

# A New National Model of Care for Paediatric Healthcare in Ireland

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# Preface

This document outlines a new national model of care for paediatric healthcare in Ireland. It takes account of international trends in paediatric healthcare, contemporary changes in healthcare delivery systems, consultation with clinical and management leaders in paediatrics in Ireland, patient preferences, advances in medical technology, and developments in ICT that enable new methods of treating and caring for children and young people.

## Outline of contents

The document is in two main parts:

**Part A** explains the background and describes how the model of care was developed.

- Chapter 1, **Introduction**, describes the background to the development of the model of care and the methodology employed.
- Chapter 2, **Salient policies and reports**, outlines the findings of a number of reports that have implications for the model of care, and sets out the policy context.
- Chapter 3, **Towards a new model of care for paediatrics in Ireland**, describes the principles underlying the new model of care.
- Chapter 4, **International and national models of care**, describes international and national developments of relevance.

**Part B** details the new national model of care for paediatric healthcare in Ireland.

- Chapter 5, **A national paediatric network**, describes the integrated approach to paediatric healthcare across all levels in the healthcare system.
- Chapter 6, **Quality and standardisation of care processes**, explains how care processes need to be standardised across the entire healthcare system in order to ensure quality care for all children.
- Chapter 7, **Supporting infrastructure**, describes the services and processes that are needed in order to ensure that the system works safely, effectively and efficiently.

## Next Steps

The National Paediatric Hospital Development Board will seek the endorsement and implementation of this Model of Care by all stakeholders, including the HSE Executive, the Faculty of Paediatrics & Child Health and related medical colleges and faculties, the ICGP, An Bord Altranais, the National Council for the Professional Development of Nursing & Midwifery, and the professional bodies for allied health practitioners.

The NPHDB will also progress an implementation plan for its own area of direct responsibility, in collaboration with the three existing children's hospitals in Dublin<sup>1</sup> and the HSE.

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<sup>1</sup> Our Lady's Children's Hospital, Crumlin (OLCH), the Children's University Hospital (CUH, Temple Street), and the National Children's Hospital, Tallaght (NCH)

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## Executive summary

The new national model of care for paediatric healthcare services in Ireland set out in this document outlines the clinical and organisational framework for how and where paediatric healthcare services will be delivered, managed and organised in Ireland.

The new Children's Hospital of Ireland will be the core component of an *integrated healthcare system* for Ireland's children, young people and their families. This system will be based on a national network of interconnected elements, including:

- The children and young people in need of care;
- The parents, guardians and families of the children being cared for;
- General practitioners and community healthcare workers;
- Local health clinics and inter-disciplinary primary care teams;
- Shared care services providing ambulatory care;
- Urgent care centres;
- Local hospitals<sup>2</sup>;
- Regional hospitals<sup>3</sup>; and
- One national tertiary children's hospital – the new Children's Hospital of Ireland.

This network will apply some fundamental principles:

- Care will be provided as close to the child's home as possible, depending on their clinical needs;
- Care will be provided within the network at the appropriate level, in order to use resources efficiently; and
- Where clinically appropriate, ambulatory care will be provided in preference to inpatient care.

To operate safely, effectively and efficiently, this network will require standardised care processes and protocols that apply at all levels in the network, so that children and young people receive the highest standard of care relative to their clinical needs and irrespective of where they first enter the network.

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<sup>2</sup> Local hospitals providing paediatric care currently include Ballinasloe, Castlebar, Cavan, Clonmel, Kilkenny, Letterkenny, Mullingar, Portlaoise, Sligo, Tralee, Tullamore and Wexford.

<sup>3</sup> Regional hospitals providing paediatric care currently include Cork, Drogheda, Galway, Limerick and Waterford. Incorporation of the paediatric unit in Belfast into this national network is for consideration by relevant policy making bodies.

The network will also require organisational structures and processes at a national level in order to function in an optimum manner. These will include:

- Integrated workforce planning;
- A coordinated transport and retrieval service;
- A robust integrated system of information and communications technology;
- A centralised and co-ordinated approach to paediatric professional education and research.

In advance of the opening of the new children's hospital, strong collaboration between the existing three children's hospitals, the HSE and the NPHDB is required, to reconfigure and integrate services in accordance with this new model of care.

## A. Development of the model of care

This part deals with the development of the model of care. It consists of four chapters:

- Chapter 1, **Introduction**, describes the background to the development of the model of care and the methodology employed.
- Chapter 2, **Salient policies and reports**, outlines the findings of a number of reports that have implications for the model of care, and sets out the policy context.
- Chapter 3, **Towards a new model of care for paediatric healthcare in Ireland**, describes the principles underlying the new model of care.
- Chapter 4, **International and national models of care**, describes international and national developments of relevance.



# 1. Introduction

## 1.1 The new national tertiary children's hospital

The National Paediatric Hospital Development Board (NPHDB) was established by the Minister for Health & Children on May 23, 2007. The NPHDB is charged with planning, designing, building and equipping the Children's Hospital of Ireland, with full tertiary hospital facilities in Eccles St and an Ambulatory & Urgent Care Centre at Tallaght, in line with the recommendations of a number of reports and subsequent policy decisions taken by the Government and the HSE.

### Need for a new model of care

The NPHDB recognises that, in order to realise the full potential of the new children's hospital, a new national model of care for paediatric healthcare services is required, in which the Children's Hospital of Ireland will play a central role in an integrated healthcare system for Ireland's children and young people.

In accordance with Government decisions, the new hospital will merge the acute paediatric services that are currently provided in three independently operated children's hospitals in Dublin into a single hospital, co-located with an adult academic hospital (and also, if current proposals are implemented, maternity services). This will create the cohesion, depth and breadth of sub-specialties needed to deliver excellent care. It will also release resources to support innovative and inter-professional working that will result in better clinical outcomes for children and young people.

Studies carried out on behalf of the HSE have confirmed that a country the size of Ireland can support only one paediatric tertiary care centre. This means that, as the national centre for paediatric tertiary care, the Children's Hospital of Ireland will play an important role in the delivery of paediatric care in regional and local hospitals and in community and home-based settings, and will also provide support to primary carers.

For this role to be effective, a new national model of care needs to be elaborated and endorsed at the highest levels in the paediatric healthcare system, and this model must be understood, adopted, and applied by each institution and individual with responsibility for children's healthcare.

## 1.2 Model of Care Committee

In order to develop a model of care that adequately reflects best international practice, the particular needs of children and young people in Ireland and their families, and the concerns, experience and ideas of clinical staff and others in the healthcare system, the NPHDB established a Model of Care Committee, which studied work carried out to date, both nationally and internationally, agreed the underlying principles, and drew up the National Model of Care for Paediatric Healthcare Services in Ireland that is set out in this document. Membership of the Model of Care Committee is listed in Appendix 1.

## Methodology

The Model of Care Committee met seven times between April and July 2009; meetings were chaired by Dr Emma Curtis, Medical Director of the NPHDB.

Prior to the first meeting, a discussion paper was circulated to committee members, with a proposed set of underpinning principles and an outline model of care.

The Committee heard a number of presentations relating to national and international models of care and relevant services, as follows:

Presentation	Presenter(s)
Model of Care for Paediatric Oncology	Prof. Owen Smith, Consultant Haematologist, Our Lady's Children's Hospital, Crumlin (OLCH)
The International Perspective	Cathy Sequin, Vice President International Affairs, Hospital for Sick Children, Toronto
Proposed Model of Care for Paediatric Service Delivery	Dr Emma Curtis, Medical Director, NPHDB
Paediatric Emergency Medicine	Dr Ciara Martin, Consultant Paediatrician, Emergency Medicine, National Children's Hospital, Tallaght Dr Ronan O'Sullivan, Consultant Paediatrician, Emergency Medicine, OLCH Dr Mary McKay, Consultant Paediatrician, Emergency Medicine, Children's University Hospital, Temple St

The Committee will continue to meet to review the implementation of the national Model of Care, to refine it as necessary in light of analysis of implementation strategies and national healthcare policy development and implementation. .

