physiotherapy, occupational therapy or social work support on site for busiest times</li> <li>No play therapist available for peak times</li> <li>Major emergency cross city planning needed</li> <li>No uniformity of care delivery by CAMHS</li> </ul>

- Development and expansion of the role of ANPs in emergency departments
- GP liaison nurses to facilitate primary care follow up, social work and public health nurse referrals and to provide an essential role in child protection and child welfare
- Cross-site common clinical guidelines with regular guideline meetings

## 24.2 PROPOSED MODEL OF CARE

### National Paediatric Emergency Care Services

Paediatric emergency care in Ireland needs urgent attention. There are clear guidelines available on the management of children presenting to acute and urgent care settings but the reality is that the service provided in some parts of the country is ungoverned and unstructured. There is no standardised data available currently on staffing or attendances nationally.

*Paediatric emergency governance should be in place for any site where children attend acutely  
- Emergency Department, Local Injury Unit, Urgent Care Centre.*

There are very few PEM specialists in Ireland, and PEM urgently needs to expand numbers to meet the standards set. It is expected that all unwell or injured children should receive expert care as early as possible, but this has to be balanced with delivery of an accessible service close to the child's home where possible. There has to be a system of care that clearly defines the places and services available within each emergency care network. Ireland should have a quality service for children and staff, ensuring excellent working environments with close attention to clinical outcomes. The focus on acute and emergency care for children should be intense and prompt, to ensure that the children and young people of Ireland receive the standards of care that they deserve.

### National PEM Goals

The Paediatric Emergency Medicine group have identified the following areas as key to future development. These will be delivered with the support of the national clinical programmes, the HSE Quality and Patient Safety Division, the Children's Hospital Group and the Faculty of Paediatrics in RCPI.

1. Reconfiguration of PEM services in Dublin
2. Reconfiguration and standardisation of services within networks outside of Dublin
3. Agree age for access to paediatric acute services nationally
4. Full implementation of national children's triage tool
5. Improve access to CAMHS / liaison services for patients presenting with acute mental health needs
6. Develop short stay observation units
7. Improve information systems to allow for national standard data collection and reporting



### Reconfiguration

There is no one solution available to suit all environments. Facilities will vary depending on throughput, case mix and acuity, capacity and access to beds. PEM services in Dublin will continue to provide stand-alone care to children and young people up to the age of 16. The ideal for mixed adult and paediatric hospitals is for a fully resourced emergency department with the capacity and skill mix to see adult and paediatric cases, supported by a resourced paediatric short stay observation unit. This should be within the context of an emergency care network with clear guidance for parents and primary care referrers on where children should attend.

### Standardisation

*Service design plans should incorporate the following standards:*

- A designated consultant in PEM for each emergency care network who will have responsibility for the delivery of paediatric emergency care to include guidance and training for managing emergencies, safeguarding children, major incident planning and child death protocols
- Any centre seeing more than 10,000 children in an acute care setting should have a consultant with PEM training working in that department
- There should be a paediatric-trained nurse on every shift
- All staff delivering paediatric urgent care must be competent in the basic skills required for safe practice
- Child protection training must be provided to all staff involved in treating children in an emergency care setting
- Emergency care network leads should work with service planners to provide safe urgent care for children in a geographical network
- Care pathways should be available for common conditions which facilitate care as close to home as possible
- Protocols and programmes should be in place to stabilise and transfer children to specialist centres
- There should be correct recording of each patient attendance and current GP details
- All facilities receiving sick or injured children should be equipped with the appropriate range of equipment and medication
- All children should be visually assessed within minutes of arrival, and 95% receive an initial triage assessment within 15 minutes
- Initial assessment should include pain assessment using a paediatric pain score and, if required, pain relief should be administered within 20 minutes of arrival to the facility
- All emergency and urgent care attendances should be notified to the primary care team
- Systems should be in place to ensure safe discharge of patients, including provision of advice leaflets and advice on where to access further care if necessary
- Child protection concern recognition and response pathways should be clearly defined in each emergency setting
- Treatment facilities for children should be audio-visually separate from adults, with a designated paediatric resuscitation area and appropriate child and young person cubicles
- Waiting facilities for children should be audio-visually separate from adults, with particular focus on security, comfort needs, breastfeeding facilities and safe play areas for younger children. Quieter areas with age appropriate games should be available for older children.
- The use of play therapy should be encouraged in emergency departments
- Short stay observation units both in PEDs and regional centres should be developed, allowing reduction in the need for admission of children and young people with specified clinical conditions and improving flow within emergency departments.

