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Location of the National Paediatric  
Hospital

## A prioritisation exercise for the collocation of adult hospital specialities with a tertiary paediatric hospital in Dublin

### Introduction

A joint task group has been engaged in a process of determining the optimal location for the proposed single national tertiary children's hospital including the secondary care facility for Dublin. As part of this process a subgroup has been asked to "examine the specialities to be located in the paediatric hospital and to consider what adult specialities it would be most appropriate to collocate with".

### Methodology

The short timescale has not allowed any comprehensive re-examination of the literature and only a series of brief discussions with international figures in children's hospital management. What follows needs to be considered with that firmly in mind.

1. Review the literature that informed the preparation of the *Children's Health First Report* in order to see if there is any evidence therein on the added value of clinical collocation with specific specialities.
2. Review the policy papers used in the preparation of the *Children's Health First Report* in order to see if there is established policy in this area in other jurisdictions.
3. Contact Chief Executives of a number of leading children's hospitals internationally to get their views on added value from clinical specialities in adult collocation.

The specialities outlined in the *Children's Health First Report* that would be expected in a national tertiary paediatric centre.

### Medical

Anaesthetics  
Cardiology  
Endocrinology  
General Medicine  
Genetics  
Haematology  
Immunology  
Infectious Diseases  
Intensive care  
Neonatology  
Nephrology  
Neurology  
Oncology  
Ophthalmology  
Pathology  
Radiology  
Respiratory

Rheumatology  
Microbiology & Clinical Chemistry

### **Surgical**

Cardiothoracic surgery  
ENT surgery  
Gastroenterology/GI/ hepatobiliary surgery  
General surgery  
Neurosurgery  
Orthopaedic surgery  
Transplant surgery  
Urology

You could add child protection, neurodisability and psychiatry services to this list.

### **Clinical specialties defined as 'essential' for a level 1 PICU, by American Association of Paediatrics,**

Pediatric intensivist  
Pediatric anaesthetist  
General surgeon  
Pediatric surgeon  
Cardiovascular surgeon (pediatric preferred)  
Paediatric Neurosurgeon  
ENT (paediatric preferred)  
Orthopaedic surgeon (Paediatric Preferred)  
Paediatric Nephrologist  
Paediatric Neonatologist  
Paediatric Neurologist  
Paediatric Radiologist  
Psychiatrist/psychologist

### **Paediatric caseloads of non paediatric Dublin hospitals**

- 2231 paediatric patients discharged from adult hospitals in 2004 with 1406 (63%) being discharged from Beaumont Hospital
- In Beaumont ENT accounts for 772 (55%) of those discharged, followed by Neuroradiology/Surgery for 378 (29%)
- Only Beaumont Hospital is seeing those under 5 and most of those under 10
- The other hospitals see Dermatology, orthopaedics, plastic surgery, haematology, maxillo-facial surgery, and general medicine and surgery.

### **The literature**

The literature does not directly address the specific added value of specific adult clinical specialty collocation with a paediatric hospital.

What it does tell us is the following:

- The management of blunt trauma in children is better managed in specialist accident and emergency departments.

- High volume neonatal ICUs produce better survival rates and outcomes
- When transferring critically ill children, specialist retrieval teams should stabilise the child first and specialist paediatric transport needs to be provided
- All neonatal surgery and anaesthesia should be carried out by specialists
- Oncology, radiology, pathology and intensive care benefit from high volume throughput
- There are a number of adult clinical specialties that commonly deal with children and may not have paediatric counterparts: otorhinolaryngology, orthopaedics, neurosurgery and transplant
- Liver transplant centres need to be carrying out at least 20 transplants per year
- One study found that paediatric trauma was as well managed in adult A+E centres while other studies (and the general consensus) emphasise the need for specialist paediatric trauma surgeons/paediatric surgeons with trauma training
- Prenatal diagnosis increasingly identifies GU, thoracic and abdominal problems and many families changed the site of delivery to facilitate immediate post natal treatment

\* A+E

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### The reports

- National Association of Children's Hospitals and Related Institutions (NACHRI) website
- Paediatric and Congenital Cardiac Services Review Group (U.K.), Dec 2003
- British Paediatric Cardiology Association (BPCA), Report 2000 (U.K.)
- Child Health Support Group (CHSG) Tertiary Services Report, Nov 2004 (UK)
- National Framework for Service Change in the NHS in Scotland
- Child Healthcare Services In Scotland. Report of the workstreams on
- Specialised Paediatric Services And Children's Health Services(UK), 2005

The two cardiology reports argue for centralisation of services to ensure sufficient throughput. They argue for close links between adult and paediatric work on congenital lesions. The prevalence of congenital lesions will increase without increase in incidence and more will live to adulthood sometimes requiring further surgery.