## 2. Salient policies and reports

A series of reports and healthcare policies have been published that directly impact of the development of a new national model of care for paediatric healthcare services in Ireland. Paediatric healthcare is a component of the healthcare services delivered in Ireland and therefore it is impacted by policies developed and endorsed by the Health Service Executive (HSE). The HSE, as the authority accountable for the delivery of healthcare in Ireland, will endorse the new national model of care for paediatric healthcare services.

### 2.1 Age limits for access to paediatric healthcare services

In order to elaborate a model of care for paediatric services, it is necessary to arrive at a common understanding of the population to be served by those services.

Advice from the Department of Health & Children on the cut-off age for access to paediatric services in Ireland is that all children up to the eve of their 16<sup>th</sup> birthday should be cared for in a paediatric setting.

Between their 16<sup>th</sup> birthday and the eve of their 18<sup>th</sup> birthday, new patients may choose to avail of either paediatric or adult services. In many cases, patients whose treatment started prior to their 16<sup>th</sup> birthday will continue to be treated in the paediatric services until they reach 18.

From their 18<sup>th</sup> birthday, all patients should normally be treated in adult services. However, an element of flexibility is required, in particular where clinical outcomes for a specific adolescent condition is known to be better in a paediatric setting.

In all cases, transition from paediatric to adult services, where required, should be effected in a structured manner, in accordance with agreed protocols.

### 2.2 Relevant healthcare policies in Ireland

One of the key result areas (KRA) in the Health Service Executive's Corporate Plan 2008-2011 is the reconfiguration of acute services, including paediatric services. While acknowledging that major reform of acute services will take longer than its three-year timeframe, the Plan sets out a number of measures to ensure the attainment of the KRA. These include:

- Beginning the process of reconfiguring acute hospitals into clinical networks;
- Reorganising acute services within each network to include:
  - a *regional* hospital providing comprehensive 24/7 medical and surgical services, including emergency services, and
  - *local* hospitals focusing on planned activity, including minor injuries and urgent care, comprehensive day case and diagnostic workloads;

- Configuring paediatric services into one national integrated paediatric network with appropriate services at national, regional and local level;
- Reconfiguring Emergency Department services to ensure that each Emergency Department:
  - Serves an appropriate catchment population;
  - Is resourced to provide comprehensive 24/7 emergency services; and
  - Is supported by local urgent care services;
- Concentrating tertiary and national specialist services into centres that serve a sufficiently large population to maximise clinical outcomes for patients;
- Reconfiguring maternity services to ensure that all such services are co-located with acute hospitals that can provide the range of services needed to support the maternity unit; and
- Moving to a consultant-delivered service.

## 2.3 Transformation and programme for service integration

The HSE Transformation Programme is focused on delivering significant change across the HSE. Some of the priorities identified in this programme are of particular relevance to paediatric healthcare. The programme aims to:

- Develop integrated services across all stages of the care journey;
- Configure primary, community and continuing care services so that they deliver optimal and cost-effective results; and
- Reconfigure hospital services to deliver optimal and cost effective results.

### Service integration

There is strong international evidence that an integrated health and social service system delivers better outcomes for patients and clients, provides a better environment for staff, and is more efficient. Fundamental to the HSE's Transformation Programme is the development of health and personal social services that reflect this global trend towards greater integration.

Service integration provides well-organised services that are seamlessly connected, so that people who need access to more than one service can move easily through the entire care system.

The creation of the unified HSE structure, the rollout of the primary care strategy, and the reconfiguration of hospital and specialist services provide an environment for improving functional and provider integration at many levels. While achieving clinical integration poses a challenge, it has by far the most important positive impact on the patient or client. It requires excellent coordination of care at all levels to ensure that all aspects of the patient's needs are recognised and addressed.

Following approval from the Board of the HSE and the Department of Health & Children, an Integrated Services Delivery Change Programme was launched in June 2009. The aim of this programme is to provide a single national strategic approach to integrating care, with strengthened local responsibility for service delivery. A number of specific organisational changes are being put in place by the HSE to support this programme, including:

- Integration of the National Hospitals Office and the primary, community and continuing care services, with integrated operational responsibility for all hospital and community-based services;
- Integration of HSE's current planning capabilities; and
- Clinical leadership of services.

These changes will bring Ireland's health system into line with international trends for integrated care. They will allocate responsibility and authority locally, within defined national parameters, ensure more robust regional structures, and involve clinical professionals more closely in the design and management of health and personal social services. The changes will also accelerate the integration of primary, community and acute care.

### Primary, community and continuing care services

To date, healthcare in Ireland has over-relied on acute hospital services. This has two negative effects: it is inconvenient for patients and their families, and it overloads the hospitals.

By reconfiguring primary, community and continuing care, the HSE aims to provide a significant range of services as close as possible to people's homes, while maintaining high quality and safety standards. The emphasis is on local delivery, met by local multidisciplinary teams and local diagnostic services.

Groups of primary care providers will come together to form interdisciplinary primary care teams (PCT), which will have well-defined interfaces with secondary care provision in local and regional hospitals. The PCTs will be managed within a national framework that will include:

- Referral guidelines and protocols for consultant care and diagnostic services;
- Integrated discharge plans agreed between the hospital and the primary care provider;
- Integrated care pathways; and
- Individual care plans where appropriate.

### Hospital services reconfiguration

The aim in reconfiguring hospital services is to provide a full range of services that fit appropriately into the integrated care model and are evidence-based, efficiently run and quality assured. The reconfiguration is intended to encourage and support the move to advanced primary care

delivery, and chronic illness prevention and care, in accordance with the **2007** PA Consulting report *Acute Hospital Bed Capacity Review, A Preferred Health System in Ireland to 2020*.

Within each hospital network, hospital services will be organised to ensure the provision of comprehensive 24/7 medical and surgical services, and comprehensive planned day-case activity and diagnostics.

- The majority of patients – those who require only a routine level of urgent or planned care – will be treated at home or in a centre as close to home as possible.
- Patients who require emergency or more complex planned care will be treated in regional centres, where the relevant clinical expertise is concentrated, so that they can receive the necessary high-quality, consultant-led care.

Specific projects are being undertaken to reconfigure acute service in paediatrics, maternity services and emergency departments.

By merging the services currently provided in three independent children’s hospitals, the new Children’s Hospital of Ireland, with an A&UCC at Tallaght, will radically reconfigure the provision of acute paediatric healthcare services in Dublin. Outside Dublin, the reconfiguration of acute paediatric services is inextricably linked with the reconfiguration of acute adult services and maternity services in each region, and with the new national tertiary children’s hospital in Dublin.

## 2.4 Reviews of relevant services in Ireland

Specific reviews and reports on paediatric healthcare and related services have culminated in Government policy to develop a single national tertiary hospital in Dublin, co-located with an adult teaching hospital.

### Review of tertiary paediatric services – McKinsey report (2006)

In 2005, the HSE undertook a national review of tertiary paediatric services in order to provide an evidence base for future development in line with best international practice. Research was conducted on HSE’s behalf by McKinsey & Company, who presented their report – *Children’s Health First: International best practice in tertiary paediatric services: implications for the strategic organisation of tertiary paediatric services in Ireland* – in February 2006.

The McKinsey report emphasised that quality in healthcare services is critically dependent on having a ‘critical mass’ of expertise – genuine breadth and depth in sub-specialist services. To achieve this critical mass, McKinsey found that tertiary centres almost always:

- Serve a population of at least 4 million to support a full complement of paediatric sub-specialists; and
- Co-locate with an adult teaching hospital to access specialties that generally split between adults and children, to facilitate clinical and academic cross-fertilisation, and to attract the top staff.

McKinsey concluded that Ireland can support only one world-class tertiary paediatric centre. It identified a number of attributes that such a centre should have, as outlined below.