### Paediatric Trauma Services

Injury produces a significant health burden for children and is a leading cause of both death and disability. Ireland has recently joined TARN (The UK Trauma Audit and Research Network) where a specific committee of clinicians, managers and academics focus on the care of injured children. Over the coming year, data specific to Ireland will be available providing an opportunity to compare Irish outcomes and resources with TARN hospitals in England and Wales.

#### Key Considerations in Paediatric Trauma Services:

- A significant number of severely injured children do not come to the hospital by ambulance.
- Systems are needed in all acute settings to ensure children are not disadvantaged by attending the 'wrong hospital'.
- Time to surgery has a significant bearing on outcome.
- Efficient transport and retrieval services are important.
- Staffing in all acute areas should match expected attendances.
- Senior staff from emergency medicine and trauma services should be available in the evenings and at weekends, with lower numbers required after midnight.

## 24.3 REQUIREMENTS FOR SUCCESSFUL IMPLEMENTATION OF MODEL OF CARE

The delivery of paediatric urgent and emergency care nationally is underfunded but more crucially lacks structure. A national service delivery plan will require considerable investment to improve staffing and facilities. Currently, the National Emergency Medicine Programme and the National Clinical Programme for Paediatrics and Neonatology are working together to map this process. The goal is to put in place safe pathways for the care of children and young people in emergency and urgent care settings, and to identify paediatric lead nurses, doctors and advanced nurse practitioners in each emergency care network.

Reconfiguration of Paediatric Emergency Medicine in Dublin will occur in conjunction with development of the new children's hospital. The model proposed will offer specialist emergency services at the site of the new children's hospital, with satellite centres providing care for children with less severe injuries and illnesses located in Tallaght and Blanchardstown. There is a shared understanding across the programmes that senior decision makers are pivotal to the safe and effective running of the PED and satellite centres. Work is ongoing with general paediatrics and the new hospital board to formulate the most appropriate urgent care model for Dublin. In order to deliver safe care there is an urgent need for an expansion in numbers of nurses, ANPs and consultants in PEM. The PEM group are working closely with the Faculty of Paediatrics and the National programmes to plan for this necessary expansion.

### Paediatric Emergency Department Staffing

The Paediatric Emergency medicine team is a prime example of a multi disciplinary unit. To ensure safe and effective family centred care for a child the team should include doctors, nurses, administrators and health and social care professionals. Work is continuing on mapping the ideal manpower plan for each type of unit. The whole team should be available at peak activity hours, which may mean a move from the traditional 5/5 model to an out of hours 7/7 model.

### Consultant Staffing for the New Children's Hospital

This area for development was highlighted in the document Development of Paediatric Emergency Medicine in Ireland (ICEMT, 2010). Little or no changes to the workforce have taken place since then. The new children's hospital model of care recommends that senior decision makers are available at peak times in the emergency departments and at all times the satellite urgent care centres are open. To achieve this model of care, expansion of consultants in PEM and general paediatricians with a special interest in Acute Care are needed. The RCPCH document The Role of the Consultant Paediatrician with Subspecialty Training in Paediatric Emergency Medicine offers guidance with regard to training and integration, and gives examples of weekly work plans for such specialists. Work with the health planners for the new children's hospital has shown that a consultant workforce of 26 will be required to provide the proposed model of care.

