Review of Paediatric and Neonatology Services and Framework for Future Development

National Clinical Programme for Paediatrics and Neonatology

Clinical Strategy and Programmes Directorate, HSE Royal College of Physicians of Ireland

July 2013
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Foreword

The National Clinical Programme for Paediatrics and Neonatology were established in June 2011 by the Clinical Strategy and Programmes Directorate of the HSE and the Faculty of Paediatrics, Royal College of Physicians of Ireland. Professor Alf Nicholson (Paediatric Programme) and Dr John Murphy (Neonatal Programme) were appointed as joint national leads. To facilitate them in carrying out their roles, a multi-disciplinary Working Group and a Clinical Advisory Group were established.

The Working Group meet every 6-8 weeks and is co-chaired by Professor Alf Nicholson and Dr John Murphy with Ms Grace Turner as Programme Manager. The Paediatric Clinical Advisory Group has broad representation and is chaired by Professor Hilary Hoey (Dean of the Faculty of Paediatrics) which meet on bi-monthly basis. The Neonatal Clinical Advisory Group, under Chairman Dr. Martin White, meet on a bi-monthly basis also. All recommendations from the Working Group are agreed by the Clinical Advisory Groups, Directors of Nursing and Midwifery Reference Group, Therapy Managers Advisory Group and other stakeholders prior to implementation. The Programme has been actively engaging with the Paediatric Patient Reference Group which has been established to allow the inclusion the voice and experiences of children and their families in service development initiatives. The Programme has a general practitioner representative and liaises with the Irish College of General Practitioners in relation to paediatric primary care issues.

Throughout the year, the national leads have been engaged in an extensive consultation process, involving a formal site visit to every paediatric department in the country. Sincere thanks to all paediatricians, neonatologists, nursing and midwifery, allied health professionals and administrative staff across the country for their hospitality and for sharing their observations and experiences in such an open way as one could never fully understand how services are delivered and local issues arise if the site visits had not happened. Professor Alf Nicholson, Dr John Murphy and Ms Grace Turner compiled this Review of Services and Framework for Future Development. This report is the findings of our deliberations and avoids in-depth site specific analysis but rather focuses on broad themes with recommendations based on realities on the ground.

Membership of Working Group

Professor Alf Nicholson | National Lead in Paediatrics
Dr John Murphy | National Lead in Neonatology
Ms Grace Turner | Programme Manager
Dr Brian Osborne | GP Lead in Paediatrics
Dr Fenton Howell | Public Health Specialist
Dr Sean Denyer | Public Health Specialist
Ms Mary Murray | Community Paediatric Nurse
Ms Hilda Wall | Neonatal Nurse
Ms Helen Byrne | Paediatric Lead, Quality and Patient Safety Directorate
Ms Margaret Rafferty | Health and Social Care Professions - Physiotherapy
Ms Ruth Gallagher | Health and Social Care Professions – Speech and Language Therapy
Ms Karen Cowan / Ms Michelle Hurley | Health and Social Care Professions – Dietetics

Paediatric Clinical Advisory Group

Professor Hilary Hoey, Chair | Dr Louise Kyne
Dr Michael Barrett | Dr Imelda Lambert
Dr Ray Barry | Dr Paul McNally
Dr Jean Donnelly | Dr Edina Moylett
Dr John Fitzsimons | Dr Nuala Murphy
Dr Peter Greally | Dr John Murphy
Dr Elma Hedderman | Prof Alf Nicholson
Prof Jonathan Hourihane | Dr Brendan O’Hare
Dr Ailis Quinlan  
Dr Edna Roche  
Dr Dubhfeasa Slattery  
Dr John Twomey  
Dr David Vaughan  
Dr Martin White

Neonatal Clinical Advisory Group
Dr Martin White, Chair  
Dr Michael Boyle  
Prof Thomas Clarke  
Dr David Corcoran  
Dr Eugene Dempsey  
Dr Peter Filan  
Dr Alan Finan  
Dr Adrienne Foran  
Dr Emma Gordon  
Dr Paul McMahon  
Dr Jan Miletin  
Prof Eleanor Molloy  
Dr Brendan Murphy  
Dr John Murphy  
Dr Ailis Quinlan  
Dr Ethel Ryan  
Dr John Slevin  
Dr Anne Twomey  
Dr David Vaughan

List of Hospitals Visited
Cavan General Hospital - 15/2/12
Children’s University Hospital, Temple Street - Aug ’12
Coombe Women and Infant’s University Hospital - 28/6/12
Cork University Hospital - 15/6/12
Kerry General Hospital - 6/6/12
Letterkenny General Hospital - 12/4/12
Mayo General Hospital - 28/6/12
Mercy University Hospital - 15/6/12
Midwestern Regional Hospital, Limerick (incl Maternity) - 25/1/12
Midlands Regional Hospital, Mullingar - 11/11/11
National Maternity Hospital, Holles Street - 1/7/12
Our Lady of Lourdes Hospital, Drogheda - 24/2/12
Our Lady’s Children’s Hospital, Crumlin - 2/9/12 & 5/4/12 (ICU)
Portiuncula Hospital, Ballinasloe - 19/4/12
Portlaoise Midland Hospital - 2/12/11
Rotunda Hospital - 27/6/12
Sligo Regional Hospital - 6/6/12
Southeast Hospitals - 25/7/12
South Tipperary General Hospital, Clonmel - 14/3/12
St. Luke’s Hospital, Kilkenny - 14/9/11
Tallaght Hospital – November 2011
University Hospital Galway - 25/4/12
Waterford Regional Hospital - 26/10/11
Wexford Regional Hospital - 31/3/12
1. Executive Summary

Nothing matters more to families than the health, welfare and future success of their children. They deserve the best care because they are the life-blood of the nation and vital for our future. There are just over one million children in Ireland – almost a quarter of the total population.

In order to get a complete picture as to what level and quantum of service was being delivered, throughout the year, the National Leads engaged in an extensive consultation process, involving a formal site visit to every paediatric department and neonatal unit in the country.

The contents of this report reflect the findings of those visits. In addition, the report also draws on the international experience elsewhere in paediatrics. This report is intended to bring a sense of reality to how children requiring primary or specialist neonatal/paediatric care receive that care at present and how services might be improved in the future. It is hoped that this Review and Framework for the Future generates a level of debate about the appropriate care of children. This should then pave the way to develop a national model of care for all the children in this country, one which is appropriate to the 21st Century.

This Review and Framework for the Future is the first phase in the process of improving the services that are available to children and their families. After a period of consultation with high-level stakeholders, the National Clinical Programme for Paediatrics and Neonatology will, in collaboration with service providers, progress the recommendations. This will involve implementing change at a local and national level, undertaking a review of specialist and tertiary services (Phase 2) and drafting a model of care for paediatric and neonatal services nationally (Phase 3). Many of the changes to be made can be done in advance of the publication of a model of care. There will be a focus initially on changes that can be made that require little or no additional resource allocation.

Overall Reflections from the Site Visits

During our visits to the paediatric and neonatal departments we were grateful to the departments for their openness to share observations and experiences and for allowing the programme to gain a greater understanding of the local issues that persist.

A number of overall reflections based on our discussions with child health professionals across the country include:

- The need for an increased focus on health promotion, support for parenting and improving child and young person well being.
- The need for greater child, young person and family involvement in the planning of child and adolescent services.
- The need for data which reflects the quality of service provision across the country. Quality metrics should be part of the clinical activity within all units. This is essential for continual quality improvement.
- The need for consistent and standard levels of clinical and corporate governance in paediatric units.
- An increasing child population has increased levels of referrals from primary care for both scheduled and unscheduled care. This consequently increases waiting times for scheduled care and increases the number of children and young people seen out of hours. The facilities available for children and young people while in the emergency departments are often not appropriate (e.g. lack of audio-visual separation between and adults and children).
- The need to develop a national plan for the delivery of neonatal care.
- The expansion of the neonatal retrieval service and the establishment of the acute paediatric retrieval service are both high priorities.
• There is agreement among departments that there should be a ‘cut off age’ for admission to Paediatric Services, and that this age should be 16 years. There are many issues regarding managing older adolescents in a paediatric environment.
• Tertiary services in Dublin are both fragmented and duplicated. Tertiary specialties should further develop national clinical networks. The new National Paediatric Hospital (NPH) will become the hub for paediatric care nationally but a national model for integrated care is required to avoid the ‘magnet effect’ the NPH may create.
• The need to look at different models of acute care delivery (rapid response / paediatric assessment unit and short stay observation unit proposals) and the role of the general paediatrician should to be reviewed and expanded.
• The need for a National Service Framework (NSF) for children and young people in Ireland (akin to the NSF developed in Scotland, Wales and Northern Ireland).

Ten Pillars/Principles to Underpin the Future Care of Children and Young People in Ireland

Based on our discussions had with healthcare professionals throughout the country coupled with best practice internationally, the following pillars/ principles would help underpin the future care of children and young people in Ireland.

1. Involve and empower parents and patient groups in decisions
The doctor-patient relationship is changing. Doctors have always worked for sick children and their families but not necessarily with them. The development of partnerships between doctors and parents for the best care of the child is still evolving and there is now a unique opportunity to advance this accordingly. Healthcare professionals need to listen to patients and their families to understand their needs and develop a culture of partnership which promotes shared decision making in health care.

2. Focus on quality improvement
The service provided should aim to provide high quality, equitable and safe care to children, young people and their families that is benchmarked with comparable best international and national services, including adult services where appropriate. For example, trainees should receive further additional teaching and training using scenarios to improve their skills for assessment and effective management of the acutely sick child. In addition, quality improvement training is required to develop leadership and teach the knowledge and skills required to change services for the better.

3. Improve access to scheduled care for children
There is a need to ensure that children and young people access the necessary generalist or specialist paediatric care as appropriate, in a timely manner, and as close to home as possible, in an appropriate environment. This will require primary care practitioners, paediatricians and health care managers working together to ensure that the model of care is developed with children and young people at the centre. There are 87,400 in-patient paediatric hospital discharges annually. With improved OPD facilities and expanded diagnostics this inpatient number should decrease.

4. A consultant delivered service
A consultant-delivered paediatric service is a key element for delivering better patient care in Ireland. In a consultant-delivered service the consultant paediatrician is clinically responsible for the care the patient receives during the course of treatment. In essence it means that the consultant will either provide hands-on care or closely supervise, in the clinical setting, all aspects of the care received by the child.

In order to achieve this level of care there is a need to increase the number of consultant general paediatricians. Formal manpower planning is required to ensure that graduates of the paediatric training programme have the skills and expertise required to meet the health care needs of children attending Irish health services in the future.

5. Improve primary care of children
The vast majority of care children receive is in primary care. Our primary care services should be able to provide for the management of acute and chronic childhood conditions, health surveillance, health promotion and disease prevention. General practitioners and their staff need appropriate training for providing a practice-based quality child health service for the 21st century. Primary care should be appropriately resourced to provide this service.

6. Develop a national model of care for newborns
There are 19 neonatal units in the country, operating at different levels of complexity. There is a need to group the various units into appropriate networks to ensure that the newborns most in need are managed by appropriately trained neonatologists.

At present, the number of neonatologists dedicated to providing neonatology services is below what one would expect internationally. Proper manpower planning should be put in place to ensure a consultant delivered neonatology service. In addition, the need to have appropriate neonatal trained nurses and allied health professionals in place requires urgent attention.

7. Develop a retrieval service for newborn and paediatric retrieval
In order for neonates and children to be managed in the most appropriate setting, national neonatal and paediatric retrieval services need urgent implementation. The need to expand the neonatal retrieval service to a 24/7 service has been recognised for a number of years. It is a service that is being universally demanded by all referring hospitals in the State. The planning is complete and the funding has been obtained. Very little effort is now required to complete this crucial service.

Further work should be done in order to ensure that a paediatric retrieval service can be put in place. Additional consultant intensivists should be appointed. A robust service model should be put in place in order to deliver a coordinated, responsive and effective service.

The development of a national retrieval service is the number one priority in terms of child safety and risk management, but will require significant added resources.

8. Plan for the future using predictive analytics
It should be recognised that there are changing trends in paediatrics and we must be responsive to these trends. This includes: developments in immunisation which could significantly reduce some current childhood illnesses, health promotion initiatives (e.g. folic acid food fortification) which could reduce the incidence of some diseases, ongoing rise in atopic illness, enhanced technology advances which can improve the survival of children who might previously not survived their condition, improved survival of children with chronic conditions and many more. These potential changes in the paediatric landscape should be incorporated into any national model of care for children being developed.

9. Set national service standards for paediatric departments and insist on accurate data collection of a minimal dataset
There is a lack of a standardised minimal dataset across the country describing/measuring how paediatric care is managed and delivered across the different paediatric departments. In moving to a national model of care this should be addressed.

In addition, there should be clear service standards put in place across all departments to ensure the best possible, equitable and safe care is available to children and their families.

10 Focus on health promotion, prevention and screening
Children and their parents, and the wider societal environment should be aware that there is much that can be done to protect the health of children. Health promotion campaigns and supports that ensure the best possible outcome from pregnancy are vitally important. Immunisation programmes, injury prevention programmes, screening and early detection of existing conditions with timely intervention can make a significant difference to the health and well being of children.
Develop Good Practices as the Norm

It is clear from this report that there are variations between how units operate. For example, the rate of admission to a neonatal unit in Ireland varies from approximately 8 to 21% of all births depending on where the baby is delivered. For outpatient departments, the new to return ratios range from 1:1.1 to 1:6. Did Not Attend rates range from 8% to 37% between hospitals. There is variation between the number of OPD appointments per WTE.

It may be that in some cases the variations are justified, however the variations may point to an opportunity to increase clinical effectiveness and productivity if standard good practices are adopted nationally.

Examples of areas of good practice that could be easily adopted and will be explored by the National Clinical Programme for Paediatric and Neonatology are:

### Safety

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<tr>
<th>Good Practices</th>
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<tr>
<td>Paediatric Early warning score (PEWS)</td>
<td>Identify clinical deterioration</td>
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<tr>
<td>Re-emphasis of the importance and efficacy of the daily consultant ward round</td>
<td>Improve quality of care</td>
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<td>Standard medical handovers – similar to the nursing process (use of SBAR)</td>
<td>Improve communication</td>
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<td>Keeping a minimum dataset of unit activities</td>
<td>Audit practice, set priorities, effect useful change</td>
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### Outpatient Department

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<th>Good practices:</th>
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<tr>
<td>Text appointments</td>
<td>Reduce waiting list times</td>
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<tr>
<td>Target of 1:2 new to old ratio (general paediatrics)</td>
<td>Reduce Did Not Attend numbers</td>
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<tr>
<td>Central weekly review of all GP requests</td>
<td>Reduce new:return ratio</td>
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<td>Prioritisation</td>
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<td>Structured GP referral form and collaboration between GPs and paediatricians</td>
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<tr>
<td>Focus on Did Not Attend reduction</td>
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<td>Waiting times audit</td>
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### Emergency Department

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<tr>
<td>Paediatric trained nurses as part of the ED nursing staff compliment</td>
<td>Address the lack of suitably trained staff</td>
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<td>Paediatric trained NCHDs as part of the ED staff compliment</td>
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<td>Paediatric trained consultants as part of the ED staff compliment</td>
<td>Address the infrastructure quality of ED units</td>
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<td>Audio visual separation</td>
<td>Prioritize urgency of attention</td>
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<td>Triage</td>
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Inpatient Department

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<td>Improvement of discharge planning</td>
<td>Reduce the average length of stay</td>
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<tr>
<td>Implementation of an early warning score</td>
<td>Clinical outcomes</td>
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<td>Measure harm (use of trigger tool)</td>
<td>Reduce harm in hospital setting</td>
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Neonatal Unit

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<th>Good Practices</th>
<th>To help</th>
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<tr>
<td>Improvement of discharge planning</td>
<td>Reduce re-admission</td>
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<tr>
<td>Introduce neonatal clinical networks for allied health professionals so that there is a formal method of seeking guidance in relation to dietetics, physiotherapy, pharmacy etc</td>
<td>Ensure parent competence</td>
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<td>Procedural training for NCHDs</td>
<td>Rate of admission of term infants to SCBU</td>
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<td>To improve emergency effectiveness</td>
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Waste

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<th>Good Practices</th>
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<td>Reduce waste through targeted quality improvement initiatives</td>
<td>Avoid overuse</td>
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<td>Reduce complications such as infection</td>
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<td>Process inefficiency</td>
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Implementation / Next Steps
The site visits have provided an opportunity to gather information about the paediatric and neonatal clinical services available nationally. Certain themes emerged which have given rise to the conclusions and recommendations contained within this Review and Framework for the Future. The next phase of the National Clinical Programme for Paediatric and Neonatology is to support the implementation of the recommendations of this report. In some cases, this will require a new model of care to be written; however in many cases implementation will commence in advance of a model of care being written.

The workstreams that the National Clinical Programme for Paediatric and Neonatology can begin to work on immediately are:

1. Data collection and reporting
2. Governance implementation at a local and national level
3. Implementation of algorithms for use in primary care and neonatal units nationally
4. Further development and expansion of Retrieval Services
5. GP training in paediatrics
6. Network development and implementation
7. Management of children in ED and improvement in facilities
8. Improvement in neonatal facilities
9. Patient partnership
10. Knowledge sharing and quality improvement to include development of quality improvement processes
11. Manpower planning
12. Addition to medical training programme content.

In addition to implementing the above, the Programme will draft a model of care to describe how paediatric services should be delivered to infants, children and their families. The document will describe how a child with a specific condition should be treated, who will treat them and the referral pathway they will follow.
2. Introduction

The National Clinical Programme for Paediatrics and Neonatology (Paediatric/Neonatal Programme) was established in June 2011. It is a joint collaborative between the HSE Clinical Programmes and Strategy Directorate and the Royal College of Physicians of Ireland (RCPI). It offers clinicians a defined role and input in the decision making about health planning. Physicians for the first time can systematically influence how patient care is best directed and developed. Until now doctors have had only an advisory function. The clinical leads are expected to develop the policies and programmes of care that are important for patients. The fundamental components of any programme are patient safety, quality, access, and value/cost. When the programme is established by the clinical leads and their working group, its plans are then brought to the RCPI Clinical Advisory Group, Director of Nursing and Midwifery Reference Group and Therapy Managers Advisory Group for review and comment. When support and approval has been obtained it can be presented to the National Director, Clinical Strategy and Programmes and the HSE.

There are now over 30 national clinical programmes (NCP) dealing with all aspects of hospital medicine and general practice. The overarching aim of the Paediatric/Neonatal NCP is to provide high quality care to the 1 million children and newborn infants in Ireland. All children should have equal rapid access to medical and surgical care when needed. Postcode disadvantage must be eliminated. The objective is ‘right child, right place, right care, right time’. A balance must be struck between bringing children to the experts and bringing expertise to the children. The journey of the sick infant or child needs to be documented and reviewed in the light of best international practice. The existing fragmentation of paediatric care must be addressed.

The Paediatric/Neonatal Programme has come into being at a particularly challenging time for Irish paediatrics. The last seven years has been difficult. The development of the specialty awaited the outcome of the final decision about the site and building of the National Paediatric Hospital (NPH). The NPH is accepted as being an integral part of future planning of paediatric networks and model of care. We were aware that while there was intense debate about the NPH there was little or no discussion about the status of paediatrics outside Dublin and throughout the rest of the country. The hiatus has led to uncertainty about the role and function of secondary and regional paediatric units. There is no plan in place to determine how individual units should relate to one another. There has been no formal discussion on how specific services could be shared between neighbouring hospitals.

As newly appointed clinical leads for the national clinical programme for paediatrics and neonatology we were aware of the daunting task ahead. Effecting change in health care is historically recognised as being very challenging. There are a large number of stakeholders with different priorities and there is limited funding. We strongly felt that a high level of debate and dialogue should take place before the report was written.

It became obvious that there was little information about the way that paediatric and neonatal units throughout the country provided services to their catchment populations. Very little data was being routinely collected by units and when obtained there was no central site that it could be transmitted to for benchmarking and analysis. We were not fully aware of what services were provided by units throughout the country or indeed if adequate resources were available (staff, infrastructure and equipment etc.). There was little data on how hospitals interacted with each other either formally or informally. It was evident that the collection of a substantial amount of clinical data about each hospital would be needed. We would also need the opinions and experiences of the consultant, nursing, allied health professionals and administrative staff in each unit. We appreciated that this was fundamentally important. We wished to gain an understanding of what services each unit provided, what obstacles they encountered and what they would like to develop in the future.

We agreed that the most effective way to gather the necessary information and professional opinions accurately was to visit every paediatric and neonatal unit in the country. Such an exercise had not been previously undertaken and from the outset we felt that the exercise should be a ‘visit’ rather than an ‘inspection’. The aim of the visit was to allow us to listen and understand the professionals’ perceptions about the services that they provide and how they could be improved. This gave us good
understanding about how the unit functioned and it was an opportunity for us to obtain a snapshot of the hospital care of children throughout the State. It would also be an opportunity to explain the role of the Clinical Programme and its relevance to the individual hospital.

There are 23 paediatric centres. Apart from the three Dublin maternity hospitals and Limerick, all the paediatric and neonatal units are co-located. The units vary greatly in size and in how long they have been functioning. Paediatrics has been in existence in Dublin for over 100 years. Paediatrics was established in Cork, Galway and Limerick in the 1940s and 1950s. Most of the smaller units were opened in the 1970s and 1980s. We had little understanding whether units achieved their original service objectives.

The aim of the visits was to construct a picture of how each unit functioned and provided its services. We wished to determine the size of the service in terms of inpatient, outpatient and community activities. We wanted to analyse the transfer and retro transfer patterns between smaller and bigger units. We aimed to identify units that were working well and could act as a model for other units. We also expected that there would some units that would require help and intervention in relation to their current and future progress.

The purpose of the visits was to gather the necessary data and opinions to be able to formulate future clinical strategies for paediatric/neonatology. The information generated during the discussions with the hospitals will be one of the cornerstones on how future service planning will be formulated. We encouraged frank and open discussion during the visits. Our purpose was that the debate and dialogue should precede the writing of the Report i.e. this Review and Framework for the Future. The Report should reflect and best represent what the professions think and feel about the content and quality of the services that they provide. It should also articulate each unit’s vision for the future.

At the same time as carrying out the site visits, we considered other areas relevant to the future of paediatrics in Ireland such as national demographics, education and training and paediatric palliative care. The considerations from these areas are also documented in this report and will feed in to the model of care to be developed.

We hope that this Report will act as a catalyst in generating debate and discussion about the current status of paediatric/neonatology clinical care in Ireland and the future direction that it should take. The next step for the Clinical Programme is to begin to implement the recommendations noted in the document. For some recommendations this will require a model of care to describe how services should be delivered, however in many cases the recommendations can be progressed immediately through change at local and national level. The next steps are outlined in the final chapter of this document.
### 3. Summary of Recommendations Neonatology and Paediatrics Patient Pathway

<table>
<thead>
<tr>
<th>Neonatology Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>The data collected from the site visits about neonatal actives would imply that there are 11 level 1 units, 4 level 2 units and 4 level 3 units. This categorisation provides a basis for the short to medium term planning of newborn care.</td>
</tr>
</tbody>
</table>

**Priorities:**

1. The extension of the neonatal retrieval service to 24/7 is essential

2. Neonatal consultant numbers are currently insufficient to meet national demands. Neonatologists should spend the majority of their time working in the neonatal unit.

3. A comprehensive review of neonatal nursing is required. There should be at least one ANP (N) appointed in each level 2 and level 3 unit initially.

4. Neonatal nurse discharge planning needs to be addressed as improvements will reduce readmission rates.

5. Tertiary (level 3) units should have a full complement of health and social care professionals.

6. New standards for the physical infrastructure within neonatal units need to be adopted nationally.

**Other recommendations:**

7. Implementation of the algorithms produced by the Neonatology Clinical Programme for pulse oximetry testing for cyanosis in all newborns, imaging for all infants at increased risk of DDH, examination for imperforate anus and detection of undescended testes.

8. The early detection of developmental dysplasia of the hip requires a national approach to improve early detection (algorithm has been published by the Neonatology Clinical Programme).

9. The training of NCHDs in neonatology should be enhanced including the examination of newborns. Senior staff must ensure that all the doctors are proficient at the task of newborn examination.

10. The hidden pitfalls in the examination must be constantly emphasised.

11. Each unit must have a written plan as to how to deal with results of tests that are returned to the ward after the baby’s discharge.
### Primary Care

1. Enhance the link between primary and secondary care in order to provide a significant range of services as close as possible to children’s homes
2. Improve access to diagnostic tests, e.g. ultrasound for GPs
3. Develop integrated care pathways and individual care plans where appropriate.
4. Integrated discharge plans agreed between the hospital and the primary care providers
5. Standardise how common conditions are treated in primary care through the roll out of algorithms, referral guidelines and protocols
6. Develop standardized OPD referral forms
7. Develop rapid response clinics
8. Review and enhance paediatric training at undergraduate and postgraduate levels in order to empower and promote the necessary leadership, knowledge and skills required to provide safe care and improve local primary child health services.
9. Develop a Masters in Paediatric Primary Care Programme.

### Community Child Health

1. There is a need for managed clinical networks to comprehensively overhaul community child health services and avoid ‘post-code’ disadvantages in some regions
2. Far greater integration with community health doctors and the primary care team is required
3. A national plan for child sexual assault needs to be implemented following Ferns 4 consultations with relevant stakeholders
4. Care pathways are required for children with developmental delay / speech delay / physical disability and complex needs
5. Regional models akin to ‘mini-CRC’ in Waterford need to be established
6. Community Children’s Nursing Teams as seen in the UK would be beneficial in providing a higher level of treatment and support for children at home
7. The number of CCH paediatricians needs to be increased.
1. Overall goal should be to provide rapid and appropriate expert assessment and opinion of children referred from primary care.

2. Outpatient services should be delivered by consultant led teams.

3. Referral from GPs should be firstly to general paediatricians who would then refer to an appropriate tertiary service if necessary.

4. Booking and scheduling of appointments should be carried out to best practice standards (development of standardised ‘clinic templates’ appropriate to the specialty and local paediatric needs).

5. Appropriate discharge of patients from clinics to reduce impact of follow up appointments on overall clinic capacity.

6. Adherence by all staff delivering OPD services to hospital annual /study leave policy to minimise last minute cancellation of clinics and allow proactive scheduling of clinics.

7. Flexible scheduling should be used and multi-disciplinary clinics scheduled where possible.

8. Use of agreed care pathways in conjunction with primary care should be implemented.

9. There should be visual separation of children from adults in the outpatient area with separate waiting areas.
In year 2 of the Clinical programme, the clinical leads intend to meet with all of the subspecialist groups individually in order to determine the current services, needs and priorities. On the foot of the findings a further document will then be produced. The recommendations below are examples included to illustrate the needs in specialty areas.

### Diabetes
- Implement the model of care on the provision of insulin pump therapy to children under five years with type 1 diabetes.

### Cystic Fibrosis
- Care to be delivered in a shared care model involving small, regional and tertiary centres – this model of care (akin to one developed in Australia) needs to be developed
- Develop the service as outlined by the CF Working Group
- Guidelines to be develop along with definitive national standards of care
- Existing resources such as the CF Registry of Ireland should be employed to foster audit, quality improvement and international comparison
- Annual assessments should take place in tertiary/regional CF centres
- Development of clear definitions of the levels of care to CF patients on local / regional and tertiary CF centres.

### Asthma
Development of asthma clinics should focus on:
- Parental and child education via the Asthma Society Website
- Implementation of national asthma guideline developed by the Asthma Clinical Programme in 2012
- GP education and rapid referral back to primary care
- Discretionary use of pulmonary function studies / skin testing
- Infrequent referral to paediatric respiratory specialists.

### Paediatric allergy
- We need a national model for the evolution of paediatric allergy services.
- Appropriate training should be provided to GPs and general paediatricians to allow them to care for children in their community
- Develop guidelines and pathways for common atopic conditions akin to those developed in the UK (www.rcpch.ac.uk/allergy).
- Resource local centres as appropriate to diagnose and manage paediatric allergic disease.
- Allergy centres should offer routine testing including skin prick tests, specific IgE testing and spirometry.
- Allergy centres should offer formal food challenges for definitive evaluation of food allergy.
- There is a need for four paediatric allergists in the country to provide specialist care and to progress new therapies.
## Emergency Management

1. Reconfigure emergency department services to ensure that each emergency department:
   a. has at least one observation cubicle per 5,000 paediatric attendances and that there is at least one paediatric nurse per shift in the emergency department
   b. serves an appropriate catchment population
   c. is resourced to provide comprehensive 24/7 emergency services including facilities for full resuscitation for children
   d. has an area where children are seen that is child and family-friendly and that there is complete audio-visual separation from adults

2. Move to a consultant-delivered service.

3. Begin the process of reconfiguring acute hospitals into clinical networks / groups

4. Age cut off for treatment in a paediatric emergency department should be 16 years

## Intensive Care

1. The development of the PICU services and the process of ‘one service, two sites’ should be continued.

2. An executive of both clinical directors and full time intensivists should be established and meet regularly.

3. There should be a common set of guidelines which would provide greater continuity for staff rotating between the two units.

4. There should be increased numbers of meetings between senior medical staff about joint clinical governance of the two units.

5. The ‘roadshows’ with PICU staff visiting peripheral hospitals to advise on optimal stabilisation of the critically ill child should be expanded.

6. NPH should have a surgical NICU staffed by neonatologists.

## Paediatric Surgery

1. Case bundles and age limits for smaller hospitals should be implemented

2. Designation of regional surgical facilities - 24 hour surgical and anaesthetic cover, paediatric radiology and medical paediatric support

3. The issue of having more than one surgeon with a special interest in paediatrics in a non-tertiary centre is important. A solitary surgeon should not bear a 24/7 workload.

4. Care pathways for common surgical problems are required (to be included in the Non-Specialist Paediatric Surgery document)

5. Non-specialist paediatric surgery should be part of national surgical audit

6. A mandatory 6 months in paediatric surgery should be considered as component of higher surgical training

7. There is a need to ensure safe and high quality paediatric dental day-case services.
1. Neonatal retrieval is now universally accepted as an essential component of newborn care. The retrieval of a preterm or ill term infant is complex and should be undertaken by specifically trained staff (both medical and nursing) using purpose built equipment. The NNTP should be expanded to a 24/7 service.

2. The development of a national retrieval service for paediatric patients is a key priority in terms of patient safety and risk but will require significant added resources.

3. The Irish Paediatric Critical Care Network should oversee the development of a retrieval service across the two sites.

4. The establishment of the role of Director of Critical Care is also recommended.

5. The development of an Advanced Nurse Practitioner for retrieval is recommended.

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**Dublin Paediatric Hospitals**

1. A hospital group should be established incorporating the three Dublin paediatric hospital with support for a clinical directorate model across the 3 sites and an overarching management structure and budget.

2. Establish paediatric assessment units adjacent to paediatric emergency departments.

3. Establish rapid access clinics for GPs, ensuring an appropriate environment for assessing urgent but non-emergency patients.

4. The use of short stay units should be explored.

5. The development of a child sexual assault centre in Dublin is required.

6. The national strategies to improve OPD efficiencies should be implemented.

7. General paediatricians should provide assessment, diagnosis and treatment to the majority of patients referred by primary care. They will also identify those children who require to be referred onto specialty services.

8. General paediatricians need to be appointed.
### Palliative Care

Every child and family should expect to:

1. Receive a flexible service according to a care plan, which is based on individual assessment of their needs, with reviews at appropriate intervals. Children and families should be included in the process of care planning.

2. Be provided with appropriate and timely information.

3. Be in the care of an identified lead consultant paediatrician expert in the child’s condition.

4. Be offered a range of regular and reliable respite, both in the home and away from home and over varying periods of time. This should include nursing care and symptom management.

5. Have available appropriate supplies of medications, oxygen and specialised feeds and have all disposable items such as feeding tubes, suction catheters and stoma products supplied regularly, efficiently and preferably through a single source.

6. Be given assistance in order to access benefits, grants and other financial help.

### Training and Manpower

1. A consultant-delivered paediatric service must be seen as a key element for delivering better paediatric care in Ireland

2. Workforce planning in paediatrics is needed to deliver healthcare that is responsive to the needs of patients and aligned with the training schemes

3. General paediatrics and ambulatory paediatrics linked to paediatric emergency medicine must be developed.

4. Regional and local hospitals should establish networks in order to provide comprehensive secondary care and tertiary care as appropriate within the region. Consultant numbers should be reviewed and increased with an improved Consultant: NCHD ratio. The successful implementation of a full consultant delivered service within hospital networks will require changes to working practices and rosters.

5. There should be a stronger commitment to improving the efficiency of a team based approach to paediatrics. Flexible consultant roles which utilise the full breadth of consultants’ expertise, experience, skills and qualifications in research, management and medical education and training need to be developed

6. Support for the continued professional development and research in the consultant role are needed

7. Consultant working practices need to be linked with hospital services and resources and the desired impact on patient care

8. Training for paediatricians for child and adolescent sexual assault should be developed
1. The three pillars for keeping children healthy: screening, immunisation and nutrition must be emphasised and constantly reinforced.

2. Performance indicators are collected in relation to whether PHN visits to parents occur at the times set in the guidelines but no effective audit of outcomes is taking place. This should be addressed.

3. The implementation of the Newborn Hearing Screening programme should be completed.

4. Personal Health Records for children are being used very effectively in some parts of the country but they have not been rolled out on a national basis. This should be addressed.

5. Public Health Nurse screening has reduced due to increasing demands in other areas of their work and reductions in numbers. The development of specialist child health PHNs within the new Child and Family Support Agency presents a real opportunity to refocus child health services.

6. A national programme for oral health surveillance and screening in preschool children should be implemented.

7. Some of the key recommendations of *Best Health for Children Revisited* have not been fully implemented as yet and we recommend that these recommendations are still as valid today.
### Rethinking Healthcare for Infants and Children

1. Every child who is admitted to a paediatric department with an acute medical problem is seen by a consultant paediatrician within the first 24 hours.

2. Every child who is referred for a paediatric outpatient opinion is seen by or has the case discussed with a consultant paediatrician.

3. All paediatric assessment units to have access to a paediatric consultant opinion throughout all the hours they are open.

4. At least one medical handover per 24 hours is led by a paediatric consultant.

5. Specialist paediatricians should be available for telephone advice for acute problems for all specialties.

6. All paediatricians should have child protection training. Some will have greater expertise in child sexual abuse. In complex cases paediatricians should have ready access to expert opinion.

7. Nationally agreed care and treatment protocols and guidelines to be developed.

8. A minimum dataset needs to be developed for all paediatric units that should include monthly collection, distribution and analysis of these key paediatric parameters.

9. National Service Standards for Paediatric Departments to be developed.

10. A taskforce should be established to develop and standardise specialty specific care within paediatric services.

11. A committee should be established to design a framework and develop common processes for transition from paediatric to adult services.


### Governance

1. Formal clinical governance structures to be adopted in each paediatric centre including the collection and regular reporting (locally and nationally) of clinical data, performance management, managing risk, reporting and managing adverse events and participation in clinical audit.

2. Regional centres to develop networks with neighboring hospitals (based on the development of hospital groups).

3. All departments should hold monthly meetings chaired by one of the consultants.

4. Advocate for positive attitudes and values about safety and quality.

5. Services should have a patient focus and include service-user participation.

6. Accountability for the services delivered should be defined, i.e. who is responsible and what are they responsible for.
4. National Statistics

Population Data
The 2011 Census report shows that there are over 1 million (1,036,817) children under 16 years in Ireland. Children 0-15 years now account for 23% of the total population, one of the highest in Europe. Figure 1 outlines the changing pattern in age composition of the children’s population since 2000.

Overall, there has been a 16% increase in the 0-15 years age group since 2000, however, within the age groups, the increases vary quite a lot with the 0-4 year age group showing a 34% increase, the 5-9 year age group has increased by 20% and the 10-15 year age group has increased by just 1%. The rapid rise in the number of children under 4 years in this country is particularly striking. It has important implications for child health and acute paediatric services. It would be expected that the Irish health service would need to spend a greater proportion of its budget on children compared with other national health services who have smaller proportions of children. One would also anticipate that additional resources would have been put in place to deal with this additional quantum of children. Healthy children need strong community paediatrics with immunisation, screening, nutrition and developmental/cognitive assessment. Ill children need a seamless acute hospital service.

The number of children resident in different parts of the country varies widely as can be seen from Table 1, from a high of just over a quarter of a million in Dublin to a low of just over 7,000 in Leitrim. Only two counties (Dublin and Cork) have a paediatric population above 100,000 and 11 counties have less than 25,000 in their paediatric population.

<table>
<thead>
<tr>
<th>Leinster</th>
<th>Munster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlow</td>
<td>Clare</td>
</tr>
<tr>
<td>Dublin</td>
<td>Cork</td>
</tr>
<tr>
<td>Kildare</td>
<td>Kerry</td>
</tr>
<tr>
<td>Kilkenny</td>
<td>Limerick</td>
</tr>
<tr>
<td></td>
<td>North</td>
</tr>
<tr>
<td>Laois</td>
<td>Tipperary</td>
</tr>
<tr>
<td>Longford</td>
<td>Tipperary</td>
</tr>
<tr>
<td>Louth</td>
<td>Waterford</td>
</tr>
<tr>
<td></td>
<td>South</td>
</tr>
</tbody>
</table>

Table 1 - National paediatric population (0-15 years) by county, 2011 (CSO)
Outside the urban conurbations the population is quite sparse. This discrepancy has always posed difficulties in administering health care. How professionals are dealing with this in light of the public's high expectations of the healthcare system was explored during the visits. Knowing where children reside is important in determining how inpatient, outpatient, ED and community paediatrics should be planned and structured in each region. Examining these issues formed an important part of our visits.

Births

In 2011, there were 74,650 births, a decrease of 326 on 2010. The 74,650 births represent an annual birth rate of 16.3 per 1,000 population. Figure 2 shows the actual number of births and the birth rate since 2000. Since 2008, the number of births has been over 74,000 per year and showing no sign of a decline.

Our birth rate (16.3 per 1000 population) is the highest in Europe, with the UK and France at 12.0/1,000, Netherlands at 10.0/1,000, Italy 9.0/1,000 and Germany at 8.1/1,000 with the lowest rate. The message from these findings is that Ireland should anticipate that it needs to spend a relatively greater proportion on newborn care compared with the rest of the EU which has a lower birth rate. There is every indication that this Irish high birth rate is set to continue.

Table 2 shows the number of births per unit, ranging from a high of 9,600 in Holles St. to 1,250 in South Tipperary General (Clonmel).

Table 2. Births per unit.
The number of in-patient paediatric hospital discharges is 87,400. Table 3 outlines those hospitals with at least 2,000 discharges per annum.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Births</th>
<th>Hospital</th>
<th>Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMH Holles Street</td>
<td>9,600</td>
<td>Portlaoise Regional</td>
<td>2,331</td>
</tr>
<tr>
<td>Coombe Women and Infants</td>
<td>9,400</td>
<td>St. Luke’s Hospital, Kilkenny</td>
<td>2,200</td>
</tr>
<tr>
<td>Rotunda Hospital</td>
<td>9,000</td>
<td>Portiuncula, Ballinasloe</td>
<td>2,150</td>
</tr>
<tr>
<td>Cork University Hospital</td>
<td>8,900</td>
<td>Cavan General Hospital</td>
<td>2,100</td>
</tr>
<tr>
<td>Limerick Regional Maternity</td>
<td>5,167</td>
<td>Letterkenny General Hospital</td>
<td>2,010</td>
</tr>
<tr>
<td>Our Lady of Lourdes, Drogheda</td>
<td>4,000</td>
<td>Kerry General Hospital, Tralee</td>
<td>1,753</td>
</tr>
<tr>
<td>UCH, Galway</td>
<td>3,537</td>
<td>Sligo General Hospital</td>
<td>1,579</td>
</tr>
<tr>
<td>Mullingar Regional Hospital</td>
<td>3,000</td>
<td>Mayo General Hospital</td>
<td>1,500</td>
</tr>
<tr>
<td>Waterford Regional Hospital</td>
<td>2,500</td>
<td>South Tipperary General</td>
<td>1,250</td>
</tr>
<tr>
<td>Wexford General Hospital</td>
<td>2,500</td>
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<td></td>
</tr>
</tbody>
</table>

The average length of stay in hospital is 3.6 days. This global figure of 87,400 is important. We suggest that with improved OPD facilities and expanded diagnostics that this inpatient number should decrease.

There are 1,600 ICU admissions with the average length of stay being 7 days. The ICU services are centred on two hospitals Our Lady’s Children’s Hospital, Crumlin (1,100) and Children’s University Hospital, Temple Street (500). Small numbers of children are admitted to the adult ICUs in the other hospitals for short stay stabilisation while awaiting transfer to one of the two paediatric ICUs. During the visits we discussed with every unit their experience of obtaining an ICU bed and the logistics of transporting a sick child to the tertiary centre. We appreciated that smaller units with limited staff are particularly vulnerable at these times.

The total number of neonatal unit admissions per year is just under 10,000. The admissions breakdown is outlined in Table 4.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Neonates</th>
<th>Hospital</th>
<th>Neonates</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMH Holles Street</td>
<td>1500</td>
<td>Kerry General</td>
<td>344</td>
</tr>
<tr>
<td>Cork University Hospital</td>
<td>1400</td>
<td>UCH, Galway</td>
<td>320</td>
</tr>
<tr>
<td>Rotunda Hospital</td>
<td>1200</td>
<td>Portiuncula, Ballinasloe</td>
<td>300</td>
</tr>
<tr>
<td>Coombe Women and Infants</td>
<td>1100</td>
<td>South Tipperary General</td>
<td>300</td>
</tr>
<tr>
<td>Limerick Regional Maternity</td>
<td>1004</td>
<td>Mayo General Hospital</td>
<td>284</td>
</tr>
<tr>
<td>Our Lady of Lourdes, Drogheda</td>
<td>468</td>
<td>St. Luke’s, Kilkenny</td>
<td>278</td>
</tr>
<tr>
<td>Cavan General Hospital</td>
<td>449</td>
<td>Mullingar Regional Hospital</td>
<td>258</td>
</tr>
<tr>
<td>Waterford Regional Hospital</td>
<td>395</td>
<td>Portlaoise Regional</td>
<td>254</td>
</tr>
<tr>
<td>Letterkenny General Hospital</td>
<td>384</td>
<td>Sligo General Hospital</td>
<td>250</td>
</tr>
</tbody>
</table>
Wexford General Hospital 352

There were 305 infants <28 wks gestation, 514 infants 28-31 wks gestation and 3,721 infants 32-36 wks gestation. There are 300 Neonatal cots consisting of 55 NICU, 52 HDU and 193 SCBU.

**ED Attendances**

There were almost a quarter of a million (243,748) paediatric ED attendances in 2011. Table 6 shows those units with greater than 10,000 attendances.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>ED attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children’s University Hospital Temple Street</td>
<td>46,309</td>
</tr>
<tr>
<td>Our Lady’s Children’s Hospital, Crumlin</td>
<td>33,980</td>
</tr>
<tr>
<td>Tallaght Hospital</td>
<td>31,825</td>
</tr>
<tr>
<td>Our Lady of Lourdes Hospital Drogheda</td>
<td>15,372</td>
</tr>
<tr>
<td>Mid Western Regional Hospital Dooradoyle</td>
<td>15,721</td>
</tr>
<tr>
<td>University Hospital Galway</td>
<td>13,383</td>
</tr>
<tr>
<td>Cork University Hospital</td>
<td>11,231</td>
</tr>
</tbody>
</table>

This global figure of 243,748 represents a major clinical activity. The Dublin hospitals have paediatric trained EM consultants but there are no such appointments outside Dublin. In this report we attempt to explore why the numbers attending ED are so big and whether the infrastructure and staffing are in place to meet this demand.

**OPD Attendances**

Data on OPD attendances for the paediatric population has not been separately recorded in most general hospitals. In May 2012 the Outpatient Data Quality Programme in the HSE has commenced an analysis of the number of paediatric OPD attendance throughout the country. For May 2012, there were approximately 1,800 new referrals and 5,300 return appointments to OPD units outside of Dublin. The three Dublin paediatric hospitals had approximately 400 new referrals and 850 return appointments (see Chapter 13).

It is important that the trends are carefully monitored. The anecdotal impression obtained during our visits is that the demand for OPD appointments is increasing for reasons that are ill-understood. It is occurring at a time when children were never healthier or as well vaccinated and well nourished. This ‘drift’ from primary to secondary care was one of the issues addressed during our unit visits.

**Conclusion**

These data, which are a snapshot of some of the broad based activity in the paediatric setting, were a stimulus to visit all paediatric centres in the country in order to work out how to provide medical services equally to this large child population. The equipoise is capacity balancing demand. How best to formulate suitable policies for childrens’ health nationally is an exciting but challenging task.
5. Clinical Governance

The three Dublin children’s hospitals have been the subject of a number of reports dealing with issues of provision of services, convergence of activities, relocation and trilocation with adult and maternity units. The McKinsey Report ‘Children’s Health First 2006’ has had a major influence on how secondary and tertiary paediatric services in Dublin are being planned. The report placed heavy emphasis on clinical governance and the components that are particularly important for children such as rapid response time and early access to consultant clinical assessment. On the other hand there have not been any reviews about paediatric services outside Dublin. The governance issues confronted by regional and peripheral paediatric centres have not been considered or addressed in any previous reports. This is a major oversight because two thirds of children are treated in hospitals outside Dublin. In addition many children who have had initial tertiary treatment are afterwards managed partially or completely in their local hospital.

Clinical governance was discussed with each paediatric unit during our visits. We have subsequently attempted to assess the governance activity according to the size of the unit. For purposes of the exercise the various paediatric units throughout the country were loosely grouped into peripheral centres, regional centres and the three Dublin centres.

Peripheral Units

There are 11 peripheral hospitals which have paediatric units that provide at a minimum both inpatient and outpatient paediatric care to their local population. These include: Ballinasloe, Castlebar, Cavan, Clonmel, Kilkenny, Letterkenny Mullingar, Portlaoise, Sligo, Tralee and Wexford. It is appreciated that clinical governance would be challenging for smaller units with their limited administrative resources.