The two Scottish reports were very much in favour of a tri-location framework: paediatrics, maternity and adult. The new Glasgow planned Children's Hospital is to be tri-located.

The reports recognised the benefits of co-location with adult services facilitating as it does access to any adult service required by children, and also improving those services where clinicians provide both adult and paediatric care for example neurosurgery. It is also appreciated that separate maternity and paediatric services is an undesirable arrangement in relation to antenatal care, neonatal care requiring tertiary paediatric services radiology/surgery

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The reports also acknowledged the need to co-locate with adult services especially in relation to the treatment and diagnosis of adolescent conditions  
For young people with uncommon conditions, where recent medical advances are only now resulting in significant numbers of survivors to adulthood, for example, congenital heart disease and rare metabolic diseases, the main problem tends to be a

lack of adult service. This is because there is little knowledge of these conditions and their treatments in adulthood, and very few clinicians have acquired the necessary expertise. The result is that the young person stays with the children's service, continues to be treated like a child, and the service fails to adapt sufficiently to recognise that he or she is maturing into an adult.

(ii) In addition young people with long term conditions that are common in adulthood, but less so in childhood, for example, diabetes or arthritis, may have a different problem. For them, the move to adult services means a shift from being 'special', in the sheltered atmosphere of a small children's service; into an environment with many older patients, that offers less social support, and where clinicians may have less time, where clinical practice may be focussed on the older end of the age range, and where the family may be excluded.

(iii) Finally they saw value in having family victims of trauma, parents/children involved in RTAs being co-located.

### 3. Expert opinion

- Transplant surgical teams, neurosurgery, spinal surgery and cardiac surgery are important.
- Hard to justify separate transplant teams when the area is so short staffed
- High end technical services in both diagnostics and surgical management
- Transition conditions – long-term illness including Crohn's Disease and other chronic inflammatory bowel disorders, rheumatological diseases, complex epilepsy, diabetes, cerebral palsy, cystic fibrosis, sickle cell disease/thalassemia
- Diagnostics – MRI, PET scanning, histopathology, Nuclear medicine,
- + Interventional radiology esp. with neurosurgery (aneurysm, congenital neurovascular lesions)
- Radiotherapy
- Renal dialysis
- Strong emphasis on the added value of collocating paediatric services with maternity services particularly neonatal intensive care, and surgical management of problems identified prenatally (Sydney Children's is trilocated)
- Some share operating theatres
- Clinical added value comes from extended nursing/physiotherapy rotas/teams also
- Share clinical information and research
- Dedicated paediatric pharmacy

Back of house and transactional services provide real efficiencies: engineering, I.T. infrastructure, catering, electrics, HR, Payroll,  
Strong support for independence of paediatric facility on adult site in terms of marketing and fundraising

Experts consulted:

1. Dr Tony Cull, CEO The Royal Children's hospital, Melbourne, Australia
2. Professor Les White, CEO Sydney Children's Hospital, Sydney Australia
3. Dr Tony Penna, CEO Westmead Children's Hospital, Sydney Australia
4. Professor Sir Alan Craft, President of the Royal College of Paediatrics

Awaiting further input:

Mary Jo Haddad, CEO – Toronto Sick Children's Hospital

Steven Altschuler CEO Children's Hospital of Philadelphia

Prof Calder, Chair of Advisory Group, New Children's Hospital, Glasgow

## **Conclusions**

The literature and policy papers do not give definitive answers as to which adult sub-specialities would add most value to a paediatric hospital planning to collocate with the adult centre. The discussions with the CEOs do provide some pointers to a logical approach to assessment of benefit when considering the information provided by the candidate locations.

## **Proposed prioritisation of clinical service collocation**

### **Priority 1 a**

1. Neurosurgery – need is acute in a major trauma centre, no paediatric equivalent
2. Neonatology – Very sick infants whose care will improve with increased volume and other supports

**Priority 1 b** - Clinical specialties that are shared by necessity with adult clinicians as there are no specialised paediatric teams

1. Transplant Surgery
2. Interventional neuroradiology
3. Radiotherapy
4. Spinal surgery

And others where much of the caseload may be less highly technical:

### **Priority 1 c**

1. Otorhinolaryngology
2. Dermatology
3. Plastic surgery
4. Maxilo-facial surgery
5. Ophthalmic surgery

### **Priority 2** Specialties that cover child/adult transition

Neurodisability (no adult specialists – a gap)

Renal medicine and dialysis

Rheumatology

Endocrinology

Respiratory-cystic fibrosis

Cardiology/cardiac surgery

Neonatal intensive care

Haematology (sickle cell)

Oncology

Immunology

Genetics

### **Priority 3** Specialties that commonly cover children and adults – shared rotas etc

Orthopaedics

Urology

Diagnostics needing critical mass to justify purchase

MRI; Pet scanning; Histopathology

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