Attribute	Detail
Breadth and depth of service	<ul style="list-style-type: none"> <li>■ A full complement of over 25 paediatric sub-specialties</li> <li>■ International expertise in particular procedures and illnesses</li> <li>■ Significant non-clinical services designed to provide holistic care for the child and its family, such as family accommodation, carer and patient education and training, patient and sibling schooling, parent business facilities, overnight beds, restaurants, laundry.</li> </ul>
Access	<ul style="list-style-type: none"> <li>■ Public transportation links</li> <li>■ Outreach services taking specialists to the regions and local communities</li> <li>■ PICU / NICU retrieval services</li> </ul>
Recruitment and retention	<ul style="list-style-type: none"> <li>■ Emphasis on recruiting and retaining outstanding staff</li> <li>■ Academic hub</li> <li>■ Increased training / development opportunities</li> </ul>
Academics and research	<ul style="list-style-type: none"> <li>■ Significant research, academic and fundraising capabilities</li> <li>■ Research facilitated through integrated clinical and research time allocation</li> <li>■ Academic / teaching core elements of the mission</li> </ul>
Efficient use of human resources	<ul style="list-style-type: none"> <li>■ Sufficient volume of activity to support 24/7 consultant cover</li> <li>■ Greater number of specialist allied health and social care professionals involved in care</li> <li>■ Improved patient access to specialists, for example through outreach programmes</li> </ul>
Efficient use of capital resources	<ul style="list-style-type: none"> <li>■ Increased utilisation of capital-intensive equipment</li> <li>■ Improved utilisation of specialist units, such as PICU</li> <li>■ Ability to share with adult centres very expensive or infrequently used equipment, such as proton beam machines and research facilities.</li> </ul>

McKinsey concluded that the centre should be in Dublin, and that it should be co-located with a leading adult academic hospital. As the national tertiary paediatric centre, the hospital should be a central component of an integrated national paediatric service, incorporating outreach capabilities at

key non-Dublin hospitals and an adequate geographic spread of emergency-type facilities in Dublin.

McKinsey's recommendations were endorsed by the HSE Board (February 2006) and adopted as Government policy (March 2006). The recommendations were also formally welcomed and endorsed by the three children's hospitals and the three maternity hospitals in Dublin, at a meeting held in Adelaide Road in February 2006.

### Review of paediatric neurosurgery services

In 2008, Horwath Consulting Ireland was commissioned by the HSE to undertake a review of current paediatric neurosurgery services in Ireland. The study concluded that current services are both fragmented and under-resourced, and that this presents an unnecessary level of risk to children.

The study recommended urgent investment in both resources and processes which would allow a systematic approach, working to common guidelines throughout the system. Pending the completion of the new Children's Hospital of Ireland, the report recommended establishing city-wide leadership for paediatric neurosciences in Dublin, working across a more formal clinical network. The report also stressed the need to plan and invest in:

- Community and rehabilitation services;
- Infrastructure to support remote image transfer and review;
- An emergency transfer service, working to clear referral pathways;
- Development of consistent guidelines; and
- Improved data capture and reporting systems.

### Review of maternity services

In May 2007, KPMG was commissioned by the HSE to undertake a review of maternity and gynaecology services in the greater Dublin area.

The report concluded that maternity, gynaecology and neonatology services in Dublin are out of step with the best models of care internationally, especially in terms of the stand-alone nature of the hospitals, the emphasis on hospital-based, medical-led care, the lack of choice for the woman; and the poor availability of primary and community care services.

The report recommended that three new facilities should be developed in the greater Dublin area to deliver maternity and gynaecology services. Two of these should each be co-located with an adult hospital, and one with the new national paediatric hospital. The unit co-located with the new children's hospital should provide a Level 4 neonatology unit. In addition, while all maternity services will need to provide foetal maternal medicine, only one unit within the network should perform foetal intervention procedures, which are low volume and highly specialised. As babies occasionally need to be delivered during such intervention, the report recommended that this unit be co-located with the new children's hospital, to facilitate the management and care of such babies by specialist medical



and surgical neonatal services. This approach is supported by international best practice, which recommends that foetal intervention be undertaken where there is access to both maternal and neonatal services.

The report recommended that neonatology services should be operated as a network and coordinated by the new children's hospital, and that the financial resources associated with neonatology be centralised for the network. Under this model, neonatologists from the maternity hospitals would undertake sessions at the new children's hospital. All neonatologists in the three Dublin maternity hospitals have stated their support for this approach.

### Review of paediatric critical care services

In 2008, the DNV Consortium was commissioned by the HSE to review the requirements and make recommendations for critical care in the Dublin children's hospitals pending the completion of the new national paediatric hospital.

The report notes that health services for children are delivered in a variety of settings, including the community, general hospitals and specialist hospitals, and that intensive care is part of a network of health and other services meeting children's needs. Paediatric critical care is a low-volume, high-acuity and high-cost service, and the guiding principle for paediatric care should thus be 'right care, right place, right time'. Failure to observe this principle leads to increased pressure on the scarcest and most expensive elements of the care system.

The report recommends that a unified approach be taken to the management of paediatric critical care services, so that investment can be targeted to areas of greatest need and of greatest potential benefit. The report's recommendations are being progressed by the Irish Paediatric Critical Care Network, which was established for the purpose.

### 3. Towards a new model of care for paediatrics in Ireland

The compelling need to modernise, reorganise and improve paediatric healthcare services in Ireland has been identified and documented in a series of authoritative reports, strategies and policy initiatives over the past decade.

In mapping out a future for paediatric healthcare services in Ireland, consideration needs to be given to emerging international trends in paediatric healthcare, in particular those that have demonstrated improved clinical outcomes for children and young people. These international paediatric healthcare trends include:

- The centralisation of specific acute paediatric services into a national centre with support for a regional paediatric network;
- Standardisation of care processes;
- Increased provision of ambulatory care;
- Co-location of paediatric and adult services; and
- A shift toward community and home-based care.

These trends have considerable implications for paediatric healthcare services in Ireland, requiring a new national model of care.

#### 3.1 Definition of model of care

A *model of care* is a clinical and organisational framework for how and where healthcare services are delivered, managed and organised.

A model of care typically deals with the following issues:

- The overall approach to healthcare delivery and the emphasis given to different elements in the healthcare system;
- Health promotion, disease prevention and awareness;
- Early diagnosis and intervention;
- Ways of ensuring better care management and outcomes;
- Pathways of care, referral protocols and transitional arrangements between different parts of the system;
- Clinical approaches (integrated care teams, interprofessional practices);
- Coordination of tertiary, secondary and primary healthcare workers;
- Support for community and home-based care;
- Continued education and training for specialist care providers throughout the system; and
- Use of ICT to support remote care, communication between members of the care team and the patient and their family, and for decision support.

## 3.2 Principles underpinning the model of care

The first step in developing a model of care for paediatric healthcare services is to identify the principles that underpin it. The Model of Care Committee agreed these principles under three headings:

- Child-centred and family-focused care;
- Patient safety and quality; and
- Rights-based service.

The agreed principles are listed below.

### Child-centred and family-focused care

The service will be child-friendly and family-focused. It will:

- Involve families/carers in the care of the child or young person;
- Value user's feedback; and
- Involve children, young people and their families in service planning and development.

### Patient safety and quality:

The service will provide high quality, equitable and safe care to children, young people and their families that will be benchmarked with comparable best international and national services, including adult services where appropriate. The service will:

- Deliver integrated primary, secondary and tertiary care to children, young people and their families, as part of an effective clinical care network;
- Support the delivery of care to children and young people as close to home as possible, where clinically appropriate, and based on best international practice;
- Make use of timely, accurate, easy to access electronic information in order to provide high quality and safe clinical care where it is most appropriate to treat the child and young person;
- Be delivered by an inter-disciplinary team, including members with an expanded scope of practice, in order to provide co-ordinated and integrated services for children, young people and their families;
- Be delivered by knowledgeable and competent staff, who maintain and upgrade their skills through continuous professional development;
- Establish appropriate referral pathways to and from primary, secondary, tertiary, and quaternary care;
- Conduct clinical and translational research to provide the evidence base for the delivery of high quality care; and
- Provide health promotion and disease prevention services.