The typical manpower profile of a these smaller units is three consultant paediatricians, 10 NCHDs, 22 paediatric nurse WTEs and 12 neonatal nurse WTEs. All of the units provide acute ‘round the clock’ paediatric and neonatal cover as well as OPD, emergency department services and community paediatrics. The quantum of work that each unit undertakes consists of a child population of 30,000 requiring 2,500 in-patient care, 6,000 ED attendances, 644 OPD (new and return), 2,000 births and community services annually. Their workload is in high volume, secondary conditions such as respiratory infections, gastroenteritis, seizures, urinary tract infections, and viral illnesses, and is unlikely to alter in the foreseeable future. The question posed was how these paediatric health care demands were being organised and delivered. It was clear that a peripheral unit would need a reliable administrative structure in order to provide the required services with the existing staff complement.

It became clear during the site visits that the level and standard of clinical governance among units was variable. Some units have well developed structures while others are not sufficiently well established. It is recognised that in small units a lot of activity takes place on a more informal level compared with larger organisations. This is understandable. The professionals know each other well and meet with each other on an almost daily basis. However, informal frequent contact provides the staff with a reasonable but often incomplete understanding about what is happening in a unit. There are always ‘blind spots’ that individual members of staff will be unaware of. The absence of formal governance structures in a hospital has significant disadvantages for a smaller unit.

Without planned and structured regular meetings it is unlikely that regular recording of clinical activity and outcome will be maintained. It is even less likely that an annual report will be produced. The strengths and weaknesses of the hospital’s paediatric service will remain unclear over time. Emerging threats may go unrecognised until the problem is well advanced. Manpower problems are more likely to remain unresolved. The current status and future ambitions for the facility may not be properly worked out. The potential disadvantages are immense. Clinical care may be adversely affected in relation to inpatient and ED services. The OPD and community clinics may operate sub-optimally. If a unit does not have the necessary metrics in place it cannot determine whether
performance is getting better or deteriorating. It becomes difficult to properly plan and organise the
day-to-day care of children both in hospital and in the community. Funding of the unit and the
services it provides become difficult to estimate and justify. Competing services in other specialties
with better data collection are likely to be more successful at obtaining additional funding. In the
absence of good metrics and good documentation of activity levels it very difficult to make a business
case for additional staff. It is also problematic when trying to justify the replacement of retired
permanent staff.

Unless the governance is well organised it is unlikely to be effective. At its most basic level clinical
governance means accountability for clinical performance. While it needs to be integrated with
corporate and financial governance, our main concern is clinical governance. Clinical governance is
ultimately about children receiving the right care at the right time in an open, caring, effective
environment. Clinical governance structures should include representatives of all aspects of the
service. The Quality and Patient Safety Directorate issued a checklist on clinical governance in Aug
2011 (http://www.hse.ie/eng/about/Who/qualityandpatientsafety/Clinicalgovernance/). That list is
generic and includes safety, personal responsibility, leadership, open culture, continuous quality
development.

Each paediatric unit should take positive steps in this regard and in conjunction with the management
of the overall hospital each unit should appoint one of its consultants as lead of the department for an
agreed defined period of time, and that all consultant paediatricians should rotate into the position of
lead for a period of time. The lead of the unit should then take responsibility to ensure that all data
relating to clinical governance are collected, collated, distributed and discussed with appropriate staff
in the hospital in a structured manner.

Regional Units

The regional units are Cork, Drogheda, Galway, Limerick and Waterford. These units are more
difficult to generalise because Cork is a much bigger service than the others. On average these
regional units comprise of: 7 paediatric consultants, 8 registrars, 8 SHOs, 39.7 Paediatric nurse
WTEs, 38.5 Neonatal WTEs 38.5. Average activity consists of 3,600 inpatient admissions, 11,247 ED
attendances and 4,834 births.

The clinical governance of regional units requires at a minimum, the same level of attention to detail
and organisation as those noted above for the smaller units. However, there are additional issues to
consider. Everything operates on a larger scale including patient numbers and manpower. The
governance structure must include the role and function of the hospital as a referral centre to
neighbouring peripheral hospitals. During site visits it was clear that these arrangements are not well
developed and currently operate at an informal level. There are opportunities for regional centres to
expand their roles in the provision of clinical and community care and in the sharing of services such
as radiology and non-specialist surgery. The regional centre needs to determine how to design
support services for the other hospitals in the region. This is the concept of managed network
governance. An example is the recently developed perinatal network for Dublin North East HSE
which was spear-headed by Dr Alan Finan. The purpose of that regional network is to enhance
clinical governance, provide professional support to clinicians in the network, improve access to
quality care, and to provide a framework for training and allow strategic development in the region.

Dublin Units

The three Dublin hospitals have well developed governance structures. The framework consists of
monthly medical board meetings which report to the board of management. Clinical data collection
systems are in place. The governance issue that needs to be developed is how the individual tertiary
services organise and administer their national role in addition to ensuring that they provide
appropriate secondary level services. Unless good triage and gate-keeping mechanisms are put in
place these valuable and expensive specialist resources are in danger of being overloaded by secondary conditions that could be managed locally in the patient’s own peripheral or regional unit.

Whilst McKinsey has pointed out that there is no clear definition on what constitutes a ‘tertiary case’ and it largely depends on the consultant paediatrician’s assessment of the individual case, however, three broad groups of children that may require tertiary involvement or support include the critically ill child, the child with a complex disease and a simple disease in a complex child. The problem in Dublin is that the tertiary services are both fragmented and duplicated. Best international practice recommends that a tertiary centre needs a range of 25 main paediatric subspecialties in the one centre serving a population of at least 4 million. In complex paediatric medicine and surgery the quality is driven by the volumes. Since the McKinsey report 6 years ago the building of a single tertiary centre has been the goal of the HSE and the Department of Health.

In relation to secondary paediatric care in the Dublin hospitals, there is a need to develop systems that include local systematic evaluation so that minor problems are excluded and major problems are identified. How does the tertiary service organise the management of a child in Tralee with a heart murmur, a child in Ballinasloe with possible coeliac disease or a child in Letterkenny with unexplained developmental delay? Such issues are a common recurring theme for all of the units involved. The model that is working well is the long established oncology shared care model.

Possible approaches to this issue of initial evaluation and local assessment should include:

- Clear pathways of care outlining how the child’s condition is to be managed at whatever unit they present to.
- All specialist consultant paediatricians to have substantial designated sessions in their contracts set aside for a regional role.
- Structures that give a time for consultants in peripheral units to discuss new cases with the specialists in the tertiary centre either by phone or email.
- Telemedicine could be utilized to enable peripheral sites to consult with tertiary centres.

In summary there are many and numerous strands to clinical governance. It has been slow to develop in Irish paediatrics. The main obstacle to its progress has been the paucity of clinical data collection and analysis. This needs to be addressed as a matter of urgency. The Paediatric Clinical Programme intends to explore how it can best support and facilitate units in this task.

**Recommendations**

1. Formal clinical governance structures to be adopted in each paediatric centre including the collection and regular reporting (locally and nationally) of clinical data, performance management, managing risk, reporting and managing adverse events and participation in clinical audit.

2. Regional centres to develop networks with neighbouring hospitals (based on the development of hospital groups).

3. All departments should hold monthly meetings chaired by one of the consultants with formal written minutes.

4. Services should have a patient focus and include service-user participation.

5. Accountability for the services delivered should be defined, i.e who is responsible and what are they responsible for.
6. Patient / Family Consultation

The doctor-patient relationship is changing. While remaining professional, it is evolving into a less formal format. This is particularly the case in paediatrics. Doctors have always worked for sick children and their families but not necessarily with them. The development of partnerships between doctors and parents for the best care of the child is still evolving. The Paediatric and Neonatal Clinical Programmes provide a unique opportunity to advance this accord.

In the modern era in any children’s hospital you are likely to see as many parents as children. Up to the 1950s parents could only visit their child in hospital twice a week. The Platt Report in 1953 brought about major changes and a new enlightenment. It directed that parents should be allowed to visit whenever they can and help with the care of their child as much as possible. Some conservative groups put up a strong resistance but were eventually won over. Bowlby and Robertson worked throughout the 1950s and 1960s to introduce more liberal, humane, flexible, practices on children’s wards. They emphasised the adverse effects of separation anxiety. Even short spells in hospital can lead to significant anxiety. In the 1980s care by parents programmes evolved. Parents were afforded the opportunity to actively participate the nursing care of their child in hospital.

The next phase in the paediatrician- parent relationship is towards seeking their perspectives on care. One of the aims of the Clinical Programmes is to provide maximal care to children and infants at the point of first contact. Providing a quality service to patients is more than treating them in a safe and clinically sound way. It is about listening to patients and their families to understand their needs and develop a culture of partnership which promotes shared decision making in health care.

Against this background, the establishment of the Children’s and Parents Reference Group in November 2011 for the Paediatric and Neonatal Clinical Programmes is integral to the successful development of policy and establishment of the programmes. Stakeholders from advocacy organisations, the Department of Children, researchers, special interest groups and parents with experience of health services were invited to participate on this Reference Group. The remit of the group is to:

1. Ensure that children’s voice / experience of health care is central to identifying health needs and improving their experience of services
2. Inform the design, delivery and evaluation of the paediatric and neonatal programmes.

The role of the representatives on the group is to:

1. Ensure that children and young people’s needs and experiences are central to the design, implementation and evaluation of the programmes
2. Ensure that the needs of special interest groups are highlighted
3. Ensure that advocacy groups are aware of the work of the programmes and promoting the achievements and requirements through community networks
4. Identify models of best practice

Two meetings with the Reference Group have occurred and the following workstreams have been identified as a way forward in the process.

1. Adapt the national healthcare charter for use in paediatric services in Ireland.
2. Gather feedback from children and young people and families about their experiences to inform the development of a plan for services.
3. Inform the development of an advocacy framework for paediatric services.
4. Explore the development of handheld records for children and young people and their families.
7. The Child Presenting to the Emergency Department

7.1 Background / International experience

The RCPCH document titled ‘Standards for Children and Young People in Emergency Care Settings’ (published in 2012) sets out guidance principles relating to all aspects of emergency and urgent care for children and young people. In essence this comprehensive document states that:

- There is an ever increasing demand for urgent and unscheduled care services for children
- Facilities to allow audio-visual separation of children from adults, the use of paediatric pain scores at triage, the provision of a resuscitation area specific for children and the deployment of a senior paediatric nurse to the emergency department to lead on paediatric issues are all key quality and safety issues
- The development of a clinical decision unit (CDU) can be very helpful to reduce admissions. The role of these units has been set out clearly in the 2009 report from The Royal College of Paediatrics and Child Health: Role of Short Stay Paediatric Assessment Units.
- There should be one or more child-friendly cubicles per 5,000 annual child attendances, with waiting and treatment areas that are audio-visually separated from the potential stress caused by adult patients
- Emergency care settings should have, in addition to the above, facilities for full resuscitation and monitoring of high dependency children, a route to the X-ray department that avoids other areas of the emergency care setting, a cubicle with a door for consultations where privacy and confidentiality are paramount, appropriate areas suitable for breastfeeding and nappy changing and a play specialist service to cover peak times
- The atmosphere and furniture of the children’s area should be welcoming and child-friendly
- Advice leaflets about common conditions should be available and specific to children and their parents
- All children must be visually assessed immediately upon arrival and receive an initial triage assessment within 15 minutes of arrival or registration
- Requirements for analgesia should be assessed at triage using an appropriate pain score and treatment of pain delivered within 30 minutes
- Staff must be able to initiate basic airway management
- A minimum of one paediatric nurse should be present at all times
- Robust systems are required to inform the primary care team about each child’s attendance in the emergency department
- Children should be included in Major Incident Plans and should be involved in major incident exercises

The National Emergency Medicine Programme Report (published in June 2012) has a full chapter on Paediatric Emergency Medicine (PEM) highlighting:

- Infrastructural deficits within emergency departments precluding child and family-friendly care. The emergency department infrastructure must accommodate the needs of children and their
families including audio-visual separation of children from adults (including a dedicated paediatric waiting area and separate triage area), adequate isolation facilities and appropriate resourcing for managing child mental health emergencies.

- A recommended age cut off of 16 years
- All front-line staff must be competent in Paediatric Basic Life Support
- A Clinical Decision Unit or Paediatric Assessment Unit may be either co-located with a paediatric ward or an emergency department
- Emergency Department Review Clinics can be run on a daily, twice or thrice weekly basis and are physically located within the emergency department

Furthermore, the NEMP Report makes the following observation regarding multi-specialty collaboration in the emergency care of children:

- It is imperative to the future provision of emergency care for children that there should be an integration of service delivery across the specialties of PEM, general paediatrics, paediatric trauma surgery, paediatric surgery in general and paediatric diagnostic imaging, and that this approach should be reflected in national care pathways, protocols and agreed standards of care.

- Currently, in a significant number of EDs where both adults and children attend, ‘surgical’ paediatric cases are usually managed by EM, while ‘medical’ paediatrics is usually managed by general paediatrics.

- Paediatric trauma (including major trauma) will be seen as the remit of EM, while acute illness will be the remit of paediatrics. Conversely, serious medical illness requiring resuscitation is often managed by EM, with paediatrics consulting. Oftentimes, children with ‘medical’ illness will be reviewed on a general paediatric ward or day unit after initial registration and triage in the ED.

- The NEMP contends that this separation of acute care of children into silos, typically physically and professionally distinct, should not continue. The NEMP supports a flexible and inclusive approach to removing traditional professional, organisational and/or managerial boundaries.

- The acute care of children should be delivered in a dedicated clinical area which is used by all specialties involved in the emergency care of children, where staffing and other resources are shared across disciplines and where the primacy of PEM care is accepted. This area should be audio-visually separated from the adult ED, but should be adjacent to the general ED.

- Separating the care of children into cohorts where the sickest children are initially cared for by practitioners who are not regularly seeing the majority of mild and moderately unwell children is unsafe practice and is not supported by the EMP.

In essence both documents cited above are in agreement regarding the essential infrastructure required to deliver care safely to children

7.2 Reflections from Site Visits
The site visits to hospitals across Ireland highlighted very significant deficiencies – isolation cubicles were non-existent, cubicles dedicated to children were in scant supply, very few emergency departments could be considered child and/or family friendly, paediatric nursing support numbers were below recommended levels (at least one per shift) and there was an alarmingly frequent
observation whereby there was little or no separation of children from adults. Age cut off for admission to paediatric departments varied greatly.

There were striking differences in admission rates from the emergency department relating to a number of factors:

- lack of observation spaces / cubicles
- the level of paediatric experience of those doctors assessing children in the emergency department
- relative lack of written guidelines for common conditions
- paucity of paediatric nurse numbers in the emergency department
- whether GPs could refer directly to the paediatric department and thus bypass the emergency department

The admission rate for acute medical paediatric presentations varied from 15% to 45% and this has enormous cost implications. Many admitted children are discharged home the following day and it is reasonable to conclude that some of these admissions may have been avoided if there were improved observation facilities within the emergency department and there was a greater presence of senior decision makers available.

7.3 Suggested Future Directions

In general terms we should now strive to implement the recommendations of the Emergency Medicine Programme and the RCPCH document on Standards for Children and Young people in Emergency Care Setting (both published in 2012) as outlined above.

7.4 Performance metrics

There are many potential performance metrics within the emergency department but a number stand out including:

- The availability of at least one paediatric nurse per shift
- All children should be visually assessed upon arrival and have a triage assessment within 15 minutes
- Admission rate to hospital
- Number of patients leaving prior to being seen
- Specific conditions including acute asthma and acute gastroenteritis
- Specific policies relating to child protection

7.5 Recommendations

1. Reconfigure emergency department services to ensure that each emergency department:
   a. has at least one observation cubicle per 5,000 paediatric attendances and that there is at least one paediatric nurse per shift in the emergency department
   b. serves an appropriate catchment population
   c. is resourced to provide comprehensive 24/7 emergency services including facilities for full resuscitation for children
   d. has an area where children are seen that is child and family-friendly and that there is complete audio-visual separation from adults

2. Move to a consultant-delivered service.

3. Begin the process of reconfiguring acute hospitals into clinical networks / groups

4. Age cut off for treatment in a paediatric emergency department should be 16 years
8. Paediatrics in Primary Care

The vast majority of healthcare interventions for children occur in the community, and this forms a significant part of clinical work for general practitioners.

8.1 Background / International Experience

In a very important editorial in the British Medical Journal, Professor David Hall discusses ‘Primary care for children in the 21st century’ and asks that general practitioners adapt to a changed spectrum of illnesses. The essential points raised by Professor Hall include:

- Parents are increasingly more likely to bypass primary care out of hours and seek emergency care for their children in their local hospital
- GPs have yet to take on a major role in managing chronic disease in childhood
- GPs will need appropriate training and remuneration for providing a practice-based quality child health service for the 21st century

Diego van Esso et al in 2010 gave an in depth analysis of paediatric care variations across Europe and clearly demonstrated extensive variation in who provides first contact, the diversity of routine visits and issues related to training. Additional data is required to determine which system provides the best care for children.

Of interest is that children under 2 years make up approximately 13% of the 0-17 population, yet account for 25% of GP visits, 0.3% of dental visits, 21% of ED visits, 30% of OPD visits, 46% of hospital admissions and 44% of those who get some type of home care.

Looking at Irish data, there are 100,000 consultations every day in general practice in Ireland. Of these approximately 20% are paediatric. Within these consultations 0-4 year olds account for 10% and 5-15 year olds for 10%. Children aged 0-4 years account for more house calls than any other group apart from the elderly. In a rural setting and in our increasingly traffic grid-locked cities this is extremely time consuming. The main reasons for consultation are respiratory, gastrointestinal, dermatology and preventive medicine.

Within the whole of general practice there is a 5% referral rate to secondary care, i.e. 95% is dealt with in primary care. The main reasons for referral are for diagnostics (15%) and to the emergency department (15%), gastrointestinal (10%), orthopaedic (9%), dermatology (5%), gynaecology (5%), ENT (3%) and paediatric referral only accounts for 1.5%.

8.2 Reflections from Discussions with Doctors in Primary Care

Out of Hours & Paediatric Emergency Department services

The majority of acute presentations are currently managed in general practice, with a small proportion of onward referral, however a significant minority present to ED without seeing a GP. Many of these are attending appropriately; others might better be managed in a primary care setting. The issues around this are complex, and will be further explored and addressed by the Programme in the course of its work.

Most of the population has a structured GP out-of-hours service dealing with acute illnesses and injuries in all ages which can provide a detailed demographic report from ICT systems. Activity data from these acute presentations for nine of the out-of-hours GP services from around the country show 272,969 contacts for children (<16yo) from January - September 2012. This obviously does not include some of the busiest months at the end of 2012. Data from previous years is limited and not
broken down by age etc. Some of the services did have specific referral data for paediatrics which showed a 3.5% referral rate by GPs to ED of the children under 16 seen by them.

Note that this does not include all services or the period from 8am to 6pm Monday to Friday, when the majority of service is actually delivered.

Immunisation and Screening

Immunisation and illnesses are almost exclusively managed by general practice, while developmental screening services are provided through the public health services. Communications between these two groups are rudimentary, and it is believed that there are significant gaps in service provision. Functioning primary care teams and proper structured communications would go some way towards narrowing these gaps. Consideration should be given to the development of a national health register and a core dataset for each child.

Proposals of the Children’s Taskforce need to be considered in terms of their potential to further fragment care provision and create new unintended barriers to communication and comprehensive care.

National uptake rates for immunisation remain below target and have resulted in periodic outbreaks of mumps, measles and pertussis in recent years. This is an area of concern.

Access to consultant opinion

A major issue for GPs is the difficulty and time it may take to obtain a consultant opinion on a child. Many OPD waiting lists are in excess of 2 months and this may be very frustrating for parents and GPs. A set time for consultant phone advice is one option that works well in the North East. Certainly most paediatricians will use 1-2 urgent slots per clinic for urgent referrals from GPs but these slots need to be protected and properly ring-fenced.

‘Rapid response’ clinics

A system whereby urgent but not emergency conditions could be seen by a consultant within a week of referral would be useful. The patient could be seen by a consultant and after one visit discharged or be further assessed in an outpatient clinic at a future date.

Ambulatory paediatrics

Ambulatory paediatrics is a modern model of service provision. It is perhaps best defined by its principle objectives which are to provide the best care available in as convenient a manner as possible to the child and their family. These objectives are supported firstly by early consultant input and secondly by making every effort to limit the time spent in hospital.

Standardised OPD referral forms

The form should encompass specific paediatric issues including vaccine record. Development of electronic referrals is an ongoing project.

Standardised Discharge Forms

The form should encompass admission length, diagnosis, medication on admission, changes to medication, medication on discharge and follow up plans. Development of an electronic discharge process is desirable.
Use of GP algorithms for top 25 conditions

Twenty-five algorithms have been developed on some of the most common conditions. This is with the aim of ensuring safe, effective and efficient care of a high standard. They are clear, concise and up to date. They are currently undergoing a consultation process with the appropriate bodies and feedback is awaited. Methods of incorporating these into clinical practice will be further explored in due course.

Communication

There needs to be enhanced communication between GPs, paediatricians, AHPs, PHNs and public health doctors. The communication would ideally be done electronically.

Regular CPD sessions with local GPs on common conditions in paediatrics and problem-based approaches to presentations are required. These sessions should be interactive and focus on common pitfalls and presentations. CPD requirements ensure high attendance at these sessions. These sessions may be possible through webinars.

Access

GPs need direct access to diagnostics including ultrasound, CXR and phlebotomy according to clinical need. GPs also need direct access to AHPs. At present in numerous regions access is via OPD. This leads to wasting of OPD slots for issues that could be dealt with in primary care.

Training of GPs in primary care paediatrics

At present all doctors obtaining MICGP have at least 6 months paediatric SHO training. This is one of only two mandatory rotations, and recognises the significance of paediatric care in general practice. There is also weekly structured teaching over four years and approximately 20% of this teaching is in paediatrics. There is two years GP registrar training where a GP trainee is tutored by a GP trainer in how to deal with paediatric conditions in primary care.

The Paediatric and Neonatal Clinical Programmes are in the process of developing a Masters in Primary Care Paediatrics. Ideally, each primary care team would have one or more GPs with this qualification so as to ensure the best possible care for the paediatric population into the future. Additionally undergraduate and postgraduate paediatric training for general practitioners should be reviewed and enhanced in order to empower and promote the necessary leadership, knowledge and skills required to provide safe care and improve local primary child health services. Discussions will take place with the Irish College of General Practitioners to progress these matters.

8.3 Suggested future directions

It is clear that, with an ongoing rise in the population under 16 years of age, there is likely to be increased out of hours (unscheduled) visits to emergency departments and increased OPD referrals. We need to improve links with primary care teams, focus on internet-delivered clear algorithms for common paediatric problems, smooth patient flow through the system and try, as much as possible, to keep children out of hospital.

Rapid Response clinics seem likely to succeed and will be popular with parents and GPs but we need to ensure they are not overloaded. We have a relatively healthy child and adolescent population in this country but there have been significant changes with new challenges posed:

- New morbidity including the significant rise in atopy (asthma, food allergy, allergic rhinitis and eczema), childhood obesity, type 1 diabetes mellitus and inflammatory bowel disease
- Parental use of the internet with associated generated concern
- Impact of poverty / relative poverty (now approaches 25% in Ireland)
• Significant adolescent general health issues / risk-taking behaviour / alcohol and drug misuse / mental health issues
• Psychosomatic symptoms such as abdominal pain, headaches and non-specific chest pains are relatively frequent

A far stronger link between primary care and secondary care is required

8.4 Performance metrics

• 2 and 6 week checks +/- use of growth /centile charts
• Immunisation uptake rates

8.5 Recommendations

1. Enhance the link between primary and secondary care in order to provide a significant range of services as close as possible to children’s homes
2. Improve access to diagnostic tests, e.g. ultrasound for GPs
3. Develop integrated care pathways and individual care plans where appropriate.
4. Integrated discharge plans agreed between the hospital and the primary care providers
5. Standardise how common conditions are treated in primary care through the roll out of algorithms, referral guidelines and protocols
6. Develop standardized OPD referral forms
7. Develop rapid response clinics
8. Review and enhance paediatric training at undergraduate and postgraduate levels in order to empower and promote the necessary leadership, knowledge and skills required to provide safe care and improve local primary child health services.
9. Develop a Masters in Paediatric Primary Care Programme
9. Care of the Newborn

9.1 Introduction
The European Foundation for the Care of Newborn Infants (EFCNI) in its report published in November 2011 stated there is currently no national neonatal health programme in place in Ireland. Neonatology has developed in an ad hoc and piecemeal fashion. Throughout the 1980s and 1990s the specialty received support from the academic societies of Irish Perinatal Society and Irish Paediatric Association. Until the recent past the Neonatal Subcommittee of the Faculty of Paediatrics provided a certain level of consistency in relation to standards of care. The structures changed in June 2011 with the commencement of the Neonatology Clinical Programme and Neonatology Advisory Group. It is planned that the new Programme will act as a framework for the delivery of a cohesive, structured and uniform high standard of service.

The main driver of neonatology in Ireland is the number of births annually. This varies nationally and the peaks and troughs make medium and long-term planning of neonatal services unpredictable. There have been considerable swings in the yearly number of births from decade to decade.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of births</th>
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<tr>
<td>1971</td>
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</tr>
<tr>
<td>1981</td>
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<tr>
<td>1991</td>
<td>52,718</td>
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<td>2001</td>
<td>57,854</td>
</tr>
<tr>
<td>2010</td>
<td>73,724</td>
</tr>
</tbody>
</table>

There was a 40% increase in births between 1991 and 2010. This large increase in the annual newborn population has placed a heavy burden on neonatal services. The rapid change in birth demographics had been largely unpredicted and many neonatology departments were unprepared. The lack of neonatal clinical networks meant there was no mechanism to quickly address the changing circumstances. Many units simply did not have capacity in terms of either accommodation or staffing. The last 10 years have been a constant struggle due to this increased workload.

All of the neonatal units in the country were visited as part of the process to find out what was happening on the ground. There is a reasonably clear breakdown in the size of units and the neonatal services that they provide. The quantum of neonatal work that is undertaken is largely determined by annual number of births but other factors including geographical location and local manpower complement are also major influences. Each unit was categorised according to the BAPM guidelines 2010.

- Level 1, also called Special Care Units, provide routine care and resuscitation to infants in their local population.
- Level 2, also called Local Neonatal Units or Regional Units, provide special care and high dependency care and a restricted volume of intensive care but transfer on complex problems.
- Level 3, also called Neonatal Intensive Care Unit (NICU), provides the full range of neonatal care including intensive care. Level 3 units are sited within perinatal centres that provide similarly complex obstetric care.

9.2 Description of the three categories of Neonatal Care in Ireland
There are 11 level 1 units that undertake routine newborn care and initial resuscitation and stabilisation after birth. All these units transfer out preterm infants < 30 weeks (7 Units) or <32 weeks (4 units) as well as critically sick term infants.
There are four level 2 or regional units that undertake initial neonatal intensive care. Galway undertakes full NICU care but transfers infants needing therapeutic hypothermia. Drogheda transfers infants <27 weeks gestation. Limerick transfers some infants <28 wks and infants needing therapeutic hypothermia. Waterford provides full NICU care for infants of any gestational age and one of the consultants donates 50% of his time to neonatology.

There are four level 3 or tertiary NICUs: Coombe Women and Infant's University Hospital, National Maternity Hospital - Holles Street, Rotunda Hospital and Cork University Maternity Hospital. One of the unique features of Irish tertiary NICUs is that they are all based on maternity units with large birth numbers of 8,500 and over. All units provide a full range of NICU care to preterm and term infants. All units are linked to busy fetal medicine departments. The three Dublin units deliver and provide early neonatal stabilisation to infants with congenital malformations that will require urgent neonatal or cardiac surgery shortly after birth in Crumlin and Temple Street. The fetal medicine component of neonatal care has become increasingly busy in recent years. Into the future consultant neonatologists in tertiary units are likely to spend at least seven hours weekly providing antenatal information, advice and management planning to parents whose infant has a congenital malformation.

9.3 Neonatal Consultant Manpower
The register of permanent consultant posts show that there are 25 consultant neonatology appointments. The location of these neonatal posts is as follows: Coombe - 4, Rotunda - 5, Holles Street - 4, Cork - 5, Drogheda - 3, Galway - 2, Limerick - 2. This complement is less than the recommended number which should be 1 neonatologist per 2,000 births (BAPM 2010). Based on 74,000 births annually there should be 37 neonatology appointments.

Neonatal Consultant Manpower - Hours per NICU

<table>
<thead>
<tr>
<th>WTE Number</th>
<th>Hospital</th>
<th>Hours</th>
<th>Hospital</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coombe</td>
<td>27</td>
<td>Crumlin</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Coombe</td>
<td>27</td>
<td>Crumlin</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Coombe</td>
<td>30.5</td>
<td>Crumlin</td>
<td>6.5</td>
</tr>
<tr>
<td>4</td>
<td>Coombe</td>
<td>17</td>
<td>Crumlin</td>
<td>20</td>
</tr>
<tr>
<td>Number of Births in Coombe</td>
<td>8,768</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of consultant hours in Coombe NICU</td>
<td>101.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Number</td>
<td>Hospital</td>
<td>Hours</td>
<td>Hospital / Inst</td>
<td>Hours</td>
</tr>
<tr>
<td>1</td>
<td>Cork NICU</td>
<td>27</td>
<td>UCC</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Cork NICU</td>
<td>33.5</td>
<td>Mercy</td>
<td>3.5</td>
</tr>
<tr>
<td>3</td>
<td>Cork NICU</td>
<td>37</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Cork NICU</td>
<td>37</td>
<td>n/a</td>
<td>0</td>
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<tr>
<td>5</td>
<td>Cork NICU</td>
<td>37</td>
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<td>0</td>
</tr>
<tr>
<td>Number of Births in CUMH</td>
<td>8,898</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of consultant hours in Cork NICU</td>
<td>171.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Number</td>
<td>Hospital</td>
<td>Hours</td>
<td>Hospital</td>
<td>Hours</td>
</tr>
<tr>
<td>1</td>
<td>Galway NICU</td>
<td>37</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Galway NICU</td>
<td>37</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Number of Births in GUH</td>
<td>3,537</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of consultant hours in Galway NICU</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Number</td>
<td>Hospital</td>
<td>Hours</td>
<td>Hospital / Inst</td>
<td>Hours</td>
</tr>
<tr>
<td>1</td>
<td>Drogheda</td>
<td>37</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Drogheda</td>
<td>37</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Drogheda</td>
<td>37</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Number of Births in OLOL</td>
<td>4,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of consultant hours in Drogheda NICU</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Number</td>
<td>Hospital</td>
<td>Hours</td>
<td>Hospital / Inst</td>
<td>Hours</td>
</tr>
<tr>
<td>1</td>
<td>Limerick</td>
<td>22</td>
<td>Paediatric unit</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Limerick</td>
<td>22</td>
<td>Paediatric unit</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Limerick</td>
<td>37</td>
<td>Paediatric unit</td>
<td>0</td>
</tr>
<tr>
<td>Number of Births in Limerick</td>
<td>5,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of consultant hours in Limerick NICU</td>
<td>117</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Number</td>
<td>Hospital</td>
<td>Hours</td>
<td>Hospital</td>
<td>Hours</td>
</tr>
<tr>
<td>1</td>
<td>Holles St NICU</td>
<td>30.5</td>
<td>Crumlin</td>
<td>6.5</td>
</tr>
<tr>
<td>2</td>
<td>Holles St NICU</td>
<td>27</td>
<td>Temple St</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Holles St NICU</td>
<td>27</td>
<td>Temple St</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Holles St NICU</td>
<td>27</td>
<td>Crumlin</td>
<td>10</td>
</tr>
<tr>
<td>Number of Births in Holles St</td>
<td>9800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of consultant hours in Holles Street NICU</td>
<td>111.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Number</td>
<td>Hospital</td>
<td>Hours</td>
<td>Hospital</td>
<td>Hours</td>
</tr>
<tr>
<td>1</td>
<td>Rotunda</td>
<td>30.5</td>
<td>Temple St</td>
<td>6.5</td>
</tr>
<tr>
<td>2</td>
<td>Rotunda</td>
<td>24</td>
<td>Temple St</td>
<td>6.5</td>
</tr>
<tr>
<td>3</td>
<td>Rotunda</td>
<td>30.5</td>
<td>Temple St</td>
<td>6.5</td>
</tr>
<tr>
<td>4</td>
<td>Rotunda</td>
<td>30.5</td>
<td>Temple St</td>
<td>6.5</td>
</tr>
<tr>
<td>5</td>
<td>Rotunda</td>
<td>25</td>
<td>Temple St</td>
<td>6</td>
</tr>
<tr>
<td>Number of Births in Rotunda</td>
<td>8792</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of consultant hours in Rotunda NICU</td>
<td>140.5</td>
<td></td>
<td></td>
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</tr>
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</table>

The major challenge facing the current neonatal consultant manpower is split session appointments. This leads to the ‘dilution’ of the neonatal services that the individual neonatologist can provide to his base NICU. In Dublin the consultant neonatologists provide substantial clinical services to the children’s hospitals at Crumlin and Temple Street. All of the Dublin consultants are expected to provide either 6 hours (16%) or 10 hours (27%) of their 37 hours contract to the children’s hospitals. In Limerick, Galway, Waterford and Drogheda the consultant neonatologists have heavy
commitments in general paediatrics. In marked contrast the Cork unit has developed a more sustainable model for the structure of neonatology posts. The consultants in Cork have all of their 37 hours contracted to the NICU.

The splitting of the neonatology workload undertaken by neonatologists has had an adverse effect on the specialty and has hindered its development and evolution. Neonatologists have not had sufficient time to concentrate on their core responsibility which is the supervision and organisation of the NICU. There has not been enough opportunity to teach and train NCHDs and neonatal nurses. The time constraints have made it difficult to serve effectively on national and international committees. The research output has been modest because of the heavy clinical burden. They have insufficient time to establish the framework for the national provision of neonatal intensive care. Protocols and guidelines have not been produced nationally until very recently. There is not a national mechanism in place to assess the efficacy of new clinical developments. This can result in the roll out of useful therapeutic advances being delayed. The Cork unit consultant staffing has been established on a different model. The consultants are appointed exclusively to the NICU. This is the model that has been in place in the UK and the US for a long time. It is clearly the best design and should be adopted for all future consultant neonatology appointments and manpower planning.

9.4 Neonatal NCHD Manpower

The issue of NCHDs and their role and provision of services was discussed with all the units. It is a constant cause of concern. Smaller units have persistent difficulty in attracting staff. There are problems in training NCHDs in the acute practical procedures in neonatology. The 11 peripheral hospitals have a total of 45 registrars and 56 SHOs. There are a number of potential solutions to these challenges. An immediate approach is to increase the induction training of all the NCHDs. This could be organised at a regional level in order to improve effectiveness. Training should be undertaken at a number of levels including simulation. Simulation training is very suited to neonatology, a specialty comprising of a large number of procedures that have to be undertaken quickly in an unstable baby.

The practical, long-term solution is to alter the ratio of permanent trained staff to untrained staff. This will require an increase in the number of consultants and/or the introduction of neonatal nurse practitioners (NNPs). The advantage of this approach is that the service will become less dependent on trainees. The issue should be confronted as a matter of urgency.

NCHDs and Nurses

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Registrars*</th>
<th>SHOs*</th>
<th>Neonatal Nurses^</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castlebar</td>
<td>5</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Cavan</td>
<td>5</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>Clonmel</td>
<td>4</td>
<td>4</td>
<td>8.5</td>
</tr>
<tr>
<td>Kilkenny</td>
<td>2</td>
<td>5</td>
<td>8.5</td>
</tr>
<tr>
<td>Letterkenny</td>
<td>4</td>
<td>6</td>
<td>14.5</td>
</tr>
<tr>
<td>Mullingar</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Portiuncula</td>
<td>5</td>
<td>5</td>
<td>11.5</td>
</tr>
<tr>
<td>Portlaoise</td>
<td>4</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Sligo</td>
<td>4</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>Tralee</td>
<td>4</td>
<td>5</td>
<td>12.4</td>
</tr>
<tr>
<td>Wexford</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>4</strong></td>
<td><strong>5</strong></td>
<td><strong>11.6</strong></td>
</tr>
<tr>
<td>Level 1 Units (Special Care Units)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drogueda</td>
<td>11</td>
<td>7</td>
<td>27.8</td>
</tr>
<tr>
<td>Galway</td>
<td>5</td>
<td>7</td>
<td>27.5</td>
</tr>
<tr>
<td>Limerick</td>
<td>13</td>
<td>10</td>
<td>32.3</td>
</tr>
<tr>
<td>Waterford</td>
<td>6</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>8.75</strong></td>
<td><strong>7.25</strong></td>
<td><strong>29.4</strong></td>
</tr>
<tr>
<td>Level 2 (Regional Units)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coombe</td>
<td>7 (neonates only)</td>
<td>7 (neonates only)</td>
<td>70.5</td>
</tr>
</tbody>
</table>
Another option is for small units to have a more streamlined antenatal transfer of high preterm infants and term infants with a suspected congenital malformation. The National Neonatal Transport Programme (NNTP) has been extremely helpful in the retrieval of newborns. Its extension to a 24 hour service will be very beneficial for small units. It will be offering a transport service for the units when they are most vulnerable, at night and weekends. The concept of bundles of neonatal care needs to become more formalised. The early perinatal and neonatal intensive care may need to take place in a tertiary centre if the infant is very preterm or if there is a complex condition. When the infant’s condition stabilises and settles the objective must be to transfer the infant back to the local hospital.

In-utero transfer is the best option for the mother and her baby. The difficulty is identifying genuine preterm labour and predicting when birth is imminent. Fewer than 50% of mothers presenting in preterm labour will deliver during the current episode. At least 25% of mothers will remain undelivered 96 hours after in-utero transfer. Premature rupture of membranes (PPROM) is also unpredictable. In cases of PPROM at 25-31 weeks gestation the median time to delivery is 10 days and 30% of mothers will not have delivered by 20 days. Transfer is indicated if there is maternal pyrexia, fetal tachycardia, offensive liquor or leucocytosis. Other factors being used in some UK centres to predict those that will proceed to delivery include ultrasound cervical length <15mm or positive fibronectin test.

9.5 Neonatal Nurse Workforce

The issue of neonatal nurse staffing also needs to be addressed. It proved difficult to collect even the most basic data on neonatal nurse whole time equivalents. The global figure for the neonatal nurse whole time equivalents in the country is 513.1. Data are incomplete on the proportion of these nurses that have neonatal training. The data does, however, give a rough approximation of the numbers of neonatal nurses working in the three categories of neonatal units. On average, the peripheral level 1 units have 11 neonatal nurse WTEs, the regional level 2 units have 29 neonatal nurse WTEs and the tertiary units have 68 neonatal nurse WTEs. The neonatal nurse complement is an accepted marker of the clinical activity in a neonatal unit. The nursing numbers demonstrate the wide difference in the size and functions of the three categories of units. This report is being written at a time when there is great concern about the loss of senior neonatal nurses across the country following the February 2012 early retirement scheme.

Changes in midwifery structures with the advent of direct entry midwives means that this group of nurses are not available as a recruitment source. The consequence is that many of these posts have been filled by junior, inexperienced nurses. Mechanisms need to be quickly put in place for the rapid up-skilling of newly appointed nurses. For example, the use of systems such as ‘the competency framework and core clinical skills set for neonatal nurses’ which has been used in all Scottish neonatal units for the past 6 years needs to be looked at.

All the units visited expressed concerns about their neonatal nurse staffing levels. The recruitment and retention of nursing staff is central to good neonatal care. All units felt that their nurse numbers were too small. It is difficult to evaluate what the neonatal service nationally needs. The best guide comes from the BAPM directive which outlines the neonatal nurse staffing for the UK. The recommendation is as follows:

- Neonatal intensive care - 1 nurse: 1 baby
- High dependency care - 1 nurse: 2 babies
- Special care 1 nurse - 4 babies
In Ireland these ratios are clearly not being achieved due to the high costs involved. It would be helpful if each unit could calculate what its current ratio is and how it compares with the BAPM standard in per cent terms.

There are four Registered Advanced Nurse Practitioners in Neonatal Care (RANP - N) in Ireland - Rotunda 2, Holles Street 1, Coombe 1. The development of RANPs has been slow because up to 2012 there was no training programme in advanced neonatal nursing in Ireland. The training for this advanced neonatal nurse post is in the Masters education framework. The RCSI has now established an advanced practice module and the first cohort of nurses will graduate in 2013. RANP in neonatal care could provide an important role in both regional and local units in the future. Their in-depth knowledge and skills acquisition makes them ideally suited to supervise and train other neonatal nurses and to overlap with some of the NCHD current roles. The BAPM in its most recent report state that RANPs have the capacity of career progression through undertaking invasive clinical procedures, ordering and interpreting x-rays, managing resuscitations, initiating therapies, presenting on ward rounds and undertaking neonatal transports. One issue that will need to be resolved is the path of accountability for the RANP in neonatal care. Currently they work within both nursing and medical teams and she/he is clinically accountable to the neonatology consultants and professionally accountable to the director of nursing and midwifery as agreed with the nursing administration locally, and the former National Council for the Professional Development of Nursing and Midwifery (now dissolved) some years ago. Another complex area is the prescribing rights for RANPs, who are also registered nurse prescribers (RNP). There are issues with drugs which do not carry a specific neonatal licence in Ireland, a considerable proportion of drugs in everyday use in neonatal units do not have such licences, requiring medical practitioners to prescribe for their patients. Clear lines of accountability should be developed. This issue is also under discussion in the UK through the BAPM.

9.6 Neonatal Allied Health Professionals Services

Neonatal Allied Health Professions (AHPs) have an important but currently under-represented role in Irish neonatology. The AHPs that play an invaluable role in neonatal care include physiotherapists, dieticians, pharmacists, psychologists, occupational therapists (OTs) and speech therapists. The tertiary units have some but not all of these services. The rest of the neonatal units do not have any AHPs designated to their neonatal service. Physiotherapists and occupational therapists have a shared knowledge base and are ideally placed to provide a developmental model which internationally is becoming a NICU standard of care. They have the facility to provide both assessment and targeted intervention. Speech and language therapists (SLT) are increasingly in demand in NICUs because their ability to assess and manage the infant's feeding and swallowing. The neonatal dietician is an invaluable member of the neonatal team. Tertiary units should have a full post and smaller units need access to a dietician. It is recommended that there should be 0.05-0.11 WTE per intensive care cot (BAPM guidelines). The dietician's role is to oversee and assess the nutritional needs of the preterm and sick term infant. In many units they help in the provision of the total parenteral nutrition (TPN) service. Pharmacists have an important role in newborn care. They monitor and check the prescription sheets of all infants. It is recommended that their input should be 10-20 minutes per cot and that they should also attend ward rounds.

Holles Street is the only unit with a designated psychologist. The potential psychological damage associated with the neonatal intensive care environment and painful procedures is being increasingly recognised.

AHPs are playing an increasingly important role in the delivery of the ‘new neonatology’ which concentrates on the quality of survival and neurological outcome. Tertiary units should have a full complement of AHPs and smaller units should have access to their services and expertise. The provision of AHP services to Irish neonatology is fragmented and incomplete even in the tertiary units. In many of the smaller units these services are non-existent.

Allied Health Professionals (AHPs) with Designated Neonatal Sessions
9.7 Neonatal Unit Design and Capacity

During site visits, particular attention was paid to the size, capacity and suitability of all the neonatal units. Apart from a few exceptions most units throughout the country were small, cramped and unsuitable for the delivery of neonatal care. The units are developmentally inappropriate and there is little facility to control light intensity and sound levels. The difficulty is that most of the units were designed and built before the advent of modern neonatology. In particular most units do not have the facilities necessary to meet the current modern emphasis on the prevention of nosocomial infection. In the Vermont Oxford Collaboration for neonatal outcome in infants whose birth weight (BW) <1500g, Irish units consistently underperform in relation to infection rates. Neonatal unit design is one of the factors that contribute to the risk of cross-infection.

The neonatal unit is important in the delivery of high quality care. Safety is the primary concern. Cross infection is the biggest risk. Preterm infants are immune-compromised and they have protracted stays in hospital. The data shows that infants with BW 500-999g are in hospital 69 days, infants with BW 1000-1499g for 41 days, infants with BW 1500-1999g for 21 days, infants with BW 2000-2499g for 10 days and infants BW ≥2500g for 5 days. In terms of infection risk, the longer the stay the greater the danger of infection. There are many examples where the neonatal environment has led to serious or fatal infection outbreaks. The most recent was the Pseudomonas outbreak in Belfast which caused 3 newborn deaths. That outbreak was traced to a plastic component in the unit’s taps. The biggest concern for most units is the insufficient space between cots.

There are international guidelines about capacity. These have been set out in the BAPM guidelines and by the 7th Consensus Conference on Newborn Unit Design 2011. It is important that Irish units conform to these standards. Of note is the quality of the units in Cork, Galway and Cavan. These units are very well designed and provide an optimal environment for the delivery of neonatal care. A new unit is being built in Waterford and will open in a matter of months.

In the coming year the Neonatal Clinical Programme intends to revisit the whole issue of neonatal unit capacity and design. A national approach to the whole issue of newborn accommodation is needed and needs to be based on best international practice.

The Size and Suitability of the Neonatal Units

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Size</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castlebar</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Cavan</td>
<td>Good</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Clonmel</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Coombe</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Cork</td>
<td>Excellent New Unit</td>
<td></td>
</tr>
<tr>
<td>Drogheda</td>
<td>Reasonable</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Galway</td>
<td>Excellent new unit opened in 2012</td>
<td></td>
</tr>
<tr>
<td>Holles St</td>
<td>Small</td>
<td>Needs New Unit</td>
</tr>
<tr>
<td>Kilkenny</td>
<td>Small+</td>
<td>Needs New Unit</td>
</tr>
<tr>
<td>Letterkenny</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
</tbody>
</table>
9.8 Neonatal Discharge Planning

High quality discharge planning (DP) is being increasingly recognised as an important function of any neonatal department. The destination is home for most infants but in addition tertiary units discharge some infants back to their local hospitals. In the Picker Institute’s survey of over 9,000 parents with babies in UK neonatal units they found that the manner and quality of the discharge was the commonest cause of dissatisfaction.

While the admission of an infant receives a high level of detailed attention, the discharge is frequently more rushed and less well documented. This can lead to problems after discharge because many of the infants are at high risk of developing subsequent complications.