Current PEM Consultant Staffing in Dublin	International Benchmarks
Crumlin, Tallaght and Temple Street: 9 consultants for 114,000 annual attendances	<ul style="list-style-type: none"> <li>Royal Children's Hospital Melbourne: 14WTE Consultants and 6WTE fellows for 85,000 attendances</li> <li>New Children's Hospital in Brisbane: 18WTE consultants for 80,000 attendances.</li> <li>Cincinnati Children's Hospital: 39 PEM faculty medical staff, 3 PEM specialist physicians, 26 paediatricians and 14 ANPs for 100,000 attendances</li> <li>Toronto Sick Kids: 32 attending physicians (consultant equivalent) for 60,000 attendances</li> <li>Children's Hospital of Philadelphia: 50 attending physicians for 78,000 attendances</li> <li>Alder Hey Liverpool: 10WTE consultants with proposed expansion to 14WTE for 56,000 attendances</li> </ul>

### Consultant Staffing with PEM Training in Regional Emergency Departments

There is currently one consultant with PEM specialty training working in a regional emergency department (Sligo), though not appointed with a specific PEM remit. Several hospitals see enough children to justify the appointment of a full time consultant PEM specialist:

- Cork University Hospital
- University Hospital Galway
- University Hospital Limerick
- Waterford Regional Hospital
- Our Lady of Lourdes Hospital Drogheda
- Midlands Regional Hospitals in Mullingar, Tullamore and Portlaoise\*

*\*Currently children attend Mullingar and Portlaoise acutely with some receiving care in the emergency department and some on the paediatric ward. The majority of Emergency Medicine consultant sessions are delivered in Tullamore, which does not have a paediatric unit.*

### *Nursing and Health Care Assistant Staffing for the New Children's Hospital*

The numbers of nurses and health care assistants required to staff the paediatric emergency department and the two urgent care centres are detailed in Appendix 2. It is modelled for different attendances. The proposed attendance in Dublin is for 70,000 on the main site and 25,000 in each satellite centre. This is a predicted figure.

## **24.4 EDUCATION AND TRAINING**

The pathway to become a consultant in Paediatric Emergency Medicine is well-defined with entrants to the specialty coming from the emergency medicine and general paediatric higher training specialty groups. Work has progressed to develop a PEM-specific curriculum and develop PEM as a subspecialty.

A postgraduate course in paediatric emergency nursing (Level 9), in conjunction with University College Dublin and facilitated by Crumlin and Temple Street, is available for emergency department nurses throughout Ireland. Training to become a registered children's nurse (RCN) is currently available in four hospitals in Ireland (Cork University Hospital; Tallaght Hospital; Our Lady's Children's Hospital, Crumlin and Temple Street Children's University Hospital).

## **24.5 PROGRAMME METRICS AND EVALUATION**

The development of clinical quality indicators for paediatric acute care is still at an early stage. In keeping with the UK and international best practice, the current emphasis is on delivering appropriate, timely, patient and family centred care and there are many potential performance metrics within the Paediatric Emergency Department. The following are selected as current priority metrics for the service:

- The availability of at least one paediatric nurse per shift
- All children should be visually assessed within minutes of arrival and 95% to have a triage assessment using a standard triage tool within 15 minutes
- Documentation of pain and time to administration of pain relief
- Admission rate to hospital and time waiting for admission to inpatient care
- Number of patients leaving prior to completion of treatment
- Number of re-attenders (both scheduled and unscheduled)
- Length of stay in Paediatric Emergency Department
- Management of specific common conditions including acute asthma and acute gastroenteritis
- Availability of policies relating to child protection

### **Information systems and Data Analysis**

Emergency care information systems should provide basic demographic and episode-related information. The patient's journey through the health care system should be documented with mandatory communication between ED and primary care teams. The requirements are clearly stated in the Standards for Children and Young People in Emergency Care Settings document. Currently this data is not collected for all children attending emergency and acute services in Ireland.