### Rights-based service

The service will respect the rights of children and young people under the UN Convention of the Rights of the Child. In accordance with Article 19 of that Convention, the service will take all appropriate measures to protect the child from all forms of physical and mental violence, injury and abuse, neglect and negligent treatment, maltreatment and exploitation, including sexual abuse.

The service will develop its policies, procedures and practice in accordance with *Children First – National Guidelines for the Protection and Welfare of Children*.

The service will:

- Treat children and young people in an age-appropriate manner;
- Transfer young people from paediatric to adult services, where required, in a structured and planned manner;
- Recognise and respect diversity in the children and young people it treats; and
- Ensure equity of access by all children and young people.

## 4. International and national examples

In mapping out a future model of care for paediatric healthcare services in Ireland, consideration needs to be given to emerging international trends in paediatric healthcare, in particular those that have demonstrated improved clinical outcomes for children and young people.

### 4.1 International models of care for paediatric healthcare

Excellence in care and treatment is the primary objective of paediatric healthcare services in Ireland. The Model of Care Committee was determined to ensure that the new model of care for paediatric services in Ireland was informed by international best practice, and took full account of current and emerging trends in paediatric healthcare.

The Model of Care Committee was advised by the Hospital for Sick Children, Toronto, who identified the leading centers of high-quality paediatric healthcare around the world and identified their common characteristics, their operating models, and the trends that they were following.

The key trends that are influencing the development of paediatric healthcare around the world, and leading to improved clinical outcomes, are:

- Delivering services as close to the patient's home as possible, including community and home-based care;
- Treating patients as ambulatory wherever possible, and admitting them to inpatient care only where necessary;
- Concentrating expertise and experience in acute tertiary centres serving a critical mass of population;
- Using such centres to support integrated networks of tertiary, secondary and primary care;
- Co-locating such centres with adult hospitals;
- Reducing the average length of stay in hospital;
- Accommodating all patients in single rooms;
- Facilitating the involvement of parents and families in the care of their sick children;
- Creating interprofessional practices and interdisciplinary teams;
- Standardising care processes throughout the healthcare network;
- Using ICT extensively to facilitate remote diagnosis and treatment, and to enable timely communication between clinical experts, secondary and primary care providers, and patients and their families; and
- Integrating clinical practice with education and training, and with clinical and translational research.

In the leading centres around the world, these trends have resulted in the reconfiguration of services, through the development of ambulatory care centres and urgent care departments, not only as satellite facilities of the main hospital, but also located in regional and district hospitals, with appropriate outreach services from the main centre. They have also developed significant support structures for community and home-based care. There are many examples of paediatric healthcare systems that have already adopted or are currently adopting these approaches, with positive effects on the efficiency, effectiveness and safety of their delivery of care, including:

- The Hospital for Sick Children, Toronto, Canada (advisors to the NPHDB)
- Children’s Hospital of Philadelphia, USA (CHOP – see panel below)
- Children’s Hospital of Pittsburgh, USA
- Children’s Mercy Hospital, Kansas, USA
- Alder Hey Children’s NHS Foundation Trust, Liverpool, UK
- The Royal Manchester Children’s Hospital, UK
- The Royal Children’s Hospital, Melbourne, Australia
- The Children’s Hospital, Glasgow, Scotland (currently under development)

#### Example: Children’s Hospital of Philadelphia (CHOP)

The Children’s Hospital of Philadelphia is internationally recognised as one of the leading paediatric systems in the world. Its services are delivered through a number of facilities which vary in size, design and range of services provided. These include:

- **The main hospital**, which focuses on tertiary and quaternary inpatient care.  
The main 430-bed hospital is a highly developed facility with the capability of treating and managing complex conditions with high technology requirements. It incorporates a research centre, a dedicated ambulatory care unit and a rehabilitation centre for children with chronic illnesses.  
Emergency care is managed from the main site; minor injuries are directed to an urgent care centre within the department.
- **Satellite units** providing inpatient facilities at community hospitals. The hospital provides outreach services to a network of community hospitals, where inpatient care is provided under the supervision of physicians and nurses from the main hospital. This ensures a uniformly high standard of care throughout the network, while at the same time providing the care in a setting that is convenient for the patients and their families.
- **Specialised care centres** providing outpatient clinics and diagnostics. The specialised care centres include facilities for surgery, outpatient clinics and diagnostics, and are staffed by surgeons and anaesthetists from the main hospital. They allow a growing number of paediatric surgical procedures to be performed locally, without the need to attend the main hospital.

- **Primary care centres** providing urgent care.  
A number of primary and community care centres provide local urgent care services, supported by the emergency department at the main hospital. Out-of-hours cover is managed through a telephone triage system operated by nursing staff.
- **Home care services.**  
The Home Care Department provides comprehensive, family-centred care to children and their families in their homes with a team of paediatric nurses, doctors, pharmacists, respiratory therapists, social workers, dieticians and delivery technicians.

## 4.2 Specialty-specific models of care in Ireland

In Ireland, specific clinical specialties have led in developing a comprehensive agreed approach to their service delivery. These specialty-specific models of care already reflect many, if not all, of the guiding principles outlined above, and therefore contribute greatly to the development of a national model of care for paediatric services in Ireland.

### Example: Model of care for haematology and oncology

The National Paediatric Haematology & Oncology Centre (NPHOC) was established at Our Lady's Children's Hospital in 2002. The Centre has a concentration of staff with expertise and experience in a wide range of specialties that can deliver a comprehensive programme of care for children with cancer and blood disorders.

In 2007, the Centre adopted a shared care model with 16 regional hospitals which enables a programmatic approach to paediatric cancer treatment, with standards and quality controlled from the centre of expertise. The regional hospitals can now provide cancer services under the supervision of NPOCH, and in line with agreed care protocols governed by the oncology/haematology team in OLCH.

Under this shared care model, aspects of the child's care are shared between the child's local paediatric unit and the team in OLCH, creating an integrated and coordinated management model between the tertiary, secondary and primary care settings, including home-based care. The child or young person and their family have appropriate access to all three tiers of healthcare. The benefits of specialist care are combined with those of a more local service in the most effective, efficient and child-friendly way.

In conjunction with its regional partners, NPHOC has:

- Developed a formalised shared care arrangement;
- Implemented a robust communication strategy;
- Facilitated education and training; and
- Established audit and evaluation systems.

This model illustrates most of the features of the proposed model of care for paediatric healthcare services generally.

## B. The new national model of care for paediatrics in Ireland

**Part B** details the new model of care for paediatric healthcare services in Ireland. Key components of this model include:

- A clinical network for paediatric services, incorporating specific regional and local hospitals, and community and home-based services, in which the new national tertiary hospital will play a central role;
- Integration of the network through:
  - Standardisation of care processes;
  - Outreach services from the national tertiary hospital to regional hospitals and from regional hospitals to local hospitals;
  - Coordination of community and home-based care services by the national tertiary hospital;
  - Agreed referral and communication protocols;
  - Integrated ICT across the paediatric healthcare system;
  - A centralised and co-ordinated approach to paediatric professional education and research;
- An integrated approach to workforce planning;
- A shift in the delivery of healthcare from in-patient to ambulatory care;
- New role development and role expansion to implement new methods of healthcare delivery, both in hospitals and in community / home-based services;
- An agreed framework for the structured transition of young people from paediatric to adult services; and
- A co-ordinated and efficient retrieval and transport service.