The length of stay (LOS) versus the timing of discharge for a preterm infant who is stable is a balancing act. The advantages of earlier discharge are decreased exposure to nosocomial infections, improved baby-parent interaction and savings in health care costs. On the other hand earlier discharge increases the risk of readmission. Family support is pivotal in determining whether the process ends in success or failure. The objective is to achieve a nationally agreed approach and guideline on the discharge of an infant from the SCBU or NICU.

Unfortunately, most hospitals have not specifically addressed the matter. Very few units have appointed neonatal nurse discharge planners. It is an important issue for parents. It needs to be expanded and developed. Better links with primary care and public health teams need to be developed including the use of encrypted IT resources to transmit discharge data on patients to the community in a timely fashion.

9.9 The Newborn Clinical Examination

Since the commencement of the Neonatology Clinical Programme concerns about the routine newborn examination have been raised by a number of medical and non-medical sources. The criticisms are that on occasions the examination fails to detect or identify conditions or anomalies at a stage when treatment could be more effective. Matters are compounded by the expectations of parents that most disorders can be diagnosed immediately after birth.

The conditions about which there are frequent anxieties include congenital heart disease, developmental dysplasia of the hip, undescended testes, cataracts, imperforate anus. It appears timely that the newborn examination programme should be reviewed nationally. The Neonatology Clinical Programme intends to review standards and implement new strategies over the next year.

In any discussion about the routine newborn examination a wide range of issues need to be considered:

- There is confusion and misunderstanding about what a routine external newborn examination can be reasonably expected to achieve.
- Both its benefits and its limitations need to be revisited and redefined.
- While a normal examination is reassuring for parents, they must remain vigilant and trust their instincts if they think that their baby 'is not right'.

<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limerick</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Mullingar</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Portiuncula</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Portlaoise</td>
<td>Reasonable</td>
<td>Needs upgrading</td>
</tr>
<tr>
<td>Rotunda</td>
<td>Reasonable</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Sligo</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
<tr>
<td>Tralee</td>
<td>Reasonable</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Waterford</td>
<td>Completely new unit being built</td>
<td></td>
</tr>
<tr>
<td>Wexford</td>
<td>Small</td>
<td>Needs Upgrading</td>
</tr>
</tbody>
</table>
It should be emphasised that the newborn examination is just one part of a continual process. The infant will need further checks in early infancy before it can be more certain that he is normal.

The newborn examination takes place in the first 24 hours after birth at a time when the infant is usually asymptomatic and the mother may not have noticed anything untoward.

The early postnatal discharge policy has reduced the time available for nursing staff to assess and detect clinical problems in the baby.

The large number of daily neonatal checks that must be carried out in a narrow window of time in a busy maternity department can result in the doctor being ‘rushed’. This potentially can lead to items of the examination being overlooked.

The senior nursing retirements that have occurred in recent years has diluted the neonatal nursing expertise on many postnatal wards.

Recommendations:

- All neonatal units need to place more importance on the routine newborn examination.
- Sufficient time needs to be ring-fenced by management for this important service.
- Senior opinion should be sought and readily available when there is any concern about a baby.
- Notes must be carefully documented.
- Tests ordered or referrals made must be clearly signposted.
- Each unit must have a written plan on how to deal with results of tests that are returned to the ward after the baby’s discharge.
- A copy of the birth measurements for all discharged infants should be available to all primary care doctors and public health teams, preferably using encrypted IT means.
- Better and more comprehensive training of doctors on how to perform the neonatal examination.
- Senior staff must ensure that all the doctors are proficient at the task of newborn examination.
- The hidden pitfalls in the examination must be constantly emphasised.
- The doctor must have a fundamental grasp of the usual and the normal. Although the range of normal is wide, the range of usual is narrower. He must regard with suspicion any findings outside the range of usual.
- More emphasis needs to be placed on the conditions that will be missed unless specifically looked for.
- The development of algorithms on the detection and immediate management of important disorders.
- National adaptation of measures to increase the effectiveness of the clinical examination.
- The Neonatology Clinical Programme has produced algorithms for pulse oximetry testing for cyanosis in all newborns, imaging for all infants at increased risk of DDH, examination for imperforate anus and detection of undescended testes which should be implemented.

9.10 Screening for Developmental Dysplasia of the Hip (DDH)

Nine units have access to hip ultrasound at 6 weeks. The other 10 units do not have hip ultrasound facilities and have to wait for a hip x-ray at 5 months. The reason to delay x-rays until 5 months of age is that the radiologists need to obtain radiographs when the infant’s bones are sufficiently ossified. This discrepancy in the management and detection of a common condition such as DDH will have to be addressed. Following repeated and protracted meetings with the Orthopaedic Surgery group it is clear that all infants at increased risk of DDH should have a hip ultrasound at 6 weeks. The way forward is to provide a facility in all regional units for hip ultrasound examination.
Screening for High Risk Developmental Dysplasia of the Hip (DDH)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Hip Ultrasound</th>
<th>X-Ray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castlebar</td>
<td>No</td>
<td>At 5 months</td>
</tr>
<tr>
<td>Cavan</td>
<td>No</td>
<td>At 5 months</td>
</tr>
<tr>
<td>Clonmel</td>
<td>At 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Coombe</td>
<td>At 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Cork</td>
<td>No</td>
<td>At 3 months</td>
</tr>
<tr>
<td>Drogueda</td>
<td>At 6 weeks</td>
<td>At 4 months</td>
</tr>
<tr>
<td>Galway</td>
<td>No</td>
<td>At 6 months</td>
</tr>
<tr>
<td>Holles St</td>
<td>At 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Kerry</td>
<td>No</td>
<td>At 5 months</td>
</tr>
<tr>
<td>Kilkenny</td>
<td>No</td>
<td>At 6 months</td>
</tr>
<tr>
<td>Letterkenny</td>
<td>At 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Limerick</td>
<td>No</td>
<td>At 4-6 months</td>
</tr>
<tr>
<td>Mullingar</td>
<td>At 4-6 weeks</td>
<td></td>
</tr>
<tr>
<td>Portiuncla</td>
<td>At 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Portlaoise</td>
<td>No</td>
<td>At 6 months</td>
</tr>
<tr>
<td>Sligo</td>
<td>No</td>
<td>At 4 months</td>
</tr>
<tr>
<td>Tralee</td>
<td>No</td>
<td>At 5 months</td>
</tr>
<tr>
<td>Waterford</td>
<td>At 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Wexford</td>
<td>At 6 weeks</td>
<td>At 6 months</td>
</tr>
</tbody>
</table>

9.11 Therapeutic Hypothermia for Neonatal Encephalopathy

The provision of Therapeutic Hypothermia was discussed at each neonatal unit visit. This treatment offers a promising new hope for infants with Hypoxaemic-Encephalopathy (HIE) secondary to birth asphyxia. Birth asphyxia occurs in 3 per 1000 births. Until recently there was no specific treatment for the condition and the prognosis was poor. The risk of death was 25% and the risk of handicap among survivors was 75%. Children without motor impairment commonly have lower cognitive scores and poor scholastic attainment.

Therapeutic Hypothermia has been shown to be beneficial in a number of randomised trials, the most well documented study being the UK Toby trial. The treatment is 72 hours of cooling to a body core temperature 33-34°C commenced within 6 hours of birth.

The international experience is that the facilities and expertise required for Therapeutic Cooling is rarely available outside tertiary NICUs. The process of Therapeutic Hypothermia requires experienced staff including consultant neonatologists, CFM and EEG monitoring, servo cooling systems, paediatric MRI scanning and paediatric neurology assessment. The unit must also be skilled in entering the complex Toby Registry information.

Therapeutic Hypothermia is being undertaken in a number of Irish units. Most of the treatment is being provided by the four tertiary units, Holles Street, Rotunda, Coombe and Cork. Most of the other units are transferring their cases to these four units. In 2010 the number cooled in the four tertiary units was 31 infants with 19 having a subsequent normal brain MRI scan. Preliminary data for 2011 indicates that the number of infants being cooled is increasing.

The need for rapid transport and access to Therapeutic Hypothermia is an important driver for the need for a 24/7 neonatal retrieval services. Without its introduction it will not be possible to provide this important treatment for all infants requiring it throughout the country. The NNTP has produced a comprehensive document describing the provision of Therapeutic Cooling during transport (A Twomey, A Bowden).
Neonatal Encephalopathy 2010

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of Cases</th>
<th>Cooled (MRI Normal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coombe</td>
<td>7 (stage 2/3)</td>
<td>6 (5)</td>
</tr>
<tr>
<td></td>
<td>25 (stage 1)</td>
<td></td>
</tr>
<tr>
<td>Cork</td>
<td>14</td>
<td>9 (5)</td>
</tr>
<tr>
<td>Holles Street</td>
<td>19</td>
<td>8 (4)</td>
</tr>
<tr>
<td>Rotunda</td>
<td>18</td>
<td>8 (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31 (19)</td>
</tr>
<tr>
<td>Total Births</td>
<td>36572</td>
<td></td>
</tr>
<tr>
<td>Cooling Rate</td>
<td>1 per 1180</td>
<td></td>
</tr>
<tr>
<td>Normal MRI after cooling</td>
<td>1:4</td>
<td></td>
</tr>
</tbody>
</table>

9.12 Neonatal Networks

Medical networks are about professional connectivity. They are concerned about linking units and their staff in the cohesive care of patients. It is about exploring how a group of hospitals in a region can provide optimal care for the collective cohort of babies. The number of hospitals involved in the network varies and is dependent on the geographical size of the region. There are 22 neonatal networks in England with an average catchment of 40,000 births. A review of the network programme in 2007 found that development of networks led to improvements in co-ordination and consistency of services. Networks help to avoid fragmentation and duplication. The formation of neonatal networks is relatively inexpensive and beneficial for patient care.

The concept of risk appropriate care for newborn infants was first proposed in the US in 1976. Many of the subsequent improvement in neonatal outcome can be attributed to this concept. More recently in 2004 the AAP confirmed three levels of neonatal care based on increasing complexity of management. In the UK in 2001 the Department of Health concluded that countries with a network had a better quality of neonatal care. A subsequent report in 2003 recommended the reorganisation of neonatal care in England into managed clinical networks. The aim was to provide high quality neonatal care. The basic concept was to centralise neonatal intensive care followed by transfer back to the local hospital for the convalescent care of the infant. In parallel with this re-organisation of neonatal services there was a progressive introduction of electronic health record systems including the capture of standard neonatal items.

Neonatal networks have been slow to develop in Ireland. More recently their introduction has been more widely debated. A survey undertaken by Geoghegan et al found that many Irish units were in favour of their development. Opinion was equally divided as to whether there should be a single national network or more than one smaller networks. Most respondents felt that babies <32 weeks gestation or <1500g BW should be referred to a larger centre.

The Dublin North East managed Perinatal Network was established in 2010 and was formally launched in July 2012. It is a linkage between the Rotunda, Drogheda and Cavan hospitals. In order to function effectively, networks should have a common framework for clinical governance including protocols, standards, clinical guidelines, clinical audit, incident reporting and training. There should be scope for professional development across the network. The three hospitals differ considerably in size and activity. The Rotunda has 9,000 births with 112 Infants BW<1500g, Drogheda 4,000 births with 43 infants BW<1500g, Cavan 2,000 births with 13 infants BW<1500g. The Network states that there is a strong consensus that the care of infants BW<1500g by non-neonatologists is not a sustainable model. Infants <27 weeks gestation from Cavan and Drogheda will be transferred to the Rotunda. Infants between 27-30 weeks from Cavan will be transferred to Drogheda. There is a clear directive for retro-transfers as well. The operation of this pilot network is of considerable national interest and may help the formation of further models in the future. We await the outcome of its first year activities.
During visits to the units throughout the country the issue of networks was discussed. There was general support for the concept but most would like to await the outcome of the proposed new grouping of hospitals. Some units have built up strong working relations and referral patterns with tertiary centres and would be unhappy if a new network configuration would oblige them to send their babies to an alternative hospital.

In summary neonatal networks offer many advantages in terms of the day-to-day operation of neonatology in a region. The debate about a national rather than a number of regional networks needs to be worked out. The North East has established a network which offers a helpful model for the future. Any proposed configuration will need to include local wishes and sensitivities. Otherwise the programme will not work. The outcome and effectiveness of the network process will require constant monitoring. Evidence from the English experience is that communication between obstetricians and neonatologists can be challenging in relation to preterm labour and transfer decisions.
9.13 Recommendations
The data collected from the site visits about neonatal actives would imply that there are 11 level 1 units, 4 level 2 units and 4 level 3 units. This categorisation provides a basis for the short to medium term planning of newborn care.

Priorities:

1. The extension of the neonatal retrieval service to 24/7 is essential

2. Neonatal consultant numbers are currently insufficient to meet national demands. Neonatologists should spend the majority of their time working in the neonatal unit.

3. A comprehensive review of neonatal nursing is required. There should be at least one ANNP appointed in each level 2 and level 3 unit initially.

4. Neonatal nurse discharge planning needs to be addressed as improvements will reduce readmission rates.

5. Tertiary (level 3) units should have a full complement of health and social care professionals.

6. New standards for the physical infrastructure within neonatal units need to be adopted nationally.

Other recommendations:

7. Implementation of the algorithms produced by the Neonatology Clinical Programme for pulse oximetry testing for cyanosis in all newborns, imaging for all infants at increased risk of DDH, examination for imperforate anus and detection of undescended testes.

8. The early detection of developmental dysplasia of the hip requires a national approach to improve early detection (algorithm has been published by the Neonatology Clinical Programme)

9. The training of NCHDs in neonatology should be enhanced including the examination of newborns. Senior staff must ensure that all the doctors are proficient at the task of newborn examination.

10. The hidden pitfalls in the examination must be constantly emphasised.

11. Each unit must have a written plan as to how to deal with results of tests that are returned to the ward after the baby's discharge.
10. The Paediatric Intensive Care Service in Ireland

10.1 Introduction

The paediatric intensive care service (PICS) lies at the centre of the complex services provided by tertiary paediatric hospitals. In most countries there are 1.2 admissions per 1,000 children per year to a Paediatric Intensive Care Unit (PICU). The child undergoing PICU care requires minute to minute direct nursing care. The PICS care of a critically ill child necessitates intense physiological monitoring and precise data recording. There must be rapid recognition and effective corrective action in the face of any deterioration in the child’s status. Robust unambiguous protocols are essential in order that all members of the PICU team can perform efficiently and effectively during emergencies. There is a high procedural component to the service and the unit’s staff needs a substantial throughput of patients in order to maintain its skills. The PICU must have a strong culture of teaching, training, audit, simulation and fire drills. The atmosphere must be emotionally supportive to the staff including constructive debriefing following stressful events. The unit needs to constantly reassess the quality and effectiveness of communication with the families of sick children.

The intensive care provided by any PICU can be divided into scheduled and unscheduled management. The scheduled care is that provided to children after elective major surgery such as cardiac, abdominal, neurosurgery, orthopaedic or renal transplantation. The unscheduled intensive care is provided to children who were previously well but who become unexpectedly ill with conditions such as pneumonia or overwhelming sepsis or children with underlying complex disorders who develop an intercurrent illness or children who sustained severe acute trauma, burns or sepsis. Early intervention is crucial and in the UK all paediatric hospitals are being urged to develop paediatric early warning systems (PEWS) to ensure earlier transfer of ill children to ICU before they become unstable.

10.2 Paediatric Intensive Care in Ireland

There are two PICUs in Ireland at OLCH, Crumlin and CUH, Temple Street. These two units serve the PICU needs of the country’s 1 million children. The total number of admissions annually is 1,600 (Crumlin 1,100, Temple Street 500). There are 32 PICU beds across the two sites (Crumlin 23, Temple Street 9). The patient profile of the two units differs with Crumlin having a high proportion of cardiac cases while Temple Street cares for all the neurosurgical cases and renal transplants. Both units have a high neonatal surgical workload accounting for more than one third of the admissions. The principles of paediatric intensive care are the same irrespective of the underlying condition. They include a secure airway, effective ventilation, good circulatory support, accurate fluid and electrolyte balance, all modes of renal replacement therapy, plasma exchange, high standards of infection control, portable radiology, bedside ultrasound, safe drug prescribing, knowledge of drug interactions, detailed documentation and empathy with the sick child’s family.

Both units have undergone considerable change in the last five years in tandem with the rapid advances in PICU care internationally. The HSE has given great consideration to the future planning of PICU services in Ireland. It is accepted that intensive care is an expensive and finite resource. It needs good clinical and administrative governance.

Among the concerns expressed by consultant staff during site visits is the suboptimal numbers of intensivists who provide intensive care to sick children across two sites and at the same time are trying to establish an acute paediatric transport programme.

Outside of Dublin, Cork and Limerick have considered the matter of paediatric high dependency units. This would, for example, be helpful for the management of children with acutely ill children with diabetic ketoacidosis. The concept is being explored by Drs Deirdre Murray and Roy Philip in Limerick.
10.3 Reports on the Irish PICU Services

The HSE commissioned an external review of Paediatric Critical Services that was undertaken by Det Norske Veritas Ltd, in 2008 ‘Right Care, Right Place, Right Time’ (External Clinical Expert input by Dr Kevin Morris, Birmingham Children’s Hospital, Professor Ian Mudock, Evilina Children’s Hospital and Professor Des Bohn, Toronto Sick Kids Hospital). Its remit was to review and make recommendations on paediatric critical care service developments then and in the lead up to the opening of the National Paediatric Hospital. The Report points out that paediatric intensive care is a low volume, high acuity specialty. The review benchmarked Irish paediatric critical care services and found that the PICU services had a number of gaps in provision.

The DNV report set out a series of key recommendations to be implemented covering the areas of:

- Organisation and management
- Models of care
- Capacity and capital improvement
- Clinical human resources
- Referral and retrieval
- Supporting infrastructure

The report also advised on the need to address how best to manage neonatal surgical patients in the context of developing a new model of care of to these children when the new hospital is completed.

The HSE’s Director of Quality and Patient Safety commissioned a follow up external review ‘Clinical Review of Paediatric Critical Care Services’ March 2012 (Authors Dr Kevin Morris, Birmingham Children’s Hospital, Professor Ian Mudock, Evilina Children’s Hospital). This review sought to determine the progress made since the 2009 review and how many of the 13 recommendations had been implemented. The report acknowledges that much has been achieved.

Some positive joint working initiatives were noted:

- There is now a website to support patient referrals for intensive care and a one call number for referral and/or advice (www.picu.ie, 1890 213 213)
- A clinical information system has been developed and is in place in Crumlin and is currently being installed in Temple Street
- Meetings of senior nurses from the two units have commenced and regular meetings of CEOs and senior management from both hospitals are held
- There are regular morbidity and mortality meeting across both sites
- There is a daily PICU bed census available to both units
- There have been joint consultant intensivist appointments working across all departments
- There is limited development of common policies and guidelines

The process of appointing PICU consultants has begun with 2 WTEs in Crumlin and 1 WTE in Temple Street. In collaboration with a number of the paediatric anaesthetists with a special interest in PICU, separate ICU rosters are being developed and this has been in effect in Crumlin for the past 18 months.

There are a number of challenges. The lack of progress in the establishment of an acute paediatric retrieval programme remains a major concern. This remains a priority for paediatric services
nationally. Other concerns include that there are no nursing rotational posts or joint nursing appointments. There was little evidence of joint meetings of senior medical staff across both sites. The development of a single department of paediatric critical care across two sites while aspirational remains a challenge. The review emphasised the importance of safety monitoring.

The issue of neonatal surgical patients in the PICU was considered in some detail in the Report. There are two possible models of care. One model is to continue with the current arrangement with the care being provided by the PICU team with consultation and advice from the neonatologists. The second model is to establish a surgical NICU within the new NPH which is staffed by the neonatologists. The latter is the recognised international standard.

The review also recommended that at the Crumlin unit there should be a five day cardiac operating schedule based on a ‘normal day’ 8am-6pm in order to reduce the number of sick children returning to the ICU late in the evening. It recommended that all paediatric neurosurgery should be relocated at Temple Street from Beaumont Hospital as soon as possible.

It also placed great emphasis on the need to progress the retrieval programme and that while it was supportive of establishing a respiratory ECMO service in Dublin this should be deferred until the retrieval programme is in operation.

Both units are submitting their audit data to PICANet. PICANet provides the only validated data currently available on admission type, activity and outcomes and allows Crumlin and Temple Street for the first time to benchmark PICU activity with data collected from all PICUs in the UK. In the 2010 data over half (55%) of all admissions were under 1 year of age and unplanned admissions (emergencies) accounted for 61% of all admissions. 66% of all admissions received invasive ventilation in 2010 and 10,678 bed days were provided for Irish children over the two sites covered in this report. 7,085 bed days were provided to children <1 year.

10.4 Recommendations

1. The development of the PICU services and the process of ‘one service, two sites’ should be continued.

2. An executive of both clinical directors and full time intensivists should be established and meet regularly.

3. There should be a common set of guidelines which would provide greater continuity for staff rotating between the two units.

4. There should be increased numbers of meetings between senior medical staff about joint clinical governance of the two units.

5. Ongoing education should take place with PICU staff visiting peripheral hospitals to advise on optimal stabilisation of the critically ill child should be expanded.

6. The NPH should have a surgical NICU staffed by a collaborative neonatologists and intensivists
11. Retrieval

11.1 Neonatal Retrieval

In 1966, the first newborn with respiratory distress syndrome was transported to University of California San Francisco by its NICU staff, and the first recorded transport of a mother in preterm labour from another city was undertaken in 1969. Neonatal transport is now universally accepted as an essential component of newborn care. The transfer of sick infants between hospitals is an everyday occurrence. The retrieval of a preterm or ill term infant is complex and should be undertaken by specifically trained staff using purpose built equipment. An efficient neonatal transport service is one of the foundation stones of an integrated neonatal clinical network. In its absence small units are compelled to work above their capacity and beyond their expertise.

Team competence in neonatal airway management is imperative. The team should be capable of recognising impending respiratory failure, performing effective bag-valve-mask ventilation, performing atraumatic intubation with appropriate endotracheal tubes, instillation of artificial surfactant, and management of ventilator settings. Nearly all ill neonates require peripheral or central intravascular access during transport. The team must have the necessary equipment and skills for routinely and reliably securing intravenous (IV) access in these tiny and challenging patients.

Other important skills and experience include independent thought and action and extensive experience in the rapid performance of advanced clinical skills under less-than-ideal conditions.

Ongoing audit of the transport service is essential and data need to be routinely collected, collated and analysed on every aspect of the service so as to ensure the best possible outcomes are benchmarked against international best practice.

Neonatal transport should be recognised as a complex process rather than a single event. It begins with the recognition of the need to transport and ends with the safe relocation of the infant in the tertiary centre. The configuration of the team carrying out the retrieval, including their skills and competencies needs to match the needs of the child being transported.

11.2 Current Irish Service

The National Neonatal Transport Programme (NNTP) has been in operation for 11 years. Established in March 2001 it provides a national transport service for ill newborn infants up to the age of 6 weeks post gestational age. The service operates 7 days per week and accepts calls for transport between 9am and 5 pm. It had been estimated that it would undertake 150 neonatal transports each year but this has been greatly exceeded and the programme completes 300 retrievals annually. The NNTP is serviced by neonatal teams from the three Dublin NICUs. The Transport Team consists of the neonatal registrar, neonatal nurse and National Ambulance Service (NAS) personnel / Air Corps pilot and it is available daily to conduct transports anywhere within the country or overseas as required. The Programme funds a WTE registrar and a nurse in each of the three NICUs and two ambulance personnel in the NAS. The service has a custom fitted neonatal designated ambulance and another back up ambulance. There is an NNTP transport incubator module and equipment placed in each of the three NICUs and a further module for air transport housed with the Irish Air Corps. Clinical engineers from the National Maternity Hospital support the service and accompany the team when required (e.g. Nitric Oxide Therapy).

Air Transport

The NNTP uses Air Transport for the retrieval of critically ill newborn infants when it is clinically indicated. A service level agreement (SLA) is in place between the HSE and the Air Corps for the provision of an Air Ambulance Service. The Air Corps will provide helicopters (AW139) or fixed wing aircraft (Casa or Learjet) and flying crews for NNTP transports depending on the availability of
suitable aircraft, availability of flying crews and suitability of weather conditions. The NNTP has developed a specific transport module for air transport that integrates with the aircraft.

The decision to transport by air is made by the consultant neonatologist in charge of the infant's retrieval. The NNTP staff receive specific training on all aspects of air transport. There is an average of 18 (6%) neonatal air transports annually. The commonest indication is an urgency of the transport in relation to distance particularly if greater than 170 kms. The other indication is international transport to a paediatric facility outside the state.

A detailed standard operating procedure has been developed for the management of a neonatal air transport. The procedure is very time sensitive. The NNTP ambulance collects the team at the base hospital and arrives in Baldonnell within 30 minutes. While the team is en route the Air Corps load the air transport module and trolley into the aircraft. The team board the aircraft on arrival and take off immediately to collect the infant from the referring hospital.

11.3 The Retrieval Care Pathway

The referring hospital secures the bed in the receiving hospital. The referring doctor then contacts the single NNTP hotline number requesting the retrieval of the sick infant for specialist care. Information on the infant is relayed and recorded on a generic infant referral history form (available in all hospitals and on line) which includes all the relevant medical history, current clinical status, medications administered and radiology/laboratory results. Interim advice is provided to the local staff regarding stabilisation of the infant prior to the arrival of the NNTP team. This is recorded on the NNTP transport flowchart which also captures the times and status of the infant throughout the transport process and a review section for audit. The NNTP team mobilises within 45 minutes and calls the referring hospital with expected time of arrival. The team arrives and takes over the clinical management, stabilisation and preparation for transfer being the priorities. The team remains in telephone contact with its respective consultant neonatologist on duty back in Dublin. The infant is brought to the accepting hospital and a full briefing supplied. The referring hospital is contacted and informed of the infant's condition on admission to the accepting hospital.

A key feature in the process is ensuring that the referring hospital can recognise, anticipate and treat potential problems before the arrival of the transport team. The NNTP conducts the 'STABLE program' in hospitals nationally. STABLE is an educational tool developed for maternal/child health care providers to organise care during the post resuscitation / pre-transport stabilisation period. The aim of the programme is to enhance the knowledge and skills of all staff involved in the pre-transport care of neonates. The programme is endorsed by the American Academy of Pediatrics and by the Faculty of Paediatrics in Ireland.

11.4 Governance

The NNTP budget is held by the National Ambulance Service. The governance of the NNTP is under the auspices of the Assistant National Director with responsibility for the National Ambulance Service. There is an overseeing NNTP committee, a part-time Neonatal Director and a full time NNTP Co-ordinator. The Retrieval Clinical Programme has the remit to further extend the NNTP, to establish an acute paediatric retrieval service and develop a national network for adult retrieval.

11.5 Limitation of Current NNTP

The current limitation of the NNTP is that it only operates 8 hours daily. All transports required during the other 16 hours each day have to be undertaken by a non-specialist team. This is undesirable as at least 110 critically sick infants are transported out of hours annually by non-specialist teams comprised of local hospital staff. In addition, the local unit is significantly undermanned while a proportion of its staff is on the transport. The aim is reduce non-NNTPs to a minimum. The advent of therapeutic hypothermia for infants with birth asphyxia makes the need for a 24/7 even more
pressing. It is calculated that the introduction of an extended 24/7 service will save 10 infants annually from death or handicap. A lot of progress has been made in developing the 24/7 service and it is hoped that the remaining issues can be resolved in early 2013.

11.6 Retro transfers
In order to ensure that the NNTP works as efficiently as possible, it is crucial that retro or return transfers are dealt with. In a retrospective review of requests for retro transfers (2008-2009) the data recorded that only 53% of the requests were accepted immediately and the majority of transports were mobilised within 48 hours of the initial contact.

As a result, valuable NICU beds for the sickest children, are sub-optimally used. Most of the delays occurred due to lack of personnel to carry out the transfer. In order to accommodate all of the infants who require level-three care a viable and robust return transport service must be established. This initiative should be neonatal nurse-led which would be both cost-effective and a reflection of established international practice. The concept of nurse-led retro transfers would be embraced enthusiastically by neonatal nurses nationally as it would be of benefit to the babies and their families.

11.7 The Acute Paediatric Retrieval Service
Best international practices states that seriously acutely ill children are best managed in paediatric intensive care units (PICU). It is accepted that mortality is lower in units with paediatric intensivists. As PICU services became centralised over the last two decades in the UK, specialist retrieval teams have been established to transport sick children from district general hospitals to regional PICUs. When sick children are transported by a specialist team rather than the local hospital team the frequency of critical incidents decreases from 40% to 7%.

In Ireland, there are no specialist services in place to retrieve acutely ill children needing intensive care. It is estimated that 350 acute paediatric transports would be needed in Ireland annually but this may be an overestimate as the paediatric retrievals is usually less than the number of neonatal ones.

The DNV Consortium Report ‘Right Care, Right Place, Right Time’ on the development of Irish paediatric critical care facilities recommended the establishment of a 24/7 Paediatric Critical Care Retrieval Service. The Report recommended the establishment of an effective retrieval service in two phases. Firstly it stated that there should be a single call centre for the whole country and secondly a co-ordinated bed management process. This will reduce pressure on the referring hospitals through reduction in delays and refusals. A joint lead consultant and lead nurse co-ordinator need to be appointed to plan the service. The objective is to provide improved quality of care for children being transported.

The Clinical Review 2012 also addressed the issue of critical paediatric transport and recommended that a consultant led transport service be delivered as an urgent priority. A transport service is urgently needed and is seen as the number one priority in terms of patient safety and risk. The review considers that the retrieval programme has become much more urgent given that there have been reports about the poor condition of children arriving to both PICUs.

Planning and development of the acute paediatric transport has been relatively slow despite the availability of funding. In the first instance a considerable amount of preparatory work was required to bring about convergence of the two PICUs. The needed increase in consultant, NCHD, nursing and AHP staffing has just been partially achieved. A paediatric retrieval co-ordinator has been appointed.

The major advance has been the establishment of a single PICU contact number 1890 213213 that service users call when looking for a bed and or advice is required. The consultant intensivist then decides on the location of the bed depending on site availability and the nature of the child’s condition. For example, cardiac cases are transferred to Crumlin and neurosurgery cases are transferred to Temple Street.
This is supported by a web site www.picu.ie that provides a standard referral form that includes all the clinical information that is required and also drug calculations and guidelines.

It is planned that the acute paediatric transport programme will commence in 2013.

11.8 Recommendations

1. Neonatal retrieval is now universally accepted as an essential component of newborn care. The retrieval of a preterm or ill term infant is complex and should be undertaken by specifically trained staff (both medical and nursing) using purpose built equipment. The NNTP should be expanded to a 24/7 service.

2. The development of a national retrieval service for paediatric patients is a key priority in terms of patient safety and risk but will require significant added resources.

3. The governance of paediatric critical care needs to be clearly defined and this structure should oversee the development of a retrieval service across the two sites.

4. The establishment of the role of Director of Critical Care is also recommended.

5. The development of an Advanced Nurse Practitioner for retrieval is recommended.
12. Non Specialist Paediatric Surgery

12.1 Background / international experience

It is increasingly recognised that children who need to have non specialist surgery are entitled to have that surgery in an appropriate setting with healthcare professionals skilled and competent to provide that service.

A key UK report, The Report of the Children’s Surgical Forum (2007) titled ‘Surgery for Children – delivering a first class service’ highlights a number of key issues including:

- Most complex surgery in children should be centralized to provide the best outcomes
- All children must be treated by appropriately trained professionals in an environment suitable for their needs
- Day case surgery should be encouraged as much as possible
- The clinical governance structure of each hospital providing children’s surgery should be multi-disciplinary and include anaesthetists, surgeons, paediatricians and paediatric nurses.

The Royal College of Anaesthetists (2010) in their report ‘Guidance on the provision of Paediatric Anaesthesia Service’ came up with a number of significant recommendations including:

- Anaesthesia services for children require specially trained clinical staff together with equipment, facilities and an environment appropriate to the needs of children
- The service should be led at all times by consultants who regularly anaesthetize children
- In a life-threatening emergency where transfer is not feasible, the most senior appropriately experienced anaesthetist available should undertake anaesthesia
- Paediatric resuscitation equipment must be available and staff must maintain their APLS skills
- There should be a properly staffed and funded acute pain service that covers the needs of children
- Parents should be involved in all aspects of care and decisions regarding their children

In Northern Ireland, a 2010 report ‘Improving standards for General Paediatric Surgery – policy and standards of care for General Paediatric surgery in Northern Ireland’ sets out very clear standards of practice in line with the above points with the addition of:

- If no paediatric team on site, and if day case surgery being performed, at least one member of the team should have APLS training and there should be back up if required from the nearest paediatric facility
- Surgeons must have sufficient volumes to maintain skills and competencies
- A lead anaesthetist should undertake the equivalent of one child-only list per week (may include ENT, orthopaedics or dental) and all other anaesthetists must undertake a sufficient volume to maintain skills and competencies.

The NCEPOD publication titled ‘Are we there yet?’ (2011) gives a very detailed analysis of issues that arose in surgery on children in the UK over a five year period with salient points including:

- The importance of clinical networks with agreed thresholds for patient transfer and the maintenance of an appropriate skill mix and competencies of health professionals within the network
- All hospitals operating on children should participate in audit
- 2/3 of all paediatric surgical deaths are in infants under 1 year of age
- Every effort should be made to separate children from adults in the scheduling of elective lists
12.2 Reflections from the site visits

In each of the departments visited, the issue of non-specialist paediatric surgery was addressed and a number of trends emerged:

- There is significantly less surgery being performed outside Dublin and there are varied local reasons for this change
- Apart from Cork and Limerick, most units do not operate on children under one year of age
- Age cut off varies considerably from one year to five years but, in most units, surgery takes place if over two years of age
- A significant amount of day case surgery in orthopaedics, ENT, ophthalmology and dental surgery takes place without on site paediatric back up
- The case bundle of operative procedures for most units is limited to appendicectomies, circumcisions, herniotomies and orchidopexies
- There is an urgent need for national audit for all children’s surgery
- Most units would welcome a national model of care for non-specialist paediatric surgery due to be finalised by the end of 2012.

The publication of the national strategy document on non-specialist paediatric surgery which will set out clearly a national framework for safe surgery for children is due by the end of 2012s. It stresses the importance of regional paediatric surgical facilities where operations on children under one year may be performed. Such regional facilities will require 24 hour surgical and anaesthetic cover and appropriate paediatric radiology back up. Clear care pathways will be incorporated into this document. Wherever surgery is undertaken in children they should be admitted jointly under the care of a paediatrician.

Paediatric Orthopaedics

With regard to orthopaedics, discussions with the National Clinical Leads in Orthopaedics have occurred with a view to agreeing a national model of care for paediatric orthopaedics. There are only 3.7 WTE paediatric orthopaedic surgeons in the three children’s hospitals. There are four orthopaedic surgeons with a special interest in paediatrics; two in Cork and two in Galway. The model of care envisages a ‘hub and spoke’ model of tertiary centre(s) in Dublin and a number of regional centres (Cork and Galway) with each regional centre coordinating paediatric care for their region with the development of clear guidelines and referral pathways.

Developmental dysplasia of the hip screening was also assessed during our visits and the late DDH rate is 1.75 per 1,000 – there should be a national DDH database, experienced examiners in the newborn period and a 6 week ultrasound for high risk cases backed up by an X-ray of the hips at 3-4 months.

Dental Treatment in Children

Some 200 children receive dental treatment annually in each of the 32 local health centres (total 6400 per annum) and a further 3000 are treated in St James’s Hospital. There is a need to ensure safe and high quality paediatric dental day-case services in Ireland.

Core Principles:

- Children should receive this service on a planned, elective basis with appropriate pre-treatment assessment
- Formal admission policies are required to ensure adequate medical and dental records
- Formal transfer policies need to be set out if children require overnight stay in hospital for medical / surgical or anaesthetic complications post-treatment
- Paediatric Advanced Life Support (PALS) training is mandatory for general nursing and dental staff involved in the provision of care
- Clear separation of adults from children receiving day care is required
Anaesthetists should have sufficient experience and expertise with adequate throughput of 100-150 cases per year. Anaesthetic agent guidelines should be agreed.

Complex cases and under 3 year olds should not be treated where there is no onsite paediatric service. The support of a paediatrician is required for the pre-assessment and post-assessment of medically complex children.

12.3 Performance metrics

In general terms, all units operating on children should participate in the National Surgical Audit and should have regular multidisciplinary meetings with a discussion regarding outcomes.

The Department of Health has looked at two paediatric quality indicators:

a. Age when orchidopexy performed - by international standards should be performed under 2 years of age but Ireland does not meet these standards based on national HIPE data. (An algorithm has been produced on this issue and paediatric surgeons are addressing).

b. Age at diagnosis of DDH - again later than might be expected by international norms

12.4 Recommendations

1. Case bundles and age limits for smaller hospitals should be implemented

2. Designation of regional surgical facilities - 24 hour surgical and anaesthetic cover, paediatric radiology and medical paediatric support

3. The issue of having more than one surgeon with a special interest in paediatrics in a non-tertiary centre is important. A solitary surgeon should not bear a 24/7 workload.

4. Care pathways for common surgical problems are required (to be included in the Non-Specialist Paediatric Surgery document)

5. Non-specialist paediatric surgery should be part of national surgical audit

6. A mandatory 6 months in paediatric surgery should be considered as component of higher surgical training

7. There is a need to ensure safe and high quality paediatric dental day-case services.
13. Community Child Health

13.1 Background / international experience

The paediatric subspecialty of community paediatrics or community child health in the UK evolved from the Court Report – ‘Fit for the Future’ – chaired by Donald Court and colleagues in 1976, which was commissioned in response to the ‘Paediatrics in the Seventies’ report, and set out the government blue print for the care of children in the UK. One of the main recommendations was to establish posts of consultants in community child health. Court’s original vision was for consultants in community child health to have special skills in developmental paediatrics, social and educational paediatrics, and have responsibility to support GPs and the recommended new role of the general practitioner paediatrician. This new consultant was viewed to have a role in hospital paediatrics, as hitherto, hospital and community paediatrics operated too separately without any collaboration.

Twenty five years later, Professor Alan Craft and colleagues were commissioned to review the status of community child health in the UK and make recommendations for its future development. The resulting report, ‘Strengthening the care of Children in the Community’ was published in 2002 and it was approved by the Council of the RCPCH and endorsed by the BACCH (British Association for Community Child Health) executive. At that time, community child health services, provided by consultants, non-consultant grade doctors, GPs, nursing and allied health professionals included:

- Assessment and management of children with a disability (physical, intellectual or both)
  - (this is a core / major part of remit of most Consultants in CCH in Ireland)
- Audiology services / screening
  - (done by PHN, SMO, HSE Audiology +/- ENT in Ireland)
- A child protection service including statutory roles of named and designated doctors and nurses in child protection, who were also members of local area child protection committees (now Local Safeguarding Children’s Boards)
  - (significant part of the work of consultants in CCH in Ireland, but not formalised)
- Support for and assessment of education difficulties in children
  - (not a specific role for consultants in Ireland, although considerable time is spent writing reports/ letters in support of more resources for children in schools)
- Medical assessment and review of children in foster care / children looked after
- Medical support for local adoption agencies
  - (not routinely done by consultants in CCH in Ireland)
- Some mental health conditions, e.g. ADHD
- Immunisation Coordinator
  - (domain of Public Health System in Ireland)
- Planning, policy development and review of statistical data
- Training of primary and secondary care doctors, nurses and allied health professionals

Consultants in community child health (CCH) in Ireland strive to provide this broad range of services to children in collaboration with primary care medical, nursing, allied health and social services professionals. The broad remit is to endeavour to provide preventative and curative services for all children in the population – i.e. those who are well but need preventative / monitoring services, those who have symptoms who need better care, and those who need acute hospital care. Multi-agency and multi-disciplinary collaboration is a necessity to achieve this, and this is a core role / skill of consultants in community child health.

In a recent presentation by the chairperson of Community Child Health Paediatricians in Ireland the following points were highlighted:

- The current number of 12.75 WTE CCH paediatricians in Ireland is well below required levels and needs to be increased
The 2011 Census shows that there are now 1.04 million under 16 years in Ireland
Disability services are split into early intervention teams (under 5 years old) and school age teams (5-18 years old)
CCH posts are split between hospital and community commitments
Just over 25,000 are registered on the national disability register in 2010 but need standardised services across Ireland with clear care pathways
The roles of community medical officers need to be defined and their links with CCH paediatricians need to be formalised
AHP number disparities need to be addressed
Ferns 4 implementation needs to take place

13.2 Reflections from visits

At each visit, community child health services in the catchment population were reviewed and a number of observations were made including:

- The variability in services around the country is notable, and it depends on the resources and systems of assessment in each locality. Some areas have dedicated multidisciplinary teams for developmental delay, learning disability and physical disability, and autism assessments. The level of involvement of consultants in community child health with each of these areas varies between localities.

- There is significant variability in relation to available allied health professionals (psychologists, speech and language therapists, physiotherapists and occupational therapists) – in many instances some members of this team are, for a variety of reasons, not in post. This leads to great variations and delays, even within defined regions.

- Currently 12.75 WTE consultant paediatricians with a special interest in community child health are in post in Ireland – this is too few (especially in Dublin) with less than the recommended number of 4.5 per 100,000 population. This would equate to 47 posts nationally for the under 16 population. HSE West has 4 WTE CCH paediatricians which is not surprising in that the first CCH paediatrician was appointed in the North West in 1999.

- Primary focus of CCH paediatricians is on neuro-disability and child development

- Currently advisory / consultative role in relation to child protection but role in CSA examinations is poorly coordinated (await deliberations of Ferns 4)

- CCH should be an integral part of basic and higher specialist training (HST). It is a requirement to have 3 months such training in the HST Paediatrics Curriculum at present. There are a number of units in the country that could provide very good HSE core training in CCH, however not all units are being utilised and not all trainees are getting this training.

- Effective ‘mini – CRC’ in Waterford providing services to all the South East with a full complement of therapists in a modern facility and is a model for other regions

- Service in Cork provides assessments, orthopaedic surgery management, spasticity management / botulinum toxin injections.

- A number of units provide a well-organized and comprehensive service with community child health clinics with joint clinics in relation to feeding issues, paediatric orthopaedics and child psychiatry
• 3.17% of school age children in Ireland have intellectual disability and all should have a paediatric assessment to determine the cause. Four per 1,000 children have moderate to severe learning disability with high rates of co-morbidity

• All units stressed the pressures of acute paediatrics and efforts to ensure community sessions are protected

• Child Sexual Assault assessment requires a national managed network solution

13.3 Performance metrics

There are a number of national performance indicators relating to overall child and adolescent health and community child health parameters including:

• Perinatal, neonatal and under 5 mortality rates
• Immunisation uptake rates (national and regional figures)
• Success of screening (UDT, developmental dysplasia of the hip, sensineural hearing loss and duct-dependent congenital heart disease
• Breast feeding rates on discharge from hospital and 3 months post delivery
• Waiting times for early intervention assessments
• Time taken to completion of assessment
• Waiting times for hearing assessment and speech therapy services
• Waiting times for autism assessment

13.4 Recommendations

From the above suggested future directions include:

1. There is a need for managed clinical networks to comprehensively overhaul community child health services and avoid ‘post-code’ disadvantages in some regions

2. Far greater integration with community health doctors and the primary care team is required

3. A national plan for child sexual assault needs to be implemented following Ferns 4 consultations with relevant stakeholders

4. Care pathways are required for children with developmental delay / speech delay / physical disability and complex needs

5. Regional models akin to ‘mini-CRC’ in Waterford need to be established

6. Community Children’s Nursing Teams as seen in the UK would be beneficial in providing a higher level of treatment and support for children at home

7. The number of CCH paediatricians needs to be increased
14. Outpatient Care

14.1 Background/ International Experience

Consistent with changing models of care an increasing proportion of care is delivered in ambulatory settings including hospital in the home, outpatients, outreach clinics and through telemedicine. The outpatient department is a very important access point for the majority of patients. It is where diagnostic tests are reviewed and the decision to treat or request additional tests is made. Many different factors present challenges in managing demand for specialist clinic services that include the nature and complexity of needs and in particular children with chronic disease and co-morbidities and conditions that may be able to be managed in primary care or on a shared care basis.

Outpatient services should ideally be integrated to respond to children’s needs and include:

- General Paediatrics
- Clinical Nurse Specialists
- Physiotherapy
- Speech and Language
- Occupational therapy
- Psychology
- Dietician
- Social Work

The Report of the Review of Radiology Reporting and Management of GP Referral Letters at Tallaght Hospital (Sept 2010) and the HIQA Report and recommendations on Patient Referrals from General Practice to Outpatient and Radiology Services (2010) states that the ‘patient referral pathway starts when the patient and GP make the joint decision that the patient is to be referred to an outpatient service’. In the case of urgent referrals the GP phones the consultant or registrar in order to get an appointment. This can take a lot of time.

The Victorian Public Hospital Specialist Clinics Strategic Framework (Australia 2009) identifies the five high impact service improvements to be delivered by the framework:

- Increased capacity for new patients
- Individualised appointments for all new patients
- Patient journey standards
- Local specialist clinic telephone services ‘Infolines’
- Better monitoring of services.

The model sets out the referral patient journey starting with referral from GP, ED, inpatient, other specialists to the outpatient clinic and then resulting in: discharge to GP for follow up, inpatient episode or discharge.

The framework identifies different factors that present challenges in managing demand for specialist clinic services that are also relevant to Ireland and they include:

- The nature and complexity of patient needs
- Consumer familiarity with services provided in a hospital setting, and expectations that specialist clinics provide a setting for management of primary care conditions
- The mix and capacity of conditions that may be able to be managed in a primary care setting or on a shared care basis

The NHS Improvement Forum developed a Sustainability Toolkit (2009) for improving cardiac outpatient pathways and the methodology used is applicable to other services. In the NHS 75% of all out-patient ‘Did Not Attends’ (DNA) are for follow-up appointments. Patients are often asked to return to outpatients to have progress checked, to undergo tests, or to get test results. Some of these follow-up visits are clinically unnecessary, can cause inconvenience and anxiety for patients and are wasting valuable resources. Reducing DNAs is a performance measurement metric and is a key objective to removing waste in the system.
The UK Royal College of Paediatrics and Child Health published ‘Facing the future: a review of Paediatric Services’ in April 2011 and in this report are a number of interlocking proposals – to increase the number of consultants, expand the number of paediatric nurses and increase the number of GPs trained in paediatrics – this will allow children to receive high quality care, delivered by trained and competent professionals in a timely manner and in appropriate settings. There are ever-increasing demands especially out of hours and lack of trainees’ post-call impacts on outpatients. It is essential that there is a clear vision for how paediatricians will work in the future.