### Research in Paediatric Emergency Medicine

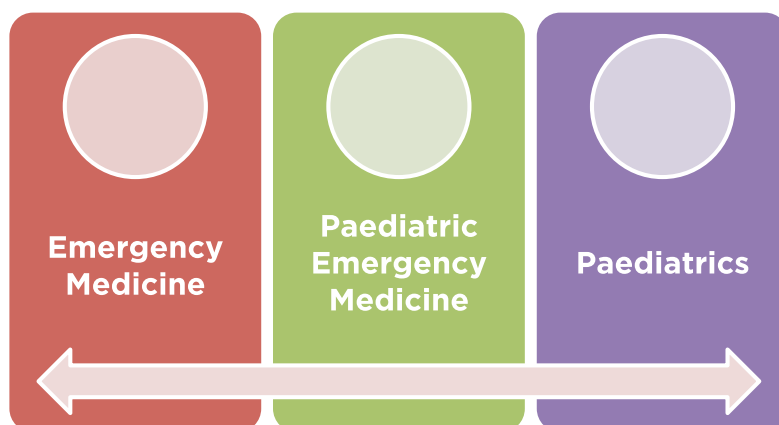
Emergency care settings of any size should be involved in paediatric emergency-specific audit and research. Hospital nurses, doctors and pre-hospital personnel should all be encouraged to participate in, and organise paediatric emergency focussed studies. This should be regarded as a core activity, as there is a poor evidence-base for many aspects of PEM. Each of the PEDs in the stand alone children's hospitals has a formal affiliation with the recently formed PERUKI (Paediatric Emergency Research UK & Ireland) research network, a 40 (plus)-centre PEM research network which is itself a formal core member of PERN (Paediatric Emergency Research Networks) the global PEM research network. Through PERUKI there is Irish PEM representation at international research executive and strategic level. There is also a PEM-dedicated research node as part of the National Children's Research Centre here in Ireland – the Paediatric Emergency Research Unit (PERU) has secured grant funding in excess of €3M and has facilitated multiple PhD and MD students in PEM research.

In 2014, the Royal College of Paediatrics of Ireland was the venue for IPERM (Irish Paediatric Emergency Research meeting). This was the first PEM-specific showcase of Paediatric Emergency research with papers and presentations from hospitals and pre hospital settings nationally. The second meeting (2015) was held in Tallaght Hospital Education Centre.

## 24.6 CHILD- AND FAMILY-CENTRED CARE

Child- and Family-centred Care (CFCC) is an approach to healthcare that recognises the developmental and behavioural characteristics of children, the integral role of the child's family and encourages a mutually beneficial collaboration among patient, family, and healthcare providers. CFCC embraces the concepts that to deliver good care for children and adolescents in the stressful setting of the Emergency Department it is important to understand the patient's developmental stage, the greater needs of their family and their psychological needs. All EDs caring for children should consider these needs. CFCC is key to promoting best patient outcomes, care satisfaction and patient safety. CFCC also benefits healthcare providers, reducing stress in caring for child patients and increasing workplace satisfaction.

## 24.7 GOVERNANCE OF PAEDIATRIC EMERGENCY SERVICES



PEM is working towards becoming a recognised subspecialty. Clinically, PEM is integral to the National Clinical Programmes for Paediatrics & Neonatology and Emergency Medicine. Guidelines are common to both, and communication and links between the two are crucial to the safe development of the service. The development of PEM services should be considered in the context of the overall recommendations of both clinical programmes and advanced through close collaboration between both Clinical Strategy and Programmes and Quality and Patient Safety Divisions. A representative from PEM currently sits on the National Emergency Medicine Programme and Paediatric Clinical Advisory Groups. Regular PEM-specific meetings take place between the working groups of both.

## 24.8 KEY RECOMMENDATIONS

- Implement age range for Paediatric Emergency Department attendances nationally - the agreed age cut off for paediatric emergency care of 16 years (eve of 16th birthday)
- Implement audiovisual separation of children and adults in Emergency Departments
- The Irish Children's Triage System (ICTS) should be adopted as the national standard of triage for all acutely ill or injured children.
- Increase numbers of Paediatric Emergency Consultants and Paediatric Nurses delivering front line paediatric emergency services. The safest, most efficient way to deliver care is to have senior decision makers available at peak times.
- Timely access to liaison psychiatry and CAMHS is essential for the provision of high quality, safe emergency care.
- Clear trauma protocols to be identified and implemented for children nationally.
- Ensure governance for all children aged 0 to 16 who are accessing acute care.