These features are described in more detail over the next three chapters:

- Chapter 5, **A national paediatric network**, describes the integrated approach to paediatric healthcare across all levels in the healthcare system.
- Chapter 6, **Quality and standardisation of care processes**, explains how care processes need to be standardised across the entire healthcare system in order to ensure quality care for all children and young people.
- Chapter 7, **Supporting infrastructure**, describes the services that are needed in order to ensure that the system works safely, effectively and efficiently.



## 5. A national paediatric network

### 5.1 An integrated clinical and organisational network

Under the new model of care, paediatric healthcare services in Ireland will be delivered through an integrated clinical and organisational network of facilities. The network will consist of a number of interconnected complementary elements, each with the appropriate level of resources for the services it provides, in terms of expertise, equipment and operational support. The elements include

- The children and young people in need of care;
- The parents, guardians and families of the children being cared for;
- General practitioners and community healthcare workers;
- Local health clinics and inter-disciplinary primary care teams;
- Shared care services providing ambulatory care;
- Urgent care centres;
- Local hospitals<sup>4</sup>;
- Regional hospitals<sup>5</sup>; and
- One national tertiary children's hospital – the new Children's Hospital of Ireland.

These elements will work together to provide an integrated programmatic approach to paediatric healthcare. The elements will be connected by transport and retrieval systems, ICT links and movement of personnel to provide children and young people with continuous, high quality care that is appropriate to their clinical condition. The network will have common care protocols and appropriate referral mechanisms between the various elements to ensure that children and young people are at all times treated in the way most suited to their needs.

The elements in the network will be mutually supporting and complementary. Support may take the form of home visits, outreach services, or specialist diagnostic or clinical advice provided remotely. Equally it may take the form of in-reach or educational/training facilities and opportunities.

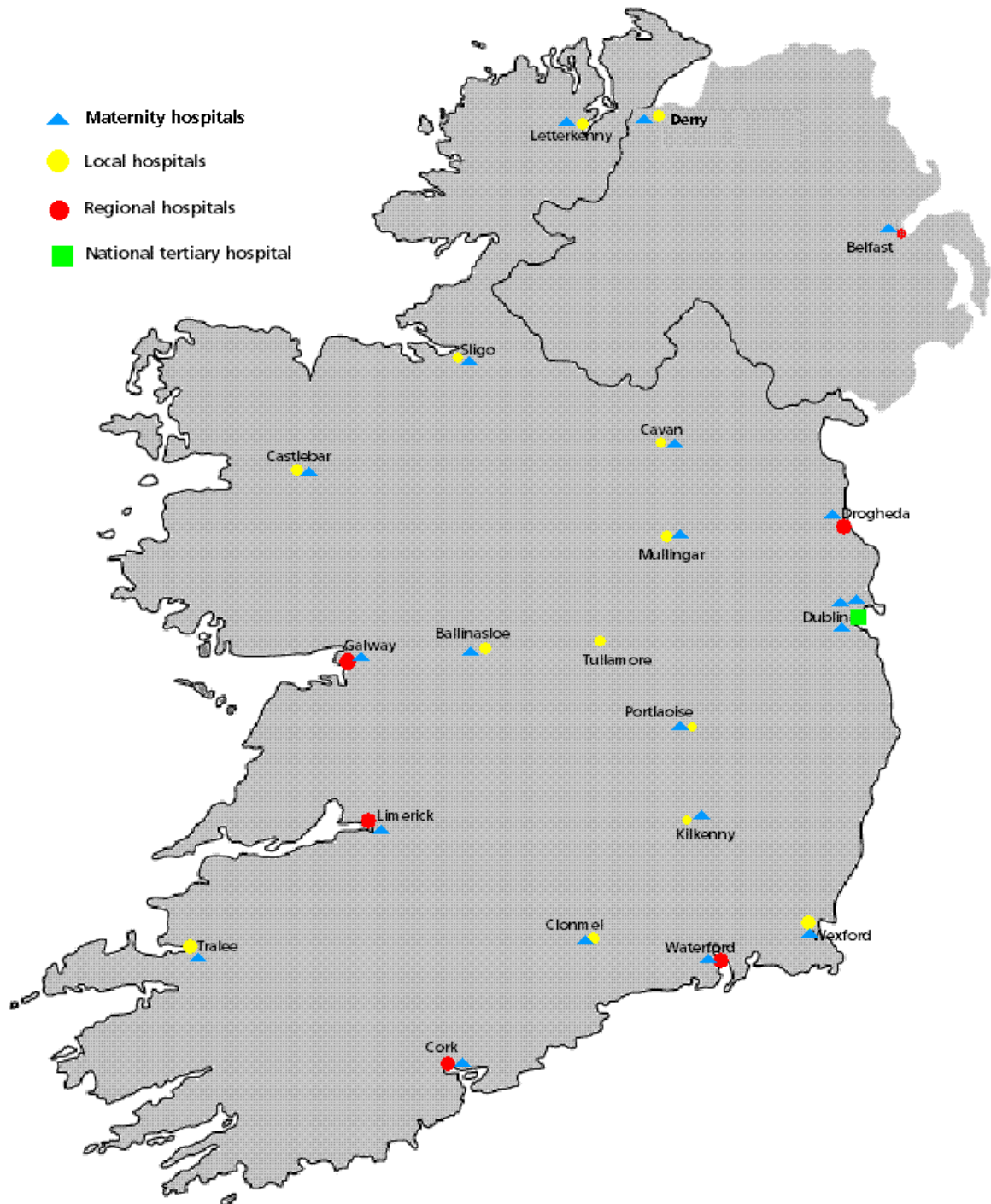
Patients may enter the system at the level that is appropriate to their condition, or they may be referred and/or transferred to one that is more appropriate. An important guiding principle for the safe and efficient operation of the network is that *the child or young person should be treated at the level that is most appropriate for their condition, and that they should be treated as close to home as possible.*

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<sup>4</sup> Local hospitals providing paediatric care currently include Ballinasloe, Castlebar, Cavan, Clonmel, Kilkenny, Letterkenny, Mullingar, Portlaoise, Sligo, Tralee, Tullamore and Wexford.

<sup>5</sup> Regional hospitals providing paediatric care currently include Cork, Drogheda, Galway, Limerick and Waterford. Incorporation of the paediatric unit in Belfast into this national network is for consideration by relevant policy making bodies.

The HSE is currently reviewing and reconfiguring acute hospital services in different regions in Ireland. As acute paediatric and maternity healthcare outside Dublin is provided in these services, any review and reconfiguration needs to reflect the 'hub and spoke' relationships between the national centre in Dublin and the regional and local hospitals outside Dublin, including certain Northern Ireland specialty services. It is important that this overall model be developed and adopted by all parties to ensure that the best possible services are provided in an effective, efficient and safe manner.



The development of this network will have a profound effect on the availability, efficiency and effectiveness of paediatric healthcare and on patient outcomes. Among other things, it will ensure:

- Delivery of care in or close to the patient's home whenever appropriate;
- Provision of ambulatory care rather than inpatient care whenever appropriate;
- Appropriate utilisation of national tertiary specialist expertise and facilities.

The child's level of clinical need will determine how and where they are treated. The national tertiary centre will accept all children requiring specialised national tertiary care in a timely fashion. Children will be transferred out of the national tertiary centre back to their regional and local units once they no longer require national tertiary-level care.

The development of the network requires the support and involvement of professional and educational stakeholders, including the Faculty of Paediatrics & Child Health and related medical colleges and faculties (surgery, radiology, emergency medicine, anaesthesia and pathology), An Bord Altranais, the National Council for the Professional Development of Nursing & Midwifery, and the professional bodies for allied health practitioners. The Model of Care Committee endorsed the recent (July 2008) publication by the Royal College of Paediatrics & Child Health's on the maintenance of standards in reconfiguring paediatric services, *Supporting Paediatric Reconfiguration: A Framework for Standards*. This publication provides guidance that will ensure improved outcomes for children and young people.