The Royal College of Paediatrics and Child Health published ‘Consultant delivered care – an evaluation of new ways of working in Paediatrics in April 2012. A set of ten service standards highlight the need for every child and family to have a senior and timely opinion.

### 14.2 Reflections from visits

Up until recently no outpatient data was available other than the number of attendances and some hospitals did not report separate paediatric data. The Outpatient Data Quality Programme (HSE) was introduced in hospitals in January 2011 in order to obtain standardised, defined and robust data relating to consultant delivered outpatient services and to improve the quality of the processes used by acute hospitals to manage their demand for outpatient services.

Children are referred to outpatients by GPs, EDs and area medical officers. In data collected by the Outpatient Data Quality Programme (HSE) for the month of June 2012 it showed that approximately 1,710 children (0-15 years) were referred for a general paediatric OPD appointment to hospitals outside of the three children’s hospitals in Dublin. Not all of the hospitals reported the number of children waiting but of those that did it showed that there were 496 children waiting greater than 12 months (excluding the three children’s hospitals in Dublin). This does not include those children referred to dental, orthopaedics, ENT, ophthalmology or other specialist services.

In the data for the month of June 2012 (see table below) for general paediatrics twenty two percent of return visits were DNAs. A practice of no follow up unless there is a specific clinical need would reduce the number of return DNAs. This would free up valuable clinical resources and reduce the time waiting of newly referred children to be seen. To enable this it is necessary to put in place the process that when the child attends the clinic that there is a coordinated approach to the scheduling of tests and that when results are available that clinical decisions can be made. This will improve the patient experience and create additional capacity.

#### OPD Appointments June 2012 for General Paediatrics (Source HSE)

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<tr>
<th>Hospital</th>
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<th>Return</th>
<th>New DNA</th>
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<tr>
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<td>Sligo General Hospital</td>
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The above appointments do not include nurse led or AHP clinics. In developing a future model of care, OPD new to return appointments are targeted to be 1:2.

### 14.3 Suggested Performance Metrics

Potential performance metrics include:

1. New to return ratio: 1:2
2. No child waiting longer than 20 weeks to be seen
3. Decreased DNA rates to less than 10%

### 14.4 Recommendations

The overall goals are to reduce the number of unnecessary appointments, to improve access and decrease waiting times and to maximise best outcomes and experiences for patients and their families. It is essential that demand, capacity and patient flow through outpatient services are understood. Key elements are:

1. Overall goal should be to provide rapid and appropriate expert assessment and opinion of children referred from primary care.
2. Outpatient services should be delivered by consultant led teams
3. Referral from GPs should be firstly to general paediatricians who would then refer to an appropriate tertiary service if necessary.
4. Booking and scheduling of appointments should be carried out to best practice standards (development of standardised ‘clinic templates’ appropriate to the specialty and local paediatric needs)
5. Appropriate discharge of patients from clinics to reduce impact of follow up appointments on overall clinic capacity
6. Adherence by all staff delivering OPD services to hospital annual /study leave policy to minimise last minute cancellation of clinics and allow proactive scheduling of clinics
7. Flexible scheduling should be used and multi-disciplinary clinics scheduled where possible
8. Use of agreed care pathways in conjunction with primary care should be implemented
9. There should be visual separation of children from adults in the outpatient area with separate waiting areas
15. Specialty Clinics

15.1 Background / international experience

Cystic Fibrosis

Cystic fibrosis (CF) is a condition about which there has been a considerable amount of planning of service delivery following the introduction of CF screening in August 2011.

In relation to cystic fibrosis, the Cystic Fibrosis Association Australia (2008) and co-chairs Drs Scott Bell and Philip J Robinson published a document titled ‘Cystic Fibrosis Standards of Care, Australia’ covering all aspects of CF care (including facilities in CF centres, the newly diagnosed child with CF, outpatient care, inpatient care, home therapy, transition care, outreach services and clinics and end of life care and transplantation). Key points (pertaining to regional and smaller units) from this comprehensive document include:

- Newly diagnosed CF patients should be transferred to a regional or tertiary CF centre for initial assessment and parental education
- Treatment should be coordinated by a specialist multi-disciplinary team in the tertiary or regional CF centre
- Shared care arrangements should take place with smaller centres
- Annual assessments should take place in the regional or tertiary CF centre
- Home therapy may be considered
- Outreach clinics should involve a multidisciplinary CF team visiting a regional centre
- Procedures and investigations at outreach CF clinics and in regional centres should closely mirror those performed in the tertiary CF centre
- Patients attending regional CF centres should have access to expert multi-disciplinary care

Standards for the Clinical Care of Children and Adults with Cystic Fibrosis in the UK 2011 are also noted. More recently (2009) a HSE working group, drawing on agreed practices for the management of cystic fibrosis in Europe, developed a document titled ‘Services for People with Cystic Fibrosis in Ireland’. The CF working group identified that optimum care requirements cannot be met in all of the hospitals currently providing CF care. The working group proposed that the needs of the CF population would be best met by reconfiguration of specialist cystic fibrosis centres offering either full care or supervision of structured shared care with satellite CF centres, and detailed specifically which role each site would have. The CF working group also identified that a new structure is required which coordinates:

- An appropriate level of care for patients at the most convenient location
- Access to all of the specialist elements required for optimum outcomes
- Appropriate transition between child and adult services
- Information required to plan for a rapidly changing population which has ongoing service requirements
- Access to care in an appropriate environment, e.g. facilities which enable infection control measures

The CF working group also made other key recommendations in their report as follows:
The enhancement of staffing and accommodation to international guideline levels
- CF services should be designed to minimise the risks of cross-infection by the adoption of a service control of infection policy.
- The establishment of a national CF reference laboratory should be formally designated as a priority.

Type 1 Diabetes

Type 1 Diabetes is an auto-immune condition resulting in destruction of insulin-producing pancreatic beta cells and absolute insulin deficiency and is one of the most common chronic diseases in childhood. It is currently estimated that there are approximately 3,000 children with Type 1 diabetes, of whom 310 are aged under 5 years of age with an additional 50 new cases in this age group diagnosed each year. The prevalence of Type 1 Diabetes in young children is increasing with worldwide incidence rising by about 3.9% per year.

Treatment is with insulin given subcutaneously either as multiple daily injections given up to 5 times a day or via an insulin pump or Continuous Subcutaneous Insulin Infusion (CSII), which delivers a constant infusion of insulin. There are unique challenges in replacing this insulin deficiency in younger children. These include the differences in the size of the patients, the unpredictability of a toddler’s dietary intake and activity level, oppositional food behaviors and medical issues such as the increased risk of dangerous low blood glucose levels and high blood glucose levels particularly if associated with diabetic ketoacidosis (DKA). All of these issues lead to increased inpatient stays and require intensive use of health resources. An additional challenge in paediatric Type 1 Diabetes management is the need to provide diabetes education to the adults who accompany children, for example; parents, grandparents and teachers.

In 2011 the National Clinical Programme for Paediatric and the National Clinical Programmes for Diabetes established a Paediatric DSIG subgroup to examine the delivery of diabetes care and service development in Ireland to all children under 16 years of age. In early 2012 Dr Barry White nominated a ‘National Clinical Lead for The Paediatric Pump Programme for under 5s’, Dr Stephen O’Riordan, with a Grace Turner as Programme Manager, to implement this project and to develop a model of care for paediatric diabetes in Ireland with respect to children under five years with type 1 diabetes. Thus the Model of Care for the Provision of Continuous Subcutaneous Insulin Infusion for the treatment of Type 1 Diabetes in the Under Five Age Group (HSE 2012) was developed.

This new model of care is based on the National Institute for Health and Clinical Excellence NICE Guidelines (2008) which state that “Insulin pump therapy should be recommended for children younger than 12 years with type 1 diabetes as a treatment where clinically appropriate”. The model of care also based itself on previous documents such as the Diabetes Expert Advisory Group (2008) pump subgroup report and the HSE’s 2011 business case submission for Continuous Subcutaneous Insulin Infusion (CSII) usage in younger children with diabetes.

The aim of this model of care is to improve diabetes care for children with type 1 diabetes, <5 years of age, and to ensure that all clinically appropriate children with Type 1 Diabetes in this age group are offered continuous subcutaneous insulin infusion (CSII), which is recognised as the “gold standard” in this age group. The DSIG and the Under 5 Pump Programme view this as Phase 1 only, i.e. the first step in achieving a National Paediatric Diabetes Model of Care for all children under the age of 16 years. The national paediatric diabetes model of care is a key aim of the Programme.

The key objectives in the Under 5 Pump Programme model of care (HSE 2012) are to:
- **Provide CSII therapy to children under five**, where appropriate.
- Ensure that diabetes services and staffing levels are **equitable** in the five regional centres nationwide.
- Reduce acute and chronic complications of type 1 diabetes.
- Improve the quality of life of children and their families living with diabetes.

**Note:** The Under 5 Pump Programme Model of Care is focused **ONLY** on the Provision of Continuous Subcutaneous Insulin Infusion (CSII) for the Treatment of Type 1 Diabetes in **children under five years of age** (defined as age ≤ 5.99 years). The model of care is accessible at: [http://www.hse.ie/eng/about/Who/clinical/natclinprog/paediatricsandneonatologyprogramme/resources.html](http://www.hse.ie/eng/about/Who/clinical/natclinprog/paediatricsandneonatologyprogramme/resources.html)

**KEY POINTS IN THIS MODEL OF CARE (MOC) INCLUDE:**

1. Continuous Subcutaneous Insulin Infusion (CSII) pump should be the primary treatment option in children with type 1 diabetes.

2. That patients attend a regional centre led by a Consultant Paediatric Endocrinologist (Consultant Paediatrician with a special interest in diabetes) on a quarterly basis for diabetes control and stabilisation (more frequently if necessary).

3. A regional centre is defined as a hospital which treats >=150 children with type 1 diabetes and is staffed with a Paediatric Endocrinologist, a Paediatric Diabetes Nurse Specialist, a Dietitian as a minimum.

4. The newly developed National Guidelines for the management of type 1 diabetes in the under five age group are adapted from the ISPAD and BSPED guidelines.

5. Children under five years of age at diagnosis may be referred to one of the five designated regional pump centres for assessment of suitability for CSII therapy. An initial period of multi-disciplinary team (MDT) education is vital so all families have a fall-back strategy in the rare event of pump malfunction.

6. Patients and their carers must be assessed for suitability for CSII therapy using the Kaufman Competency Scale (an objective assessment tool).

7. In some instances patients and families may not be suitable for CSII therapy.

8. Patients not deemed suitable and wishing to use CSII therapy must have the negating factors identified so that the required standard can be worked towards.

9. Patients undergoing CSII therapy will remain under the care of the regional centre while the therapy is being established. This period of time will be assessed on a case by case basis; however 6 to 12 months is suggested to consolidate the education and CSII initiation prior to transfer back to a local hospital. In some cases patients may remain under the care of the regional centre or shared care between the local and regional centre may be considered.

10. Patients / carers are to receive appropriate diabetes and nutrition education in the regional centres. This may be in the form of a structured education programme and will vary from regional centre to centre. Carbohydrate counting education must be established in the regional centres as often a specialist Dietitian is not available at the local hospital.

11. The established patients receiving CSII therapy under five years may be transferred to a more local regional centre. This will also be done on a phased basis (over 6-12 months) in agreement between the two centres. For example, a patient currently cared for by a Dublin hospital would be transferred to Cork as it is now a regional centre.
15.2 Reflections from visits

Almost all paediatric departments offer specialist clinics with the majority offering specialist clinics in type 1 diabetes mellitus, CF and asthma. A number of pertinent points stand out:

- Outreach clinics by tertiary specialists are restricted to a number of specialities (cardiology / physical handicap) and this requires significant development and expansion.

- Six centres (Crumlin, Tallaght, Temple Street, Cork University, Limerick and Drogheda) have a paediatric endocrinologist and many centres struggle with inadequate staffing levels CNS in paediatric diabetes / dietetic / psychology support.

- A national model of care for type 1 diabetes in under 5s has been agreed and phase one involves additional CNS and dietetic support in Cork University Hospital, Limerick / Galway, Tallaght and Temple Street.

- The designated centres for newborn diagnostic services for CF are Crumlin, Temple Street, Tallaght, Cork, Galway and Limerick. Screening has streamlined CF care using a shared care model (e.g. Castlebar shares care with Galway, Waterford shares care with Cork University, Cavan and Drogheda share care with Children's University Hospital and Tallaght respectively, and Letterkenny is linked with Crumlin). We need a national model of care for paediatric and adolescent CF. It is noted that Ireland is distinct from Australia and the UK in terms of geography, higher incidence, tight network of specialist centres, and therefore work will have to be done looking at the clinical situation here when developing the model of care.

- Allergy services are in place only in Cork and Drogheda with 30% of referrals to Cork being outside the HSE South region.

- Asthma clinics are provided in many units with a focus on patient/parent education - new national asthma guidelines will be implemented.

- The shared care oncology service is an example for other paediatric specialities and focuses on shared information, guidelines, ongoing education of professionals and excellent paths of two way communication.

- A national plan was developed in 2009 with regard to paediatric neurology (Professor Mary King) and involves the development of two centres in Cork and Dublin. The current complement of paediatric neurologists is 4 in Dublin and two in Cork University Hospital. Outreach clinics from both centres are envisaged.

- Constipation / enuresis clinics do take place in a number of units and have the potential to be nurse-led. Greater efforts (aimed at primary care) are necessary to ensure that patients are discharged back to their GP.

- Just one unit (Mullingar) has developed an adolescent service.

15.3 Key Performance Indicators

Diabetes
- New pump starts in the under 5 age group
- HbA1c
- HRQOL
15.4 Recommendations

The overall goal is to ensure patients are looked after as close to home as is possible. In year 2 of the Clinical programme, the clinical leads intend to meet with all of the subspecialist groups individually in order to determine the current services, needs and priorities. On the foot of the findings a further document will then be produced. The recommendations below are examples included to illustrate the needs in specialty areas.

Diabetes

Phase 1:

- National Guidelines for children with Type 1 Diabetes under 5 are published on the HSE website. These have been agreed by the Paediatric DSIG and are in line with the ISPAD and ADA guidelines.

- Implement the model of care on the provision of insulin pump therapy to children under five years with type 1 diabetes.

- Diabetes Nurse Specialists and Dietitians staffing levels remain inadequate in the 5 regional centres. Based on the increasing numbers especially in the under 5year olds a new Business Case was presented to the RDO’s Nov 2012 requesting further funding to ensure equity in staffing levels Nationwide.

- Undertake year 2 of a 4 year tender process for insulin pump purchase. In year 2 we successfully organised a new Bulk Purchase of all standard insulin pumps Nationwide from a central location. This was successfully achieved in August 2012 with a saving of €1.13million to the tax payer and the HSE.

Phase 2:

- Expand the model of care to include all children under 16years old with Type 1 Diabetes in Ireland, lead by Dr Stephen O’Riordan

- Undertake year 3 and 4 of a 4 year tender process for insulin pump purchase. To facilitate the bulk purchase of all standard insulin pumps Nationwide, led by Dr Stephen O’Riordan

- National Paediatric Diabetes Audit – this is a priority action and this information must be obtained to realise a vision for the future in Paediatric Diabetes led by Dr Nuala Murphy and Dr Colin Hawkes on behalf of the Paediatric DSIG.

Cystic Fibrosis

- Care to be delivered in a shared care model involving small, regional and tertiary centres – this model of care (akin to one developed in Australia) needs to be developed.
- Develop the service as outlined by the CF Working Group
- Guidelines to be develop along with definitive national standards of care
- Existing resources such as the CF Registry of Ireland should be employed to foster audit, quality improvement and international comparison
- Annual assessments should take place in tertiary/regional CF centres
- Development of clear definitions of the levels of care to CF patients on local / regional and tertiary CF centres.
Asthma

Development of asthma clinics should focus on:

- Parental and child education via the Asthma Society Website
- Implementation of national asthma guideline developed by the Asthma Clinical Programme in 2012
- GP education and rapid referral back to primary care
- Discretionary use of pulmonary function studies / skin testing
- Infrequent referral to paediatric respiratory specialists

Paediatric allergy

- We need a national model for the evolution of paediatric allergy services
- Appropriate training should be provided to GPs and general paediatricians to allow them to care for children in their community
- Develop guidelines and pathways for common atopic conditions akin to those developed in the UK (www.rcpch.ac.uk/allergy)
- Resource local centres as appropriate to diagnose and manage paediatric allergic disease.
- Allergy centres should offer routine testing including skin prick tests, specific IgE testing and spirometry.
- Allergy centres should offer formal food challenges for definitive evaluation of food allergy.
- There is a need for four paediatric allergists in the country to provide specialist care and to progress new therapies.
16. Dublin Paediatric Hospitals
16.1 Background / international experience

The McKinsey Report (2006) 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.

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| Breadth and depth of service     | • A full complement of over 25 paediatric sub-specialties  
                                 | • International expertise in particular procedures and illnesses  
                                 | • 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. |
| Access                           | • Public transportation links  
                                 | • Outreach services taking specialists to the regions and local communities  
                                 | • PICU / NICU retrieval services |
| Recruitment and retention        | • Emphasis on recruiting and retaining outstanding staff  
                                 | • Academic hub  
                                 | • Increased training / development opportunities |
| Academics and research           | • Significant research, academic and fundraising capabilities  
                                 | • Research facilitated through integrated clinical and research time allocation  
                                 | • Academic / teaching core elements of the mission |
| Efficient use of human resources | • Sufficient volume of activity to support 24/7 consultant cover  
                                 | • Greater number of specialist allied health and social care professionals involved in care  
                                 | • Improved patient access to specialists, for example through outreach programmes |
| Efficient use of capital resources | • Increased utilisation of capital-intensive equipment  
                                 | • Improved utilisation of specialist units, such as PICU  
                                 | • Ability to share with adult centres very expensive or infrequently used equipment, such as proton beam machines and research facilities. |

As the national tertiary paediatric centre, the hospital should be a central component of an integrated national paediatric service.
The National Emergency Medicine Programme Report (published in June 2012) has a full chapter on Paediatric Emergency Medicine and is in full agreement with the RCPCH document (2012) titled Standards for Children and Young People in Emergency Care Settings, both highlighting:

- All staff delivering urgent care to children are competent in the key skills required for safe practice
- All children are visually assessed by a registered practitioner immediately upon arrival and an initial clinical assessment occurs within 15 minutes of arrival. This initial assessment should include a pain score
- All urgent care attendances of children and young people are notified to the primary care team
- A recommended age cut off of 16 years
- All front-line staff must be competent in Paediatric Basic Life Support
- A Clinical Decision Unit or Paediatric Assessment Unit may be co-located with an Emergency Department
- Emergency Department Review Clinics can be run on a daily, twice or thrice weekly basis and are physically located within the Emergency Department

In relation to scheduled outpatient care, the Royal Children’s Hospital, Melbourne has redefined all clinic schedules to increase capacity and opportunities for new patient appointments by:

- Moving to Patient Focused Bookings
- Encouraging patient discharge from clinics
- Improved Failure to Attend documentation and processes.

With these changes waiting times for new appointments have fallen from 9 months to around 6 weeks, with improved availability for patients whose referral indicates an urgent problem. A paediatrician triages patients within the patient-focused booking process.

16.2 Reflections from discussions with relevant specialists

Emergency paediatrics

There are, at present, three paediatric emergency departments (PEDs) providing 24 hours walk-in emergency care in Dublin. In 2011 110,000 children attended these Departments. There are three consultant posts approved in each department with eight permanent consultants in place. Each department has one advanced nurse practitioner (ANP) and a CNM 3; NCHDs in all three departments cover 24/7. A consultant has been appointed to oversee the further development of emergency services across all three sites.

All children coming to the emergency departments register their details and are then seen by a triage nurse. All children should be seen within 5 - 10 minutes of arrival to the ED, according to International best practice. The three departments are working towards implementing a standardised National Paediatric Triage system. All three hospitals have the same EDIS (ED Information system).

Once children have been assessed they are then streamed into categories, allowing timely review by a doctor or ANP.

The children coming to the Dublin EDs are undifferentiated and present with medical, surgical, psychiatric, trauma and social problems. The age range seen is from 0 days to 16.

The PED is a vital part of each hospital with approximately 50% of the hospital admissions to the three hospitals comes from the ED. The patient journey through the ED is varied, some children are
seen and discharged home, some need onward referral to OPD or back to GP. Between 10-18% are admitted. The vital links for the patient are the links with the admitting teams for the children needing acute admission, the access to appropriate outpatient specialist care and the links with the primary care team including GP and PHN. The Emergency Medicine Programme (EMP) document outlines the vision for care in these areas.

Between the three departments there are nine resuscitation bays. There are differences in the cubicles and spaces allocated for triage and minor injuries and procedures. All three departments offer limited procedural care for minor injuries dependant on availability of senior staffing.

Direct and primary care referrals have increased and all three units are struggling to cope with added workload. The assessment of suspected child sexual assault out of hours is problematic and requires a national strategy (following Ferns 4 discussions).

The three departments are subject to the national targets governed by the SDU. The target for 6 hours in an ED applies as much to children as it does to adults. The EMP recommendation of 3, 2, 1 (3 hours from arrival to decision by a doctor, 2 hours for review by an in house team, 1 hour to get to an inpatient bed once requested) has been accepted by all three hospitals.

Obstacles such as lack of availability of inpatient beds, access to ring fenced radiography, access to specialist consultations all lengthen the paediatric journey time. The three hospitals are engaging with the HSE to add a clinical observation unit to the ED to facilitate decision making and reduce the need for admissions. There are not enough senior decision makers in each department to provide expert care at all peak times and additional observational medicine will further impact on staffing. The roles of GP liaison, social work, physiotherapy should be strengthened.

**General paediatrics**

General paediatrics is under-developed in Dublin and a number of strategy documents have been developed. There are significant deficits in Crumlin regarding the numbers of general paediatricians and this places very significant strain on the on-call rota for acute paediatrics.

General paediatrics should interface with emergency paediatrics and there needs to be a significant consultant expansion with added posts in general paediatrics.

General paediatrics also has a very significant role in outpatients – general paediatricians should determine which children will require more specialist input and refer on appropriately to avoid overload of tertiary paediatrics by secondary paediatric cases.

In essence, therefore, the majority of children presenting with the diagnoses below should be seen first by general paediatricians:

- Asthma and viral-induced wheeze
- Failure to thrive
- Constipation with or without soiling
- Enuresis (both nocturnal and diurnal)
- Recurrent abdominal pain
- Headaches
- Suspected seizures
- Short stature
- Obesity
- Urinary tract infection
- Non-specific chest pain
- Suspected food allergy
- Iron deficiency anaemia
- Eczema (mild /moderate)
• Plagiocephaly / brachycephaly
• Developmental concerns
• Food refusal / feeding issues
• Gastrooesophageal reflux
• Infant distress
• Suspected toddler’s diarrhoea

Outpatients

The national strategies to improve OPD efficiencies need to be implemented, not least:

• A texting system to remind parents of an imminent appointment for their child
• A system where OPD requests are reviewed to assess who is the most appropriate person to see the child
• The evolution of nurse-led clinics in areas such as enuresis and constipation
• A system where ‘rapid response’ clinics are established and consultant-led and delivered
• A rigorous discharge from the clinic policy (need to justify over two appointments)
• A tracking system to monitor time to first appointment
• Far greater education and contact with primary care using agreed algorithms for common paediatric problems

Child protection

The development of child protection services will incorporate a number of components including:

• Appointment of a lead paediatrician in child protection
• Cross-hospital agreed child protection guidelines
• Development of a service for suspected child sexual assault

16.3 Suggested future directions

16.3.1 Shift from inpatient to ambulatory and short stay 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 or short stay 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.

**Paediatric Assessment Units** can be considered to be analogous to the clinical decision unit for adults. Specifically, it is a highly protocol driven unit that allows GPs to refer patients that do not require ED assessment, but whose clinical condition may be too concerning to wait for a routine OPD appointment.

**Rapid access clinics** for GPs, ensuring an appropriate environment for assessing urgent but non-emergency patients. These clinics are also available for urgent follow up of paediatric patients from the ED for whom early consultant review is required but who do not require admission. The benefits of rapid access clinics include:

• Reducing the regular paediatric outpatient-waiting times - a key element in ensuring the success of these services
• Providing access to diagnostic facilities (e.g. radiology) or therapies (e.g. dietician or physiotherapy) on the same basis as inpatients.
• Using phone follow up and open appointments rather than return visits (give patients hospital “calling card” if they need to get in touch about the referral problem).
• Providing high quality information and education resources to enhance the benefit from each consultation.
• Using a consultant “hotline”, web-based or email access to give GPs ease of access to paediatricians to discuss their concerns.
• Developing the role of ambulatory nurses to provide follow up and support especially by phone.
• To develop special interests in supporting high volume referrals (e.g. constipation, headaches).

Although ambulatory models require significant consultant contact it does not need to be exclusive. An NCHD working in close contact with a consultant could help to increase patient throughput without compromising care and provides an excellent training environment.

Short Stay Observation Units

Many children admitted to hospital require a very short stay, <24-48 hours. There is strong evidence that by providing alternative settings of care, admission can be avoided. Short stay observation units (SSOU) are facilities where children can be assessed, investigated, diagnosed and treated without automatic recourse to inpatient units. The other benefit of such units is that within a network, only the more acutely unwell children need referral to a regional centre, thus reducing the burden in the receiving unit.

The top eight most common discharge diagnoses in Ireland account for 30% of paediatric discharges, and many of these conditions could be managed in a SSOU. The benefits include:

• Reduction in inpatient admissions, allowing a more rational use of resources
• Greater efficiency
• Shorter lengths of stay for most children
• Readmissions are not increased

The exact model will vary according to demographics, geography, and proximity of in-patient paediatric facilities. There are a number of requirements that are critical to the safety and success of such units:

• Senior clinical staff should be involved in gate-keeping and decision making, providing effective training and delivery of services.
• Senior clinical staff should be available at times of peak demand, including during evenings and weekends.
• There should be good access to diagnostics.
• The expectation should be discharge rather than later admission.
• Discharges can be nurse-led according to pre-set criteria with robust safety netting and clear re-attendance policies.
• Access to enhanced community care nursing teams is essential, and there should be close links with the acute unit to allow early discharge and home review (7 days / week).

16.3.2 Governance

This will involve:

• The establishment of a hospital group incorporating the three Dublin paediatric hospitals
• Support for a clinical directorate model across the 3 sites with an overarching management structure and budget
• The development of four agreed directorates with appropriate support
- Development of common guidelines across the three sites
- Common interview process for NCHD recruitment
- Regular cross-site meetings involving management, consultants, senior nurses and allied health professionals
- Preparation for merger in the National Paediatric Hospital

16.3.3 Development of child sexual assault centre in Dublin

Dublin should have one centre for the acute assessment and treatment of children and young people who have been acutely sexually assaulted. There should be an agreed process for referral to this centre which is understood by the main referring agencies e.g. An Garda Síochána, Community Care, Primary Care. The Ferns 4 Committee is studying this issue and is in the process of formulating a national networked service of which the Dublin unit will be a part. The output of the Ferns 4 Committee will describe the multi-agency into the centres around the country. This paper will focus on the medical role while acknowledging that the Doctor is a member contributing to the team.

The national service will require a lead Clinician for the network and the Dublin service should also have a lead clinician. It is likely that this will need to be a new consultant appointment.

This centre will integrate and coordinate the 6 key components of sexual abuse services which are:
- Child protection
- Garda investigation
- Medical/forensic examination
- Assessment
- Therapy
- Court process

The centre for child sexual assault assessment and treatment will be provide as core components the medical/forensic examination, assessment and treatment, therapy, child protection liaison and Garda liaison as core components.

Summary of implementation resource requirements

There is an immediate issue with regard to current provision of medical/forensic examination in the Dublin Mid Leinster and Dublin North-East regions. In order to address this serious situation it is proposed, as an interim arrangement pending the development of the National Paediatric Hospital, to establish:

- A single medical/forensic examination service for DML/DNE to be located at one of the three paediatric hospitals.
- This service to operate 09.00-22:00 Monday to Friday and 9.00 – 13.00 Saturday and Sunday.
- This service will require the appointment of a consultant paediatrician with a special interest in child protection as a lead clinician to the DML/DNE service. It will require the identification of paediatricians with the required training and skills for an on-call rota. The centre will require a dedicated forensic grade facility, equipped with photo-documentation equipment and supported by appropriately trained nurses.

16.4 Recommendations

1. A hospital group should be established incorporating the three Dublin paediatric hospital with support for a clinical directorate model across the 3 sites and an overarching management structure and budget

2. Establish paediatric assessment units adjacent to paediatric emergency departments.
3. Establish rapid access clinics for GPs, ensuring an appropriate environment for assessing urgent but non-emergency patients

4. The use of short stay units should be explored

5. The development of a child sexual assault centre in Dublin is required

6. The national strategies to improve OPD efficiencies should be implemented

7. General paediatricians should provide assessment, diagnosis and treatment to the majority of patients referred by primary care. They will also identify those children who require to be referred onto specialty services.

8. General paediatricians need to be appointed.
17. Training and Manpower Issues in Paediatrics

17.1 Background / national and international experience

The Royal College of Paediatrics and Child Health (2008) in a document titled ‘A career in Paediatrics and Child Health – what you need to know ‘ sets out the career path for post-graduate training in paediatrics which takes up to 10 years – This publication follows on the 2005 RCPCH publication titled ‘Training paediatricians for the future’

The Irish Faculty of Paediatrics was established in 1976 and is the recognised training body for postgraduate medical training in the specialty of Paediatrics in Ireland and is responsible for setting and maintaining standards for the Membership of the Faculty of Paediatrics examinations. The Faculty has developed curricula and approved posts for training, capable of furnishing all the training experiences necessary for Senior House Officers (SHO), Registrars and Specialist Registrars (SpRs) to satisfactorily meet the requirements of the Basic Specialty, Registrar and Higher Specialist Training Programmes.

In the academic year 2011/2012 the Faculty of Paediatrics provided training to 169 trainees across three programmes as follows:

- Basic Specialist Training (BST): 78
- Registrar Training Programme (RTP): 18
- Higher Specialist Training (HST): 73

While the duration, structure and composition of the programmes are distinct, they are designed with a continuum of training in mind to support physicians in training from basic through to specialist level.

**Basic Specialist Training (BST)**

Basic Specialist Training (BST) is a two-year curriculum-based programme, structured to facilitate rotation through four posts (of varying specialties) at Senior House Officer (SHO) level. BST training should be focused on common paediatric problems.

**Registrar Training Programme (RTP)**

The Registrar Training Programme (RTP), which is one or two years duration, was introduced on a pilot basis in 2010 and has quickly established itself as a key structured training programme within the continuum of specialist training provided by RCPI and its constituent training bodies. The aim of the RTP is to address the needs of doctors in Irish hospitals who wish to pursue structured training at registrar level with a view to progressing to Higher Specialist Training.

**Higher Specialist Training (HST)**

The aim of HST is to produce doctors who are specialty trained to the standards as set out by the Medical Council in the 8 Domains of Good Professional Practice, excellent leaders in their fields, and capable of independent practice and handling the challenges that are faced by a specialist in the Irish health services and abroad.

The Higher Specialist Training programme offers a structured programme of five years in structured rotations. Entry is competitive and is based upon selection at interview by a panel representing Faculty of Paediatrics and RCPI. Applicants must have successfully completed BST and have achieved the postgraduate qualification of MRCPI Paediatrics or equivalent.

Upon successful completion of HST, trainees are entitled to a Certificate of Satisfactory Completion of Specialist Training (CSCST), which entitles them to be registered in the Specialist Register Division of the Medical Council.
17.2 The trainee perspective

The Postgraduate Forum Trainee Subcommittee has proposed (in May 2012) a number of recommendations which identifies the need to move to a properly resourced and planned consultant delivered service working in an appropriate network of hospitals to ensure the proper skill base and career progression opportunities are available in order to maximize patient care.

17.3 Suggested future directions

17.3.1 A Consultant-Delivered Service

Manpower planning in paediatrics must look at the balance of trainees to existing consultant posts. This is the only way that individuals undergoing SpR training can have a reasonable expectation that they will obtain a consultant post at the end of their training.

This involves knowing the number of general paediatricians, specialist paediatricians that are currently in the system and the numbers that will be required in the medium term future. Predictive models on the likely increases in consultant paediatric numbers need also to be developed. Trainees at the outset of their higher training need to be in a position to understand the likelihood of obtaining a posts in a subspecialty given the current number of individuals in post.

17.4 Conclusions / Recommendations

1. A consultant-delivered paediatric service, with provision for flexible working arrangements, must be seen as a key element for delivering better paediatric care in Ireland

2. Workforce planning in paediatrics is needed to deliver healthcare that is responsive to the needs of patients and aligned with the training schemes

3. General paediatrics and ambulatory paediatrics linked to paediatric emergency medicine must be developed.

4. Regional and local hospitals should establish networks in order to provide comprehensive secondary care and tertiary care as appropriate within the region. Consultant numbers should be reviewed and increased with an improved Consultant: NCHD ratio. The successful implementation of a full consultant delivered service within hospital networks will require changes to working practices and rosters.

5. There should be a stronger commitment to improving the efficiency of a team based approach to paediatrics. Flexible consultant roles which utilise the full breadth of consultants’ expertise, experience, skills and qualifications in research, management and medical education and training need to be developed

6. Support for the continued professional development and research in the consultant role are needed

7. Consultant working practices need to be linked with hospital services and resources and the desired impact on patient care

8. Training for paediatricians for child and adolescent sexual assault should be developed
18. Palliative Care for Children with Life-Limiting Conditions

18.1 Background / National and International Experience

Children’s palliative care has evolved from the specialty of paediatrics rather than adult palliative care and is an active and total approach to care, embracing physical, emotional, social and spiritual elements. It focuses on enhancing the quality of life for the child and providing support for the family, and includes the management of distressing symptoms, provision of respite and care through death and bereavement. The challenges which must be faced when caring for a child with a life-limiting condition are multiple and specific, and differ significantly from those relating to the care of adults. Adolescents requiring palliative care have their own unique needs.

A life-limiting condition is defined as any illness in a child where there is no reasonable hope of cure and from which the child or young adult will die.

In Ireland there are approximately 1400 children living with a life-limiting condition and in the region of 490 childhood deaths per year. Of childhood deaths due to life-limiting conditions, the majority occur in the first year of life, with approximately 350 deaths per year from life-limiting conditions.

The Report of the National Advisory Committee on Palliative Care published in 2001, highlighted the need for a review of children’s palliative care services. A Palliative Care Needs Assessment for Children was undertaken and the results published in 2005. The findings of the needs assessment in Ireland were consistent with those undertaken in other countries.

This policy aims to address the issues identified in the needs assessment in order to build a responsive service for children and their families. A comprehensive children’s palliative care service needs to function within a cooperative model with close liaison between general practitioner, paediatrician, nursing services, therapists and the voluntary sector. Children’s hospitals and hospitals with paediatric units are central to the ongoing care and management of children with life-limiting conditions.

The needs assessment clearly identified a need for staff to develop the competencies required to address the palliative care needs of children. Bereavement services developments are also required.

An agreed national palliative care policy for children aims to provide a foundation upon which service development can take place.

Palliative care services for children should be accessible, equitable, flexible and appropriate and should meet the needs of any child with a life-limiting condition and their family.

Children with life-limiting conditions have many of the same requirements as healthy children and need to maintain a normal life for as long as possible. Children continue to grow and develop physically, emotionally and cognitively throughout their illness and regardless of the stage or extent of their illness, have a need for play and education.

The Combined Curriculum in Paediatric Palliative Medicine was prepared by the Education Subgroup of the British Society for Paediatric Palliative Medicine and the Association of Children’s Hospice Doctors. Its aim is to inform the training of all paediatricians who encounter children with Life-Limiting Conditions.

It defines 4 levels of competencies which correspond to:

- Level 1. Understands the basic principles of paediatric palliative care
- Level 2. Can apply the basic principles of palliative medicine to the care of children specifically. Can recognise reversible causes of symptoms in children, whether with a life-limiting condition or not.
Level 3. Able to manage most common symptoms safely and effectively. Prepared to recognise need for specialist help and access it where necessary.

Level 4. Can manage uncommon symptoms; understands principles in order to develop a logical approach even where there is no evidence basis. Considerable emphasis on leading and developing services within and beyond the local hospice, and on supporting and teaching other professionals involved with children with life-limiting conditions who are not trained in palliative medicine. This level will probably only be seen to be achieved if the doctor has obtained FRCPCH or similar distinction.

18.2 Developing a National Plan for Palliative Care for Children

18.2.1 Staffing

The development of a national programme to meet the needs of children with life-limiting conditions and their families included the appointment of a Consultant Paediatrician with a Special Interest in Paediatric Palliative Medicine based in Our Lady's Children's Hospital, Crumlin. The remit of the role is to:

- Provide clinical support and advice to healthcare professionals and liaise, when necessary, with the lead Paediatrician responsible for the care of the child and their family;
- Act as a further resource/support for the children's outreach nurse.

Where the child is referred to the local Specialist Palliative Care Services, the consultant paediatrician with a special interest in paediatric palliative medicine will liaise, when necessary with the following:

- The lead paediatrician responsible for the care of the child and their family
- The Consultant in Palliative Medicine within the local Specialist Palliative Care Services

A Children’s Palliative Care Team should be developed. This team should be interdisciplinary with a minimum staff complement of the consultant paediatrician with a special interest in paediatric palliative care and medical team, a hospital-based clinical nurse specialist, a social worker and administrative support, but with ready access to the wider range of team members (e.g. occupational therapy, physiotherapy, music therapy, play specialist, dietetics, speech and language therapy etc.). The Children’s Palliative Care Team should provide a service for children and their families facing any life-limiting condition ensuring the best quality of care, during living, dying and bereavement.

The role of the Children’s Outreach Nurse for children with Life-limiting conditions will include:

- Co-ordinate a service that provides continuity of care and improves quality of life for children with life-limiting conditions and their families
- Plan, implement, deliver and evaluate care for a caseload of children with life-limiting conditions and their families, in collaboration with local healthcare professionals/carers. This role will apply to both acute and community care settings
- Facilitate education and training for health and social care professionals in collaboration with relevant stakeholders
- Support the collection of data in relation to children with life-limiting conditions
- Act as an informed resource and link person for children and family carers and for health and social care professionals involved in the care of children with life-limiting conditions
• Link with PHN, Disability Services, Community Children Link Nurses, Adult Specialist Palliative Care Teams and Voluntary organisations (e.g. Jack and Jill Foundation Nurses).

Initially eight Children’s Outreach Nurses should be appointed. Evaluation of these initial posts, workload of similar posts, Central Statistics Office (CSO) data on current population by age and figures contained in the Children’s Palliative Care Needs Assessment may result in further appointments being necessary. These posts should be allocated to ensure geographical equity of access to this service. As the role of the Children’s Outreach Nurse develops further there may be opportunities for some to develop to the higher level of Advanced Nurse Practitioner.

The roles of the ‘Champion’ paediatricians are:

• To champion and support the children’s outreach nurse in the region;
• To strategically develop, in partnership with the nurse manager and children’s outreach nurse, the direction of the post
• To act as an advice resource for the children’s outreach nurses
• To champion an interest in children’s’ palliative care
• To introduce / facilitate contact with other paediatricians and relevant services in the region
• To link with the regional clinical director as decided locally
• Support induction programme and team development plan, encourage appropriate referrals, set up local education inputs
• To develop the post in line with this national framework

18.2.2 Education and training of staff

Nurses will be allocated a number of dedicated support and development days for involvement with the entire team in the first year and thereafter.
In addition there will be support time allocated with the national paediatric palliative care consultant for peer support and education and a further time for dedicated nurse networking and support and clinical supervision as part of these days.

Clinical supervision would be delivered at a national level involving all eight nurses on a quarterly basis. Agreement and support of the local line manager is important to ensure ongoing supervision.

<table>
<thead>
<tr>
<th>Practice development and training days</th>
<th>Consultant support and development of network</th>
<th>Clinical Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical component of the governance structure is the local support for devised and implementation of individual professional development and training portfolio</td>
<td>4 days per annum</td>
<td>2 hours per month x 10 months</td>
</tr>
</tbody>
</table>

Successful and effective governance structures will require that members of this national team are not isolated. Because the nurses are located in diverse locations a number of annual face to face peer support / team meetings will be required to maximise the impact of this innovative national service. The compulsory training days are separate to the above requirements. Where possible, training will take place in Our Lady’s Children’s Hospital, Crumlin (the location of the Education Programme for Children with Life-limiting Conditions).

Once in post the minimum ‘common ground’ standard for all nurses will be based on the current level B course run from OLCHC. If appropriate, the course will be provided for the whole team which will facilitate and support team development.

18.3 Recommendations

Every child and family should expect to:

1. Receive a flexible service according to a care plan, which is based on individual assessment of their needs, with reviews at appropriate intervals. Children and families should be included in the process of care planning.

2. Be provided with appropriate and timely information.

3. Be in the care of an identified lead consultant paediatrician expert in the child’s condition.

4. Be offered a range of regular and reliable respite, both in the home and away from home and over varying periods of time. This should include nursing care and symptom management.

5. Have available appropriate supplies of medications, oxygen and specialised feeds and have all disposable items such as feeding tubes, suction catheters and stoma products supplied regularly, efficiently and preferably through a single source.

6. Be given assistance in order to access benefits, grants and other financial help.
19. Best Health for Children Revisited

19.1 Background and context:
A vital and productive society with a prosperous and sustainable future is built on a foundation of healthy child development. Ireland has the youngest population in the EU Ireland also has the highest fertility rate in the 27 EU states, and the number of births per year has increased 37.1 per cent since 1998. 2008 saw the second highest number of births, for any year since 1892. The rising birth rate has, and will continue to, increase demand for early-years services in Ireland.

We know from advances in neuroscience that early development of children is much more ‘plastic’ than once thought and there is a considerable ability for trajectories for children to be shifted into a more positive direction even given very poor starting circumstances. We know that ensuring optimal health and well being in the early years has benefits which accrue throughout the life cycle and are as important as early education in securing a level playing field for children in terms of opportunities to achieve their potential. Despite many advances and improvements in the health and well being in children, particularly in relation to immunisation, Ireland is at the wrong end of many health indicators relating to children.

The table below provides some key facts and figures on early years in Ireland.

Key Facts and Figures on Early Years

1. In 2011, the number of children aged 0-6 in Ireland was 486,242, which represented 11% of the population. This represents a 16% increase of this population group since 2006 (CSO, 2012).

2. The number of births is increasing in recent years. 74,650 children were born in 2011, an increase of 14% since 2006 and an increase of 55% since 1994 (CSO, 2012). The birth rate in 2011 was approximately 16.7 per 1,000 inhabitants, which was the second highest birth rate in Europe after Turkey (Eurostat, 2012).

3. The population of children aged 0-6 is projected to be 534,228 in 2016 and 559,405 in 2020 (CSO, 2010).

4. 17% of children aged 0-4 and 18% of children aged 5-9 live in lone-parent families (SONC, 2010).

5. Almost one in five (19.5%) children aged 0-17 were at risk of poverty in 2010 and 8% were in consistent poverty (CSO, 2011).

6. In the GUI study, 57% of mothers of infants aged 9 months and 91% of fathers were employed outside the home. The proportion of parents working outside the home has reduced over time. At 3 years of age, 53% of mothers were working outside the home and there was an increase in unemployment among fathers from 6% to 14% (GUI, 2011).

7. 38% of infants aged 9 months in the GUI study were in some form of regular non-parental childcare, which rose to 50% at 3 years (GUI, 2011).

8. 67,000 or 94% of eligible children were enrolled in pre-school services for the
2011/12 school year. Risk levels of attendance at formal early childhood education and care services for children under 3 were below the average for the 30 countries included in an international review published in 2011.

9. In 2011, there were 156,580 children aged 6 years or under enrolled in an education institution. An estimated 39% of the population of 4 year olds (26,408 children) were enrolled in full-time education, a decrease of 11% since 2000, compared to 99% of the population of 5 year olds (64,126 children) and all 6 year olds (66,046 children) (CSO, 2012).

10. In 2011, there were 2,997 pupils (2%) aged 6 years and under identified with special needs in ordinary national schools and 754 pupils (0.5%) in special national schools (CSO, 2012).

11. Ireland now has a significant range of ethnicities among its early years population. 4,676 of 0-4 year olds (2%) are Irish Travellers according to the 2011 Census, 28,303 (10%) are from ‘any other White background’, 9,439 (3%) are ‘Black or Black Irish’, 9,960 (3%) are ‘Asian or Asian Irish’, and 5,710 (2%) are ‘Other including mixed background’ (CSO, 2012). In the GUI infant cohort, 81% of mothers and 82% of fathers were citizens of Ireland (GUI, 2011).

The United Nations Convention on the Rights of the Child (UNCRC) is an internationally binding agreement on the rights of children, adopted by the UN General Assembly in 1989, and ratified by Ireland in 1992. It stresses that every child has the right to survival, development, protection, and participation, and that the role of the state is to be the guarantor and enabler of these rights. Parents are viewed as being responsible for caring for and protecting their children and the importance of providing resources to meet the needs of parents is recognised. All countries that have ratified the convention are expected to submit periodic reports on progress towards implementing the UNCRC in Ireland.

Policy and Legislation in Ireland

Sections 63, 66 and 67 of the Health Act 1970 form the legislative basis for the current child health service. Section 63 of the Health Act 1970 placed an obligation on health boards to make available, without charge, medical, surgical and nursing services for children up to the age of 6 weeks. Section 66 obliged health boards to make available without charge at clinics, health centres or other prescribed places a health examination and treatment service for children under the age of 6 years, as well as a health examination and treatment service for pupils attending national school.

The National Children’s Strategy 2001-2010 entitled ‘Our Children – Their Lives’, endorsed the ‘Best Health for Children’ reports produced on child health surveillance and screening as providing the best vehicle for the setting of standards for these services. This was updated in 2006 and remains the main guide for services.