## 24.9 ABBREVIATIONS AND ACRONYMS

ANP	Advanced Nurse Practitioner
CAMHS	Child and Adolescent Mental Health Services
CFCC	Child- and Family-centred Care
CNM	Clinical Nurse Manager
CUH	Children's University Hospital, Temple Street
ECN	Emergency Care Networks
ED	Emergency Department
EDIS	Emergency Department Information System
EMP	Emergency Medicine Programme
GP	General Practitioner
HSCP	Health and Social Care Professional
HSE	Health Service Executive
IAEM	Irish Association for Emergency Medicine
ICEMT	Irish Committee for Emergency Medicine Training
IPERM	Irish Paediatric Emergency Research Meeting
NCH	(new) National Children's Hospital
NCHD	Non-consultant Hospital Doctor

OLCHC	Our Lady's Children's Hospital, Crumlin
PED	Paediatric Emergency Department
PEM	Paediatric Emergency Medicine
PERN	Paediatric Emergency Research Networks
PERUKI	Paediatric Emergency Research UK and Ireland
RCN	Registered Children's Nurse
RCPCH	Royal College of Paediatrics and Child Health
RCPI	Royal College of Physicians of Ireland
SHO	Senior House Officer
SSOU	Short Stay Observation Unit
TARN	Trauma Audit and Research Network
UK	United Kingdom
WTE	Whole Time Equivalent

## 24.10 REFERENCES

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## APPENDICES

### Appendix 24.1 Short Stay Observation Units

#### *Definition and Purpose of a Short stay observation unit (SSOU) within the PED*

A space adjacent to the Paediatric Emergency Department (PED) where safe economical and timely clinical decisions are made on patients who present to the ED with specific emergency conditions whose length of stay is likely to be no longer than 6-24 hours duration. Patients are managed by means of a specific patient care pathway from ED assessment through to discharge. Follow up care may be offered in the community if appropriate liaison is in place. Regular audit of flow and practice should take place.

*There are different models for an SSOU and the choice depends on availability of staffing and location of the unit:*

- I. SSOU co-located with the PED, run by Paediatric ED Staff only;
- II. SSOU co-located with PED, run by paediatric in-house team together with PED staff;
- III. SSOU located away from PED, run by paediatric staff only.

#### *Key Points:*

- The SSOU will reduce the need for hospital admission for a specific cohort of patients whilst maintaining favourable clinical outcomes. Whilst recognising confounding factors such as distance from hospital, ability of family to cope etc., a clear cohort of patients may be identified who can be managed in an observation unit and will therefore not need admission.
- This model has been shown to improve patient and parent satisfaction (Ogilvie, 2005)
- The benefit is not only to the child who will recover within his/her own environment but also to the parent or guardian who will need less time off work.
- Each winter there is an urgent need to alleviate the pressures on paediatric inpatient beds. Reducing the admission rate from the emergency department relieves some of this pressure.

#### *Size and Activity*

The following is a suggested list of nine clinical conditions suitable for Short Stay acute Paediatric admissions. This list is supported by international literature.

(State of the Art: Observation Units in the Emergency Department, a Policy resource and Education paper, American College of Emergency Physicians 2005)



*Paediatric short stay observation unit common conditions*

1	Asthma
2	Moderate dehydration / gastroenteritis
3	Croup
4	Pneumonia / upper respiratory tract infection
5	Mild-moderate head Injury
6	Seizures
7	Urinary tract infection
8	Cellulitis
9	Ingestions

*Opening Times:*

Paediatric Emergency Medicine is renowned for being an ‘after-dinner specialty’. This is the time when maximum resources should be in place. A SSOU could function most efficiently between the hours of 10.00 and 22.00 hrs.