#### **Recommendation: Development of a national paediatric network**

- To support the new national model of care, the HSE should develop an organisational construct that supports a programmatic approach to the delivery and management of care and treatment for children and young people across Ireland's healthcare system.
- The NPHDB, the Faculty of Paediatrics & Child Health and related medical colleges and faculties, an Bord Altranais, the National Council for the Professional Development of Nursing & Midwifery and the professional bodies for allied health practitioners should work with the HSE to support a national paediatric network with the ability to deliver excellent healthcare services to children and young people throughout the country.
- Updates on the implementation of the new model of care and national paediatric activity and resource data should be presented to the Model of Care Committee at their quarterly meetings, where any appropriate adjustments to the model of care will be agreed.

## 5.2 Delivery of care as close to home as appropriate

One of the guiding principles underpinning the new national model of care for paediatric healthcare services is that clinically appropriate care and treatment should be delivered as close to the child's home as possible. This child-centred, family-focused approach to healthcare delivery will be supported by the following care delivery systems:

- **Outreach:** regional and local paediatricians will be supported by outreach tertiary clinics in the regional centres. This will provide tertiary care closer to the child or young person's home; and will enhance shared care through the development of professional relationships between regional and specialist paediatricians.
- **ICT support:** Outreach clinics must be supported by a facility to carry out satisfactorily supervised diagnostics and imaging, if required, at regional level. Appropriate ICT links between the Children's Hospital of Ireland and the regional hospitals will be essential for this to function effectively and efficiently. Telemedicine and tele-radiology will significantly enable and facilitate outreach services, and ensure efficient and effective utilisation of specialist resources. .
- **Shared care protocols:** Many specialist teams have already developed models of shared care for children from all over Ireland with serious and complex conditions. Other specialist areas must be explored for development of similar shared-care protocols.
- **In-reach:** There are international examples of medical staff, specialist nurses and allied health professionals in regional centres working in tertiary centres, on a rostered basis, to provide secondary acute care, while availing of the opportunity to maintain specialist knowledge and skills. This facilitates access to specialist inter-professional working, and supports expansion of scope of practice and the development of competencies and skills to support shared care services between national and regional centres.
- **Community-based children's nursing and healthcare professionals:** There are opportunities to expand the role of primary healthcare teams in the community to support changes in care delivery. Community-based children's nursing and allied healthcare professionals should be developed to address health promotion, child screening and an integrated approach to early discharge from in-patient facilities,.
- **Closer working with community and primary care:** There should be close liaison with primary care teams whose focus is on health promotion and disease prevention in the community. Children and young people with chronic conditions should receive appropriate care as close to home as possible. The development of home based care is an integral part of the model of care for paediatric services. Central to this development is the further engagement of GPs in the provision of community-based paediatric healthcare.

**Recommendation: Delivery of care as close to home appropriate**

Close liaison with the HSE is required in order to:

- Enhance community integration with acute hospitals and develop shared community / hospital paediatric teams;
- Advance the development of outreach and in-reach services;
- Develop an ICT system to support an integrated clinical network that values treating children and young people as close to their home as feasible and appropriate;
- Develop clear links and shared care with primary care practitioners with close communication with the ICGP; and
- Support the development of expanded scope of practice for health professionals to better support the provision of care and treatment close to, or, if appropriate, in the home.

### 5.3 Shift from inpatient care to ambulatory care

In line with international best practice, the model of care will require a shift, where appropriate to the patient's condition, from inpatient care to ambulatory care, and from hospital-centred care to home-based care. Inpatient treatment should be reserved for those children with acute severe illnesses and chronic complex conditions requiring inpatient treatment.

Ambulatory care – including outpatient clinics, surgical and medical day care procedures, nurse specialist and allied health professional services – will be provided at the national tertiary centre, the A&UCC at Tallaght, and at the regional and local hospitals.

Children in hospital should be discharged as soon as practicable, using ambulatory and community clinical support services to facilitate discharge and completion of the treatment at home where possible and appropriate.

All in-patient treatments should be reviewed and, using international practice standards, where appropriate, safely shifted from being in-patient-based to ambulatory-care-based. Agreed protocols will be required in order to determine a child's suitability for ambulatory care and the optimum location for delivery of that care. If a child needs to be admitted from ambulatory care, agreed protocols must be in place to guide their transfer to an appropriate inpatient facility.

Parent and child accommodation (in a hostel or hotel) should be available to enable children from outside Dublin, where appropriate, to attend the ambulatory care units in Dublin (at the hospital in Eccles St and at the A&UCC at Tallaght), rather than being admitted as inpatients for day procedures because of geographical constraints.

### Recommendation: Shift from inpatient care to ambulatory care

- An ambulatory care sub-committee of the Model of Care Committee should be established to recommend appropriate treatments for ambulatory care across all acute paediatric services.
- An ambulatory care sub-committee of the Model of Care Committee should also determine the clinical criteria for admission to ambulatory care in the hospital in Eccles St and at the ambulatory care centre at Tallaght.
- Appropriate hotel or hostel accommodation should be provided in order to facilitate children from outside of Dublin attending for day surgery or medical procedures.

## 5.4 Appropriate utilisation of resources

As recommended by McKinsey, the population of Ireland can sustain only a single national tertiary centre. Therefore, national specialist expertise, skills, competencies and equipment must be utilised appropriately, especially as some specialties have limited resources.

Better utilisation of national tertiary resources will be facilitated by:

- Enhanced communication between the national tertiary hospital and the regional and local paediatric units;
- Secondary and tertiary care provided in the appropriate setting (national, regional or local);
- The shift from inpatient to ambulatory care, which will allow for more efficient use of inpatient beds;
- The development of secondary, community and emergency paediatric services, which will enable tertiary paediatricians to focus on specialist work and ensure that children throughout Ireland receive appropriate, high quality clinical care;
- The development of these areas of paediatric care will ensure that appropriate secondary care is provided to those who need it, and that secondary holistic care is provided to children and young people with complex conditions attending national tertiary specialists. It will also facilitate appropriate referral to national tertiary specialists.

### Recommendation: Appropriate utilisation of resources

- A specific taskforce should be established to plan national tertiary service delivery. This includes clarifying services that have a national remit, reviewing shared care, multi-disciplinary team working, outreach clinics, effective use of telecommunications, availability of national tertiary specialists to regional and local paediatricians, referral and admission protocols, expanded scope of practice for healthcare professionals and, where appropriate, new role development.
- A sub-committee should be established to develop a department of secondary, community and emergency paediatrics in the Children's Hospital of Ireland. This sub-committee should consider the potential for involvement of regional and local paediatricians in the work of the Children's Hospital of Ireland.

## 5.5 Emergency and urgent care in the greater Dublin area

Based on current emergency department attendances at children's hospitals in Dublin, attendances in 2021 are expected to reach 120,000. International experience suggests that it is difficult to manage a single department with more than 80,000 attendances per annum. The decision to establish emergency facilities both at the hospital in Eccles St and at Tallaght is thus supported by projected activity levels, as well as by patient and family preferences to be treated closer to home when appropriate.

The quality of clinical care delivered at the A&UCC at Tallaght will equal the quality of clinical care delivered at the tertiary centre in Eccles St. This will be dictated by a common clinical governance structure and standardised protocols and guidelines, adherence to which will be regularly audited and measured.

The same consultant staff will be responsible for, and work across, both units, providing a consultant-led service with a team of doctors, Advanced Nurse Practitioners in Emergency Paediatric Nursing, paediatric nurses and healthcare professionals and support staff. The new hospital will provide the opportunity to explore expanded roles across the clinical professions. Staff will be rotated across both sites to maintain competencies and support continuity of standards.

The inclusion of short-stay units in both the Emergency Department and the A&UCC will facilitate short-stay assessment, investigation, observation and treatment without the need to admit to inpatient beds. This supports the reconfiguration of inpatient services and the move towards a more ambulatory model of care for the future, as recommended in the Royal College of Paediatrics & Child Health's *Short Stay Paediatric Assessment Units: Advice for Commissioners and Providers* (2009).