Whilst the National children’s strategy provides the overall direction for progress, there are a number of specific policy documents which provide guidance for particular strands of children’s services. Whilst not an exclusive list these include the following which have a particular relevance to child health:-

- The National Literacy and Numeracy Strategy (2011) aims to ensure there is a strong focus on literacy and numeracy skills, within a broad and balanced curriculum and a range of settings (schools, pre-school settings and the home environment). It sets out a wide-ranging programme of reforms in initial teacher education courses, in professional development for
teachers and school principals, and in the content of the curriculum at primary and post-primary levels in order to achieve these vital skills.

- The report on the *Development of a National Set of Child Well-Being Indicators (2005)* outlines the rationale for the development of the indicators. They are evidence-based, reflect national and international trends, and are based on a whole child perspective, which allows for a broad and holistic understanding of children’s lives.

- The *National Breastfeeding Action Plan (2005)* outlines a series of goals, objectives and actions to increase the breastfeeding rates in Ireland.

- The *National Taskforce of Obesity Report Recommendations (2005)* outlines 93 recommendations to tackle obesity, many of relevance to children.

- *Children First National Guidance for the Protection and Welfare of Children (2011)* is the national guidance on child welfare and protection. It states what organisations need to do to keep children safe, and what different bodies, and the general public, should do if they’re concerned about a child’s safety and welfare. The guidelines were originally developed in 1999 and updated in 2011. Legislation is currently being enacted to provide a statutory basis for Children First.

- The 2006 *Government Discussion Paper: Proposals for Supporting Lone Parents* presents a review of the issues facing lone parents. It seeks to tackle the relatively high risk of poverty and social exclusion faced by many such families and their children.

- *Best Health for Children Revisited: Report from the National Core Child Health Programme Review Group to the Health Service Executive (2005)* makes recommendations for child health surveillance and emphasises the need for partnership with parents to achieve positive health outcomes for children. It also recommends the further development of community child health services to ensure equitable and timely access for all children.

- *The report on the Task Force of the Child and Family Support Agency (2012)* This recommends that the new Agency will have responsibility for child health services and that a proportion of PHNs, to be agreed, transfer to the new Child and Family Support agency and have an exclusive focus on children and families whilst remaining co-located within primary care teams.

**Development of an Early Years Framework in Ireland**

The Department for Children and Youth Affairs has embarked on developing a series of frameworks to support the development of policy and services for children and young people at different stages of the life cycle within the context of an overall framework. The first of these which will be published early 2013 will cover the Early years from aged 0-6. An extensive consultation process has also been recently completed through an online survey which will feed into the development of these frameworks.

**19.2 Best Health for Children Revisited**

This publication by The Programme of Action for Children in 2005 contains recommendations for a revised core programme for child health surveillance in Ireland in eight key areas (developmental assessment, hearing assessment, vision screening, medical examination, health promotion, newborn screening, growth monitoring and oral and dental health in children). There is continued emphasis on
the value of parental observations and concern, and the need to work in partnership with parents to achieve positive health outcomes for children. The need for an ongoing shift from formal testing to observation of child behaviour and development is recognised.

Significant recommendations include:

- An urgent need to further develop community child health services in Ireland
- Development of national standards for facilities appropriate to the needs of children
- Evaluation of the child health programme through audit
- The development of universal newborn hearing screening
- The introduction of *Personal Health Records* held by parents
- The development of a school dental health service
- The introduction of school health nurses for screening, health surveillance and health promotion
- The development of an effective strategy for the prevention of obesity in children and young people
- Newborn examination in hospital and postnatal visit by public health nurse (PHN)
- 6 week examination by GP
- PHN examination at 3 months; 7-9 months, 18-24 months and 3.25 – 3.5 years
- Primary school entry and exit examination by school health nurse focussing on visual acuity, hearing assessment and growth

Since 2005 additional modules on emotional wellbeing have been developed and the module on growth and development is being updated to take account of the introduction of new Irish versions of WHO growth charts which are becoming the gold standard for growth measurement across the globe.

### 19.3 Current position and future recommendations:

1. The three pillars for keeping children healthy: screening, immunisation and nutrition must be emphasised and constantly reinforced.

2. Performance indicators are collected in relation to whether PHN visits to parents occur at the times set in the guidelines but no effective audit of outcomes is taking place. This should be addressed.

3. The implementation of the Newborn Hearing Screening programme should be completed

4. Personal Health Records for children are being used very effectively in some parts of the country but they have not been rolled out on a national basis. This should be addressed

5. Public Health Nurse screening has reduced due to increasing demands in other areas of their work and reductions in numbers. The development of specialist child health PHNs within the new Child and Family Support Agency presents a real opportunity to refocus child health services

6. A national programme for oral health surveillance and screening in preschool children should be implemented.

7. Some of the key recommendations of *Best Health for Children Revisited* have not been fully implemented as yet and we recommend that these recommendations are still as valid today.
20. Rethinking Health Care for Infants and Children

20.1 Background / international experience

The National Service Framework (NSF) for Wales (2006) sets out the quality of service that children, young people and families have a right to expect and receive. The development of the NSF in Wales predated similar developments in Scotland and Northern Ireland. It is an inclusive process involving professionals from all areas of children’s services as well as children, young people and their families.

The NSF focuses on:

- Child and family centred services
- Access to services
- Quality of services
- Promoting health and well-being in children and young people
- Parenting
- Safeguarding children

The Canadian Paediatric Society, in a discussion document titled A Model of Paediatrics: rethinking health care for children and youth (2009) sets out to:

- Clearly set out the broad health needs of children and youth and states that meeting those needs requires a coordinated approach
- Describe the specific roles of paediatricians in meeting the needs of children and youth (including comprehensive consulting care, being team players and the care of children with chronic problems)
- Health care needs are changing due to
  - increased survivors of extreme prematurity
  - increased numbers with chronic health issues
  - rising obesity prevalence
  - a sharp rise in allergic disease

In relation to a proposed model of care, key assumptions include:

- All children and young people should have a primary care provider who should have adequate training in paediatrics
- Timely access to secondary care is essential
- Continuity of care is essential
- Children and young people need appropriate and properly resourced hospital care, critical care, palliative care and appropriate child protection services
- All adolescents should have access to expertise that meets their specific needs
- Children with developmental issues should have timely access to specialized assessment, diagnosis and treatment

The RCPCH (2010) have highlighted an approach to developing quality measures across six domains:

- Timely - accessibility of the service including include waiting times to be seen
- Effective - whether there are agreed guidelines and if followed (receiving the right treatment first time every time)
- Equitable - ensuring we compensate for social inequalities
- Efficient - ensuring we provide value for money and minimize waste
- Safe - ensuring reduction in harm rates especially for medication errors, delayed diagnosis and hospital-acquired infections
- Child and family-centred - need for active participation of informed children and their families
The Institute of Health Improvement (2012) has highlighted the three essential ingredients of chronic illness care management as (www.improvingchroniccare.org):

- A well-prepared multi-disciplinary team
- An informed, motivated family and child
- A positive interaction between both of the above

Examples of outcome measures in child protection are highlighted in Safeguarding children and young people (RCPCH 2010) as follows:

- Children with suspected physical injury should be seen on the same day if at all possible
- If under 2 and physical abuse suspected, a skeletal survey should be performed
- Acute sexual abuse examinations should be completed as soon as possible
- The environment in which the examination takes place should be child or youth-friendly with access to appropriate support

The RCPCH document titled Facing the Future: Standards and modelling for Paediatric Services (2011) sets out a vision whereby changes take place to both the workforce and structure of inpatient paediatric units. The issue of potential reconfiguration considers hospitals on the following basis:

- Very small (< 1500 emergency admissions per year – either proximal or distal (geographically-isolated)
- Small (1500-2500 emergency admissions per year)
- Medium (2501-5000 emergency admissions per year)
- Large (> 5000 emergency admissions per year)

It is proposed that the proximal and some of the geographically isolated very small units might convert to Clinical Decision Units (CDU). CDUs would be nurse-led. Reconfiguration would require a significant number of extra paediatricians. An increase in advanced nurse practitioners and GP trainees in paediatrics would also be required. The RCPCH are in the process of this reconfiguration at present

In 2010, the National Paediatric Hospital Development Board (NPHDB), in consultation with many stakeholders, formulated a ‘National Model of Care for Paediatric Healthcare Services in Ireland’.

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 National Paediatric Hospital will be a 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:

- Children and young people in need of treatment and care;
- Parents, guardians and families of the children being cared for;
- General practitioners and community based healthcare workers;
- Local health clinics and inter-disciplinary primary care teams;
- Shared care services providing ambulatory care;
- Urgent care centres;
- Hospitals

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 irrespective of where they first enter the network.

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 a discussion document titled ‘sub-national indicators of child health in Europe’ by Professor Mitch Blair (2011), the following main points are evident:

- The health and well being of children living in the European Union varies widely both between and within individual nations. Understanding and reducing this inequality is a priority for the European Union (EU).

- The EU outlined a framework for tackling this inequality in its 2007 White Paper; Together for Health: A Strategic Approach for the EU 2008 – 2013. An integral part of this process is to improve the availability and quality of data collected nationally and sub-nationally to further understanding and facilitate decision making.

- Over the past ten to fifteen years significant progress has been made on developing indicators specific to child health (Rigby 2003, see Appendix 1: CHILD health Indicators).

- Under the Seventh Framework Programme (FP7) the European Commission (EC) funded the Research into Child Health in Europe (RICHE) programme to bring child health research together in Europe on one platform in order to expand knowledge, facilitate resource sharing and inform research. The RICHE programme is evaluating the status of child health indicator collection and use in Europe to identify gaps and inform future research.

- This report provides an overview of sub-national data collection and use in Europe as well as interim findings on child health indicators at the sub-national level.

- There has been substantial investment of time and resources in identifying and developing health indicators for the EU over the past fifteen years. While significant progress has been made, issues with data availability remain and progress on child health indicator collection has been limited.
20.2 Towards a National Service Framework for children and young people in Ireland

In consultation with many stakeholders and with the Department of Health and the Department of Children and Youth Affairs, the Paediatric and Neonatal Clinical Programmes propose the development of a National Service Framework for children and young people in Ireland based on a number of principles:

Child and Family Centred

Children, young people and their families receive services that meet their particular needs. They are treated with respect by service providers and are provided with information and support appropriate to their needs and ability that assists them in making decisions about the care that they receive.

Access

All children, young people and their families receive equitable access to appropriate, high quality services irrespective of where they live, their ethnic group, their language or their social circumstances. Services are available as close to home as possible, whilst ensuring that care remains of the highest quality.

Quality

Children, young people and their families receive timely, high quality, co-ordinated services delivered in an environment which is safe and well suited to their age, needs and stage of development. Service delivery is evidence based or innovative with a structured evaluation, and delivered by competent staff.

Promoting Health and Wellbeing

All children, young people and their parents and carers have access to a range of services that promote health and well-being and prevent ill-health.

Parenting

Parents and carers have access to a range of services to help them to nurture the physical, social and emotional growth of children and young people in their care.

Child Protection

In every region, there are multi-agency and multi-disciplinary systems and services in place, which safeguard and promote children’s welfare. These systems enable clear identification of risk, referral to the appropriate statutory agency with the duty to investigate and multi-agency participation in interventions to achieve the best possible outcome for children.

20.3 Overall reflections from visits

A number of overall reflections based on discussions with child health professionals across the country include:

- Increasing referrals from primary care for both scheduled and unscheduled care with consequent increased waiting times (probably related to rising childhood population)
- Increased numbers of children and young people seen out of hours
- Heightened parental expectations
- There is minimal inclusion of children, adolescents or families in planning child and adolescent services.
- Access to scheduled and unscheduled services is an issue with significant variation across the country.
- Minimal focus on health promotion, support for parenting and improving child and young person well being.
- Minimal data reflecting the quality of the service across the country.
- A need for a revised strategy re outpatient referrals.
- A need to look at primary care paediatrics / support in the community and means to improve both.
- Agreement that the age cut off should be 16 years but many issues re managing older adolescents in a paediatric environment.
- Far too much speciality drift (from primary to secondary and from primary to tertiary paediatric care) and concerns re GP knowledge of paediatrics (shortened undergraduate course and less time spent in Paediatrics as part of vocational training).
- A need to look at different models of acute care delivery (rapid response / PAU and SSOU proposals)
- Facilities for children and young people in Emergency Departments is an issue.
- Agreed guidelines for top 10 paediatric conditions (asthma and meningococcal disease currently agreed).
- The new National Paediatric Hospital will become the hub for paediatric care nationally but a national model for integrated care is required to avoid the ‘magnet effect’.
- A need for a National Service Framework for children and young people in Ireland (akin to the NSF developed in Scotland, Wales and Northern Ireland).

20.4 Suggested future directions

We need to set National Service Standards for Paediatric Departments across a number of domains including:

- Improving access - relates to timely access to specialist opinion for both scheduled (outpatient) and unscheduled (acute emergency) care. It also applies to assessment for early intervention services. This requires national standards and targets.
- Effective services - We need national guidelines that are followed with very little variation whereby children and young people receive the right treatment first time every time. This requires the development of agreed national guidelines.
- Equitable services - We need to ensure that clinical outcomes are equal for all children. This requires us to look in particular at vulnerable groups (e.g. immigrants / travellers) to ensure health outcomes are the same.
Efficient services - We need to ensure we provide value for money with minimal waste and that the service is organised around children and their families and not health care professionals. Children and young people and their families should be fully informed and have a say in the type of service we provide. This requires the evolution of better governance and a budget for child health services.

Safe services - we need to ensure that we measure harm rates in the children and young people we treat. This requires national adverse event reporting and the institution of new tools such as the Paediatric Trigger Tool.

Setting National Service Standards for Ireland

National service standards for paediatrics in Ireland should be developed and include the following:

- Every child or young person who is admitted to a paediatric department with an acute medical problem is seen by a consultant paediatrician within the first 24 hours.
- Every child or young person who is referred for a paediatric outpatient opinion is seen by or has the case discussed with a consultant paediatrician.
- All Paediatric Assessment Units have access to a paediatric consultant opinion throughout all the hours they are open.
- At least one medical handover per 24 hours is led by a paediatric consultant.
- Specialist paediatricians/child health specialists are available for telephone advice for acute problems for all specialities.
- All paediatricians should have child protection training. Some will have greater expertise in child sexual abuse. In complex cases paediatricians should have ready access to expert opinion.
- Emergency Department infrastructure must accommodate the needs of children and their families. There must be audio-visual separation from adults with a dedicated paediatric waiting area and a separate triage area, adequate isolation facilities, at least one cubicle dedicated to children per 5,000 annual child attendances and a paediatric nurse for every shift. A brief clinical assessment should take place within 15 minutes of arrival and triage tools should be fit-for-purpose for children and young persons.
- Ongoing audit, benchmarking and analysis is essential to ensure services are cost effective with monitored and shared outcome improvement objectives.
- At a minimum this should include monthly collection and distribution of accurate data on:
  - Emergency department attendances (numbers/time/casemix/admission rates)
  - Admissions to hospitals (numbers/casemix/length of stay) + alternatives to admission including Paediatric Assessment Unit or Rapid Response Clinics
  - Transfers for specialist opinion (both inpatient and outpatient)
  - Intensive care transfers (numbers and issues arising)
20.5 Quality indicators of national paediatric health care

This requires further consultation and discussion but essential ingredients will include:

- Audit data as outlined above to be collected monthly
- Condition-specific data relating to acute illness (acute asthma / acute croup / otitis media / acute sepsis including meningococcal disease) ensuring relevant national guidelines are being followed
- Ongoing outcome data re non-specialist paediatric surgery in tertiary, regional and local hospitals
- HbA1C levels in children and adolescents with type 1 Diabetes mellitus
- Waiting times for first visit OPD appointments
- Waiting times for speech and language, psychology and physiotherapy/OT assessment in the community
- National audit of head injuries and the judicious use of neuro-radiology
- Immunisation uptake rates
- Success of screening programmes for sensineural hearing loss, duct-dependent congenital heart disease, developmental dysplasia of the hip and undescended testes

20.6 Recommendations

1. Every child who is admitted to a paediatric department with an acute medical problem is seen by a consultant paediatrician within the first 24 hours
2. Every child who is referred for a paediatric outpatient opinion is seen by or has the case discussed with a consultant paediatrician
3. All paediatric assessment units to have access to a paediatric consultant opinion throughout all the hours they are open
4. At least one medical handover per 24 hours is led by a paediatric consultant
5. Specialist paediatricians should be available for telephone advice for acute problems for all specialities
6. Every child should have access to a paediatrician with child protection experience where there are child protection concerns expressed.
7. Nationally agreed care and treatment protocols and guidelines to be developed.
8. A minimum dataset needs to be developed for all paediatric units that should include monthly collection, distribution and analysis of these key paediatric parameters.

9. National Service Standards for Paediatric Departments to be developed

10. A taskforce should be established to develop and standardize specialty specific care within paediatric services

11. A committee should be established to design a framework and develop common processes for transition from paediatric to adult services.

12. National Service Framework for children in Ireland to be developed
21. References / Links

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22. Individual Site Reports  
Paediatric Clinical Programme  
Programme Visit  

Cavan General Hospital  

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>HSE North East</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Cavan</td>
</tr>
<tr>
<td>Date</td>
<td>15th February 2012</td>
</tr>
<tr>
<td>Present:</td>
<td>Dr John Murphy / Professor Alf Nicholson / Dr Alan Finan / Dr Ann Leahy /Dr Nick Van DerSpek /Ms Mary Murray / Senior nursing staff</td>
</tr>
</tbody>
</table>

Director of Nursing: Dr Alan Finan  
Clinical Director: Dr Alan Finan  
Hospital Manager: Dr Alan Finan  

1. BACKGROUND  

- Unit established: 1989  
- Number of consultants: 3  
- Number of NCHDs: 1 SpR, 4 Registrars , 5 SHOs  
- Paediatric nurses: 24 WTE Very experienced  
- Neonatology nurses: 12.5 WTE  
- Annual attendance at emergency department: 6000  
- Annual medical paediatric admissions: 1900  
- Annual deliveries: 2100  
- Admissions to SCBU: 350  
- Policy re infants under 1500g: Transfer out < 30 weeks gestation  
- Is the Paeds ED waiting area spatially and aurally separated from adults ED?: No  
- Are the ED assessment rooms separate for children?: Yes  
- Is the resuscitation bay separate to the adult resus bay?: No  
- Is the A&E staffed by paediatric trained nurses?: Most, but not all shifts have a paediatric trained nurse  
- Is there an A&E consultant with paediatric training?: No  
- Paeds AVLOS: 2.2 Days  
- Is there a paediatric radiologist on staff?: No  
- Is there an adult radiologist with specific training / special interest in paediatrics?: No but good 24/7 consultant radiology support is provided to paediatrics despite this  
- Is there an adult radiologist with no specific training in paediatrics?: Yes  

2. ACUTE GENERAL PAEDIATRICS  

The acute care model is excellent with the implementation of clinical guidelines (same across NE) and the recent development of the paediatric assessment unit (PAU). The PAU is an excellent innovation, is staffed by 5 WTE nurses , a registrar and runs from 09.00 – 21.00 Monday to Friday and from 14.00 -21.00 over weekends. It takes significant pressure off the emergency department and allows a period of observation and thereby reduces admissions (formal audit of activity to follow) – we believe the PAU has national relevance and importance and it could and should be emulated elsewhere  

The acute ward is very child and family friendly and regional clinical guidelines are readily available to all staff  

3. NEONATOLOGY  

Main issues are:
1. NATIONAL CLINICAL PROGRAMME FOR PAEDIATRICS & NEONATOLOGY

(i) the welcome start of 24/7 neonatal transport
(ii) excellent NE neonatal guidelines
(iii) a national strategy re provision of neonatal care with Cavan continuing to deliver care to either over 30 weeks gestation (trying to advance DNE Managed Neonatal Network for centralisation of ELBW care)
(iv) the commencement of a national placental histology service (of great value in cases of HIE)
(v) the need for a regional perinatal pathology service (trying to advance through DNE Regional Obstetric Network)
(vi) continuation of pulse oximetry pre-discharge to detect duct-dependent congenital heart disease
(vii) foetal anomaly scanning is picking up just 20% of cases – need to liaise with obstetrical department and might be item for 3 monthly perinatal meetings (trying to progress a regional foetal medicine service through the DNE Regional Obstetric Network)
(viii) perinatal meeting should take place 4 times per year with focus on stillbirths / neonatal deaths / neonatal transfers / HIE and the generation thereby of a combined neonatal /obstetrics report on an annual basis
(ix) paediatric radiology back up can be an issue but NIMIS system may allow second opinion via electronic image transfer

4. SCREENING

Neonatal hearing screening is part of a national roll out but depends on what happens if a problem arises and how quickly the system responds

Neonatal hip screening takes place with examination at birth and at 6 weeks for high risk cases and Xray at 5 months. Ultrasound is not possible

5. OUTPATIENTS

3 OPD clinics per week per consultant (including outreach clinics in Monaghan etc)

6. SPECIALIST CLINICS

CF patients (17 in total) are managed in a shared care arrangement with the Childrens University Hospital with alternate clinics 3 monthly and future directions will evolve with national model of care for CF post-commencement of newborn screening
Diabetes patients managed in collaboration with Juliet Jennings on a regional basis but great majority managed locally in Cavan

7. COMMUNITY CHILD HEALTH

Well-developed with excellent training opportunities for SpR in paediatrics – issues include interface with CAMHS , clarity re role in dealing with children with disability , child sexual abuse assessments (especially if required out of hours ) need to be viewed in the context of national strategy re same
CCH is a real strength of the unit in Cavan

8. NON SPECIALIST PAEDIATRIC SURGERY

Needs to be viewed in the context of non-specialist surgery policies – national document will soon be published
Current age cut off in Cavan is 2 years.
Paediatric urology referrals should ideally see paediatric nephrologist first

9. INTENSIVE CARE TRANSFERS

The Paediatric Emergency Transfer Service would be greatly welcomed

10. ANY OTHER ISSUES

Details of the PAU were discussed in detail and a detailed business case was circulated post-meeting

11. FUTURE DIRECTION

An excellent department with strong leadership and a clear vision of their future direction is evident
Paediatric Clinical Programme

Children’s University Hospital, Temple Street

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>Dublin Mid Leinster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Children’s University Hospital, Temple Street</td>
</tr>
<tr>
<td>Director of Nursing:</td>
<td>Ms Suzanne Dempsey</td>
</tr>
<tr>
<td>Hospital Manager:</td>
<td>Ms Mona Baker</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of consultants</th>
<th>49.35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Paediatric NCHDs</td>
<td></td>
</tr>
<tr>
<td>SpR</td>
<td>26.90</td>
</tr>
<tr>
<td>Registrar</td>
<td>28.36</td>
</tr>
<tr>
<td>SHO</td>
<td>24.29</td>
</tr>
<tr>
<td>Intern</td>
<td>1.80</td>
</tr>
<tr>
<td>Nursing</td>
<td>373.91</td>
</tr>
<tr>
<td>Health and social care professionals</td>
<td>173.95</td>
</tr>
<tr>
<td>Management / administration</td>
<td>184.59</td>
</tr>
<tr>
<td>General support staff</td>
<td>67.93</td>
</tr>
<tr>
<td>Other patient and client care</td>
<td>36.71</td>
</tr>
<tr>
<td>Total number of beds</td>
<td>177</td>
</tr>
<tr>
<td>Renal</td>
<td>9</td>
</tr>
<tr>
<td>Haemodialysis</td>
<td>4</td>
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<tr>
<td>Neonatology</td>
<td>8</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>14</td>
</tr>
<tr>
<td>ICU</td>
<td>9</td>
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<tr>
<td>Neonatal HDU</td>
<td>6</td>
</tr>
<tr>
<td>Paediatric General / Medical</td>
<td>21</td>
</tr>
<tr>
<td>ED observation beds</td>
<td>15</td>
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<tr>
<td>Telemetry</td>
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<td>Paediatric Respiratory</td>
<td>13</td>
</tr>
<tr>
<td>Surgical</td>
<td>12</td>
</tr>
<tr>
<td>Metabolic</td>
<td>7</td>
</tr>
<tr>
<td>Day case beds</td>
<td>22</td>
</tr>
<tr>
<td>Day Places</td>
<td>8</td>
</tr>
</tbody>
</table>

Note – a site visit took place in Temple Street ICU. The sub-specialties provided in Temple Street will be visited as part of the model of care.
Paediatric Clinical Programme

Children’s University Hospital, Temple Street ICU

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>Dublin Mid Leinster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Children’s University Hospital, Temple Street ICU</td>
</tr>
<tr>
<td>Date</td>
<td>5/9/2012</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>Ms Suzanne Dempsey</td>
</tr>
<tr>
<td>Therapies Manager</td>
<td></td>
</tr>
<tr>
<td>Clinical Director</td>
<td>Dr. Kevin Carson</td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Ms Mona Baker (acting)</td>
</tr>
</tbody>
</table>

1. BACKGROUND

<table>
<thead>
<tr>
<th>Number of consultants</th>
<th>3 Consultant Intensivists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8 Consultant Anaesthetists</td>
</tr>
<tr>
<td>Number of NCHDs</td>
<td>1 Spr in Anaesthesia</td>
</tr>
<tr>
<td></td>
<td>1 SpR in Paediatrics</td>
</tr>
<tr>
<td>Nurses</td>
<td>35 (budget for 49 – this is equivalent to 5.5 nurses per bed)</td>
</tr>
<tr>
<td>Number of Admissions Annually</td>
<td>519</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>2</td>
</tr>
<tr>
<td>Dieticians</td>
<td>0.5</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>0.5</td>
</tr>
<tr>
<td>Clinical Engineer</td>
<td>1.0</td>
</tr>
<tr>
<td>Senior Cardiac Technician</td>
<td>1.0</td>
</tr>
<tr>
<td>Social Workers</td>
<td>2.0</td>
</tr>
</tbody>
</table>

ADMISSION CATEGORIES

2011:

Total admission 519
Surgical 187  36.03%
Non surgical: 332  63.97%
Neonates: 105/519 (20.23% of all admissions)

SOURCE OF ADMISSION

Other hospital – 56.84% (295)
Same hospital – 43.16% (224)

Bed occupancy for 2011 72.1%

Neurosurgery: 68

Renal replacement therapy: 5

LENGTH OF STAY

1 day or less – 178 (34.3%)
1 to 3 days – 152 (29.29%)
4 to 5 days – 74 (14.26%)
5 to 10 days – 76 (14.64%)
10 days or more – 39 (7.51%)

Mean length of stay 4.8 days
AUDIT
The Paediatric Intensive Care Network (PICANet) is a data registry for PICUs in the UK and Ireland. The 2 Irish PICUs joined the PICANet audit group following the recommendation of the DNV report 2008.

FUTURE DEVELOPMENTS
The appointment consultant intensivists and the provision of a consultant led service have created the capacity to increase the momentum of PICU services at Temple Street.

The development of an acute paediatric retrieval is an urgent priority

Cross city co-operation has been facilitated by the new joint consultant appointments.

The establishment of a single telephone number for a PICU admission has been very successful.
Paediatric / Neonatology Clinical Programme
Coombe Women and Infants University Hospital

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>HSE Dublin Mid-Leinster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Coombe Women and Infants University Hospital</td>
</tr>
<tr>
<td>Date</td>
<td>8/10 2012</td>
</tr>
<tr>
<td>Present:</td>
<td></td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>Ms. Patricia Hughes</td>
</tr>
<tr>
<td>Therapies Manager</td>
<td>N/A</td>
</tr>
<tr>
<td>Clinical Director</td>
<td>Dr. Chris Fitzpatrick</td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Mr. Patrick Donoghue</td>
</tr>
</tbody>
</table>

1. BACKGROUND

- Number of consultants: 2.9 WTE – 4 consultants (cross-covering OLCHC)
- Number of NCHDs – SpR: 3
- Registrars: 4
- SHOs: 7
- Neonatology nurses (WTEs): 78.4 WTE sanctioned, 71.4 WTE in place
- Pharmacist Y/N: Y
- Physiotherapist Y/N: Y
- Dietitian Y/N: Y (covering other departments as well)
- Annual attendance at emergency department: Approx. 9000 visits in outpatient department, another approx. 2500 visits outside of hours in emergency room
- Annual medical paediatric admissions: 1000
- Annual number of births: 8500 to 9000
- Annual number of admissions to SCBU: 1000
- Annual number of post natal transfers: approx. 20 annually
- Annual number of transfers to Crumlin / Temple St for surgery / specialist treatment: 20 to 30 annually
- Annual number of retro transfers to local units: 15 to 20 annually
- Policy re infants under 1500g: Yes
- Annual number of ventilated infants: 65
- Annual number of infants with CPAP: 110
- Annual number of infants receiving TPN: 150
- Annual number of infants with ROP: 5
- Number of intensive care cots: 14
- Total number of cots: 39

2. DESCRIPTION OF UNIT

Coombe Women and Infants University Hospital is level III neonatal centre, one of the leaders in neonatal care in Ireland. The institution has up to 8500 deliveries/year with more than 100 neonates below 1500g. It also serves as referral centre for Ireland. Close proximity with National Cardiology Centre in Our Ladies Children’s Hospital in Crumlin predispose our institution as one of the main referral centres for antenatally diagnosed cardiac abnormalities. Coombe Women and Infants University Hospital plays also important role in introducing functional echocardiography in neonatal units in Ireland.

3. SCREENING

Newborn Bloodspot Screening Programme
Newborn Hearing Screening – starting November 2012

4. OUTPATIENTS

Neurodevelopmental Consultant clinics (4/week)
Medical Consultant, Registrar and SHO clinics
Weight check clinics
Emergency room (outside hours)

5. FOLLOW UP CLINICS

See outpatients

6. STRENGTHS

Non-invasive ventilation and new modes of conventional ventilation – decreasing rates of chronic lung disease
Point of care ultrasound (heart and brain)
Focused infection control group – low rates of late onset infection
Multidisciplinary team approach
Nursing education (including nurse prescribers and clinical skills facilitators)
Centre for Midwifery education for Dublin
Follow up support for parents
Improving co-operation with Portlaoise and Mullingar regional hospitals – supporting network hospitals
Clinical research and educational meetings

7. CONCERNS

Lack of manpower – all levels, but mainly nursing staff and consultants
Lack of detailed neurodevelopmental follow up with appropriate support (Physiotherapy, Psychology etc.)
Lack of capacity in network hospitals – return of infants

8. FUTURE DIRECTION

Neonatal Network with Portlaoise and Mullingar regional hospitals (Level III, Level II, Level I concept)
Improving concentration of infants below 28 and 32 weeks of gestation (in-utero)
Providing highly specialized level III neonatal unit (HFOV, iNO, CV, TOBY, ELBW)
Detailed follow up with standardized outcomes for infants below 32 (36) weeks of gestation
Providing training in Neonatology as a subspecialty (two years fellowships)
## Paediatric Clinical Programme
### Programme Visit

**Cork University Hospital**

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>South</th>
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</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Cork University Hospital</td>
</tr>
<tr>
<td></td>
<td>Department of Paediatrics established in 1948</td>
</tr>
<tr>
<td>Date</td>
<td>15/06/2012</td>
</tr>
<tr>
<td>Present:</td>
<td>Clinical Leads Alf Nicholson, John Murphy and Hilda Wall Lead Neonatal Nurse</td>
</tr>
<tr>
<td></td>
<td>Drs Susan O'Connell, Muireann Ni Chroinin, David Mullane, Niamh Ni Shuibhne, Olivia O'Mahony, Niamh Lynch, Jonathan Hourihane, Deidre Murray, Ray Barry, Eugene Dempsey, Brendan Murphy, Peter Filan, Liam O'Connell</td>
</tr>
<tr>
<td></td>
<td>Emmet Andrews: General Surgery</td>
</tr>
<tr>
<td></td>
<td>Anaesthesia: Damien Murphy</td>
</tr>
<tr>
<td></td>
<td>Senior CNM3 Nursing Officers</td>
</tr>
</tbody>
</table>

**Director of Nursing**

**Clinical Director**

**Hospital Manager**

**Prof Richard Greene**

**CEO Tony Mc Namara**

### 1. BACKGROUND

<table>
<thead>
<tr>
<th>Unit established</th>
<th>1948</th>
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</thead>
<tbody>
<tr>
<td>Number of consultants</td>
<td>10 paediatricians (3 of which half time academic); 5 Neonatologists</td>
</tr>
<tr>
<td>Number of NCHDs</td>
<td>Paediatrics: 2 SpRs 4 registrars, 7 SHOs, 1 Intern Neonatology: 2 SpRs 4 Registrars, 7 SHOs</td>
</tr>
<tr>
<td>Paediatric nurses</td>
<td>70 WTE paediatric nurses</td>
</tr>
<tr>
<td>Neonatology nurses</td>
<td>65 WTE neonatal nurses</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>11,000 children (approx 7,000 medical paediatrics)</td>
</tr>
<tr>
<td>Annual medical paediatric admissions</td>
<td>5,600</td>
</tr>
<tr>
<td>Annual deliveries</td>
<td>9,000</td>
</tr>
<tr>
<td>Admissions to SCBU</td>
<td>1,250</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>100 &lt; 1500 gram infants admitted per annum</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>2.1 days</td>
</tr>
</tbody>
</table>

**Is the Paeds ED waiting area spatially and aurally separated from adults ED?**

**No**

**Are the ED assessment rooms separate for children?**

**No**

**Is the resuscitation bay separate to the adult resuscitation bay?**

**No**

**Is the A&E staffed by paediatric trained nurses?**

One paediatric nurse in the Emergency Department

**Is there an A&E consultant with paediatric training?**

Post advertised

**Is there a paediatric radiologist on staff?**

2 of 15

**Is there an adult radiologist with specific training/special interest in paediatrics?**

n/a

**Is there an adult radiologist with no specific training in paediatrics**

13 of 15
2. ACUTE GENERAL PAEDIATRICS

Cork University Hospital has a 75 bedded ward. There are 70 WTE Paediatric Nurses. The Paediatric Department was built in the late 1970s and is now out of date. It is not very family friendy and there is very little parent accommodation (parents sleep in chairs or on floor beside hospital bed). The age cut-off is 16 years (flexible if chronic condition). There are no facilities for adolescents. There are 5,600 admissions annually (7,000 total including paediatric surgical admissions).

Paediatric Assessment Unit established informally at no cost on Childrens ward in May 2011. It runs from 12-8pm Monday – Friday for GP referrals accepted after discussion with consultant / registrar on-call. The PAU is staffed by paediatric nurses and by paediatric NCHDs and consultants from existing ward staffing levels. 1300 children seen in the first year 85% of whom were discharged home after less than 4 hours.

Children requiring admission can access the wards directly after their case is discussed between GP and registrar / consultant on-take.

Children presenting or referred directly to the Emergency Department are assessed initially by Emergency Department nurses and doctors and referred on for assessment by paediatric doctors when deemed necessary by ED staff.

Post of emergency medicine consultant with an interest in paediatric emergency medicine has been advertised and will be shortly filled. This individual will lead the implementation of a single point of access for all children with acute paediatric problems.

There are issues in relation to having just one paediatric nurse in the Emergency Department and the potential delays in relation to all children there being seen first by the emergency department staff. Also issues in relation to deficiencies of AHP staff including social work, dietician, physiotherapy and no psychology service. It is hoped that, within 3 years, the paediatric unit in the Mercy Hospital will be moved into the Cork University Hospital campus.

The most striking feature of the Department is the poor ward infrastructure with no isolation facilities and the ward which was built for paediatric practice some 40 years ago but is not fit for purpose for current Paediatrics in 2012.

3. NEONATOLOGY

The Neonatal Unit is sited on the ground floor of the Maternity Wing of CUH. It is a well planned unit. It is spacious and it fulfils all the criteria of a modern NICU. It is fully equipped. The MRI scanning department is in close proximity.

The Unit has 5 Neonatologists, 4 are full time and the fifth is 0.7 the other 0.3 being academic time. The Neonatologists are assigned to the NICU only and they do not have any clinical commitment in the Paediatric Department.

Infants at CUMH are frequently reviewed by the CUH sub-specialist paediatricians in the NICU and post-natal wards at the request of the Neonatologists.

The Unit has 3 SpRs, 4 Registrars and 7 SHOs.

The Unit has 65 WTE Neonatal Nurses but due to maternity leave it functions at approximately 60 WTEs. The Allied Health Professionals consist of: 1 Dietician, 1 Physiotherapist, 1 Occupational Therapist, 1 Speech and Language Therapist (consisting of 2 half time), 0.5 Pharmacist, 0.5 Social Worker. The 2 year Bayley assessment on VLBW infants is undertaken by the Physiotherapist.

All infants BW<1000g are routinely referred to Early Intervention.

The Microbiology services are from the general hospital. The Microbiologist does not attend neonatal ward rounds.

The Maternity Unit has 9,000 births annually
There are 1250 NICU admissions annually
There are 100 infants BW<1500g. The number post-natal transfers to the Unit is small, approximately 6 annually. Referrals are accepted from Tralee and Clonmel.

An arrangement has been reached to accept infants from Limerick who require therapeutic cooling. The Unit is prepared further transfers from Limerick depending on nurse availability. There is an aspiration to develop further as a tertiary NICU.

There is a strong research programme. There is a neonatal brain research programme headed by Professor Geraldine Boylan. Other interests are neonatal hypotension and neonatal data collection systems.

The main concerns expressed by the neonatal staff related to the neonatal nursing numbers. It is difficult to maintain the nursing complement when nurses leave or are on maternity leave. Nursing shortages impinge on the Units operational capacity. Hilda Wall suggested a number of approaches to alleviating the problem.

4. SCREENING

CUH is the paediatric CF newborn screening referral centre for children born in counties Cork, Waterford and Kilkenny

Universal newborn hearing screening introduced to Cork University Maternity Hospital in 2011. All who fail are seen urgently by Mr Peter O’Sullivan ENT for audiological assessment and then referred onto Dr Gibson for paediatric assessment if required.

Pulse oximetry screening for congenital heart disease commenced in 2010.

DDH screening of high-risk cases by ultrasound or X-ray with subsequent referral to two designated paediatric orthopaedic surgeons.

Currently in South Infirmary Victoria University Hospital by x-ray at approx 3 months. Awaiting CUH funding for commencement of Ultrasound-based service in CUH within the first 6 weeks of life – Mr Colm Taylor (paediatric orthopaedic surgeon) in talks with Mr Jason Kenny hospital manager.

5. OUTPATIENTS

General paediatrics (excluding specialist clinics); 6 clinics weekly at CUH, monthly outreach clinic at Bantry hospital. In general, OPD facilities are poor. They are shared with the adult services.

Majority of childrens clinics recently cohered into Blackwater OPD suite with paediatric nurse support. Unfortunately adult clinics also run simultaneously in the same OPD suite. A dedicated paediatric OPD area would be preferable.

Waiting time for first visit general OPD appointments is 3-6 months (closer to the latter) and the rate of did not attend is 20-25%. There is no texting reminder system in operation on the day pre-appointment and the new to review ratio is 1:3.

Children are seen weekly in day unit by respiratory team when referred from Chest clinic in Cork and Kerry with suspected TB / TB contact. Children seen weekly in day unit by respiratory team for sleep assessment / home oximetry / transcutaneous CO2 monitoring and limited sleep studies.

There are weekly asthma nurse-led clinics in day unit supported by respiratory consultants but there is potential to develop other nurse-led clinics (eg. constipation / enuresis)

Food challenges are performed twice weekly in paediatric day unit as part of the allergy service

Children regularly seen by all consultants in day unit when deemed too urgent to wait for OPD appointment

Multidisciplinary clinic (every three months) run by Dr Murray with speech and language, dietetic support for tracheostomy children.

6. SPECIALIST CLINICS

Patients from all parts of Munster and beyond are seen in all of the subspecialist clinics.
Paediatric respiratory: (Dr Mullane / Dr Ni Chroinin)
Respiratory / asthma clinic weekly, cystic fibrosis clinic weekly, cystic fibrosis annual review clinic weekly
CF clinics (90 children with CF) attended by CF nurse specialist, CF Physio and CF dietician. No CF psychologist or pulmonary function technician despite recommendations of Pollock Report and HSE report into services for people with CF.
Sleep / non invasive ventilation / TB patients urgent patients seen as needed in day unit few times per week
Asthma nurse partly research funded for 8 hours per week
No paediatric pulmonary function lab. No sleep technician despite expanding service

Diabetes / Endocrinology : (Dr O’Riordan / Dr O’Connell)
Weekly Diabetes clinic (n=403 patients)
Weekly Endocrine clinic (n=510 patients)
Insulin pump clinic / school twice per month
New Regional Centre outside Dublin for Insulin Pump therapy
Plans for additional endocrinology clinic and transition clinics for diabetes and endocrine patients due to significant and complex patient load

Paediatric Neurology: (Dr. Olivia O Mahony):
Tuesday 10am-2pm Mercy Hospital (general neurology)
Wednesday 9am- 1pm (mixed general neurology and epilepsy)
Stroke clinic every 6 months
Spina bifida/ hydrocephalus clinic monthly – need national plan (discuss with Darach Crimmins and Dr Jane Leonard ) as neurosurgical support in Cork for paediatric patients (especially those with potential VP shunt issues) is not ideal . There are currently about 80 patients attending this clinic and so this is a significant issue
Vagal nerve stimulator clinic/ Difficult epilepsy clinic 3 monthly.
Day ward – 3 slots for urgent referrals or close follow-up.

Lack of facilities to deliver MRI under GA is a significant issue.

Dr Niamh Lynch works in the Bons Secour Hospital and sees general neurology patients, thereby reducing waiting lists. There is no ketogenic diet service in Cork due to lack of dietician support.

Paediatric Neurology: (Dr. Niamh Mc Sweeney):
Tuesday 1.30pm- 5pm (mixed general neurology and epilepsy)
Day ward- Rapid assessment neurology ad hoc clinic(Wednesday)- urgent neurology referrals
Neuromuscular clinic Enable Ireland every 3 months- parallel clinic with Dr. Ray Barry: March, June, September, December.

Paediatric cardiology:
Weekly with Dr Fraser and monthly with Dr McMahon visiting from Crumlin.

Paediatric rheumatology:
Monthly with Dr Fraser supported by adult rheumatologist when required and phone liaison with paediatric rheumatologist in Crumlin - should consider outreach clinics once second paediatric rheumatologist in post.

Paediatric allergy:
Regional ad-hoc immunodeficiency service
30% of referrals from outside HSE South region.
Nine month wait for new appointment and 2 year wait for food challenge due to significant demand from within and outside the HSE South region.
1.3 WTE Nursing staff partly supported by research funding
SLIT and venom desensitisation increasing numbers. Immunotherapy not resourced at present

Developmental paediatrics weekly clinic with Dr Gibson as below.

Cardiology and gastroenterology special interest consultant appointments are next priorities.

7. COMMUNITY CHILD HEALTH

Outreach Community Paediatric Clinics: Dr Louise Gibson
Enable Ireland (Physical disability 0-18y) twice per month; 
COPE Foundation (Intellectual disability 0-18 y) 1 per month; 
St Joseph’s Foundation Charleville (Intellectual disability 0-18 y) 1 every 3 months; 
Child and Family Centre (Assessment of suspected CSA + attendance at MDT) 1 per month. 
Kidscope /Niche: Teaching Clinic with developmental screening of children<5 y: 3 per month Sept-June. 

Paediatric Day-ward: 3-6 Community referrals per week plus 1-2 Hearing Impairment referrals per month 
Newborn Hearing Screening Committee 1/month 

Development of community child health service is in liaison with CCH paediatricians in the Mercy University Hospital

8. NON SPECIALIST PAEDIATRIC SURGERY

Mr Emmett Andrews (Consultant general surgeon) is the lead for paediatric surgery and did attend the meeting. He is co-chair of the national working group re non-specialist paediatric surgery. There are varying levels of experience in paediatric surgery between consultants on general surgical rota. Professor Redmond also provides a paediatric surgery service. In their absence the pyloric and intussusception cases are transferred to Dublin.

Damien Murphy described the paediatric anaesthesia service. He feels that the age cut-off should probably be 2-3 years. Children under one year of age are undergoing anaesthesia for some elective and emergency surgical and medical procedures at present. He said that regularity rather than actual numbers is more important in keeping up one's skills. He said the service needs 2 additional anaesthetists with paediatric training. It also needs the availability of a designated paediatric theatre and paediatric theatre nurses.

The Orthopaedic surgery services have been developed at the South Infirmary Victoria University Hospital. Two surgeons with a special interest on paediatric orthopaedic surgery have been appointed with one in post at present. Their elective surgical work is performed at SIVUH, emergency work at CUH. Complex, higher risk elective cases will be performed at CUH in consultation with the department of anaesthesia and after discussion / review with paediatrics.

Facilities to undertake day case surgery is limited. A 10 bed surgical day unit is needed

Children presenting with uncomplicated general surgical conditions are generally managed at CUH (pyloric stenosis, appendicitis, uncomplicated intussusception, etc). Those deemed complicated or outside of the experience range of the surgical consultant on-call are transferred to paediatric tertiary referral centres in Dublin at the discretion of the surgical consultant on call. 90% of paediatric non-specialist surgery in Cork is done on a day case basis and is done by 2 designated surgeons. An added surgeon with special expertise in paediatric surgery is needed.

Paediatric ENT surgery is performed at South Infirmary Victoria University Hospital. High risk elective cases are performed at CUH as paediatrics not on site at SIVUH (eg. severe obstructive sleep apnoea at risk of post-op obstruction or children with underlying conditions).

Some paediatric neurosurgery has traditionally been performed at CUH. The majority of the neurosurgical consultants feel that the most of these cases should be performed in Temple Street. With the impending retirement or Mr Charles Marks no paediatric neurosurgery will be performed in Cork unless his replacement has the experience and desire to continue to service. Mr Darach Crimmins due to start outreach neurosurgical clinic with Dr O’Mahony (paediatric neurology) in the near future.

The paediatric division at CUH feel that all paediatric surgery in Cork should be performed in a hospital with pediatrics on-site.

9. INTENSIVE CARE TRANSFERS

Dr Deirdre Murray is the paediatric ICU and HDU lead. For children requiring ICU, the first option is to source a PICU bed in Dublin. If a bed is not available or delay in bed availability, then children are admitted to the ICU at CUH. They are managed jointly by anaesthesia and paediatrics supported by Dr Murray. Children requiring transfer to PICU in Dublin are generally accompanied by both senior anaesthetic and paediatric staff during the transfer.
Data for paediatric admissions to the adult ICU at CUH were presented during site visit – these showed (from June 2011 to June 2012) there were 24 admissions to ICU in Cork (2 per month) with 8 (33%) transferred to Dublin subsequently.