**Appendix 24.2 Estimated Nursing Staff Requirements for the New Children’s Hospital Emergency Department and Satellite Centres**

*Hospital: Emergency department @ new children’s hospital*

Predicted attendance	60,000	70,000	80,000	90,000	100, 000
12 bed SSOU (23 hour patients stay) (1x CNM 2, 5x CNM1s, & 10x staff nurses)	15 WTE	15 WTE	15 WTE	15 WTE	15 WTE
DNM	1 WTE	1 WTE	1 WTE	1 WTE	1 WTE
CNM3	1 WTE	1.5 WTE	1.5 WTE	2 WTE	2 WTE
ANPs	6 WTE	6 WTE	6 WTE	6 WTE	6 WTE
CNM2/Shift Leader	17 WTE	17 WTE	22 WTE	22 WTE	22 WTE
Staff nurses	54 WTE	62WTE	72 WTE	84 WTE	91 WTE
Educator/ Course facilitator	2.5WTE	3 WTE	3.5 WTE	4 WTE	4.5 WTE
Community Liaison Nurse	2 WTE	2 WTE	3 WTE	3 WTE	3.5 WTE
Research Nurse	1 WTE	1.5 WTE	1.5 WTE	2 WTE	2 WTE
Mental Health Nurse	1.5 WTE	2 WTE	2 WTE	3 WTE	3 WTE
Data Nurse Manager	1 WTE	1.5 WTE	1.5 WTE	2 WTE	2 WTE
Discharge Nurse	1 WTE	1.5 WTE	1.5 WTE	2 WTE	2 WTE
Asthma CNS	1 WTE	1.5 WTE	1.5 WTE	2 WTE	2 WTE
Total nursing staff (excluding HCAs)	104 WTE	115.5WTE	132 WTE	148WTE	156WTE
Health care assistants (10% direct nursing care)	10 WTE	11 WTE	13 WTE	14 WTE	15 WTE
Total nursing requirements less the 10% provided to direct care by HCA's	94 WTE	104.5WTE	119 WTE	134 WTE	141 WTE

Predicted attendance	15,000	20,000	25,000	30,000	35,000	40,000
8- 12 bed SSOU (16 hour ONLY patients stay) (0.5x CNM 2, & 7x S/N)	7.5 WTE	7.5 WTE	7.5 WTE	7.5 WTE	7.5 WTE	7.5 WTE
DNM	0.25 WTE	0.25 WTE	0.5 WTE	0.5 WTE	1WTE	1WTE
CNM3	1 WTE	1 WTE	1 WTE	1 WTE	1 WTE	1 WTE
ANPs	6 WTE	6WTE	6WTE	6WTE	6WTE	6WTE
CNM2/Shift Leader	5 WTE	5 WTE	5 WTE	5 WTE	5 WTE	5 WTE
Staff Nurses	13.75WTE	17.32WTE	20.92WTE	24.5WTE	29.5WTE	33.17
Clinical Nurse Facilitator	0.7WTE	0.8 WTE	0.9 WTE	1WTE	1.2WTE	1.5WTE
Community Liaison Nurse	0.5 WTE	1 WTE	1 WTE	1 WTE	1 WTE	1.5 WTE
Research Nurse	0.25 WTE	0.25 WTE	0.5 WTE	0.5WTE	1 WTE	1 WTE
Mental Health Nurse	0.5 WTE	0.5 WTE	0.75 WTE	0.75WTE	1 WTE	1 WTE
Data Nurse Manager	0.5 WTE	0.5 WTE	0.5 WTE	0.5 WTE	1 WTE	1 WTE
Discharge Nurse	0.5 WTE	0.5 WTE	0.75 WTE	0.75 WTE	1 WTE	1 WTE
Asthma CNS	0.5 WTE	0.5 WTE	0.5 WTE	0.5WTE	1 WTE	1 WTE
Total nursing staff (before HCAs)	36.95WTE	41.12WTE	45.82WTE	49.5WTE	57.2WTE	61.67
Health Care Assistants (10% direct nursing care)	3.5 WTE	4WTE	4.4WTE	4.8WTE	5.6WTE	6WTE
Total nursing requirements less the 10% provided to direct care by HCAs	33.45WTE	37.12WTE	41.42WTE	44.7WTE	51.6WTE	55.67WTE