Children and young people seen in the A&UCC at Tallaght who require inpatient care (approximately 8% of attendees) will be transferred safely to the inpatient unit at Eccles St. Similarly, children who present to the A&UCC at Tallaght and who are critically ill will be stabilised and transported to the critical care unit at the national tertiary hospital at Eccles St.

### Recommendation: Emergency and urgent care in Dublin

- An Emergency Department Sub-Committee should be established to define the operational protocols for emergency and urgent care on both sites of the Children's Hospital of Ireland.
- An awareness and education campaign should be conducted to ensure that the primary care providers, ambulance workers and the local population are aware of the facilities, services and hours of operation of the A&UCC.
- Transport implications should be considered under recommendations relating to transport and retrieval<sup>6</sup>.
- Workforce implications need to be considered by the workforce sub-committee<sup>7</sup>.

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<sup>6</sup> See recommendation in 7.1.

<sup>7</sup> See recommendation in 7.3.



## 6. Quality and standardisation of care processes

### 6.1 Care processes

The provision of high quality care throughout the network will depend critically on standardisation of care processes that are equitable, integrated and quality assured. The guiding principle is that all children in Ireland, attending any paediatric healthcare service, will have equal access to high-quality clinical care appropriate to their condition.

- Care processes and data requirements will be standardised nationally in order to consistently deliver quality care;
- The full inter-professional clinical team will be involved in the development of protocols and guidelines for clinical care;
- Strategies will be adopted to ensure that a consistently high standard of care is delivered, including:
  - Consultant-led care within hospitals, GP-led care in the community, with strong communication and collaboration between primary, secondary and tertiary care services;
  - Development, dissemination and adoption of agreed national protocols and guidelines for specific conditions, including home-based care and care by GPs, local hospitals and regional hospitals;
  - Strong clinical governance structures within all paediatric care areas, supported by an appropriate organisational structure in the HSE;
  - Measurement of the quality of care through regular national paediatric clinical audits;
  - Clinical and health services research that will inform practice in clinical care and service delivery;
  - Ambulatory and emergency facilities in the hospital in Eccles Street and in the A&UCC at Tallaght, which will be designed and built to ensure a common standard of clinical care; and
  - The application of the design principles and standards set for the Children's Hospital of Ireland to any new or refurbished paediatric facilities elsewhere in Ireland.

**Recommendation: Standardisation of care processes**

- A taskforce should be established to develop and standardise specialty-specific care processes within paediatric services. This taskforce should be led by the NPHDB in collaboration with the HSE's National Director of Clinical Care & Quality.
- Standards for paediatric healthcare should be established in consultation with HIQA, the Faculty of Paediatrics & Child Health, related medical colleges and faculties, An Bord Altranais, the National Council for the Professional Development of Nursing & Midwifery and the professional bodies for allied health practitioners.
- The HSE in collaboration with HIQA should develop a quality improvement culture and system in paediatrics, which should be adopted by all stakeholders, driven by and from the new Children's Hospital of Ireland.
- Nationally agreed care and treatment protocols and guidelines should be developed and endorsed by the Faculty of Paediatrics & Child Health and related medical colleges and faculties. Such protocols and guidelines should be developed with the involvement of all relevant professions.
- Agreed protocols and guidelines should be disseminated to all paediatric units nationally.
- A specific taskforce be established to study the clinical and non-clinical resource requirements needed to implement the new model of care<sup>8</sup>.
- A clinical audit support unit should be established in the Children's Hospital of Ireland, to support audit across the paediatric healthcare system.
- A consultation process should be established to facilitate the continuing involvement of children, young people and their families in the design of the new Children's Hospital of Ireland and in the development of its operational policies.

**6.2 Structured transitions**

The Children's Hospital of Ireland will work with maternity services throughout the country to agree a set of standard protocols for the transfer of neonates. It will also establish protocols and procedures for transitioning babies from neonatal care to paediatric care, both within the hospital and between different facilities.

The development of the new Children's Hospital of Ireland provides the opportunity to establish a framework for structured transition from paediatric to adult healthcare services for children and young people with chronic medical and surgical conditions.

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<sup>8</sup> See recommendation in 7.3

Young persons attending the new Children’s Hospital of Ireland with chronic conditions requiring ongoing medical care should have that care provided in the most appropriate local adult healthcare facility.

The framework developed for this transition process must apply to all young people moving from a paediatric service to an adult service.

**Recommendation: Structured transitions**

- A committee should be established, representing all stakeholders, to establish protocols and procedures for transfer of neonates and for transitioning from neonatal to paediatric care.
- A committee should be established to design a framework and develop common processes for transition from paediatric care to adult care services.

**6.3 Paediatric palliative care**

The aim of palliative care is to achieve the best quality of life for children who are faced with life-limiting illnesses and support for their families, in particular by providing a total approach to care, embracing physical emotional, social and spiritual elements, including the management of distressing symptoms, provision of respite, and care through death and bereavement.

A systematic, coordinated and informed approach to the provision of paediatric palliative care will ensure that appropriate services are embedded into Ireland’s paediatric healthcare system. The required services include assessment (initial and ongoing), care co-ordination, clinical care and support care.

The Children’s Hospital of Ireland palliative care team will have a particularly important role in ensuring that suitable care is available for all terminally ill children. It will also provide advice and assistance on such care to staff in other hospitals and in the community. It will coordinate services for the dying child and their family, to ensure that they continue to receive support in their community or home when the child is discharged from hospital.

**Recommendation: Paediatric palliative care**

The new Children’s Hospital of Ireland should co-ordinate specialised paediatric palliative care services, and ensure that such services are consistent throughout the country.

## 7. Supporting structures and processes

The paediatric healthcare network will require organisational structures and processes at a national level in order to function in an optimum manner. These will include:

- Transfer of children within the network;
- Information and Communications Technology (ICT);
- Workforce planning; and
- Education and research.

### 7.1 Transfer of children within the network

The development of a reliable, safe, timely and efficient neonatal and paediatric transport and retrieval system, within Dublin and nationwide, is essential to the effective operation of the network of paediatric healthcare services in Ireland. This service should function 24 hours a day, seven days a week. It should be coordinated centrally and cater for retrieval requirements both nationwide and internationally.

The NPHDB acknowledges that efforts are already underway to progress a centralised system for neonatal and paediatric retrieval through the work of the recently established Irish Paediatric Critical Care Network.

#### Transfer from transitional care units

Transfer from the transitional care unit in the new children's hospital to the child's regional or local hospitals or to home:

National agreed standards of care are needed to ensure that children and young people who are being transferred from the Children's Hospital of Ireland to their regional or local hospital or to home are cared for under a standard protocol. A central co-ordination point should be established to coordinate integrated discharge planning for this complex group of children and young people. Further discussion is required to decide if this should be at a national or regional level.

#### Perinatal transfer and retrieval

There should be a central co-ordination point for perinatal transfer and retrieval facilitating liaison between maternity, neonatal and specialist paediatric medical and surgical services.

### Recommendation: Transport of children within the network

- A national neonatal and paediatric transport and retrieval service should be developed in consultation with the HSE and the Irish Paediatric Critical Care Network.
- The Children's Hospital of Ireland should coordinate this national service to ensure safe and efficient transfer between the different network points and to/from the child's home. It should also coordinate discharge from transitional care to regional, local or home-based care.
- Perinatal transfers should be centrally coordinated.

### Transfers from the A&UCC at Tallaght to Eccles St.

There will be a requirement to transfer children from the A&UCC at Tallaght to the main hospital at Eccles Street, either because they are to be admitted as inpatients, or because of the opening hours at the A&UCC. This is similar to the situation at present, as children have to be transferred from the NCH, Tallaght to OLCH, Crumlin and CUH, Temple St.