Casemix of CUH ICU admissions was: 5 head injuries, 6 acute asthma/respiratory failure, 5 status epilepticus, 2 sepsis/meningitis, 1 SVT, 1 resuscitated SIDS, 1 renal failure, 1 smoke inhalation and 2 GI/oesophageal rupture cases.

There is a 2 bedded HDU for children under 18 months of age on the infant ward and there have been 40 admissions since its opening 12 months ago. Three transitional care tracheostomy children from Crumlin have spent prolonged periods in the HDU prior to discharge home. These children would otherwise have remained in Crumlin for an additional 2-3 months until discharge home. Other HDU admissions including infants on non-invasive ventilation, severe sepsis, severe respiratory/cardiac/neurological disease. Ward guidelines are in place for types of cases deemed appropriate for HDU admission. Nursing support has come from the existing ward compliment of nurses.

It is a concern to the paediatricians that children who meet international standard criteria for HDU/PICU admission are not infrequently managed on the paediatric ward with nurse special support post anaesthetic team review e.g. DKA. The challenges and potential for risk of managing these patients on a busy paediatric ward are significant.

10. RELATIONSHIP WITH OTHER UNITS

The links with other Units was discussed. In particular the links with Tralee were raised. Cases from Tralee hospital or directly from south Kerry are admitted to CUH when required. Children from Kerry attend all of the specialist clinics; CF, diabetes, neurology, disability, allergy, cardiology. To date, however, there have not been any formal links. It was mentioned that the 2 replacement consultant Paediatricians will have a formal academic access to CUH built into their contract i.e. half day once every 2 weeks. It was suggested that a formal meeting be held between the 2 Units to discuss the provision of services in the region.

Services for children at CUH and Mercy University Hospital will be amalgamating onto a single site at CUH as per recommendation of Reconfiguration of Acute Hospital Services, Cork and Kerry. For this to occur, a significant development of the facilities for children at CUH is required. A new paediatric haematology/oncology unit, new paediatric out-patient department, new paediatric day-unit with separate isolation area for children with CF and a new Paediatric assessment Unit are planned. This will be funded approximately 70:30 HSE capital funding and fundraising (amalgamated funds from previous paediatric division fundraising, Build 4 Life local CF charity and Cork Leukaemia Association charity). A significant fundraising drive is in planning to raise the necessary funds to hopefully allow a refurbishment of the existing in-patient beds as well as additional isolation beds for children.

11. FUTURE DIRECTIONS

The impending arrival of a Paediatric Emergency consultant will facilitate improvements in referral pathways for acute paediatrics with a single point of entry ideally run by a combination of paediatric emergency medicine and paediatrics staff (nurses and doctors).

A paediatrician with a special interest in Child Protection has been sought for the last number of years. This will be sought as part of national Ferns 4 deliberations as Cork is one of the designated centres for acute child sexual assault assessment.

The Positives

The Paediatric and Neonatology services in Cork have developed rapidly in recent years. The spectrum of care that can be provided to children has been greatly expanded.

In addition to acute general Paediatrics there are specialist services in Respiratory, Endocrinology, Neurology, Allergy and High Dependency.

The Neonatal department is a tertiary NICU capable of undertaking all forms of neonatal intensive care apart from neonatal surgery.

There is a strong Community Paediatric service.

A Paediatric Assessment Unit has been established.

There is a large volume of non-specialist paediatric surgery being undertaken. This will be developed further when the report on non-specialist paediatric surgery is published.
The Concerns
There are worries about the nurse staffing levels on the Paediatric ward and the NICU. The OPD facilities and the in-patient paediatric facilities are sub-optimal. Large numbers of children attending the A&E are seen by adult trained doctors and nurses rather than paediatric staff. There is no HDU facility for ill children over 18 months of age such as those with DKA. The stabilisation and transport of the critically ill child to Dublin is dependent on the commencement of the paediatric transport service. The CSA service development is long overdue.

The Vision:
To continue the development and expansion of services for children in the region.

To be able to provide specialist services to hospitals in the Munster area.

To develop a consultant led cardiology service linked to the cardiology service in Dublin.
Paediatric / Neonatology Clinical Programme
Programme Visit
Cork University Maternity Hospital

HSE Region: South
Hospital: Cork University Maternity Hospital
Date 17/07/12
Present: John Murphy, Gene Dempsey, Peter Filan, Brendan Murphy, Liam O’Connell

Director of Nursing Geraldine Keohane (Director of Midwifery)
Therapies Manager
Clinical Director Prof Richard Greene
Hospital Manager Miriam Lyons

1. BACKGROUND

<table>
<thead>
<tr>
<th>Number of consultants</th>
<th>Five Neonatologists (4.7 WTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of NCHDs – SpR</td>
<td>2 SPR,</td>
</tr>
<tr>
<td>Registrars</td>
<td>4 registrars</td>
</tr>
<tr>
<td>SHOs</td>
<td>7 SHO total NCHDs</td>
</tr>
<tr>
<td>Neonatology nurses (WTEs)</td>
<td>58</td>
</tr>
<tr>
<td>Pharmacist Y/N</td>
<td>Yes</td>
</tr>
<tr>
<td>Physiotherapist Y/N</td>
<td>Yes</td>
</tr>
<tr>
<td>Dietitian Y/N</td>
<td>Yes</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Annual medical paediatric admissions</td>
<td>1250</td>
</tr>
<tr>
<td>Annual number of births</td>
<td>8898 in 2010</td>
</tr>
<tr>
<td>Annual number of admissions to SCBU</td>
<td>1250</td>
</tr>
<tr>
<td>Annual number of post natal transfers</td>
<td>In 2011, 75 transfers out and 32 transfers back in</td>
</tr>
<tr>
<td>Annual number of transfers to Crumlin / Temple St for surgery / specialist treatment</td>
<td>56 total (44 to Crumlin and 12 to Temple St)</td>
</tr>
<tr>
<td>Annual number of retro transfers to local units</td>
<td>Estimated 15 transfers to Kerry, Clonmel or Limerick</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>Cared for in CUMH</td>
</tr>
<tr>
<td>Annual number of ventilated infants</td>
<td>95</td>
</tr>
<tr>
<td>Annual number of infants with CPAP</td>
<td>210</td>
</tr>
<tr>
<td>Annual number of infants receiving TPN</td>
<td>Not recorded, we record number of bags used</td>
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<tr>
<td>Annual number of infants with ROP</td>
<td>1-4</td>
</tr>
<tr>
<td>Number of intensive care cots</td>
<td>6 intensive care, 6 intermediate care, 25 special care</td>
</tr>
<tr>
<td>Total number of cots</td>
<td>37</td>
</tr>
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</table>

2. DESCRIPTION OF UNIT

Level 3 neonatal unit providing all aspects of neonatal care except surgical. Some neurosurgical and inguinal hernia surgery and urology performed locally. We accept in utero and post natal transfers (nurse staff levels permitting), in particular from Kerry General and Clonmel and more recently Limerick. There are approximately 1250 admissions annually of which 90-100 are VLBW infants. Antenatal there is a specialist fetal medicine service with two consultant fetal medicine specialists. Paediatric neurology, endocrinology, cardiology, echocardiography, respiratory, haematology, allergy available locally through general paediatric service. Two paediatric radiologists provide daily service to unit. MRI available on site daily. Paediatric orthopaedic service provided by two paediatric orthopaedic surgeons. Ophthalmology and ROP screening provided by adult ophthalmologist with an interest in paediatric ophthalmology. Dedicated pharmacist and dietician present daily on rounds for advice and TPN service. Dedicated Neonatal physiotherapist (1 WTE) and occupational therapist (1 WTE) and SLTx (1 WTE). Parent facilities include dedicated breast feeding room in the neonatal unit, parents lounge area and family room, and two overnight parent and infant “rooming in rooms”.

3. SCREENING

Guthrie and Hip screening (limited ultrasound hip service available, otherwise xray based review service)
universal pulse Oximetry heart screening, universal audiology screening

### 4. OUTPATIENTS

5 consultant led outpatient clinics per week. Primarily for infants admitted to NNU or with issues from the postnatal wards but we accept postnatal GP referrals up to 28 days corrected gestational age. Physiotherapy, Speech Language therapist and dietician available during these clinics. Physiotherapy, Occuopational therapy, dietician and SLTx all run independent neonatal follow up outpatient clinics.

### 5. FOLLOW UP CLINICS

Each consultant neonatologist does one outpatient clinic per week
Neonatal physiotherapy, occupational therapy, dietetics and speech and language therapy outpatient clinics
Neonatal physiotherapist performs 2 years old Bayley 3 assessment on all VLBW infants.
All infants <1000g are automatically referred to early intervention services
Neonatal stroke cases followed in Paediatric stroke clinic
Spina bifida infants followed in spina bifida clinic, both provided by paediatric neurology service.
Separate neonatal neurology follow up clinic recently developed and delivered by local paediatric neurologist
Outreach genetics and cardiology clinics monthly

### 6. STRENGTHS

Infrastructure is modern with new maternity hospital opened in 2007.
Dedicated consultant neonatologist and neonatal NCHD roster.
Badger system, computerised radiology (PACS) and laboratory ordering and reporting.
Labour ward on same floor as NNU
Paediatric and radiology support services on same site, and adult medial and surgical intensive care for maternal health issues on same site
We are part of the division of Obstetrics, Gynaecology and neonatology which has an established, strong divisional governance structure.
Active neonatal research department (on the neonatal unit) with close collaboration with UCC, paediatric and obstetric departments, Teagasc, UCC business informatics service, and international collaboration.

### 7. CONCERNS

Reductions in neonatal nurse staffing is our primary concern.
Nurse staffing levels can limit our capacity to accept either in utero or postnatal referrals.
Limitations of the national neonatal transport service which hopefully will soon improve. However we will still have the difficulty of being 3 hours from Dublin and thus the reason we do most of our own transfers to minimise time delays.

### 8. FUTURE DIRECTION

To provide a regional tertiary neonatal service for the Munster region
Development of the current research centre and interests
Development of an academic Perinatal health research centre to develop collaboration with obstetric and paediatric colleagues.
Paediatric Clinical Programme

Our Lady’s Children’s Hospital, Crumlin

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>Dublin Mid Leinster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Our Lady’s Children’s Hospital, Crumlin</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>Mr Lorcan Birthistle</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Number of consultants:</th>
<th>74.66</th>
</tr>
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<tbody>
<tr>
<td>Number of Paediatric NCHDs:</td>
<td></td>
</tr>
<tr>
<td>SpR</td>
<td>39</td>
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<tr>
<td>Registrar</td>
<td>34</td>
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<tr>
<td>SHO</td>
<td>35</td>
</tr>
<tr>
<td>Intern</td>
<td>n/a</td>
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<tr>
<td>Nursing</td>
<td>690.53</td>
</tr>
<tr>
<td>Health and social care professionals</td>
<td>281.34</td>
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<tr>
<td>Management / administration</td>
<td>213.59</td>
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<tr>
<td>General support staff</td>
<td>146.89</td>
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<tr>
<td>Other patient and client care</td>
<td>92.31</td>
</tr>
<tr>
<td>Total number of beds</td>
<td>252</td>
</tr>
<tr>
<td>Surgical inpatient</td>
<td>97</td>
</tr>
<tr>
<td>Medical inpatient</td>
<td>68</td>
</tr>
<tr>
<td>Haematology / Oncology inpatient</td>
<td>19</td>
</tr>
<tr>
<td>Surgical day case</td>
<td>13</td>
</tr>
<tr>
<td>Medical day case</td>
<td>12</td>
</tr>
<tr>
<td>Haematology / Oncology day case</td>
<td>13</td>
</tr>
<tr>
<td>HDU</td>
<td>5</td>
</tr>
<tr>
<td>ICU</td>
<td>18</td>
</tr>
<tr>
<td>Transitional care unit</td>
<td>7</td>
</tr>
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See next report for information on Crumlin ICU
Paediatric Clinical Programme Programme Visit

Crumlin ICU

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>Dublin MidLeinster</th>
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<tr>
<td>Hospital:</td>
<td>Crumlin ICU</td>
</tr>
<tr>
<td>Date:</td>
<td>5/4/12</td>
</tr>
<tr>
<td>Present:</td>
<td>Drs Alf Nicholson, John Murphy, Cathy McMahon, Brendan O'Hare, Martina Healy</td>
</tr>
</tbody>
</table>

**Director of Nursing**

- Therapies Manager
- Clinical Director
- Hospital Manager
  - Dr Martina Healy
  - Mr Lorcan Birthistle

### 1. BACKGROUND

- **Number of PICU consultants**: 2 wte PICU consultants
- **Number of Paediatric Anaesthetic consultants**: 4 wte Paediatric Anaesthetic Consultants
- **Number of PICU NCHDs**: 1.5 wte PICU Registrar, 1wte Paediatric SpR
- **Number of Anaesthetic NCHDs**: ?
- **Number of Clinical Engineering WTEs**: Service from the hospital pool of 5 Clinical Engineers
- **PICU nurses**: 175 PICU nurses
- **Annual PICU admissions**: 1,100
- **AVLOS**: 17 in new ICU, 8 in old ICU
- **ICU beds**: 17%
- **HDU beds**: 8%
- **% of medical patients**: 302
- **% of surgical patients**: 303
- **% of cardiac patients**: 495 (45%)
- **% of newborn patients**: 370 (30%)

**Allied Health Professionals**

- **Paediatric Dietician**: 1 wte
- **Pharmacist**: 1.5 wte
- **Physiotherapist**: ?
- **Data Manager**: 1 wte
- **Secretary**: 0.5 wte

### 2. Distribution of intensive care workload

- There are 1100 admissions annually
- 45% are cardiac cases. There were 10 cardiac cases from Northern Ireland in 2011
- Of the other 55% of cases there are equal numbers of medical and surgical cases
- The bed occupancy is 85-95%
- Seventy five per cent of the children admitted to the PICU are ventilated

### 3. Source of Patients

- Children requiring intensive care are admitted from all hospitals in the State.
- Some children requiring cardiac surgery are admitted from Belfast. There are current negotiations regarding an expansion of the cardiac services to NI children.
- The recently developed single referral number appears to be working well and is appreciated by all the referring hospitals.

### 4. Audit And Data Collection

- The unit has a major emphasis on the monthly mortality meeting. The unit wants to set up a registry for all child deaths in the country. At this meeting any preventable factors are discussed and protocols and medical management adjusted accordingly. Martina Healy feels that a Paediatric Mortality Register should be set up.
nationally. We need to document and examine all childhood deaths. In particular we need to establish the proportion of deaths in previously normal children and in children with underlying significant medical disorders.

The Unit has a strong emphasis on data processing and collection. The unit has a new innovative IT system in place for critical data on all infants admitted to the PICU. Over the last year the Unit has been evolving from paper based records to electronic records. The Unit will be entirely paperless by mid Sept ‘12.

5. Discharge Planning

There is a twice daily consultant ward round – morning and evening. The decision about the discharge of the child from the PICU is made on the ward round. The issue of tracheostomy patients was discussed. They constitute a significant workload on the HDU. There is difficulty in transferring them back to their local hospitals because of lack of local airway management skills. This group of patients may be in hospital for as long as 1 year.

6. Current Weaknesses

There is no pain management service in the PICU. A formal service needs to be developed with a multidisciplinary team including anaesthesia, nursing and physio. There are insufficient consultants to undertake all the current demands being placed on the Unit. There is a need to evolve into a wholetime PICU consultant workforce. The lack of PICU consultants makes it difficult to implement the acute paediatric retrieval programme and places the patients in the unit at risk.

7. FUTURE DIRECTION

To expand consultant manpower so the Unit is staffed by wte PICU consultants. To create a separate PICU rota - this has been achieved in conjunction with anaesthesia. 20% of the time, there is 1 person doing dual PICU / anaesthesia cover to cover annual leave and study leave. To explore the role of Neonatologists in the management of the surgical neonate. Currently their position in the ICU is ill-defined. To establish and develop the acute paediatric transport programme. Currently <5% of retrievals are undertaken by PICU staff. The current available funding for the retrieval programme would support 2 wte consultants, 4NCHDs and 4 nurses. To develop an effective, efficient retro-transfer service to referring hospitals. To strengthen links with Temple Street in preparation for the merger of the 2 PICUs in the National Paediatric Hospital. The development of common policies, guidelines and protocols with the Temple Street PICU. The new Clinical Information System will help to develop this as both units will be using ICIP and protocols are currently being written. The issue of NCHD staffing deficit needs to be addressed.
Paediatric Clinical Programme
Programme Visit

Kerry General Hospital, Tralee

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Kerry General Hospital, Tralee</td>
</tr>
<tr>
<td></td>
<td>The population of County Kerry is 145,048 (Census 2011). It is the fifth largest of the 32 counties. The county has 2 million visitors annually.</td>
</tr>
<tr>
<td></td>
<td>Tralee is 30 miles from Cahirciveen to the south and 15 miles from Listowel to the north</td>
</tr>
<tr>
<td></td>
<td>Tralee is 162 miles from Dublin and 58 miles from Cork</td>
</tr>
<tr>
<td>Date</td>
<td>Friday 8th June 2012</td>
</tr>
<tr>
<td>Present:</td>
<td>John Murphy- National Clinical Lead Drs Sharon Condon &amp; Khan Paediatricians, Tralee Dr. Richard Liston, Clinical Director Nursing staff</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>Ms. Mary Shea (Acting)</td>
</tr>
<tr>
<td>Clinical Director</td>
<td>Dr. Richard Liston</td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Mr. PJ Harnett</td>
</tr>
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1. BACKGROUND

<table>
<thead>
<tr>
<th>Unit established</th>
<th>April 1984</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultants</td>
<td>3</td>
</tr>
<tr>
<td>Number of NCHDs</td>
<td>4 Registrars 5 SHOs</td>
</tr>
<tr>
<td>Number of Registrars</td>
<td>4</td>
</tr>
<tr>
<td>Number of SHOs</td>
<td>5</td>
</tr>
<tr>
<td>By adjusting rostering arrangements, we have been given approval to appoint an additional registrar and SHO from Jan 2013</td>
<td></td>
</tr>
<tr>
<td>Paediatric nurses</td>
<td>19.46 WTEs</td>
</tr>
<tr>
<td>Neonatology nurses</td>
<td>12.4 WTEs</td>
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<tr>
<td>Annual attendance at emergency department</td>
<td>6,566</td>
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<tr>
<td>Annual medical paediatric admissions</td>
<td>3,222</td>
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<tr>
<td>Annual deliveries</td>
<td>1753</td>
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<tr>
<td>Admissions to SCBU</td>
<td>344</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>Yes</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>2.75</td>
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<tr>
<td>Is the Paeds ED waiting area spatially and aurally separated from adults ED?</td>
<td>Yes</td>
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<tr>
<td>Are the ED assessment rooms separate for children?</td>
<td>Yes</td>
</tr>
<tr>
<td>Is the resuscitation bay separate to the adult resus bay?</td>
<td>Yes</td>
</tr>
<tr>
<td>Is the A&amp;E staffed by paediatric trained nurses?</td>
<td>No</td>
</tr>
<tr>
<td>Is there an A&amp;E consultant with paediatric training?</td>
<td>There are two A&amp; E consultants who have paediatric training as part of their Higher Specialist Training in Emergency Medicine</td>
</tr>
<tr>
<td>Is there a paediatric radiologist on staff?</td>
<td>No</td>
</tr>
</tbody>
</table>
| Is there an adult radiologist with specific training / special interest in paediatrics? | Yes, There are 3.5 radiology posts. Two radiologists have retired recently. The permanent consultant has some paediatric training. One of the locum
| Is there an adult radiologist with no specific training in paediatrics | No |

2. ACUTE GENERAL PAEDIATRICS
The Paediatric Department was established in Tralee in the 1980s. It caters for a wide spectrum of acute, general Paediatrics and Community Paediatrics. There are 3,222 in-patient admissions annually.

There is a relatively high admission rate. This appears to be due to the 50% admission rate from the Emergency Department. There are 6,566 A/E attendances.

Another feature is the impact of tourists in the summer months (there are 2 million tourists to Kerry annually).

There are Ophthalmology, ENT surgery and Orthopaedic Fracture admissions.

One of the general surgeons performs appendicectomies and orchidopexies.

Students from UCC rotate for 2 week blocks in the department and students from UL spend a 6 week attachment.

One of the Consultants acts as department head on a rotating basis. Monthly Clinical Governance meetings take place within the department and monthly perinatal meetings take place with the Department of Obstetrics. There are 30 children with Diabetes. The Diabetic nurse specialist is shared with the Adult service.

There is no Paediatric Dietician but all three dieticians have paediatric experience and one has particular experience in nutritional problems in Special Needs and works also in the Enable Ireland Children’s Service.

There is also a paediatric videofluoroscopy service for assessment of feeding difficulties.

There is one half-time Social Worker in the hospital who only deals with children who have life-limiting conditions.

There is no Play Therapist but there is a Play Assistant.

All children under 18 years are admitted to the Paediatric ward.

The management of 16-18 year olds is a major concern for the staff. There is neither the staff or the facilities to cater for this older age group who are admitted with drug overdoses, anorexia or chronic medical problems such as renal failure.

3. NEONATOLOGY
There are 1,753 births.

The number of births has decreased in recent years due to drop in immigrant numbers in the Tralee area.

There are 344 admissions annually.

There are 12.4 WTEs nurses.

The Unit is quite spacious.

There is a screening echocardiography service for congenital heart defects available as one consultant (Dr Rizwan) has been trained in neonatology with special interest in neonatal echocardiography and neonatal cranial ultrasound.

Funding is under way for buying ultrasound scan probe for cranial scan.

There is a policy of transferring infants < 30 weeks gestation or <1000grams either antenatally or after birth. Term infants who need tertiary care also transferred.

New ventilators with HFOV and new monitors have been approved.

The link is with the Maternity and NICU at CUMH, Cork and has been under new development since the arrival of new consultant with special interest in neonatology.

One of the consultants has been attending CUMH grand rounds and involved in research in both units as part of broader collaboration.

4. SCREENING
DDH:
- All infants are examined on Day 2
- At risk infants are examined by registrar/consultant and referred for hip xray at 5 months.
- Babies with abnormal examination or xray findings are assessed by Consultant Orthopaedic Surgeon and are referred to paediatric orthopaedic clinic in CUH/SIVUH in Cork
- SHOs has been trained over "hippy" mannequin and their training has been re validated every three months.

Newborn hearing screening - Newborn screening for at risk infants commenced in 2002. The service was
extended to include all newborns in 2007

Duct Dependent CHD - Pulse Oximetry screening commenced July 2012 on all newborn infants.

5. NETWORK LINKS

Cork is the logical link for specialist service. The staff stated that they did not feel that the links with Cork were sufficiently well developed but hope that this can be improved in the future as the two new appointments have a commitment to Cork University Hospital. To date it has been difficult to access some services but in general the staff felt that they have had a good relationship with colleagues in CUH/CUMH. Most difficulties experienced are generally due to logistics and bed spaces which are difficult to anticipate or plan for. The staff would like to see a two way process with Cork consultants coming to Tralee to advise, teach and train.

6. OUTPATIENTS

There are 5 outpatients per week
The New: Return ratio is 1: 4.5
The Waiting Time is 4 months

Specialist Clinics:
Cardiac Screening Echo clinic 6 weekly.
Rapid Access Clinic- run 3 times a week on Paediatric Assessment Unit, children seen within 5 days of referral
The plan for 6 weekly asthma and diabetic clinic is underway for 2013.

7. Emergency Medicine Department

A purpose built Emergency Medicine department was opened 1 month ago.
Children are well catered in the new building
The waiting area is visually and aurally separate from the adult section.
There are dedicated rooms for the assessment of children.
There is separate resuscitation bay for acutely ill children

8. COMMUNITY CHILD HEALTH

There is one 0.5 Consultant post in Community Paediatrics.
There are 3 clinics per week.
Specialist Clinics : Early Intervention Clinic Weekly
Developmental Clinic weekly
Outreach Clinics held in Enable Ireland , and Brothers of Charity Tralee, Killarney and Listowel. The clinic in Caherciveen has been withdrawn due to time and distance constraints and these children are now seen in Killarney.
The waiting time for new patients is 8 weeks. Ratio New : Return 1: 2.5

Excellent relationship with voluntary bodies and the services are well linked with each other through the Early Intervention Forum

There is a shortage of Child Psychologists and Occupational Therapists. There are 3 Paediatric Physiotherapists, 12 Speech and Language Therapists and 2 Paediatric Occupational Therapists based in the HSE teams.
There are additional therapists in the region working in the Enable Ireland and Brother’s of Charity services.
The services are well linked with each other through the Early Intervention Forum

Concerns: long waiting times for Autism assessment (2 years for children over 5 years and 6 months for children less than 5 years). Recently, in order to reduce patient waiting times, children referred to the Brothers of Charity (BOC) intellectual disability service are having their Autism assessments done by their own BOC teams which is reducing the waiting time.

CSA assessments are done in association with the regional Family Centre in Cork, cases are referred to the Family Centre but examinations are done locally by Dr. Condon with the assistance of a trained nurse who travels from Cork. While Dr. Condon on maternity leave, children have been referred to the Family Centre for their examinations.

9. NON SPECIALIST PAEDIATRIC SURGERY
There are appendicectomies and Orchidoplexies
There is Ophthalmology, ENT and Orthopaedic surgery
There is dental surgery.

10. INTENSIVE CARE TRANSFERS
The stabilisation and transfer of the ill child is a problem.
The Unit has had major problems in securing a bed and arranging the transport.
The Unit’s geographic isolation is a major part of the difficulty.
The hospital is 2 hours from Cork and 4 hours from Dublin.
There is debate whether road or helicopter is best. The problem is that air transport can 6-12 hours to organise.

Neonatal transports also pose serious logistic problems when the NNTP is not available.

11. MANPOWER ISSUES
Medical Manpower is a major concern for the Tralee Unit. There are recurring problems with middle grade cover. Frequently one or two of the registrar posts are not filled due to the lack of suitable applicants. The appointed registrars are sometimes inexperienced and unable to perform their registrar duties competently.

The consultant cover is insufficient with 2.5 Hospital Consultants and 0.5 Community Paediatric Consultant.
The Unit is in transition as the 2 senior consultants have retired. One replacement consultant Dr. Khan has commenced his duties and the second replacement Dr. Rizwan is due to start in September. The third consultant Dr. Condon is on maternity leave and is due back in a few months.

12. SUMMARY and FUTURE DIRECTION
The Concerns:
The Paediatric Unit in Tralee is currently facing a number of challenges.
There are insufficient consultants to cover the acute in hospital work, the Emergency Medicine department, the Out-Patients and the Community Paediatrics.
The downstream effect is long waiting times both for hospital out-patients and Community Paediatric clinics.
The consultants have an onerous on-call rota which is not sustainable in the long term.

There is insufficient middle grade Paediatric cover, a point that was frequently raised by both the medical and nursing staff during the visit. The lack of appropriate registrar experience explains the high 50% admission rate from the A/E department. Concerns about the NCHDs were repeatedly brought up by the nursing staff.

There is insufficient Allied Health Professionals (AHPs) particularly Physiotherapy, Dietetics, Occupational Therapy, Psychology and Social Work. There is a need for Nurse Specialists in a number of areas including Diabetes and Community Paediatrics.

There is no Anaesthesia for children under 2 years. There is a lack of anaesthetic cover for minor procedures and guidance about pain relief.

The transfer arrangements for critically ill children are difficult both in terms of securing a bed and implementing the transport.

Solutions:
- The manpower problem can only be solved by the appointment of additional Paediatric consultants. The current complement of 3 consultants makes the service too dependent on NCHDs at a time when they are increasingly difficult to recruit. A fourth consultant should be applied for as soon as possible.

- The Department of Paediatrics should put together a report on AHP and nurse specialists. It should set out the current situation in relation to capacity and demand. It should propose what is required to bring the services up to standard.

- The Radiology services to the paediatric department should be reviewed. A meeting with the Radiologists should be set up to discuss how Paediatric Radiology services can be developed. It would be helpful to include the Paediatric Radiologists in Cork for their advice and thoughts about the services in the region.

- The arrangements around the transfer of critically ill children should be reviewed. It may be possible
for the PICU team to make a site visit to advise on how to advance local emergency structures.

- The issue of admitting children up to 18 years needs to be reviewed. The cut-off for most Units is 16 years. Catering for the 16-18 year old group is causing logistic problems for the nursing and medical staff.

- The governance structure of the department should be developed. One of the consultants should act as Director on a rotating yearly basis. Metrics should be put in place so that indicators such as ED admission rates, OPD/Community waiting times, critically ill child transfer times can be measured.
Paediatric Clinical Programme
Programme Visit
Letterkenny General Hospital

| HSE Region: | West |
| Hospital: | Letterkenny General Hospital |
| Date | 12/4/12 |
| Present: | John Murphy & Alf Nicholson + Dr.Mathew Thomas, Dr.Asim Khan, Dr.Bernadette Power, Dr.Sami ElKashif. |
| Director of Nursing | Anne Flood |
| Therapies Manager | Anne Flannery |
| Clinical Director | Dr.Paul O Connor(consultant anaesthetist) |
| Hospital Manager | Mr. Sean Murphy |

1. BACKGROUND

| Unit established | 1982. |
| Number of consultants | 4 but replacement post still pending (1 WTE in community child health) |
| Number of NCHDs | 4 registrars |
| Neonatology nurses | 13. |
| Annual attendance at emergency department | 5368 Paediatric attendees |
| Annual medical paediatric admissions | 3500 |
| Annual deliveries | 2010 |
| Admissions to SCBU | 384 |
| Policy re infants under 1500g | < 27/40 transferred |
| Paeds AVLOS | Not given |
| Is the Paeds ED waiting area spatially and aurally separated from adults ED? | No. |
| Are the ED assessment rooms separate for children? | No. |
| Is the resuscitation bay separate to the adult resuscitation bay? | No. |
| Is the A&E staffed by paediatric trained nurses? | 1-2 nurses with paediatric experience |
| Is there an A&E consultant with paediatric training? | No. |
| Is there a paediatric radiologist on staff? | No. |
| Is there an adult radiologist with specific training / special interest in paediatrics? | Yes. |
| Is there an adult radiologist with no specific training in paediatrics | N/A |

Daily 20+ GP referrals directly to the ward with a 50% admission rate which is higher than national norms

Resuscitation cases and trauma go to the emergency department

2. ACUTE GENERAL PAEDIATRICS

Facilities in the Emergency Department

Very few facilities / one room / 1-2 nurses with paediatric experience

Child separation from adult patients nil

Observation area nil
Paediatric nurses in Emergency Department
1-2 but no consistent presence

Guidelines
Follow national guidelines for DKA/meningococcal disease /asthma
Direct access for GP referrals - yes to the ward

3. NEONATOLOGY
Births per annum  2010
SCBU admissions  384
<32/40 policy or <28/40 policy

Dr Thomas has a special interest in neonatology : 9 bedded SCBU / clear policy re short term ventilation (10 in 2011) and CPAP (25 in 2011)
ROP screening locally + excellent paediatric radiology back up with local MRI/cerebral u/s
Excellent antenatal foetal assessment with high rate of pick-up of severe congenital anomalies including duct-dependent CHD

Perinatal meetings but not in Vermont database

Number ventilated per annum
35 in total
No active cooling but transfer to Dublin

Comments :
Need minimal dataset of neonatal outcomes for < 32/40 gestation in particular . Moving away from Altnagelvin support will be facilitated by evolution of 24/7 neonatal transport

4. SCREENING

DDH – Registrar screening of hips and high risk group are screened by ultrasound at 6 weeks

There is a Consultant orthopaedic surgeon with special interest in DDH who takes over the immediate care and manages the DDH.

UDT - AMO screening appears successful

Duct-dependent CHD – willing to introduce pre-discharge pulse oximetry as per national guidelines

Hearing loss – OEM for high risk cases only and not universal

5. OUTPATIENTS

Number of clinics per week - 9
Number of new : review patients per clinic – 1:3
Waiting time for first appointment – an excellent 4-6 weeks
DNA policy – low rate of 5-10%

Nurse-led clinics – PEG / Portacath clinics run by Mary Murray
Outreach clinics – 2 per month per consultant with considerable travel times

6. SPECIALIST CLINICS
Diabetes mellitus type 1
161 patients (including transition) and dedicated clinician and 2 clinics per week. No dedicated paediatric CNS in diabetes and 0.2 WTE dietitian and no psychologist – very under-resourced – pumps not initiated

CF
15 patients with shared care with Crumlin. New cases on screening now seen in Galway

Excellent 3 monthly cardiology (Dr Coleman) and 4 monthly CRC clinics (Dr Hensey)

7. COMMUNITY CHILD HEALTH

WTE sessions devoted to CCH – 1

Early intervention assessment process
4 teams and streamlined service but paediatric role could be increased as currently largely driven by the therapists

CSA and Ferns 4
Suspected <14 yo seen in Galway with prior assessment before transfer
Await national model of care document

NAI
No out of hours SW service but one SW in hospital dedicated to paediatrics
Relationship with voluntary bodies
Excellent

8. NON SPECIALIST PAEDIATRIC SURGERY

Case bundles for surgery
Age cut off 4

Lumps and bumps
Appendicectomy
UDT
Circumcision

Anaesthetists with special skills
No designated paediatric anaesthetist
Designated surgeon - no
Age cut off ? under 2 – is set at 4 years of age

Pyloric stenosis / intussusception / inguinal hernia are all transferrd
Orthopaedics / ENT / Ophthalmology / Dental - all available on site

9. INTENSIVE CARE TRANSFERS

15+ PICU transfers per year – distance a factor and single point of contact phone call and PETS service to be welcomed

HDU area in the ward with short term 1:1 nursing
Use of Altnagelvin – contract about to finish with annual savings of over 250,000 euros
### 10. ANY OTHER ISSUES

Nil

### 11. FUTURE DIRECTION

1. The establishment of a paediatric day assessment unit would be patient and family-friendly, reduce admission rates and is thus cost-effective (see model established in Cavan)

2. Consider ANNP in Paediatrics to help re NCHD shortfall

3. National age cut off is likely to be 16 years – will increase numbers of adolescents with mental health issues and these need separate planning
Paediatric Clinical Programme
Programme Visit
Mayo General Hospital

<table>
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<tr>
<th>HSE Region:</th>
<th>West</th>
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<tr>
<td>Hospital:</td>
<td>Mayo General Hospital</td>
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<tr>
<td>Date</td>
<td>June 2012</td>
</tr>
<tr>
<td>Present:</td>
<td>Dr John Murphy / Prof Alf Nicholson / Dr Michael O Neill / Dr Hilary Stokes / Dr Rehman / Dr Gay Fox</td>
</tr>
<tr>
<td>DON</td>
<td>Ms Catherine Donoghue</td>
</tr>
<tr>
<td>Therapies Manager</td>
<td>Ms Fiona McGrath</td>
</tr>
<tr>
<td>Clinical Director</td>
<td>Dr Michael O'Neill</td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Mr Charlie Meehan</td>
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</tbody>
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1. BACKGROUND

<table>
<thead>
<tr>
<th>Number of consultants</th>
<th>4</th>
</tr>
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<tbody>
<tr>
<td>Number of NCHDs</td>
<td>5 SHO (all on Rotation)</td>
</tr>
<tr>
<td></td>
<td>1 SPR plus 4 Registrars</td>
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<tr>
<td>Paediatric nurses</td>
<td>29 plus CNM1 CNM2</td>
</tr>
<tr>
<td>Neonatology nurses</td>
<td>16 plus 1 CNM and 1 CNM2</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>7250</td>
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<tr>
<td>Annual medical paediatric admissions</td>
<td>1960 plus 420 surgical</td>
</tr>
<tr>
<td>Annual deliveries</td>
<td>1968</td>
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<tr>
<td>Admissions to SCBU</td>
<td>From Jan to June 2012 /138</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>10 infants from Jan to June 2012</td>
</tr>
<tr>
<td>Age cut off (with flexibility ) 30 weeks gestation</td>
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<tr>
<td>Paeds AVLOS</td>
<td>2 days</td>
</tr>
<tr>
<td>Is the Paeds ED waiting area spatially and aurally separated from adults ED?</td>
<td>no</td>
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<tr>
<td>Are the ED assessment rooms separate for children?</td>
<td>Yes but too few</td>
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<td>Is the resuscitation bay separate to the adult resus bay?</td>
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<tr>
<td>Is the A&amp;E staffed by paediatric trained nurses?</td>
<td>Not at all times</td>
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<tr>
<td>Is there an A&amp;E consultant with paediatric training?</td>
<td>no</td>
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<tr>
<td>Is there a paediatric radiologist on staff?</td>
<td>yes</td>
</tr>
<tr>
<td>Is there an adult radiologist with specific training / special interest in paediatrics?</td>
<td>yes</td>
</tr>
<tr>
<td>Is there an adult radiologist with no specific training in paediatrics</td>
<td>no</td>
</tr>
</tbody>
</table>

2. ACUTE GENERAL PAEDIATRICS

The ward structure is divided in two. For children greater than 18 month there are 16 beds. Five of which are single and two of these are held for patients with CF and other specific medical problems. (They are complete with ante room and shower facilities).

For children less than 18 months there are 6 cubicles, a nursery which has space for 2 radiant warmers or incubators as needed and 3 single rooms with shower facilities.

The care on the paediatric ward falls into several categories.
2) Post ICU care patients (relatively small in number)
3) An ambulatory care program which is expanding which includes:
   a) Developmental delay assessments (transdisciplinary care)
   b) Joint review patients e.g. Paediatrics and Dietetics, Cystic Fibrosis review, Asthma assessments (CNS and Paediatrician)
   c) Shared care patient with tertiary centres e.g. Haematology/Oncology, Rheumatology, GI,
   d) Feeding issues e.g. swallowing assessments. The home ventilation group (nightly BIPAP continue to increase)

Those patients with complex medical needs are increasingly being seen on the wards as day patients to facilitate families. This component is increasing being addressed on the wards due to the need to obtain other specialty input.

4) Day surgery. On average 5-10 patients per week have elective procedures performed apart the emergency workload related to the acute abdominal pain presentations.

5) There are 450 surgical admissions on an acute basis on a yearly basis. Most of these represent the common surgical emergencies inclusive of general and orthopaedic. The Paediatrician offer consultation to these patients on an as needed basis.

Patients with head injuries under 2 years are looked after by Paediatricians’ with surgical consultation. Over 2 years the Surgeons are responsible with Paediatric consultation as needed.

3. NEONATOLOGY

In general terms, infants under 30 weeks gestation are transferred either antenatally or post-stabilization

From Jan to June 2012, there were 138 admissions to SCBU, 47 preterm of whom 14 were between 1501 and 2000g. There were 10 under 1500g in the same period. There were 15 ventilated infants, 8 with CMV and 7 on CPAP.

In all, there were 26 transfers, 8 back transfers, and 8 for echocardiography, 6 for eye checks and 3 transfers to Crumlin. One infant underwent cooling.

In the unit there are 3 ventilators and 2 CPAP drivers; The unit has 3 radiant warmers, 8 cots and 5 rooms which facilitate isolation of specific babies.

Scope of care. Infants are stabilised and resuscitated prior to transfer with intubation, surfactant therapy, UAC/UVC placement and pressor support as necessary. Standard care for growing premature infants is offered.

Weekly neonatal teaching rounds occur (Dr Fox Tuesdays 8.30) and all NCHDS have exposure to the NRP in house with 2 designated trainers.

Weekly Perinatal meetings occur at 8 am with the Obstetrical team where all admissions are discussed and treatment plans are tailored.

Dr Rehman provides an ECHO service on all babies with potential cardiac disease (prior to transfer) and there is routine access to US, CT and MRI when indicated. The CT and MRI are sent to outside radiologists for second opinions as per local agreement.

Resources available to SCBU include dietetic support and social work support on as needed basis. Infants are referred to Early intervention from the SCBU and liaise with a community link nurse BCNM level. This initiative was commenced 6 years ago.

Passive cooling only for newborns with perinatal asphyxia – those requiring active cooling are transferred

4. SCREENING

Mayo General Hospital has had full neonatal hearing screening since 2000.

RSV prophylaxis is offered to at risk as per guidelines

Early intervention program is accessed by all infants less than 32 weeks gestation, Dr H Stokes provides the
Liaison with this group.

A neonatal Risk assessment is offered for infants born at term.

All infants are screened for conditions sought for in the national screening program

DDH screening – all newborns have consultant hip examination and, if risk factors, have X-ray at 4-5 months

Pulse oximetry screening for congenital heart disease in operation pre-discharge for the past 6 months

5. OUTPATIENTS

Our dedicated space with 5 consultation rooms is an asset.

Clinics per consultant are as follows per month

Dr G Fox 3 General, 4 Gen/ Neurology, 1 Constipation 1-2 outreach (Ballina/ Belmullet)

Dr M O’Neill 3 General, 3 Asthma, 2 Cystic Fibrosis, 1 Complex Care, 1-2 outreach (Ballina /Belmullet)

Dr A ElAbbass 4 General, 2 Diabetes, 2 New patient only, 1 outreach (Ballina)

Dr H Stokes 3 General, 4 Autism, 1 Downs Syndrome, 1 Complex care, 1 Early intervention clinic

Clinics function with 1 consultant and 2 registrars.

In the absence of a phlebotomy services we have 2 blood taking clinics per month.

The consultant templates allow for 6 new patients and 20-24 reviews per clinic. This is not adhered to and is a source of frustration to the consultant staff. This new to review ratio of 1:4 could be improved upon

Mr O’Grady 1 Paediatric orthopaedic clinic / month

1 Paediatric dermatology clinic/month Dr T Markham

6. SPECIALIST CLINICS

Clinics are listed per occurrence per month.

Asthma 3, Autism Assessment 4, Constipation 1, Cystic Fibrosis 2, Down Syndrome 1, Diabetes 2, Safari Club 2, Complex care 2, 1 Paediatric Orthopaedic.

Some of these clinics have additional personnel in attendance.

CF clinic – those CF cases picked up on screening are offered shared care with Galway

The Asthma clinics have Asthma CNM, Physiotherapist with the Medical staff. The Diabetic clinic has a CNM and ANP available (both adult) and is inclusive of a dietician. There are two diabetes clinics per month

The Constipation clinic has a dietician present with medical staff.

Outreach clinics are provided to Ballina Hospital and Belmullet community hospital 28 and 50 miles away respectively. There are 3 clinics in Ballina per month and 1 in Belmullet.

Clinics are large with 6 to 8 new patients and 24-30 reviews.

7. COMMUNITY CHILD HEALTH

Dr Hilary Stokes provides the lead in community child health. There are links with CAMHS which need to be further developed with the establishment of the north Mayo team.

Enable Ireland is based in the Safari club which is a one stop shop. The early intervention team currently looks after 153 families.

Western care is also established in our community and is a resource to families providing autism services and
disability resources.
Specific clinical links include regular meetings with the Autism Forum (1/month), Autism Steering Group (i/6 weeks).
The Stokes is the lead in the Foetal alcohol working group.
Liaison meeting occur to address the issues of child neglect and NAI as required. There is a workload also associated with child sexual abuse examinations both elective and acute.

8. NON SPECIALIST PAEDIATRIC SURGERY

MGH has 3 general Surgeons and 3 orthopaedic surgeons. (1 of the orthopaedic surgeons has responsibilities for paediatric orthopaedic issues).
MGH has a visiting ENT service from UCHG on a weekly basis.
Elective surgery is undertaken on children older than 2 years of age.
Endoscopy services are available to children older than 7 years.
PEG tubes are reinserted once they have had there initial placement.
Case bundles include — circumcisions, herniotomies, appendicectomies, orchidopexies and OGD in older children.
Paediatric orthopaedics is a major issue in particular for those with disability and special needs — consideration to be given to provision of outreach services from Dublin.

9. INTENSIVE CARE TRANSFERS

Paediatrics utilises beds in the Adult intensive care on an as needed basis. A policy states that a Paediatric trained nurse should provide care in conjunction with an ICU nurse in so far as this is possible. We have 30 ICU admissions per year with 50% being under 5 years. We have 2 paediatric trained anaesthetists out of a complement of 7. If any child is intubated an Anaesthetic Registrar accompanies the patient as does a Paediatric registrar on occasions. A quarter of these require transfer to a tertiary centre for further care.

10. ANY OTHER ISSUES

The future trend in diabetes care is an issue, in particular the provision of insulin pump therapy.
The absence of a psychologist in the department on a half time basis is an ongoing cause for concern.
There is an established workload for this person, in particular in relation to liaison work, chronic illness (CF / Diabetes) and children with functional symptoms.
The presence of 96 patients with diabetes in the catchment area and the absence of dedicated paediatric CNS in diabetes is an issue. An ANP and CNS in adult diabetes help resource the clinic at present.
The absence of dedicated outreach from tertiary centres to address shared care issues especially as they relate to disability services.
Communication from referral centres to local consultants is poor in specific areas and relates in particular to discharge summaries.

11. FUTURE DIRECTION

1) The current position of a single bay in the Emergency Department for seeing children in the absence of a separate waiting area for children is untenable and both the Emergency Medicine program and Paediatric Programme strongly urge that, with capital funding of 70,000 euros, this be addressed as a matter of urgency.
2) Develop a plan for an acute PAU (Paediatric Assessment Unit) to ensure admission rates are reduced and that children are observed for a number of hours in a child- and family–friendly environment.
3) We support the appointment of a clinical psychologist to the hospital for the reasons outlined above.
Paediatric Clinical Programme
Programme Visit
Midwestern Regional Hospitals, Limerick

<table>
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<th>HSE Region:</th>
<th>West</th>
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<td>Hospital:</td>
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<tr>
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<td>25.01.12</td>
</tr>
<tr>
<td>Present:</td>
<td>Prof Alf Nicholson, Dr John Murphy, Dr Siobhan Gallagher, Dr Tom Stack, Dr Roy Philip, Dr Barry Linnane, Dr John Twomey, Prof Clodagh O’ Gorman, Dr Anne Marie Murphy, Dr Michael Mahony, Caroline Naughton CNM2, Juliette Mc Sweeney CNM2, Margo Dunworth CNM3, Marie Carroll CNM2, Deirdre O Donnell CNM2</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>Geraldine Shaw</td>
</tr>
<tr>
<td>Therapies Manager</td>
<td></td>
</tr>
<tr>
<td>Clinical Director</td>
<td></td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Ann Doherty</td>
</tr>
</tbody>
</table>

1. BACKGROUND

<table>
<thead>
<tr>
<th>Number of consultants</th>
<th>8 WTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of NCHDs</td>
<td>13 Registrars</td>
</tr>
<tr>
<td></td>
<td>10 SHOs</td>
</tr>
<tr>
<td>Paediatric nurses</td>
<td>56.23 WTE</td>
</tr>
<tr>
<td>Neonatology nurses</td>
<td>32.35 WTE</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>15,721</td>
</tr>
<tr>
<td>Annual medical paediatric admissions</td>
<td>3,863</td>
</tr>
<tr>
<td>Annual deliveries</td>
<td>5,135 in 2011</td>
</tr>
<tr>
<td>Admissions to Neonatal unit</td>
<td>1,004 in 2011</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>52 &lt; 1500g admitted in 2010</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>2.82 days (2011)</td>
</tr>
</tbody>
</table>

| Is there a paediatric radiologist on staff? | No |
| Is there an adult radiologist with specific training / special interest in paediatrics? | Yes |
| Is there an adult radiologist with no specific training in paediatrics | No |

2. EMERGENCY DEPARTMENT

| Is the Paeds ED waiting area spatially and aurally separated from adults ED? | No |
| Are the ED assessment rooms separate for children? | No |
| Is the resuscitation bay separate to the adult resus bay? | No |
| Is the A&E staffed by paediatric trained nurses? | Not always |
| Is there an A&E consultant with paediatric training? | No |

The main issues are non-segregation from adults. Just 3 rooms available for consultation / less than full cover by paediatric nurses – the issue of non-segregation from adults is untenable and, with such a busy throughput, many children are exposed visually to very ill or even drunk adults – no one can stand over this. Obvious positives include the appointment of Dr John Twomey (GP direct referral service + advice phone ins) , the high rate of GP referrals (up to 80%), the availability of 3 designated registrars and the very efficient working of the day unit (4,000 visits pa) but availability of day surgical beds is an issue . If we are to try to reduce paediatric medical admissions (as we should if possible) then we need to develop a proposal to ensure (a) complete segregation of children from adult patients (b) observation rooms for children that might later be
3. NEONATOLOGY

19 cots = 4 ICU beds, 5 High dependency beds, 10 Special Care

Nursing Staff at the Neonatal Unit
Nursing Staff 32.35 WTE
2 x Clinical Nurse Manager 2 (operational)
6 x Clinical Nurse Manager 1 (3x 0.5WTE, 3 x 1 WTE)
1 x Clinical Nurse Manager 3

Our discussions re the regional neonatal unit occupied the most time and generated the most debate and might be summarized as follows:

The ANNP (advanced neonatal nurse practitioner) national development has great relevance to Limerick and it would be highly desirable that Limerick nominate at least one nurse to enter the ANP course – declining NCHD numbers and NCHD experience make this a very important strategic move

Consideration should be made to forming a neonatal network with Cork and to explore the future relationship with the tertiary neonatal departments in Dublin

Close collaboration with obstetrical colleagues in Limerick re future planning is essential

The role of the forthcoming 24/7 neonatal transport and its benefits/impact for Limerick should be explored

A detailed report re neonatal services (including outcome statistics / Vermont data re mortality and morbidity), proposals for daytime cover in the regional neonatal service, training of neonatal NCHDs, out of hours consultant cover should be compiled with a number of proposals ranging from cost-neutral to those options that will require additional resources.

4. SCREENING

DDH:
- Clinical hip examination on Day 3
- Referral to Orthopaedic Consultant if concerns clinically detected
- High risk infants, family history, breech etc.. Review in Paediatric Outpatient Clinic in 4-6 months +/- hip x ray

There is currently no Newborn Hearing screening in the HSE Mid West, due for introduction 2013.

5. HIGH DEPENDENCY CARE IN PAEDIATRICS

Dr Roy Philip presented the model for HDU care (including non-invasive ventilation) and this HDU model has national relevance for the critical care network. National paediatric transport for children is being developed but will start as a 9-5 service and the single point of contact phone call is in operation if a request for PICU is made. The HDU model will have relevance to large paediatric departments across the country with the new Children’s Hospital being the only provider of PICU in the future.

6. PAEDIATRIC INPATIENTS

The Ark is a state of the art inpatient facility – the envy of many nationally and a very family- and child-friendly atmosphere – so once the maze of the emergency department is negotiated - it is an excellent, well-planned facility.

Other Allied Health Professionals
2 x Play Specialists
0.5 WTE Dietician
0.5 Social Worker, currently on leave not replaced

7. OUTPATIENTS

Clinics held at Regional General Hospital (varies week to week)
General Paediatric  7 per week
Cystic Fibrosis  5 per month
Diabetes  2-3 per month
Developmental  2 per month
Gastroenterology  2 per month
Rare Disorders  2 per year
Endocrine  1 per month
Neonatal follow up  1 per month RGH, 2 per month RMH

Outreach Specialty Clinics held at Regional General Hospital
Cardiology, Dr Paul Ozlislok  1 per month
Genetics, Dr William Reardon  1 every 2 months
Metabolic, Dr Joanne Behan  1 every 3 months
Rheumatology to start 2012, Dr Clodagh Lowry  1 every 3 months

General Paediatric Outreach Paediatric Clinics
Nenagh General Hospital  2 per month
Ennis General Hospital  3 per month

Planned Additional / New Clinics
Obesity  1 every 3 months

Outpatient Activity Figures for Regional General Hospital

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>1,259</td>
<td>1,467</td>
</tr>
<tr>
<td>Return</td>
<td>3,540</td>
<td>4,020</td>
</tr>
<tr>
<td>Totals</td>
<td>4,799</td>
<td>5,487</td>
</tr>
</tbody>
</table>

8. SPECIALIST CLINICS

Very impressive to see a significant number of visiting subspecialist clinics (cardiology/genetics/metabolic medicine/rheumatology) and significant subspecialist interest in ambulatory care paediatrics, gastroenterology, community child health / developmental paediatrics, cystic fibrosis / sleep and diabetes/endocrinology. Limerick will receive additional support to develop a pump service for under 5’s with diabetes mellitus (in a link with Galway) and has been chosen as one of the designated hospitals delivering care to CF patients into the future. All very positive developments. The shared care for oncology patients (currently 52 patients) also works very well

9. COMMUNITY CHILD HEALTH

8-10 clinics per month, 10.30 am-4.30pm approx 8 children per clinic

There are 2,346 children attending 7 Disability Services Teams in the Mid West. Clinics are held at the 7 Early Intervention/ School Age teams in the HSE Mid West;
Regional Developmental Paediatric Assessment clinics are also held at the St Gabriel’s Centre to assess children with developmental problems not with an Early Intervention / School Age team. Children from Limerick attending St Joseph’s Foundation, Charleville for Disability services are also seen at this clinic.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant Paediatrician 0.5WTE</td>
<td>Consultant Paediatrician 0.5 WTE*</td>
</tr>
<tr>
<td>No Community Nurse Specialist</td>
<td>No Community Nurse Specialist</td>
</tr>
<tr>
<td>No Speech-Language Therapist No Occupational Therapist No Neurodevelopmental Physiotherapist</td>
<td>Various grades of therapists within the Early Intervention / School Age teams on leave, not replaced</td>
</tr>
<tr>
<td>No Dietician</td>
<td>No Dietician</td>
</tr>
<tr>
<td>0.5 SpR</td>
<td>SpR 1 afternoon per week</td>
</tr>
</tbody>
</table>

* British Association of Community Child Health, RCPCH Community Paediatric Workforce Planning for the 21st Century recommends 4.5 WTE Community Paediatricians for 100,000 children population to provide “good enough care”.

Community Paediatric Clinics

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Intervention / School Age teams</td>
<td>267</td>
<td>254</td>
</tr>
<tr>
<td>Regional Developmental Paediatric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New</td>
<td>92</td>
<td>70</td>
</tr>
<tr>
<td>Return</td>
<td>37</td>
<td>93</td>
</tr>
<tr>
<td>Totals</td>
<td>396</td>
<td>417</td>
</tr>
</tbody>
</table>

10. NON SPECIALIST PAEDIATRIC SURGERY

Surgery is currently undertaken in under one year olds
Pyloric stenosis (once sufficient throughput), inguinal herniorraphy, orchidopexy, appendicectomy and other operations will continue but intussusception will almost certainly have to be transferred. Final deliberations of this working group will be published in March 2012. There is an issue re availability of day surgical beds which will have to be tackled. Orthopaedics has been very strong as has ENT and both have high throughput

11. INTENSIVE CARE TRANSFERS

HDU is impressive

12. ANY OTHER ISSUES

Main issue is the organisation of neonatal services

13. FUTURE DIRECTION

Further discussions in consultation with Ann Doherty (CEO) with application to CAAC for additional neonatologist and follow up visits to Limerick
Paediatric Clinical Programme
Programme Visit
Mercy University Hospital

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>HSE South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Mercy University Hospital</td>
</tr>
<tr>
<td>Date:</td>
<td>15th June 2012</td>
</tr>
<tr>
<td>Present:</td>
<td>Dr John Murphy / Prof Alf Nicholson / Dr Ray Barry / Dr Frances Enright / Ms Sinead Favier</td>
</tr>
<tr>
<td>DON:</td>
<td>CNM3 Sinead Favier</td>
</tr>
<tr>
<td>Therapies Manager:</td>
<td>Mr Spencer Turvey</td>
</tr>
<tr>
<td>Clinical Director:</td>
<td>Dr Colm Henry</td>
</tr>
<tr>
<td>Hospital Manager:</td>
<td>Ms Sandra Daly</td>
</tr>
</tbody>
</table>

1. BACKGROUND

<table>
<thead>
<tr>
<th>Unit established</th>
<th>First Consultant Paediatrician started January 1967 – children probably treated prior to this – elective / emergency surgery, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultants</td>
<td>5</td>
</tr>
<tr>
<td>Number of NCHDs</td>
<td>8 (4 registrars and 4 SHOs)</td>
</tr>
<tr>
<td>Paediatric nurses</td>
<td>35 (18 WTE)</td>
</tr>
<tr>
<td>Neonatology nurses</td>
<td>N/A</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>4500</td>
</tr>
<tr>
<td>Annual medical paediatric admissions</td>
<td>1300</td>
</tr>
<tr>
<td>Annual deliveries</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Admissions to SCBU</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>2.1 days</td>
</tr>
<tr>
<td>Is the Paeds ED waiting area spatially and aurally separated from adults ED?</td>
<td>Yes</td>
</tr>
<tr>
<td>Are the ED assessment rooms separate for children?</td>
<td>Yes – one assessment cubicle for children</td>
</tr>
<tr>
<td>Is the resuscitation bay separate to the adult resus bay?</td>
<td>No</td>
</tr>
<tr>
<td>Is the A&amp;E staffed by paediatric trained nurses?</td>
<td>Some have Paediatric Training/ PLS Training</td>
</tr>
<tr>
<td>Is there an A&amp;E consultant with paediatric training?</td>
<td>Two ED Consultants have sessional commitments and both have Paediatric Training</td>
</tr>
<tr>
<td>Is there a paediatric radiologist on staff?</td>
<td>No</td>
</tr>
<tr>
<td>Is there an adult radiologist with specific training / special interest in paediatrics?</td>
<td>No</td>
</tr>
<tr>
<td>Is there an adult radiologist with no specific training in paediatrics</td>
<td>Yes – 5 Radiologists in total</td>
</tr>
</tbody>
</table>

2. ACUTE GENERAL PAEDIATRICS

22 bedded unit (18 inpatient, 4 day case) with average of 4 to 5 medical admissions and 1 surgical admission per day

Child- and family-friendly unit with excellent facilities

If GP referral letter seen directly in the Emergency Department by the Paediatric team, if no letter seen by Emergency Department staff - separate area for children in ED with separate waiting area.

3. NEONATOLOGY

Not applicable
### 4. SCREENING

Not applicable

### 5. OUTPATIENTS

Dr Clodagh Ryan runs oncology/haematology clinics

Developmental clinics every 1 week (on alternate weeks with BOTH Dr Barry and Dr Enright = every week in total)

3 General Paediatric OPD per week (two with Dr Rafferty; one on alternate weeks with BOTH Dr Barry and Dr Enright) with > 25% DNA rate despite phone reminder by consultant pre-clinic

New to review ratio is 1:2 which is very acceptable

**DAY CASES** – between 2000 and 2400 per year seen in day case area and Haematology Oncology area of St Anne’s Ward.

### 6. SPECIALIST CLINICS

**BOTULINUM** toxin injections service under sedation and General Anaesthetic for children with limb spasticity and referrals via Enable Ireland – 72 treatment sessions per year

Excellent shared care haematology / oncology service for Cork /Kerry with purpose-built unit and 2 CNS nurses who can provide home care and support – closely linked into national centre and responsible for maintenance treatment, ongoing chemotherapy and management of febrile neutropenia and longterm follow up – a very popular and excellent service

Weekly Paediatric Neurology OPD clinic and Day Case Review session (Dr O’Mahony)

### 7. COMMUNITY CHILD HEALTH

A real strength - two CCH paediatricians (both 0.5 WTE)

Aligned with Dr Louise Gibson in CUH

COMPREHENSIVE SERVICE for learning and physical disabilities and early intervention services

Includes specialist MDT Assessment Clinics, Feeding Clinics, Neuromuscular Clinics (with Paediatric Neurologist) and Botulinum Toxin Assessment Clinics at Enable Ireland, and Botulinum Toxin Assessment Clinics at COPE Foundation.

Clinical Nurse Specialist in Intellectual Disability works closely with Consultants helping co-ordinate Botulinum Toxin Injection Clinics for sedation and GA, bowel wash-out training for spina bifida clients, buccal midazolam training, Entonox use etc

Provision of medical support to the Family Centre, St Finbarr’s Hospital, Cork – unit specialising in interview and medical assessments of children reporting acute or historical sexual abuse.

Need consultant with a special interest in child protection (as per Ferns 4)

### 8. NON SPECIALIST PAEDIATRIC SURGERY

Nil under 2 yo

Case bundle includes appendicectomy / UDT / circumcisions and herniotomies

### 9. INTENSIVE CARE TRANSFERS

Stabilization only and promptly transferred
### 10. ANY OTHER ISSUES

The main issue is reconfiguration and amalgamation with CUH – Likely to happen over the next 3 years – paediatric trained nursing expertise should move to CUH if this happens

Excellent unit, very well-run with good radiology back up and great ward facilities and high patient satisfaction

### 11. FUTURE DIRECTION

Reconfiguration with CUH

Consider whether a PAU or Urgent care centre for children should remain on the Mercy site
Paediatric Clinical Programme
Programme Visit

Midlands Regional Hospital, Mullingar

HSE Region: HSE Midlands
Hospital: Mullingar
Date: 10th November 2011
Present: Dr John Murphy / Prof Alf Nicholson / Dr I Lambert / Dr F Sharif / Dr T Bate

Director of Nursing: Anne Kelly
Therapies Manager: 
Clinical Director: Shu Hoashi
Hospital Manager: Trevor O Callaghan

1. BACKGROUND

<table>
<thead>
<tr>
<th>Unit established</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultants</td>
<td>3</td>
</tr>
<tr>
<td>Number of NCHDs</td>
<td>5 registrars , 5 SHOs</td>
</tr>
<tr>
<td>Paediatric nurses</td>
<td>17</td>
</tr>
<tr>
<td>Neonatology nurses</td>
<td>10</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>9,000</td>
</tr>
<tr>
<td>Annual medical paediatric admissions</td>
<td>3,000</td>
</tr>
<tr>
<td>Annual deliveries</td>
<td>3,000</td>
</tr>
<tr>
<td>Admissions to SCBU</td>
<td>250</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>All under 32 week gestation transferred</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>2.2 days</td>
</tr>
<tr>
<td>Is the Paeds ED waiting area spatially and aurally separated from adults ED?</td>
<td>Not currently</td>
</tr>
<tr>
<td>Are the ED assessment rooms separate for children?</td>
<td>Yes</td>
</tr>
<tr>
<td>Is the resuscitation bay separate to the adult resuscitation bay?</td>
<td>Yes</td>
</tr>
<tr>
<td>Is the A&amp;E staffed by paediatric trained nurses?</td>
<td>Not always, less frequently of late</td>
</tr>
<tr>
<td>Is there an A&amp;E consultant with paediatric training?</td>
<td>no</td>
</tr>
<tr>
<td>Is there a paediatric radiologist on staff?</td>
<td>With an interest..all very keen and have done hip US courses, implement best practice with regard to Paeds CT scanning</td>
</tr>
<tr>
<td>Is there an adult radiologist with specific training / special interest in paediatrics?</td>
<td>See above</td>
</tr>
<tr>
<td>Is there an adult radiologist with no specific training in paediatrics</td>
<td>yes</td>
</tr>
</tbody>
</table>

2. ACUTE GENERAL PAEDIATRICS

Well-established unit with excellent casemix and modern purpose-built unit with adolescent facility but main issue is marked level of throughput and rising birth and admission rates.

3. NEONATOLOGY

Excellent arrangements with tertiary neonatal centres but requires 24/7 neonatal transport

Cooling for HIE pre-transfer is happening

Many antenatal transfers of anticipated preterm deliveries but still some postnatal transfers

Some issues with LSCS at 37-38 weeks gestation

4. SCREENING
DDH screening for high risk cases with ultrasound
Refer to Orthopaedics Temple Street after application of harness if disloacatable/dislocated at birth..will see quickly.
Will refer there also if dysplasia confirmed on ultrasound at 4-6 weeks
Pulse oximetry pre-discharge has commenced
Neonatal hearing screening commencing September 2012

### 5. OUTPATIENTS

Very busy workload with many clinics , very high numbers and outreach clinics in Longford and Athlone
OPD workload has increased greatly of late
Have excellent respiratory nurse specialist who has done drug prescribing course.
Have excellent continence nurses in community who see all enuresis and constipation and liaise re difficuil cases .Has reduced numbers dramatically to OPD for these issues.

### 6. SPECIALIST CLINICS

Shared care oncology well -developed
Shared care for sickle cell anaemia + CF + DM patients requiring pumps
Low referral rates to tertiary specialists
Developed adolescent service

### 7. COMMUNITY CHILD HEALTH

0.5 WTE in community child health with early intervention service
CSA assessment is problematic and requires national solution
Overwhelmed early intervention disability services

### 8. NON SPECIALIST PAEDIATRIC SURGERY

Nil under 2 yo
Tight case bundle including :
- appendicectomy
- circumcision
- herniotomy and orchidopexy > 2 yo
- lumps and bumps removal

Needs national strategy

### 9. INTENSIVE CARE TRANSFERS

PETS and single point of contact phone call welcomed
Issue re senior personnel (medical / anaesthetic / nursing ) leaving the hospital for the transfer of a critically ill child

### 10. ANY OTHER ISSUES

Work overload / increasing numbers of admissions and heavy OPD load very evident
Need to reduce review to new ratio in OPD

Rapid replacement for Dr Terry Bate. Have interviewed and approved appointment of Michael O Grady, due to return from Australia in September. Interest in Diabetes.

11. FUTURE DIRECTION

Issues in the Midlands relate to the three hospitals and their inter-relationships – consider developing further paediatrics and obstetrics in Mullingar and Portlaoise and move elective surgery to Tullamore.

Main roadways are the M7 and M4 and not across the midlands.
Paediatric / Neonatology Clinical Programme

National Maternity Hospital

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>DML</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>National Maternity Hospital</td>
</tr>
<tr>
<td>Date</td>
<td>4/9/12</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>Ms Mary Brosnan</td>
</tr>
<tr>
<td>Therapies Manager</td>
<td>Dr Rhona Mahony</td>
</tr>
</tbody>
</table>

1. BACKGROUND

<table>
<thead>
<tr>
<th>Number of consultants</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of NCHDs – SpR</td>
<td>4</td>
</tr>
<tr>
<td>Registrars</td>
<td>3</td>
</tr>
<tr>
<td>SHOs</td>
<td>6</td>
</tr>
<tr>
<td>Neonatology nurses (WTEs)</td>
<td>67.16</td>
</tr>
<tr>
<td>Pharmacist Y/N</td>
<td>Y</td>
</tr>
<tr>
<td>Physiotherapist Y/N</td>
<td>Y</td>
</tr>
<tr>
<td>Dietitian Y/N</td>
<td>Y</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>519</td>
</tr>
<tr>
<td>Annual medical paediatric admissions</td>
<td>N/A</td>
</tr>
<tr>
<td>Annual number of births</td>
<td>9957</td>
</tr>
<tr>
<td>Annual number of admissions to SCBU</td>
<td>1505</td>
</tr>
<tr>
<td>Annual number of post natal transfers</td>
<td>49</td>
</tr>
<tr>
<td>Annual number of transfers to Crumlin / Temple St for surgery / specialist treatment</td>
<td>111</td>
</tr>
<tr>
<td>Annual number of retro transfers to local units</td>
<td>87</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td></td>
</tr>
<tr>
<td>Annual number of ventilated infants</td>
<td>184</td>
</tr>
<tr>
<td>Annual number of infants with CPAP</td>
<td>194</td>
</tr>
<tr>
<td>Annual number of infants receiving TPN</td>
<td>186</td>
</tr>
<tr>
<td>Annual number of infants with ROP</td>
<td>46</td>
</tr>
<tr>
<td>Number of intensive care cots</td>
<td>9</td>
</tr>
<tr>
<td>Total number of cots</td>
<td>35</td>
</tr>
</tbody>
</table>

2. DESCRIPTION OF UNIT

1. 35 bedded unit (9 ICU beds, 13 HDU beds and 13 Special care beds).
2. The unit consists of 5 separate open-plan areas – ICU (up to 9 beds), HDU (up to 12 beds), Special Care (up to 13 beds), 4 bedded unit which can cater for ICU babies and 5 bedded unit which can cater for HDU and Special care babies. The latter two areas allow us to cohort and/or isolate babies as needed.
3. The unit provides all full neonatal intensive care including HFV, NO, Conventional ventilation, Therapeutic hypothermia, aEEG monitoring, on-site ultrasound imaging, ECHO (on-site provided by Consultant cardiologists from OLHC)
4. Sub-specialists (surgical, genetic, metabolic, neurology etc) from OLHC and CUH, Temple Street see babies ion site as requested.

3. SCREENING

1. ROP screening
2. Immunisations
3. MRI at term corrected
4. Cranial Ultrasound
5. Renal Ultrasound
6. Hip Ultrasound
7. 2 year follow up including Bayleys Assessment
8. Synagis

4. OUTPATIENTS

1. All infants admitted to the NICU or born < 1500g are seen for follow up in OPD clinic
2. Babies < 1500g seen until 2 years corrected gestational age
3. Babies 1500-2500g generally seen until around 1 year of age
4. Babies referred in by GPs, PHN, Community Services also seen in daily walk in clinics
5. Emergency cases up to six weeks of age also seen
6. An average of 382 OPD clinics a year
7. 2408 new patients (ie first OPD visit) seen in clinic in 2010
8. 1417 return patients seen in 2010

5. FOLLOW UP CLINICS

1. As stated above, all babies admitted to the unit are seen for follow up in the general OPD clinic
2. Babies < 1500g are seen to 2 years corrected gestational age and have a Bayleys Assessment at that time
3. Babies with HIE/Neonatal Encephalopathy also seen until 2 years of age.

6. STRENGTHS

1. Provision of full neonatal intensive care on site
2. Neonatal Pharmacist and neonatal Dietician attend daily ward round
3. Computerised prescribing of PN
4. Member of VON Database
5. Monthly report of admissions/discharges/morbidity and mortality
6. Weekly attendance of Consultant Geneticist and Consultant Cardiologist
7. Daily attendance of Consultant Radiologist
8. Support provided by consultant paediatric colleagues from OLHC and CUH, Temple Street
9. Consultant Microbiologist on staff who attends regular ward rounds in the ICU
10. Weekly Perinatal Meeting to discuss up-coming high risk cases
11. Antental Consultations provided by Consultant Neonatologists
12. Active Research ongoing in the Department with several SpRs undertaking MDs and PhDs.
13. NNP on staff
14. Active Teaching and Educational Programmes

7. CONCERNS

1. Infrastructural challenges
2. Lack of isolation facilities
3. Inadequate consultant numbers
4. Staffing Ratios
5. Not possible to deliver high risk infants requiring surgical intervention on a tertiary paediatric centre
6. Unable to provide an on-site surgical service
7. Need for more genetic and cardiology sessions on-site
8. Lack of an integrated Neurodevelopmental Follow up service for high risk infants

8. FUTURE DIRECTION

1. To continue to provide the highest level of neonatal ICU care in the best possible environment

Please note: All figures quoted pertain to the Year 2010 (the most recently available figures which have been verified for the NICU of the National Maternity Hospital). These figures are broadly reflective of the figures for the previous 3-4 years and so are a good representation of the current situation
Paediatric Clinical Programme
Programme Visit
Our Lady of Lourdes Hospital, Drogheda

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>Dublin NE</th>
</tr>
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<tbody>
<tr>
<td>Hospital:</td>
<td>Our Lady of Lourdes Hospital Drogheda</td>
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<tr>
<td>Date</td>
<td>24th February 2012</td>
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<tr>
<td>Present:</td>
<td>Dr John Murphy, Ms Eadaoin White, Margaret Swords, Eileen Whelan, Alan Finan, Siobhan Gormally, Maeve McCormack, Emma Gordon, John Fitzsimons, Ireti Farombi, Juliet Jennings, Amjad Altaf.</td>
</tr>
</tbody>
</table>

**Louth Meath Group General Hospital Manager**
Ms Margaret Swords

**Director Nursing and Midwifery**
Ms Eileen Whelan

**Clinical Director Paediatric/Obstetrics for NE**
Dr Alan Finan

**Clinical Lead in Paediatrics Drogheda**
Dr Siobhan Gormally

**1. BACKGROUND**

<table>
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<th>Number of consultants</th>
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<tr>
<td>Number of NCHDs</td>
<td>7 SHOs, 12 registrars</td>
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<tr>
<td>Paediatric nurses</td>
<td>39 WTE</td>
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<tr>
<td>Neonatology nurses</td>
<td>33 WTE</td>
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<tr>
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<tr>
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<td>4,500 approx</td>
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<tr>
<td>Annual deliveries</td>
<td>4,000 approx</td>
</tr>
<tr>
<td>Admissions to SCBU</td>
<td>670 approx</td>
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<tr>
<td>Policy re infants under 1500g</td>
<td>&lt; 26 weeks gestation transferred out</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>2.2 days</td>
</tr>
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</table>

Is the Paeds ED waiting area spatially and aurally separated from adults ED? Yes

Are the ED assessment rooms separate for children? Yes

Is the resuscitation bay separate to the adult resus bay? No

Is the A&E staffed by paediatric trained nurses? Yes

Is there an A&E consultant with paediatric training? Yes

Is there a paediatric radiologist on staff? There are 3 radiologists with an interest in paediatrics.

Is there an adult radiologist with specific training / special interest in paediatrics? As above

Is there an adult radiologist with no specific training in paediatrics? There are several adult-only radiologists. Out-of-hours paediatric radiology service not always available

**2. ACUTE GENERAL PAEDIATRICS**

A very busy department with 8 consultants. There are approx. 4,500 admissions per annum to the paediatric unit with approx 500 to the NICU. There is a broad casemix. There have been numerous developments within this department over the past 3 years. These include:-

- Management structure:
  - weekly Consultant Group Meetings and
  - monthly Paediatric Management Meetings (Group General Manager, Dir Nursing, Clinical Director, Clinic Lead)
- Paediatric Clinical Governance Group
- Paediatric Risk Register.
- Model of Care - Consultant of the Week' model
- Increase in Day Cases
- Paediatric Assessment Unit – approx 670 per annum. In conjunction with the PAU is the development of a GP ‘Hot Line’.
- New Emergency Department with separate paediatric facility
- Use of early warning scores (PEWS) to pick up deterioration in condition sooner
- Excellent handover rounds every morning using SBAR
- Regional Paediatric Network (Drogheda/Cavan)
- Neonatal Network NE (Drogheda/Cavan/Rotunda)
  - Formal collaborative approach to delivery of high quality neonatal care
  - Sharing of best practice & benchmarking initiatives
- Rationalisation of OPD resources
- Mentoring and support of nurse training in clinical prescribing
- There are also close links with the Palliative Care Services in OLOL. A Paediatric Palliative Care Nurse in post for regional Paediatric Palliative care co-ordination and delivery

3. NEONATOLOGY

4,000 births approx per annum. Consultant-of-the-week model in operation since 2009. Less than 26 week gestation infants are transferred to the Rotunda. Therapeutic cooling for neonatal encephalopathy is being undertaken using national guidelines. Weekly grand rounds in neonatal unit and monthly perinatal meetings with the obstetrician. Perinatal pathology services are an issue. The department has 2 neonatologists and reports its figures to Vermont – Oxford and NICORE. Close liaison with Cavan and with the Rotunda Hospital ROP screening is undertaken in Drogheda.

4. SCREENING

- Hip screening for high risk cases involves Paediatric Orthopaedic follow-up with US of hips.
- New hearing screening due to start Summer 2012

5. OUTPATIENTS

OPD clinics in Drogheda (one to two per consultant per week) with outreach clinics in Navan and Dundalk in addition to the Community Neurodisability clinics. The new to review ratio in OPD is 1:3. The current waiting time for a first visit appointment is on average 3 months, but earlier appoints are offered for urgent cases.

There are also Clinical Nurse Specialist run clinics and day case reviews in CF and Diabetes

6. SPECIALIST CLINICS

Speciality clinics in Drogheda include:-

- Developmental Clinics: Drs Maeve Mc Cormack and Sinead Harty.
- Diabetic Clinics and Endocrine: Dr J Jennings
- Cystic Fibrosis Clinics: Dr Amjad Altaf
- Neonatology follow-up Clinics: Dr E Gordon and I Farombi
- Child protection Clinics: Drs Maeve Mc Cormack and Sinead Harty
- Allergy clinics: Dr John Fitzsimons
- Gastroenterology: Dr S Gormally
- Paediatric Psychiatry Liaison Clinic: Dr Maeve Doyle

Allergy: Dr John Fitzsimons is developing an allergy service and this is a likely to require significant expansion.

CF care in associated with Tallaght in a shared care arrangement

Dr Jennings runs a very busy diabetes service and is about to commence insulin pump therapy.

7. COMMUNITY CHILD HEALTH

Now 2 CCH paediatricians and thus the service has greatly expanded and improved. There are ongoing challenges relating to speech therapy in the hospital and primary care occupational therapy in the community.

8. NON SPECIALIST PAEDIATRIC SURGERY
Anaesthesia is provided for children over 2 years of age and there are designated anaesthetists and surgeons with a casemix of:

- acute appendicitis / appendicectomy
- orchidopexy > 2 yo
- inguinal herniotomy
- circumcision
- incision and drainage of superficial abscesses
- removal of “lumps and bumps”

9. INTENSIVE CARE TRANSFERS

PICU transfers are an issue and the stabilization prior to transfer and the obtaining of an ICU bed can be difficult. Single point of contact phone line is welcomed as is the proposal to establish a national PETS service. High dependency care is provided in the Paediatric Unit in the HDU which has 1 bed.

10. ANY OTHER ISSUES

Radiology – there are 3 radiologists with a special interest in Paediatrics and they provide an excellent service but there are issues out of hours re provision of paediatric radiology back up when these designated consultants are not on-call

CSA assessment is an issue and requires a national solution arising from Ferns 4 discussions

ED: There is an increasing referral rate from primary to secondary care and this puts ever-increasing pressure on the Emergency Department and lengthens OPD waiting times. The relatively new PAU is very successful and popular and regularly interfaces with GPs in the catchment area of Louth and Meath. The PAU provides a rapid access clinic but it is very much consultant – delivered and is increasingly busy due to its popularity

11. FUTURE DIRECTION

The Paediatric Department is very clear on its vision for the future and the services it can provide into the future. Considerable and real progress has been made over the past 3 years. The ‘Consultant of the Week’ model is working well. The main issue into the future is NCHD recruitment and retention – re-inspection from the training body is soon to happen with a view to specialist registrars returning to Drogheda. There is a well-developed and strong teaching ethos in the Department and close regional and national links are being further developed. The PAU is an exciting development which has national relevance.
### 1. BACKGROUND

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>Unit established</td>
<td>1977</td>
</tr>
<tr>
<td>Number of consultants</td>
<td>3 WTE  (1 FT, 4 half time posts)</td>
</tr>
<tr>
<td>Number of NCHDs</td>
<td>5 Registrars</td>
</tr>
<tr>
<td>Number of SHOs</td>
<td>5 SHOs (4 GP trainees &amp; 1 BST)</td>
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<tr>
<td>Paediatric nurses</td>
<td>18.5 WTE</td>
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<td>Neonatology nurses</td>
<td>11.5 WTE</td>
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<tr>
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<tr>
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<tr>
<td>Annual deliveries</td>
<td>2150 in 2011</td>
</tr>
<tr>
<td>Admissions to SCBU</td>
<td>340 in 2011</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>In- uterus transfer &lt; 30 weeks, NUIG or Dublin. Written guidelines in SCBU</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>1.5 days</td>
</tr>
<tr>
<td>Is the Paeds ED waiting area spatially and aurally separated from adults ED?</td>
<td>Yes</td>
</tr>
<tr>
<td>Are the ED assessment rooms separate for children?</td>
<td>Yes</td>
</tr>
<tr>
<td>Is the resuscitation bay separate to the adult resus bay?</td>
<td>No</td>
</tr>
<tr>
<td>Is the A&amp;E staffed by paediatric trained nurses?</td>
<td>On some shifts there is one paediatric nurse in the Emergency Department</td>
</tr>
<tr>
<td>Is there an A&amp;E consultant with paediatric training?</td>
<td>no</td>
</tr>
<tr>
<td>Is there a paediatric radiologist on staff?</td>
<td>no</td>
</tr>
<tr>
<td>Is there an adult radiologist with specific training / special interest in paediatrics?</td>
<td>yes</td>
</tr>
<tr>
<td>Is there an adult radiologist with no specific training in paediatrics</td>
<td>yes</td>
</tr>
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</table>

### 2. ACUTE GENERAL PAEDIATRICS

There are 24 beds in the Paediatric Department (1/2 recently refurbished) with 2 adolescent bays (age limit is 16 years of age) and in total 18.5 WTE paediatric nurses. Average LOS is 1.5 days. There is a paediatric day care assessment facility 28 hours per week with 10-14 cases seen per working day. In the event of a critically ill child requiring short-term ventilation, this can be delivered in ICU with a paediatric nurse in attendance – anaesthetists are helpful and this might happen up to 5 times per annum. Radiologists very supportive with onsite CT and MRI.

**Facilities in the Emergency Department:** Two separate paediatric bays

**Child separation from adult patients:** Separated in casualty department, and separate waiting area in casualty
**Observation area:** Admitted for short term observation if needed.

**Paediatric nurses in Emergency Department:** on some shifts there is one paediatric nurse in the Emergency Department

**Guidelines:** Written and electronic

Neonatal guidelines, general guidelines for common emergencies, APLS, Oncology shared care and Sickle cell guidelines.

**Direct access for GP referrals:** Yes, via consultant on call or GP letter requesting admission

### 3. NEONATOLOGY

**Births per annum:** 2150/ year

**SCBU admissions:** 340 in 2011

There are in total 11.5 WTE nurses (of which > 70% have neonatal certification or diploma . 24/7 neonatal transport would be greatly welcomed

**<32/40 policy or <28/40 policy.** In-utero transfer of gestation < 30 weeks.

**Number ventilated per annum**

38 received c PAP and 17 were ventilated in 2011 (short term ventilation)

**Cooling :** no - transferred to Level III units in Dublin. Placental histology service would be welcomed for cases of perinatal asphyxia

### 4. SCREENING

**DDH:** Hip examined prior to discharge all babies and Hip Ultrasound screening available for all at risk babies

**UDT:** screening prior to discharge post delivery

**Duct-dependent CHD:** In process of introducing Oxygen saturation monitoring prior to discharge on all babies.

**Hearing loss:** No universal screening. At risk babies (Largely SCBU babies) screened in NUIG under the ENT department (Mr Lang)

### 5. OUTPATIENTS

**Number of clinics per week:** 5/6 per week

**Number of new: review patients per clinic:** total number 4953 in 2011, 2135 New patients and 2818 review patients – ie 1:1 ratio with two new patient only clinics per month. Outpatient outreach clinics in Roscommon and Athlone and Ballinsloe town.

**Waiting time for first appointment:** 5 months (as of April 2012)

**DNA policy:** Yes, (One non attendances and discharged to GP but based on individual cases). OPD text family in days prior to clinic as a reminder of appointment. DNA rate is 12-15%

**Nurse-led clinics:**
- Paediatric nurse supported asthma clinic
- Paediatric nurse led monthly diabetic clinic
- Shared care oncology nurse liaising with Crumlin oncology department

### 6. SPECIALIST CLINICS

**Diabetes mellitus type 1:** 67 PATIENTS
Coordinated by Regina Cooke + transition clinic. 0.3 WTE CNS in Diabetes + support from paediatric nurse on the ward

**CF:** no - regional referral possible (NUIG)

**Asthma:** 1 per month – second opinion clinic by Dr Paula Cahill

**Child development:** 2 per month

### 7. COMMUNITY CHILD HEALTH

**WTE sessions devoted to CCH – 1.0**

**Early intervention assessment process:** This process feeds into Community based early intervention teams (EIT) in both Galway and Roscommon. Multidisciplinary meetings/ referral process with Child and adolescent psychiatry team and Network 4 EIT and Roscommon EIT.

**CSA and Frens 4.** Aware of discussions

**NAI:** Guidelines and NAI pack available

- Regional CSA assessment available 24 hrs/day in Child and Adolescent Sexual Assault Treatment Service in Galway (Dr Joanne Nelson)

**Relationship with voluntary bodies.** Ability west (School age Learning disability), Brother of Charity (Learning disability) in Ballinasloe and Roscommon. Therapeutic Project (Social services preschool)

### 8. NON SPECIALIST PAEDIATRIC SURGERY

**Case bundles for surgery**

Includes minor laparoscopic procedures, circumcisions, hydroceles and appendicectomies

**Anaesthetists with special skills:** One anaesthetist with paediatric skills.

**Designated surgeon.** No. One General surgeon and 2 others with sub-specialisation on the General On Call rota.

**Age cut off:** Anaesthesia not electively given to less than 3 years of age

**Pyloric stenosis / intussusception / inguinal hernia:** All referred to tertiary paediatric centres in Dublin if less than 3 years.

**Orthopaedics / ENT / Ophthalmology / Dental:**

- **Clinics:** Visiting teams in orthopaedics, maxillo–facial, dermatology, dental and ENT available
- **Surgery:** Dental and Maxillo-facial surgery in children over 3 years available in Portiuncula.

### 9. INTENSIVE CARE TRANSFERS

To tertiary paediatric ICU

**HDU area:** 2 bed HDU on paediatric ward. If need for short term ventilatory support or critically ill transferred to Adult ICU with paediatric nurse as prime carer

**Number of transfers per annum**

9-12 neonatal transfers per year
**Single point of contact phone call;**
Recent single point of contact for paediatric intensive care transfers welcomed

### 10. ANY OTHER ISSUES

Academic/medical education (NUIG and UL students) is very important for the Department and will further develop with NUIG based Academy in place in 2013.

Structure of Hospital groups into trusts will soon be announced and is very important.

An SPR in Paediatrics with a clear focus on community child health is a clear strategic objective.

### 11. FUTURE DIRECTION

Regional service should develop for Endocrinology and Diabetes

Community Paediatrics: Lead for Child Protection (regional position based in Ballinasloe)
Paediatric Clinical Programme
Programme Visit

Portlaoise General Hospital

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>Dublin Mid-Leinster</th>
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<tbody>
<tr>
<td>Hospital:</td>
<td>Portlaoise</td>
</tr>
<tr>
<td>Date</td>
<td>2\textsuperscript{nd} December 2011</td>
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<tr>
<td>Present:</td>
<td>Dr John Murphy / Professor Alf Nicholson / Ms Eadaoin White / Dr Edwina Daly / Dr Rizwan Gul / Dr Jacqueline Mc Brien</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td></td>
</tr>
<tr>
<td>Therapies Manager</td>
<td></td>
</tr>
<tr>
<td>Clinical Director</td>
<td></td>
</tr>
<tr>
<td>Hospital Manager</td>
<td></td>
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</table>

1. BACKGROUND

- Unit established: 1990
- Number of consultants: 3
- Number of NCHDs: 4 registrars, 5 SHOs
- Paediatric nurses: 17 + ANP in community child health
- Neonatology nurses: 12
- Annual attendance at emergency department: 6815
- Annual medical paediatric admissions: 1783
- Annual deliveries: 2331
- Admissions to SCBU: 270
- Policy re infants under 1500g: All < 32 week gestation transferred
- Paeds AVLOS: 2.1 days
- Is the Paeds ED waiting area spatially and aurally separated from adults ED?: Children are entirely separated from adult ED
- Are the ED assessment rooms separate for children?: ED assessment rooms are separate
- Is the resuscitation bay separate to the adult resus bay?: There is a Resuscitation room in the Paediatric Department for the children only
- Is the A&E staffed by paediatric trained nurses?: The Paediatric Medical ED is staffed entirely by Paediatric nurses.
- Is there an A&E consultant with paediatric training?: The Paediatric Medical ED is covered by the consultant paediatricians. There is no ED consultant with paediatric training in the hospital. This is why the paediatricians run the paediatric medical ED.
- Is there a paediatric radiologist on staff?: no
- Is there an adult radiologist with specific training / special interest in paediatrics?: yes
- Is there an adult radiologist with no specific training in paediatrics?: no

2. ACUTE GENERAL PAEDIATRICS

The Department of Paediatrics in Portlaoise is a relatively new, bright and purpose-built unit with 25 beds, the majority of these being single rooms. It is a state of the art unit, well-designed and family-friendly with excellent isolation facilities, low nosocomial infection rates and a mean of 6-7 admissions per day.

Main issues are the area for triage of new referrals is too small and this places strain on the staff and families. The current admission rate just over 20% with perhaps some admissions being avoided if an
observation number of bays available.

3. **NEONATOLOGY**

A steep rise in births to 2333 per annum has placed considerable strain on the department - new SCBU with 8 cots due in early 2012 / all under 32/40 gestation transferred to the tertiary neonatal hospitals but there is a need for 24/7 neonatal transport and retro-transfers

There is no need for SHO’s to attend elective LSCS - with active NRP programme for nursing staff there is no reason for such a protocol/guideline.

4. **SCREENING**

Oximetry screening for duct-dependent congenital heart disease is in operation for two years – a very welcome development

neonatal hearing screening soon to commence - also to be welcomed

Developmental dysplasia of the hip screening is via consultant hip checks and Xray screening of high risk infants at 6 months - need to do hip X-rays as close to 3 months as possible if ultrasound not possible

5. **OUTPATIENTS**

Outreach clinics are popular, consultant-delivered and efficient

OPD waiting times in Portlaoise are < 3 months but , while this is admirable one cannot continue with seeing up to 40+ patients per clinic - the clinic is far too long , waiting times to be seen are excessive, the nurse leaves at 17.00 hours and the did not attend rate is over 24% - solutions might include :

Reduce clinic lists to 6 new patients (2 urgent reviews) and 14 reviews

A changed policy for DNA's and a text messaging reminder the day prior to the appointment

Greater shared care with GP’s and use of national ICGP guidelines for common conditions

Nurse-led RAP / constipation / enuresis clinics might be established

Asthma and diabetes clinics monthly to continue

6. **SPECIALIST CLINICS**

The main specialist clinics include community child health and endocrinology

7. **COMMUNITY CHILD HEALTH**

Child Disability population seen in outreach clinics in Laois and Offaly.

Note no consultant in community child health in Kildare to cover intellectual disability so many of Kildare and Tipperary children also seen by Portlaois CCH consultants which is a considerable workload and one for which we are not resourced.

Children 0-5 years referred directly by Early Intervention teams or by SMO/AMO or GP. Children seen in Child development centre allowing for good communication with Disability teams. Special pre-schools for children with severe and complex disability are visited by consultant with special interest in community child health in Laois and Offaly.
School Age Children seen in the special schools, 2 in Laois and 3 in Offaly. Again this allows for good communication with teachers and school nurses.

Early intervention referrals higher in Laois/Offaly than Longford/Westmeath.

AMO and SMO doctors have joined in the developmental clinics in Laois for training. Also an ANP in community child health being facilitated in Laois.

National service for CSA assessment needed.

Important checklist for ED staff in child protection issues.

CCH service well developed and is an area of strength to attract SpR ‘s in terms of excellent experience

8. **NON SPECIALIST PAEDIATRIC SURGERY**

To be defined post deliberations of national task force on non-specialist paediatric surgery

9. **INTENSIVE CARE TRANSFERS**

PETS and single point of contact phone call to be welcomed

10. **ANY OTHER ISSUES**

Nil

11. **FUTURE DIRECTION**

Need to devise a mission statement / goal to set out future strategy

Onerous rota and massive clinic overload is not sustainable

Tight bundle of cases for paediatric surgery to be defined by national working group and heartening to see significant surgical / anaesthetic enthusiasm for same

M7 is the main route to Limerick and it is along this route that defines catchment population and not boundaries of Midland Health Board region
Paediatric / Neonatology Clinical Programme
Programme Visit
Rotunda Hospital

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<th>HSE Region:</th>
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<tr>
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<tr>
<td>Director of Nursing</td>
<td>Ms Margaret Philbin</td>
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<td>Therapies Manager</td>
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<tr>
<td>Clinical Director</td>
<td>Paediatrics – Dr Adrienne Foran</td>
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<tr>
<td>Hospital Manager</td>
<td>Ms Pauline Treanor</td>
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1. BACKGROUND

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<th>Number of consultants</th>
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<tr>
<td>Number of NCHDs – SpR</td>
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<td>SHOs</td>
<td>7.00wte</td>
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<td>Neonatology nurses (WTEs)</td>
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<tr>
<td>Physiotherapist Y/N</td>
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<td>Annual attendance at emergency department</td>
<td>2011 - 425</td>
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<td>Annual medical paediatric admissions</td>
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<tr>
<td>Annual number of births</td>
<td>9319</td>
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<tr>
<td>Annual number of admissions to SCBU</td>
<td>2011 - 1225</td>
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<tr>
<td>Annual number of post natal transfers</td>
<td>31 Infants</td>
</tr>
<tr>
<td>Annual number of transfers to Crumlin / Temple St for surgery / specialist treatment</td>
<td>76 Infants</td>
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<td>Annual number of retro transfers to local units</td>
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<td>Annual number of ventilated infants</td>
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<td>Annual number of infants with CPAP</td>
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<td>Annual number of infants receiving TPN</td>
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<td>Annual number of infants with ROP</td>
<td>2011 - 16</td>
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<tr>
<td>Number of intensive care cots</td>
<td>7</td>
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<tr>
<td>Total number of cots</td>
<td>39</td>
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</tbody>
</table>

2. DESCRIPTION OF UNIT

Tertiary neonatal unit with 39 cots. Participated in Vermont oxford network since 1996 bench marking our unit outcomes for VLBW (<1500g) against national and international intensive care units and using these figures to help guide unit policy. Weekly journal club, grand round and NCHD teaching.