The requirement for transfers may be greater in the early days of operation of the A&UCC, as patients may present at the facility that is not appropriate to their needs, and have to be transferred. This issue will be addressed by a programme of public awareness and education, by ensuring that primary care providers and ambulance workers are fully informed about the facilities and services at the Children's Hospital of Ireland both at Eccles Street and at Tallaght, and by publishing standardised care processes that will guide practitioners in their decision to refer children and young people to the appropriate location.

The NPHDB recognises that patient safety is paramount, and that systems and protocols will be required to ensure safe transfer between the two locations.

### Recommendation: Transfers from the A&UCC

- The Emergency Department Sub-Committee<sup>9</sup> and the Ambulatory Care Sub-Committee<sup>10</sup> of the Model of Care Committee, in collaboration with the ambulance and Air-Corps services, should review the requirements for the safe transfer of patients from the A&UCC to the hospital at Eccles St and make specific recommendations.
- The transportation performance of the A&UCC should be audited at regular intervals, and further recommendations made, if necessary.

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<sup>9</sup> See recommendation in 5.5

<sup>10</sup> See recommendation in 5.3

## 7.2 Information & Communication Technology

The effective and efficient operation of the national network of paediatric healthcare services will require changes in care processes, better-informed clinical decision making and greatly improved communications between paediatricians around the country. A fully integrated ICT system built to support fully integrated care processes will be a core component in the new model of care. It will allow increased efficiencies and appropriate use of skilled staff, as well as supporting a greatly enhanced system of care.

The national integrated network of paediatric healthcare services will require robust telecommunication links between the national, regional and local hospitals, GPs and the child's home. Appropriate ICT links will be needed to support supervised imaging, remote diagnostics and telemedicine, as well as communication between healthcare professionals. The proposed NIMIS imaging project is an example of this proposed level of integration. An electronic patient record is also essential for the successful delivery of high quality clinical care across the national network.

The NPHDB has established an ICT Steering Group to deliver on this ambitious undertaking. This ICT Steering Group will work closely with the HSE ICT Department to plan, design and implement an integrated ICT system that will enable existing services to be delivered more effectively, and facilitate the delivery of new paediatric healthcare services. The Model of Care Committee is firmly of the view that care processes and data requirements must be standardised before ICT systems are commissioned.

### Recommendation: Information & Communication Technology

- Care processes and data requirements must be standardised by the committee on care processes<sup>11</sup> before ICT systems are commissioned;
- The NPHDB ICT Steering Group should be guided by the standardised care processes;
- The NPHDB ICT Steering Group should work closely with clinicians in the development of ICT for paediatric healthcare; and
- The NPHDB ICT Steering Group should work closely with the HSE ICT services to implement an integrated system across all paediatric services.

## 7.3 Workforce planning

Future workforce requirements for the delivery of paediatric healthcare in Ireland under this new national model of care will need to be analysed, in consultation with the professional bodies and the colleges and faculties, to ensure that the appropriate paediatric skills are available at each point in the network. The aim should be to ensure that each level has the expertise appropriate to its role in the network, in terms of specialties such as

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<sup>11</sup> See recommendation in 6.1.

anaesthesia, radiology, general paediatric surgery, ENT and orthopaedics, and in terms of primary care team members in the community.

The HSE should review the skill-mix of the paediatric workforce in the regional and local paediatric units as part of its acute hospitals review process. Further discussion is required regarding the needs of local hospitals.

The merging of services currently provided in three children’s hospitals in Dublin into one hospital presents many opportunities for workforce re-configuration. The shift towards ambulatory care under the new model of care also has workforce implications, as does the treatment in Dublin of ambulatory and urgent care across two sites. A sub-committee will be established to quantify and detail these implications, in conjunction with the three existing children’s hospitals and the HSE.

#### Recommendation: Workforce planning

- A workforce sub-committee will be established to work with the three existing children’s hospitals and the HSE in order to examine the clinical resources required to deliver services under the new model of care.
- National paediatric activity and resource data should be analysed by the HSE as part of its acute hospital reconfiguration programme and feedback presented to the Model of Care Committee at their quarterly meetings.

## 7.4 Education and research

Teaching and training opportunities, and responsibility for undergraduate and postgraduate education and training in medicine, nursing and the allied health professions will be shared throughout the national paediatric network, with planned and equal access to the national tertiary centre and the regional centres to all.

Because the Children’s Hospital of Ireland will integrate clinical services with academic education and child health research, it will be the major paediatric education and training centre in the Irish health service. Education and research facilities at the Children’s Hospital of Ireland will include a world-class interdisciplinary academic Centre for Education and Training, and a world-class paediatric Research Institute that will promote and coordinate high-quality clinical and translational research.

#### Recommendation: Education and research

- The Children’s Hospital of Ireland should be the major paediatric education and training centre in the Irish health service. It should also promote and coordinate high-quality clinical and translational research that will support the new national model of care for paediatric healthcare in Ireland.

# Appendix 1: Model of Care Committee

Dr Emma Curtis	Medical Director, NPHDB (Chair)
Ms Pauline Ackermann	Speech & Language Therapy Manager, CUH, Temple St
Mr Lorcan Birthistle	CEO, OLCH, Crumlin
Prof. Billy Bourke	Professor of Paediatrics, UCD and Consultant Paediatric Gastroenterologist, OLCH, Crumlin
Ms Helen Byrne	Paediatric Planning Specialist, National Hospitals Office, HSE
Mr Paul Cunniffe	CEO, CUH, Temple St
Ms Linda Dillon	Child & Parent Advocate, Board Member, NPHDB
Dr Pat Doherty	Consultant Paediatric Anaesthetist and Chairman Medical Board, OLCH, Crumlin
Dr Veronica Donoghue	Consultant Paediatric Radiologist, CUH, Temple St
Ms Fionnuala Duffy	Assistant National Director; Planning and Development, National Hospitals Office, HSE
Ms Grace Fraher	General Manager, Primary and Community Care Representative, HSE
Dr Norma Goggin	Consultant Paediatrician, Waterford Regional Hospital and Representative of Faculty of Paediatrics & Child Health, RCPI
Ms Eilish Hardiman	CEO, NPHDB
Dr Owen Hensey	Consultant Paediatrician, CUH, Temple St, Board Member, NPHDB
Dr Ciara Martin	Consultant in Paediatric Emergency Medicine, AMNCH, Tallaght
Dr Eleanor Molloy	Consultant Neonatologist, National Maternity Hospital, Holles St
Prof. Alf Nicholson	Professor of Paediatrics, RCSI and Consultant Paediatrician, CUH, Temple St
Ms Rita O'Shea	Director of Nursing, CUH, Temple St
Dr Paul Oslizlok	Consultant Paediatric Cardiologist OLCH, Crumlin
Mr Feargal Quinn	Consultant Paediatric, Surgery, OLCH, Crumlin
Ms Geraldine Regan	Director of Nursing, OLCH, Crumlin
Prof. Owen Smith	Consultant Paediatric Haematologist, OLCH, Crumlin
Mr David Wall	ICT Manager, CUH, Temple St



## Project support

Ms Helen Dunne	Business Services Team, NPH Project
Mr Derek Mowlds	Business Services Team, NPH Project
Ms Cathy Sequin	Vice President International Affairs, Hospital for Sick Children, Toronto
Ms Deirdre Foley-Woods	Business Services Team, NPH Project

## Appendix 2: Acronyms & abbreviations

A&UCC	Ambulatory & Urgent Care Centre
CEO	Chief Executive Officer
CHOP	Children’s Hospital of Philadelphia, USA
CUH, Temple Street	Children’s University Hospital, Temple Street
Dept	Department
HSE	Health Service Executive
ICT	Information and Communications Technology
NCH	National Children’s Hospital, Tallaght
NICU	Neonatal Intensive-Care Unit
NPHDB	National Paediatric Hospital Development Board
OLCH	Our Lady’s Children’s Hospital, Crumlin
PICU	Paediatric Intensive Care Unit

## Appendix 3: References

(to be completed)