3. SCREENING

- National newborn blood spot screening for all babies in hospital.
- ROP screening for all babies < 1500g.
- Serial cranial ultrasounds for all <1500g: day1; day7; 1 month; 34-36 weeks; discharge
- Hip screening with orthopaedic specialist and radiology service for hip us in those with certain risk factors: family history breech etc,

4. OUTPATIENTS

- All consultants have 1 out-patients clinic a week for follow-up of high risk babies. All babies < 1500g are followed up until 18 months corrected gestational age.
- SHO clinic for weight checks, jaundice screens review of heart murmurs these run simultaneously to
consultant led clinic so there is senior help on site – 1 consultant 2 registrars.  
- Neurology out patients  
- Paediatric orthopaedic clinic every Monday

<table>
<thead>
<tr>
<th>5. FOLLOW UP CLINICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Bayleys developmental assessment for all &lt; 1500g</td>
</tr>
<tr>
<td>- Specialist neurology clinic every 2nd Tuesday run by Professor King and neonatal neurology nurse specialist for all high-risk newborns: HIE, Seizures, abnormal head scans etc.,</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. STRENGTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ANPs who provide consistency in training for NCHDs at time of change over</td>
</tr>
<tr>
<td>- Research culture with 3 MDs ongoing at present in unit</td>
</tr>
<tr>
<td>- Strong educational and training links with DNE (Drogheda and Cavan) expanding to formal network in near future</td>
</tr>
<tr>
<td>- Highly motivated infection control team and pharmacy department</td>
</tr>
<tr>
<td>- 5 consultant neonatologists with different areas of sub-speciality interest</td>
</tr>
<tr>
<td>- Excellent social work and bereavement midwife support team</td>
</tr>
<tr>
<td>- Discharge coordinator</td>
</tr>
<tr>
<td>- Parent support group</td>
</tr>
<tr>
<td>- Nurse specialists</td>
</tr>
<tr>
<td>- Midwives trained in newborn discharge examinations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. CONCERNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Data collection</td>
</tr>
<tr>
<td>- Lack of a paediatric MDT e.g. physiotherapy and dietician</td>
</tr>
<tr>
<td>- Blocked at SCBU/HDU level which can back up ICU discharges</td>
</tr>
<tr>
<td>- Current pressure for financial austerity that could compromise patient care</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. FUTURE DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Development of transitional care unit to take pressure of ICU cots</td>
</tr>
<tr>
<td>- Formal regionalisation with DNE</td>
</tr>
</tbody>
</table>
Paediatric Clinical Programme
Programme Visit

Sligo Regional Hospital

HSE Region: North West
The catchment population is 122,344 of which 25% are children- Sligo 65,270, Leitrim 31,778, South Donegal 24,003, West Cavan 1,293

The Paediatric Unit at Sligo was established in 1970

Hospital: Sligo Regional

Date Wed. 6th June 2012

Present: John Murphy, Hilda Wall, Mary Murray-Clinical Lead Programme
Drs Hilary Greaney, Dara Gallagher (Sligo)
Oonagh McDermott UNSM, John McIlhenny, Bernie Cleary, Carmel Durkin, Moya Wilson- Nursing and Administrative Staff

Director of Nursing Ms Anne Marie Loftus
Therapies Manager
Clinical Director Mr Paul Mullaney
Hospital Manager Ms Grainne McCann (acting)

1. BACKGROUND

<table>
<thead>
<tr>
<th>Unit established</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultants</td>
<td>3 WTE Hospital, 1 WTE Community</td>
</tr>
<tr>
<td>Number of NCHDs</td>
<td>1 SpR Paediatrics, 1 SpR Community Paeds</td>
</tr>
<tr>
<td>4 Registrars</td>
<td></td>
</tr>
<tr>
<td>5 SHOs</td>
<td></td>
</tr>
<tr>
<td>Paediatric nurses</td>
<td>24 WTE</td>
</tr>
<tr>
<td>Neonatology nurses</td>
<td>12.5 WTE</td>
</tr>
<tr>
<td>Annual attendance at emergency department</td>
<td>6267</td>
</tr>
<tr>
<td>Annual medical paediatric admissions</td>
<td>1962</td>
</tr>
<tr>
<td>Annual deliveries</td>
<td>1579</td>
</tr>
<tr>
<td>Admissions to SCBU</td>
<td>336</td>
</tr>
<tr>
<td>Policy re infants under 1500g</td>
<td>Yes</td>
</tr>
<tr>
<td>Paeds AVLOS</td>
<td>3.26</td>
</tr>
<tr>
<td>Is there a paediatric radiologist on staff?</td>
<td>2 Radiologists with specialist training in paediatrics</td>
</tr>
<tr>
<td>Is there an adult radiologist with specific training / special interest in paediatrics?</td>
<td>N/A</td>
</tr>
<tr>
<td>Is there an adult radiologist with no specific training in paediatrics</td>
<td>See above</td>
</tr>
</tbody>
</table>

2. ACUTE GENERAL PAEDIATRICS
The Paediatric ward has 1962 admissions annually. In addition to medical cases there are Ophthalmology, ENT and Orthopaedics admissions. There are shared admissions with Child Psychiatry. There is a Chief Cardiac Physiologist with Paediatric clinical expertise. He undertakes 300 Paediatric and 50 Neonatal ECHOs annually. He has close links with the cardiologists in Crumlin. He readily attends out of hours if needed.

The Unit has the services of a dedicated Physiotherapist, Dietician, Social Worker ½ time Psychologist and Play Therapist. There is a full time Liaison Nurse who links between Acute and Community service.

There are 1/2 time CSN in Diabetes and CF

The major concern is getting a PICU bed for the acutely ill child and undertaking the transfer to the PICU in Dublin. Also difficulties getting a tertiary bed for a child needing specialist assessment.

### Emergency Medicine Services:

- There are 6,000 children annually
- The children have to share a common waiting area with the adult patients
- There is a separate assessment room for children
- There is a common resuscitation bay for children and adults
- Only some of the nurses in the EM are paediatric trained
- The EM medical consultant is dual trained in adults and children
- He reviews the case notes of all children seen in the EM
- The Paediatric staff are unhappy with the common waiting area
- At present the EM services for children are sub-optimal

### 3. NEONATOLOGY

- There were 1557 births in 2011.
- The Special Care Baby Unit has 10 cots
- There were 319 SCBU admissions
- There were 8 NNTP transports
- There were 23 neonatal transports undertaken by the Sligo Neonatal team consisting of 7 emergency and 16 elective.
- There are 16.5 Neonatal WTEs
- There is a policy of transfer out of preterm and ill term infants
- All the neonatal transfers are to Dublin

### 4. SCREENING

- Infants at high risk of DDH have a hip x-ray undertaken at 4 months of age.
- Children are seen same day by Consultant on call if urgent problem referred by GP
- There is a very good Paediatric Radiologist service. Two of the Radiologists are trained in Paediatrics.

### 5. OUTPATIENTS

- 7,000 OPD annually
- 312 Clinics
- New: return is 1:4

### 6. SPECIALIST CLINICS

- There are sub-specialty clinics in the following:
  - Cystic Fibrosis
  - Diabetes
  - Asthma
  - Neonatal follow up assessment

### 7. COMMUNITY CHILD HEALTH
There are 9 Community Child health clinics per 4 weeks
The clinics take place in Sligo town, Tubbercurry, Drumshanbo, Manorhamilton
There are 18 Autism assessment clinics annually
There is a CSA service for acute and cold cases. The service is supported by a nurse colposcopist. The examinations and reports are undertaken by Drs Greaney and Gallagher
Over 1000 children are seen in community setting each year

The Community are supported by a feeding Clinic, Joint Paediatric-Orthopaedic clinics, joint paediatric-Child psychiatry clinics
It is clear that the Community Child health service is functioning at a very high level compared with most other Units in the country.

8. NON SPECIALIST PAEDIATRIC SURGERY

There is no Anaesthesia for children under 2 years of age.
For children over 2 years there is limited non-specialist surgery including appendicectomy and other minor surgical procedures.
There is ENT surgery including flexible laryngoscopy.
There is Eye surgery.
There is a fracture Orthopaedic service.

9. INTENSIVE CARE TRANSFERS

The major concern is getting a PICU bed for the acutely ill child and undertaking the transfer to the PICU in Dublin.
There is an expectation that the single PICU access number will improve matters.
The development of the Paediatric Retrieval service would be a great help.

The SCBU welcomes the planned expansion of the NNTP to 24/7.
Last year there were 8 NNTP retrievals and 7 emergency retrievals undertaken by Sligo. In addition there were 16 non-urgent transports.

10. EDUCATION

Medical
There is a large undergraduate teaching programme. The students come from Galway.
There are 120 students seconded to Sligo. Forty of these students are in the Paediatric department.
There is capital funding in place for a 2 story Education Centre.

Nursing:
There is a large nurse school- 120 nurses.
There is pupil midwifery training.

Postgraduate:
There is 1 Paediatric SpR
There is also 1 Year 4 Community SpR

Committees
The consultant staff play a large role on national committees and training bodies.

11. SUMMARY and FUTURE DIRECTION

Strengths
Sligo is very well run, organised paediatric service.
Services are provided over a wide area to the catchment population of 122,344
There is very good Paediatric ward with good medical, nursing and AHP support.
The Radiology services are good.
The Community Paediatric service is excellent providing an extensive package of care over a wide geographical area
Its link for tertiary and specialist services is almost exclusively Dublin.
There is an education culture in the hospital with a large undergraduate teaching programme. There is a strong postgraduate programme. The Department has 1 Paediatric SpR and 1 Year Community SpR.

**Concerns**

- The main area of concern is the sub-optimal EM department for children with a common Adult-Child waiting area. This should be addressed with management.

- The acute and Community Paediatric services are being provided over a large geographical area. An addition fifth Paediatric consultant should be sought to support the very busy and expanding service.
# Paediatric Clinical Programme Programme Visit

**South Tipperary General Hospital, Clonmel**

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>HSE South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>South Tipperary General Hospital, Clonmel</td>
</tr>
<tr>
<td>Date</td>
<td>15th March 2012</td>
</tr>
<tr>
<td>Present:</td>
<td>Dr John Murphy / Professor Alf Nicholson / Dr Issam Shana’a / Dr John Walsh / Dr Justin Roche / Olivia Butler CNM2 Paediatric Unit / Brid O’Mahony CNM2 SCBU</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>Ms. Joan Browne</td>
</tr>
<tr>
<td>Therapies Manager</td>
<td>Ms. Barbara Long, Physiotherapy</td>
</tr>
<tr>
<td>Clinical Director</td>
<td>Dr. Aamir Majeed</td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Ms. Breda Kavanagh</td>
</tr>
</tbody>
</table>

## 1. BACKGROUND

- **Unit established**: 1998
- **Number of consultants**: 3
- **Number of NCHDs**: 4 registrars, 4 SHOs (1 SHO from South east GP Training Programme)
- **Paediatric nurses**: Very experienced cohort - 16.5wte, 18 Paediatric Nurses, total 30 nurses on Paediatric Ward – 26 paediatric trained
- **Neonatology nurses**: Small number - 6 Neonatal trained, SCBU also staffed by General Midwives rotating from Maternity unit
- **Annual attendance at emergency department**: 4490 Paeds ED 1838 Main ED Total 6321 Also 1566 presentations to Paeds Day Ward
- **Annual medical paediatric admissions**: 1786
- **Annual deliveries**: 1250
- **Admissions to SCBU**: 305
- **Policy re infants under 1500g**: All <32 weeks transferred (mainly antenatal)
- **Paeds AVLOS**: 2.1 days
- **Is the Paeds ED waiting area spatially and aurally separated from adults ED?**: Yes
- **Are the ED assessment rooms separate for children?**: Yes
- **Is the resuscitation bay separate to the adult resus bay?**: Yes
- **Is the A&E staffed by paediatric trained nurses?**: Yes. Paediatric Emergency Room on Paediatric Ward
- **Is there an A&E consultant with paediatric training?**: No
- **Is there a paediatric radiologist on staff?**: No
- **Is there an adult radiologist with specific training / special interest in paediatrics?**: We have two Consultant Radiologists on staff, one has training in Paediatric Radiology and provides a Paeds Xray conference every 2 weeks. In addition to this we have access to MCUG on site. The other Radiologist however does provide some Paediatric service including hip ultrasound in high risk babies ie both radiologists provide hip ultrasound service. CT scanning is available on site 24 hours a day, and we have access to an MRI session every Tuesday in
1. NATIONAL CLINICAL PROGRAMME FOR PAEDIATRICS & NEONATOLOGY

| Waterford, mainly for older children who do not require sedation. |
| Is there an adult radiologist with no specific training in paediatrics | See above |

2. ACUTE GENERAL PAEDIATRICS

It was very evident that the department in Clonmel is very cohesive with excellent working relationships across disciplines and the department is very popular with trainees. With three paediatricians (one CCH with 0.5 WTE in the community), four registrars and four SHOs (one of whom is a GP trainee), it is a 15 bedded unit with two day case beds and a paediatric emergency room. 4495 children and adolescents attended the emergency room in 2011 with just over 30% being admitted with a mean length of stay of 2.1 days. There is a highly qualified and committed nursing group (90% have PALS certification) with a significant number of the nursing group carrying out intravenous cannulation and venepuncture. The department enjoys an excellent reputation amongst the local community and GPs. Students from UCC (and in the near future UL) rotate for 2 week blocks in the department. PEWS is in operation for acutely ill children. Monthly minuted perinatal meetings take place with the Department of Obstetrics with the production of an annual report. There is ample support from a radiologist with an interest in paediatric radiology.

The major weakness is the infrastructure – the department has major space constraints and lack of both isolation facilities and parent facilities. The Paediatric Emergency room is very cramped. **These major infrastructural issues were the most striking feature of our visit.** There is no registrar on site and this poses risk issues if a neonatal or paediatric emergency.

16-18 year olds are admitted to the paediatric ward and this may pose issues also

3. NEONATOLOGY

There are 1250 births per annum with 305 requiring admission to SCBU. SCBU has 5 cots and a ventilate and transfer policy which will be further supported by extension of neonatal transport to a 24 hour service. Most transfers go to Cork or Dublin.

Monthly perinatal meetings take place and also an Annual Perinatal Study Day in May of each year(11th Annual Study Day took place 25/5/2012)

Pulse oximetry to detect duct-dependent CHD needs to commence and Dr John Murphy will send on proposed national guideline

A NRP course is regularly run in Clonmel.

4. SCREENING

Newborn universal hearing screening has just been introduced

There is a standardized SE screening process for DDH coordinated through one of the orthopaedic surgeons in Waterford (Mr. Joe O’Beirne). All have consultant checks and the high risk group have u/s + Xray screening in Clonmel with referral to Regional DDH clinic in WRH if required.

5. OUTPATIENTS

There are 11 general paediatric clinics per month with a new:review ratio of 1:3 to 1:4 (national ideal is 1:2) and a waiting time for first visit appointments of up to 3 -6 months . The catchment area for OPD referral extends beyond south Tipperary to include North Tipperary, West Waterford, South Kilkenny, and parts of North Cork. Care pathways, review of referral letters, a ‘did not attend’ strategy, text reminders pre-clinic are all potential ways to improve OPD efficiencies. National guidelines for common paediatric problems are being developed.

6. SPECIALIST CLINICS

*Type 1 Diabetes:* there are 62 patients but there is no designated paediatric CNS or dietician and no specific
clinic as they are managed by all the paediatricians. There is no hospital social worker. Diabetes would be best managed in a shared care arrangement probably with Cork with the institution of a designated clinic and named paediatrician. Dr Shanaa runs a transition clinic for adolescents with DM type 1

**Asthma:** there is a monthly asthma clinic with about 20 patients seen, a respiratory function tests service and a designated consultant – a new asthma national guideline has been developed

### 7. COMMUNITY CHILD HEALTH

This is led by Justin Roche and, for those with significant physical handicap, there is a link to Waterford Central remedial Clinic (CRC).

Weekly multidisciplinary assessment clinics and regular early intervention clinics (2 per month) take place. Child protection issues are hampered by the absence of a hospital social worker, thereby meaning that a direct referral to the community social work team is required if significant concerns

### 8. NON SPECIALIST PAEDIATRIC SURGERY

Only > 2 year olds have surgery. This includes appendicectomy, hernia repair, circumcision, OGD including duodenal biopsy for Coeliac diagnosis. A national model of care for non-specialist paediatric surgery is awaited

### 9. INTENSIVE CARE TRANSFERS

PICU access is a concern and so the establishment of a national PETS service would be greatly welcomed

### 10. ANY OTHER ISSUES

Nil added

### 11. FUTURE DIRECTION

All agreed that we should set up a meeting of all the Paediatricians in the South East to see if a consensus re the way forward can be reached
Paediatric Clinical Programme
Programme Visit
St. Luke’s Hospital, Kilkenny

HSE Region: HSE SOUTH
Hospital: St. Luke’s Hospital, KILKENNY
Date: 14th September 2011
Present: Dr John Murphy / Prof Alf Nicholson / Dr David Waldron / Dr Clodagh O Reilly / Dr Michelle Dillon

1. BACKGROUND

| Unit established | 1999 |
| Number of consultants | 3 |
| Number of NCHDs | 5 SHOs |
| Paediatric nurses | 3 registrars |
| Neonatology nurses | Experienced cohort – 14 |
| Neonatology nurses | Small number - 7 |
| Annual attendance at emergency department | 4511 |
| Annual medical paediatric admissions | 1600 |
| Annual deliveries | 2200 |
| Admissions to SCBU | 250 |
| Policy re infants under 1500g | Transfer of all under 34 weeks gestation |
| Paeds AVLOS | 2.3 days |

Medical cases seen in dedicated Paediatric Assessment unit, separated from adult services. Surgical referrals seen in ED department with shared waiting room with adults

Medical cases seen in dedicated Paediatric Assessment unit, separated from adult services. Surgical referrals seen in ED department with shared assessment area with adults

Medical cases seen in dedicated Paediatric Assessment unit, separated from adult services. Surgical referrals seen in ED department with shared Resus bay with adults

Paediatric Assessment Unit staffed by paediatric trained Nurse. ED does not have dedicated Paediatric Nurses. Some have paediatric training

Paediatric training as part of ED training Scheme

No

Yes. One with Paediatric Radiology Fellowship training. Two with training in Paediatrics as part of general training

No

2. ACUTE GENERAL PAEDIATRICS
Busy unit with high throughput with 4511 assessed in acute assessment unit in 2010
No designated area in the emergency department for children
Short term HDU care only

3. NEONATOLOGY

2200 deliveries and level 2 SCBU
Many antenatal transfers if preterm delivery anticipated
Postnatal transfers to Dublin or Waterford
Very little capacity in SCBU

4. SCREENING

DDH screening via Ultrasound at 6 weeks and Xray at 6 months
If clinical concerns of DDH, referral to orthopaedic team in Waterford Regional Hospital for urgent review.
No pulse oximetry screening
Newborn hearing screening in place.

5. OUTPATIENTS

Busy clinics in Kilkenny + outreach clinics in Carlow – new to review ratio of 1:4
Over 3,000 OPD visits per annum

6. SPECIALIST CLINICS

Diabetes clinic but no pump service
CF patients referred to Waterford or Dublin
Neuro-Developmental clinics in Enable Ireland (Kilkenny) and Holy Angels Centre (Carlow)

7. COMMUNITY CHILD HEALTH

Developed early intervention service
Lack of physiotherapy / SLT / OT in the community
Good liaison with mini CRC in Waterford

8. NON SPECIALIST PAEDIATRIC SURGERY

Almost none performed
Simply appendicectomies in older children

9. INTENSIVE CARE TRANSFERS

PETS and single point of contact phone call for PICU welcomed

10. ANY OTHER ISSUES

See proposal re SE Paediatric services
11. FUTURE DIRECTION

Need to have meeting re SE services and paediatricians from 4 units to meet
Paediatric Clinical Programme

Tallaght Hospital

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>Dublin Mid Leinster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>Tallaght Hospital</td>
</tr>
<tr>
<td>Date</td>
<td></td>
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<tr>
<td>Director of Nursing</td>
<td></td>
</tr>
<tr>
<td>Therapies Manager</td>
<td></td>
</tr>
<tr>
<td>Clinical Director</td>
<td>Dr Peter Greally – Paediatric Clinical Director</td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Eilish Hardiman</td>
</tr>
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1. BACKGROUND

<table>
<thead>
<tr>
<th>Number of consultants</th>
<th>10.93 WTE (includes paediatric emergency medicine)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Paediatric NCHDs</td>
<td>7 SpRs</td>
</tr>
<tr>
<td></td>
<td>7 Registrars</td>
</tr>
<tr>
<td></td>
<td>13 SHO</td>
</tr>
<tr>
<td></td>
<td>1 intern</td>
</tr>
</tbody>
</table>

Nurses
Physiotherapists
Dieticians
Pharmacist
Clinical Engineer
Senior Cardiac Technician
Social Workers

<table>
<thead>
<tr>
<th>Number of admissions annually</th>
<th>6313 (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED attendances</td>
<td>32,000</td>
</tr>
<tr>
<td>Number of day cases</td>
<td>3569 (2010)</td>
</tr>
<tr>
<td>Number of beds</td>
<td>58</td>
</tr>
<tr>
<td>Number of new outpatients</td>
<td>9.788</td>
</tr>
<tr>
<td>Number of annual patients</td>
<td>22,935</td>
</tr>
</tbody>
</table>

Note – a site visit did not take place in Tallaght Hospital. Tallaght will be visited as part of the work on the model of care.
# National Clinical Programme for Paediatrics & Neonatology

## Paediatric Clinical Programme

### Programme Visit

**University Hospital Galway**

<table>
<thead>
<tr>
<th>HSE Region:</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital:</td>
<td>University Hospital Galway</td>
</tr>
<tr>
<td>Date</td>
<td>25/4/12</td>
</tr>
<tr>
<td>Present</td>
<td>John Murphy &amp; Alf Nicholson, UHG- Prof Loftus, Dr Herzig, Dr. Moylett, Dr. Ryan, Dr Dunne</td>
</tr>
<tr>
<td>Director of Nursing</td>
<td>ADON is Ms. Una Carr</td>
</tr>
<tr>
<td>Therapies Manager</td>
<td>None</td>
</tr>
<tr>
<td>Clinical Director</td>
<td>Dr. Geraldine Gaffney, Director Women and Children’s Directorate</td>
</tr>
<tr>
<td>Hospital Manager</td>
<td>Mr. Bill Maher</td>
</tr>
</tbody>
</table>

## 1. BACKGROUND

<table>
<thead>
<tr>
<th>Unit established</th>
<th>1955</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultants</td>
<td>5 WTE + 1 Community WTE</td>
</tr>
</tbody>
</table>
| Number of NCHDs | 7-8 Registrars  
2 SPRs – approved 2 general 1 community  
2011-2012  
2 SPRs (3 posts approved for training, 2 SpRs in post)  
5- Non-training post  
1- Call registrar – only provides night call service |
| Number of SHOs | 7 SHOs (4-5 GP trainees, 2 BST trainees, Every other 6m 4 GP and 1 other) |
| Paediatric nurses | CNM 3 X 1 CMN 2 X 2, CNM 1 X 2 CF CNS X 1 Paediatric Staff Nurses 29.25 Total WTE 33.25 |
| Neonatology nurses | CNM 2 X 1 CMN 1 X 2 NICU Staff Nurses 24.5 Total WTE 27.5 |
| Annual attendance at emergency department | 12,803 Children under 14 attended ED with 6,188 medical paediatric patients and (2010) |
| Annual medical paediatric admissions | 1,837 admissions (2010) |
| Annual deliveries | 3537 |
| Admissions to SCBU | 377 |
| Policy re infants under 1500g | All treated in UHG, Infants transferred if require cardiology, cooling, or surgical intervention only. |
| Paeds AVLOS | 2.18 days in 2011 |
| Is there a paediatric radiologist on staff? | No |
| Is there an adult radiologist with specific training / special interest in paediatrics? | Yes, Dr. Clare Roche |
| Is there an adult radiologist with no specific training in paediatrics | yes |

5 WTE consultants contribute to general call. Dr Flanagan contributes 4 weekends/year only. Approx 1:4.5 weekend/night call

All call covered by consultants below – no Locum Consultant cover for holidays/ study leave permitted unless exceptional circumstances

1. Professor Gerry Loftus Respiratory/Diabetes/General /SL-Edina Moylett ID/Immunology/General(1 WTE)
2. Donough O’Donovan – Neonatology/Paediatrics
3. Ethyl Ryan – Neonatology/Paediatrics
4. Kevin Dunne –General /Disability/Enable Ireland
5. Mary Herzig- Respiratory/CF/General
6. Orla Flanagan –Community Paediatrics
2. ACUTE GENERAL PAEDIATRICS

Facilities in the Emergency Department

Separate Paediatric area in ED dept for review of medical paediatric patients. Small area - limited observation ability but separated somewhat from adult services. Paediatric Regs and SHO provided service (only open 10am -10-12 pm). Usually Reg + SHO or SHO only service.

Facility very small and not fit for purpose at present. It would be preferable to have dedicated senior cover of ED. Surgical paediatric patients reviewed in general ED. Paediatric nurses in Paediatric ED area most of the time with set guidelines and direct access service for GP referrals if requested.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the Paeds ED waiting area spatially and aurally separated from adults ED?</td>
<td>Yes for medical, variable for surgical. They are seen wherever there is a space in the ED.</td>
</tr>
<tr>
<td>Are the ED assessment rooms separate for children?</td>
<td>Yes for medical, variable for surgical. They are seen wherever there is a space in the ED.</td>
</tr>
<tr>
<td>Is the resuscitation bay separate to the adult resus bay?</td>
<td>No, combined area with mixed equipment,</td>
</tr>
<tr>
<td>Is the A&amp;E staffed by paediatric trained nurses?</td>
<td>Part-time</td>
</tr>
<tr>
<td>Is there an A&amp;E consultant with paediatric training?</td>
<td>No, but has been identified as a priority</td>
</tr>
</tbody>
</table>

3. NEONATOLOGY

Annual deliveries 3537
Admissions to SCBU 377

<32/40 policy or <28/40 policy- yes full NICU care

Number ventilated per annum- 2010 35 IMV

Cooling yes/no- no, only passive cooling and transport

Comments:

Only 2 Neonatologists and Reg covers NICU/ L&D (2nd on call SHO 1st)/ ED and Paeds on call. NICU rounds Mon-Fri daily by Neonatologist/ Weekend/Night cover by consultant on call. The neonatal department at GUH has made considerable progress with a newly commissioned NICU offering the sick newborn an excellent facility. Both specialist registrars spoke highly of the teaching, training and consultant supervision in neonatology. A willingness to take on more pre-terms from other maternity units (in particular Ballinasloe ) was expressed. The formation of the new trust should provide an opportunity to develop further convergence of perinatal services in the region. The unit has 27.5 WTE nursing staff. The neonatal unit has a dietitian, pharmacist and physiotherapist. The unit is in the Vermont Oxford Collaboration and reports all its outcome data for babies less than 1500 grams

4. SCREENING

DDH –No US Hip available at GUH. Consultant Hip exam on PNW and F/U hip X-Ray if risk or DDH – orthopaedic follow up available if required.

Hip xray at 6 months
UDT – No Paediatric Urology at GUH

Duct-dependent CHD – PNW Sats screening in place

Hearing loss – newborn hearing screening on a universal basis

5. OUTPATIENTS

Number of clinics per week - 10

Number of new : review patients per clinic – 1:2

Waiting time for first appointment – 9 months

DNA policy – Individual to Consultant (usually 2-3DNA and out) – hospital policy one DNA and out. DNA rate is currently 30%

Nurse-led clinics – no

Outreach clinics – General 1/12 + multiple community /enable Ireland

6. SPECIALIST CLINICS

Diabetes mellitus type 1 – now links with Limerick re provision of pump services for under 5s

CF – referral centre for cases picked up by neonatal CF screening (estimated 7 per year). 32 children with CF – some difficulties with lung function studies and spirometry

Asthma – yes

Immunology + Allergy – yes

NICU follow up

General

Other

Dermatology

Cardiology (Crumlin - Dr McMahon) 2-4 times/year

Haematology – pending

7. COMMUNITY CHILD HEALTH

WTE sessions devoted to CCH – Dr Flanagan/ Dr Dunne – Enable Ireland

Early intervention assessment process – yes

CSA and Ferns 4- yes – HSE local SATU- Dr Joanne Nelson lead provided service for children. We did meet Dr Nelson and discussed national models re CSA assessment.

The regional child and sexual assault service is a 24 hour CSA facility.

CASATS managed 53 cases of child and adolescent sexual abuse in 2011.

8. NON SPECIALIST PAEDIATRIC SURGERY

Case bundles for surgery

Acute – appendicectomy / testicular torsion / lumps/bumps

Age cut off - nil < 12 months

Anaesthetists with special skills

3-4 anaesthetists with interest in Paediatric Anaesthesia

Designated surgeon –

variable services depending on which surgeon is on call

Age cut off 12-14
Pyloric stenosis / intussusception / inguinal hernia – mostly transferred to Dublin – very few pyloromyotomies performed and almost all intussusceptions are transferred

Orthopaedics / ENT / Ophthalmology / Dental - yes for most cases-complex cases to Dublin

9. INTENSIVE CARE TRANSFERS

44 Paediatric Patients admitted to adult ICU in 2010 but anaesthetists are uncomfortable if under 3 months of age

No Paediatric HDU area

10. ANY OTHER ISSUES

11. FUTURE DIRECTION

1. Future development of Neonatal services:
   - Regional rationalisation of Obs services with closer links to the unit in Ballinasloe
   - Obs facilities & capacity would need to increase to accommodate transfer of part of maternity service from Ballinasloe
   - Full on call Neonatal service- more staff required as currently only 27.5 WTE nursing staff in neonatal unit

2. ED Area
   - not fit for purpose at present
   - need all Paeds (Medical +Surgical) dedicated ED area with 2 rooms and 4 bays and separate waiting area (such an area identified on our walk around
   - Full time senior Paediatrician to supervise service and development of Paeds ED

3. Community Paediatrics
   - need further input from Dr Orla Flanagan
   - consider the future of SATU currently led by Dr Joanne Nelson (must be seen in the context of national strategy re same)

4. Paediatric Surgery –
   - no urology +limited general non-specialist surgery
   - not likely to achieve RPF status based on current staffing (requires 24/7 surgical / anaesthetic and paediatric nursing )

Overall an extremely useful visit which highlights very significant developments in Galway over the past number of years. Strategically it will involve greater linkages (as per trust) with Ballinasloe and the development of endocrinology +/- neurology likely in the future.
Paediatric Clinical Programme
Programme Visit

Waterford Regional Hospital

| HSE Region: | HSE South |
| Hospital: | Waterford Regional Hospital |
| Date | 26th October 2011 |
| Present: | Dr John Murphy / Prof Alf Nicholson / Dr Paul McMahon / Dr Animitra Das / Dr Norma Goggin Senior nursing staff on wards spoken to |

Director of Nursing
Dr Rob Landers

Clinical Director
Ms Patricia Sullivan

1. BACKGROUND

Unit established
Number of consultants 3
Number of NCHDs 6 registrars, 5 SHOs
Paediatric nurses 22.5 WTEs
Neonatology nurses 30 WTEs
Annual attendance at emergency department 9,000
Annual medical paediatric admissions 2,600
Annual deliveries 2,500
Admissions to SCBU 450
Policy re infants under 1500g Full intensive care for all gestations provided
Paeds AVLOS 2.1 days

Is the Paeds ED waiting area spatially and aurally separated from adults ED? Partially
Are the ED assessment rooms separate for children? yes
Is the resuscitation bay separate to the adult resus bay? no
Is the A&E staffed by paediatric trained nurses? At times only
Is there an A&E consultant with paediatric training? no
Is there a paediatric radiologist on staff? yes
Is there an adult radiologist with specific training / special interest in paediatrics? yes
Is there an adult radiologist with no specific training in paediatrics no

2. ACUTE GENERAL PAEDIATRICS

A very busy unit offering a broad casemix with a varied exposure to general paediatric cases and, in addition, Waterford is a designated satellite centre for CF and a shared care arrangement with Crumlin for oncology patients. As Waterford is a regional hospital, there are a number of specialities on-site including ophthalmology, orthopaedics, ENT and general non-specialist paediatric surgery.

3. NEONATOLOGY

Offers full intensive care and takes infants from other hospitals in the region. Participates in regular audit and in the Vermont Oxford database. Cohort of neonatal nurses and designated lead paediatrician in neonatology

4. SCREENING

DDH screening in association with regional orthopaedic service
Hearing screening in the newborn period in operation
Pulse oximetry screening about to commence

5. OUTPATIENTS

4835 OPD cases in 2010 with a new: review ratio of 1:5

Very busy OPD load

6. SPECIALIST CLINICS

CF (Dr Das) in a shared care arrangement with Cork

DM – regular diabetes clinics

7. COMMUNITY CHILD HEALTH

CRC is an excellent facility with a regional remit and has a full team of therapists (PT, OT, SLT, dietitian, psychologist, orthotist and social worker). It is an excellent example of a national model for the delivery of care in a MDT for children with physical handicap

8. NON SPECIALIST PAEDIATRIC SURGERY

Extensive case bundle but no surgery under 1

Regional ENT, Ophthalmology and regional orthopaedics

9. INTENSIVE CARE TRANSFERS

PETS and single point of contact phone call welcomed

10. ANY OTHER ISSUES

A very busy regional hospital with a broad casemix and overwhelming workload for 3 paediatricians

11. FUTURE DIRECTION

Need to formally discuss at a regional level the future of paediatric services in the South East
Paediatric Clinical Programme
Programme Visit
Wexford General Hospital

| HSE Region: | HSE South |
| Hospital: | Wexford |
| Date | 31st March 2012 |
| Present: | Dr John Murphy / Prof Alf Nicholson / Ms Hilda Wall / Dr Ann Sheehan / Dr Brian Mulhern / Dr John Carson / Senior nursing well represented |
| Director of Nursing | Ms Rebecca Pierce |
| Therapies Manager | Ms Meta Cummins |
| Clinical Director | Dr Colm Quigley |
| Hospital Manager | Ms Lily Byrnes |

1. BACKGROUND

| Unit established | 1992 |
| Number of consultants | 3 |
| Number of NCHDs | 3 registrars and 6 SHOs |
| Paediatric nurses | Very experienced cohort of 16 WTEs paediatric nurses |
| Neonatology nurses | Small number of neonatal nurses (4.8 WTE) |
| Annual attendance at emergency department | 8,000 per annum |
| Annual medical paediatric admissions | 2131 (2011) |
| Annual deliveries | 2,231 |
| Admissions to SCBU | 340 |
| Policy re infants under 1500g | Only kept in Wexford if > 32 weeks gestation |
| Paeds AVLOS | 2.51 days |
| Is the Paeds ED waiting area spatially and aurally separated from adults ED? | No |
| Are the ED assessment rooms separate for children? | No |
| Is the resuscitation bay separate to the adult resus bay? | No |
| Is the A&E staffed by paediatric trained nurses? | Not all the time |
| Is there an A&E consultant with paediatric training? | Yes |
| Is there a paediatric radiologist on staff? | No |
| Is there an adult radiologist with specific training / special interest in paediatrics? | No |
| Is there an adult radiologist with no specific training in paediatrics | Yes |

2. ACUTE GENERAL PAEDIATRICS

A well laid out and managed 27 bedded ward with an age cut off of 17 years with direct access to GP referrals once the GP phones ahead. The Emergency Department has no separate paediatric facility and has just one paediatric nurse and thus there is little or no capacity to observe patients with a consequent very high admission rate of 40-50% in busy periods of the year. The presence of older teenagers of 16-17 years of age does pose challenges and a dedicated adolescent 3 bedded bay might be a potential solution

3. NEONATOLOGY

There are 2,500 deliveries per annum with 340 admissions to SCBU – 80% of transfers are to Dublin and 24/7 neonatal transport and provision of retro-transfers would be most welcome. Babies over 32 weeks gestation are kept in Wexford but an increasing number of neonatal abstinence infants do pose problems as they have prolonged stays. 9 WTE from midwife pool are dedicated to neonatology and 4 have NRP instructor
qualifications. The development of the national ANP course and sending a number of nurses from Wexford on this course would strengthen the unit into the future. Clinical care pathways in neonatology and neonatal discharge planning would be welcomed - both currently developed by neonatal programme

### 4. SCREENING

Hip screening is coordinated with orthopaedic service in Waterford and involves, if risk factors, a 6 week ultrasound and hip Xray at 6 months with excellent support from Waterford. We urge that pulse oximetry screening commence in Wexford to pick up duct-dependent congenital heart disease in accordance with national recommendations. Neonatal hearing screening commenced in November 2011.

### 5. OUTPATIENTS

In all six outpatients per week with a very high DNA rate of up to 25% and a current new:review ratio of 1:4 – recognition that improved GP education and communication might reduce referral rates and allow speedier return to primary care.

### 6. SPECIALIST CLINICS

**Specialist services**

a. Diabetes mellitus – 68 diabetics with two consultants who look after them with superb CNS in Diabetes (0.5 WTE) who has ensured that 20 patients are on insulin pumps (these patients have reduced admissions, reduced hypoglycaemia episodes and better Hb A1C levels). There is one diabetic clinic weekly and a great deficiency in dietetic support (0.1 WTE) and absence of psychology and social work support.

b. CF - New cases picked up in Wexford are referred to Tallaght and otherwise CF care is centralized to Waterford, which in turn is linked to Cork.

c. Gastroenterology – GI clinic on alternate weeks (Dr Sheehan) with short endoscopy list twice per month.

### 7. COMMUNITY CHILD HEALTH

An area of great concern as very long waits for psychology appointments (up to 4 years) and lack of SLT /OT/physiotherapy numbers. Early intervention team meetings occur on a monthly basis. Poor services for children with autism spectrum disorder / learning difficulties and speech delay. Lack of SW out of hours and SW service within the hospital poses huge challenges in managing child protection issues.

### 8. NON SPECIALIST PAEDIATRIC SURGERY

No operations under 2 years of age and very tight caseload overall with bundle of cases that includes – circumcision / appendicitis / minor trauma / palpable UDT / lumps and bumps. This is in keeping with national recommendations due out in August 2012.

### 9. INTENSIVE CARE TRANSFERS

Anne McCabe and intensivists from Dublin very willing to travel to Wexford to go over PICU scenarios. Single point of contact phone call and evolution of PETS in late 2012 welcomed.

### 10. ANY OTHER ISSUES

1. **ENT / Ophthalmology / MRI waiting times**

Both ENT and eye services are based in Waterford but there are long waiting lists. Eye service is very good and includedROP screening. MRI with sedation requires a trip to Dublin and is associated with a very long waiting time.

2. **Audit**

No formalized structure but there are regular minuted perinatal meetings with the obstetricians.
(3) **Shared care for oncology patients / liaison with tertiary services**

A great success but occasional communication issues – discharge and OPD letters from subspecialists in tertiary centres can be very slow.

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<th>11. <strong>FUTURE DIRECTION</strong></th>
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<td>A meeting of all the paediatricians in the SE region is to be convened and will look at strategic developments for the region as a whole.</td>
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Paediatric Services in the Southeast

Background

At each hospital visit in the Southeast, all felt that a combined meeting to discuss regional issues would be beneficial and this meeting took place in Waterford Regional Hospital on July 25th 2012. There were 32 attendees including paediatricians and senior paediatric nurses from all four units, health and social care professionals and a regional lead.

Purpose of the Meeting

To look strategically at paediatric and child services in the South East, its strengths and weaknesses and to look for areas of communality across the four sites. This is set against the impending announcement of the establishment of trusts nationally and the development of the National Paediatric Hospital.

Meeting Structure

- Introduction by Professor Alf Nicholson and Dr John Murphy, Clinical Leads in Paediatrics and Neonatology
- Overview presentation re National Clinical Programme by Professor Alf Nicholson
- Individual presentations by nursing and paediatrician representatives from the four paediatric departments in the South East
- Summary and wrap up

Individual Presentations

Main points raised included:

(a) CLONMEL:

- Area within the paediatric department where children are seen is effectively a SSPAU (Short Stay Paediatric Assessment Unit) and this is a popular service with parents and GP’s
- Clonmel is anxious to support the South East as a network
- Inpatient facilities are sub-optimal as the ward was not purpose-built
- Neonatology referrals are either to Cork or Waterford
- Stressed the need for a designated regional centre in diabetes for children and adolescents
- Highlighted the lack of a hospital social worker
- Highlighted the issue of older and often troubled adolescents being admitted to the ward under Section 12

(b) KILKENNY:

- Highlighted the importance of the impending trust structure
Need a regional diabetes service lead by an endocrinologist and incorporating a full team (dietitian / clinical nurse specialist in paediatric diabetes / psychologist )

Stressed issues re psychology and child and adolescent psychiatry services

(c) WEXFORD:

Highlighted the lack of facilities for paediatric patients in the Emergency Department (no audio-visual separation from adults / no observation bays / no paediatric nurses) - new build of Emergency Department planned in 2014

Importance of a regional neonatal service

Waiting lists for psychology wholly unsatisfactory

Stressed also the importance of a regional diabetes service (very committed CNS in diabetes locally)

Highlighted issues re early intervention waiting lists

(d) WATERFORD:

Well developed regional services for ENT, orthopaedics, ophthalmology and paediatric radiology

Regional neonatal intensive care staffed by 27.5 WTE neonatal nurses at present and service lead by neonatologist. ANP in neonatology is approved and is an exciting step forward. There is a new purpose-built NICU due for completion in 2013 but does require more neonatal nurses, consideration of staff grade specialist model and additional two neonatologists

Support a regional diabetes service for children and adolescents lead by a paediatric endocrinologist

Highlighted the lack of a paediatric hospital social worker with particular difficulty in relation to child protection cases

Highlighted the excellent CRC centre which looks after over 600 children with physical handicap from across the region. It would be desirable for paediatricians across the region to do sessions in the CRC

Supports the appointment of a CCH paediatrician with an interest in child protection to head up CSA service

CF services should continue in a shared care model with Cork University Hospital

ANP proposed for children’s ambulatory care

Summary

The agreed points arising from the meeting were as follows:

The South East requires a strategic approach to further development of services for children and this meeting is just the start of this process
• A Regional Lead for Paediatric and Maternity Services would be very helpful (akin to directorate in the North East)

• All support the development of a regional neonatal service in Waterford but added nurses and two added neonatologists are required

• A comprehensive Diabetes service should be developed regionally with the appointment of a paediatric endocrinologist with appropriate dietetic, CNS in paediatric diabetes and psychology staff (as per national model of care for type 1 diabetes phase 2)

• The excellent facility of the CRC in Waterford is a real strength and should be supported by paediatricians devoting sessions to working there and thereafter seek the appointment of a CCH paediatrician with a special interest in disability

• CF care should continue in Waterford using a shared care model with Cork

• The significant shortfall in psychology and social work services across the region needs to be addressed
Appendix 1 – Glossary

AHP – Allied Health Professional
ANP – Advance Nurse Practitioner (e.g. ANP in Neonatology)
CCH – Community Child Health
CDU – Clinical Decision Unit
CF – Cystic fibrosis
CNS – Clinical nurse specialist
DDH – Developmental dysplasia of the hip
DNA – Did not attend
ECMO - Extra corporeal membrane oxygenation
ED – Emergency department
EEG - Electroencephalogram
HIE - Hypoxaemic-Encephalopathy
HSCP – Health and Social Care Professional
NAS - National ambulance service
NICU – Neonatal intensive care unit
NMH – National Maternity Hospital, Holles Street
NPH - National Paediatric Hospital
NPH – National paediatric hospital
OT – Occupational therapy
PICU – Paediatric intensive care unit
PPROM - Prelabour preterm rupture of membranes
SCBU – Special care baby unit
SLT – Speech and Language Therapy
SSOU – Short stay observational unit
TPN – Total Parenteral Nutrition
WTE – Whole time equivalent
Appendix 2 – List of algorithms being developed

The following algorithms are those that are currently being developed by the Paediatric and Neonatology Clinical Programme. They are all undergoing a consultation process with stakeholders. The Programme will add to this list over time.

List of paediatric algorithms for use in primary care

- Acute Bronchiolitis
- Acute Gastroenteritis
- Acute Otitis Media
- Allergic Rhinitis
- Atopic Eczema
- Bow Legs / Knock Knees / In-toeing
- Childhood Asthma
- Childhood Pneumonia
- Colic in Infancy
- Constipation / Soiling
- Fever in Young Children
- Fits, Faints and Funny Turns
- Food Allergies in Children
- Gastrooesophageal Reflux
- Headaches in Childhood
- Nocturnal Enuresis
- Recurrent Abdominal Pain
- The Child with a Heart Murmur
- The Hyperactive Child
- The Limping Child
- The Overweight / Obese Child
- The Short Child
- The Six Week Check
- Urinary Tract Infection

List of neonatology algorithms for use in neonatology units nationally

- Anorectal Malformation
- Developmental Dysplasia of the Hip
- Infant born through Meconium stained liquor
- Management of Supraventricula Tachycardia
- Management of Torticollis/Head tilt/Sternomastoid tumour And Plagiocephaly
- Meconium Aspiration Syndrome
- Murmurs in Neonates
- Necrotising Enterocolitis (NEC) Management
- Neonatal Hypoglycaemia
- Neonatal Hypotension
- Pulse Oximetry testing for newborn congenital heart disease
- Surfactant Administration in Preterm Infants
- Term Infant with Neonatal Jaundice on the Postnatal Ward
- Undescended Testis