

*“Let us put our minds together and see what life we can make
for our children”.*

Sitting Bull (1831-1890) Sioux Chief and Holy Man

PART THREE

Recommendations and Next Steps

Children's Health - First Class

The NPH project has the potential to transform paediatric services, education and research in Ireland by providing -

- An **integrated paediatric network** providing safe care as locally as possible with clearly defined roles for its tertiary, regional and local components
- **Ambulatory and urgent care centres** operated as part of the national paediatric hospital service providing local access to care for wide areas across Dublin with the potential to develop similar models linked to other regional centres
- **Integration of the three children's hospitals** to create a service greater than the sum of its parts through the pooling of expertise, skills and experience and the diffusion of best practice
- A **tertiary centre** organised around optimal clinical adjacencies and service synergies promoting the effective use of staff, inter-disciplinary working and seamless services to patients. This will include a high-tech core which will co-locate key elements including operating theatres critical care and imaging
- Space provision comparable to the latest international developments including **100% single rooms with ensuite facilities** within ward layouts allowing regrouping for speciality, dependency and age-related needs
- Future-proofing and flexibility for expansion and change in service models including the capability of all inpatient bed rooms for progressive conversion to **critical care** standards
- Support facilities for children, parents and families including **local and central play areas, rooming-in provision in all bedrooms, Ronald McDonald-style overnight accommodation and a parents' resource centre**
- A **major academic centre** in association with university and commercial partners incorporating a central, multi-disciplinary education training and research centre tele-linked to learning resource zones within clinical areas and other hospitals.

Key recommendations from earlier sections of the Framework Brief are summarised in this part of the report. Where appropriate, important next steps and actions for the next stages of the project are also highlighted.

Stakeholder Engagement

- It is strongly recommended that the framework brief should be developed through cross hospital and cross-specialty dialogues in the next stages of the project
- While we have not had the opportunity to speak directly with children or parents we have met with organisations which speak on their behalf from whom there is strong commitment to, and interest in the project. We recommend full engagement of children and their families in the next stages. Interest Groups and Voluntary Organisations should also be involved
- A policy decision by the HSE on the age cut-off point is required, however a child's individual needs cannot be categorised by age alone and flexibility is therefore the key to good practice. It will be important that the views of young people and their families on age cut-off are canvassed
- The process to date has been overly focused on site and accommodation issues. It will be important at the next stage that a framework and process are established in which design and investment decisions are considered in the context of core clinical objectives and priorities
- International experience points to the value of pilot studies in providing evidence of the benefits of new models and building confidence ahead of wide-scale roll-out.

Section A Model of Care

A1 National Network

We recommend that, while further analysis of activity, workforce and infrastructure requirements will be necessary to determine the detailed configuration of services, the key components of the new model should include –

- Designated regional hospitals providing secondary inpatient, day and outpatient care operating within specialty specific clinical networks
- Regional and designated local hospitals and other healthcare facilities hosting outreach clinics from the NPH Tertiary Centre
- Periodic rotation of staff between the NPH Tertiary Centre and regional and local hospitals to develop, maintain and exchange skills
- Integrated care pathways and protocols branded from the NPH Tertiary Centre to ensure consistent high quality care in local settings
- The new Model of Care should be implemented in advance of the NPH Tertiary Centre. Extended use of telemedicine from the NPH Tertiary Centre is critical to success and IT infrastructure and systems must be in place in advance of the new hospital. This includes EPR and PACS
- A co-ordinated and managed process must be established across the three children's hospitals to ensure that the best of current good practice is adopted in the new model
- Consideration should be given to an integrated 24/7 neonatal and paediatric transfer and retrieval service in advance of the NPH Tertiary Centre.

In taking the project forward to the next stage we recommend that -

- A comprehensive mapping of current outreach arrangements is undertaken. A systematic evaluation, co-ordinated across the three children's hospitals should

be undertaken to identify sustainable examples of current practice and their potential for wider application

- The future roles of local and regional hospitals in the provision of paediatric services should be determined against agreed criteria in terms of critical mass, staffing requirements and infrastructure
- There should be agreed and explicit assumptions about the anticipated changes in community and primary care infrastructure and what this means for the NPH Tertiary Centre in its network. The impact of investment in community, primary and home care services upon hospital utilisation patterns should be continuously monitored, feeding into a clear benefits realisation strategy.

A2 Ambulatory Care and Urgent Care Centres

- We recommend that these centres should be clearly operated by the NPH Tertiary Centre and part of its brand, governance, education and training and quality assurance, providing services and environments of the same quality as those delivered at the Tertiary Centre
- An A/UCC should be established on the adult hospital site at AMNCH as a pilot project
- A Blanchardstown Centre could follow once there has been sufficient time to evaluate the initial model and should be timed to introduce the additional capacity at the point when it is required to meet the projected growth in population demand
- There is also potential for consultant led outpatients in Loughlinstown and consideration should be given to a nurse led minor injuries service. The latter would deal with a different case mix than the A/UCCs and further analysis of the likely workload and links with primary care will be required to determine viability
- Similarly, the Loughlinstown service model should be developed so that it is informed by the experience of the earlier centres. If this suggests that a smaller volume or narrower range of services is to be provided, activity is likely to be displaced to Tallaght which should be planned with upward flexibility in mind

- Transfer and retrieval services should have been established and be fully functioning in advance of the A/UCCs
- Early implementation of Electronic Patient Records and Telemedicine including digital transfer of images will be essential
- Key next steps in developing the A/UCCs should include establishment of a cross-hospital A/UCC planning forum to champion the project with responsibility for leading development of care pathways and protocols, workforce planning and staffing models and liaison with primary and community services, academic partners and other agencies to build local interfaces.

A3 NPH Tertiary Centre

The model of care for the NPH Tertiary Centre will define how clinical services should be arranged in relation to each other, and to non-clinical and support services. A number of international models have been discussed in this section.

- At the next stage of this project further work will be required to examine models of care, processes and care pathways at a more detailed level in relation to key patient groups and journeys rather than specialties
- Stakeholders have expressed a preference for dedicated facilities on a specialty basis. Our recommendation is that a balance should be struck to ensure that the inherent flexibility in shared capacity is not compromised whilst recognising the benefits of dedicated facilities for some patient groups
- Our proposal is that neighbourhood or cluster models based on grouping specialties with close clinical affinities be explored further
- Emerging from the stakeholder discussions are a number of areas where alternative models of care are being debated, which is to be expected at this stage. A structure and process should be set up to ensure that the debate is comprehensive and inclusive and focused on demonstrable benefit in service delivery.

A4 Education, Training and Research

- We recommend that Education, Training and Research should be integral parts of the NPH Tertiary Centre. The model should include both a multi-disciplinary education training and research centre and learning and resource facilities localised within clinical areas
- The A/UCCs which, it is recommended, are developed as part of the NPH Tertiary Centre service should also include appropriate facilities of comparable quality
- The importance of early development of information technology linking these areas within the tertiary acute centre, and between it, academic partners, A/UCCs and other hospitals delivering paediatric care is emphasised
- A structure for engaging the different institutional stakeholders in the process of specification, funding and accreditation of educational and research activities and facilities should form part of the project management structure for development of the NPH Tertiary Centre
- The NPH Tertiary Centre should incorporate provision for research activity, the model for which should be developed in discussions with the HRB and academic partners.

Section B Capacity Modelling

B2 Bed Capacity Modelling

- Our analysis indicated that a bed capacity of 474 which includes 65 day case beds is required for 2021 assuming moderate performance improvements. Of these day beds, 28 would be located in A/UCCs
- We have modelled a number of scenarios to illustrate the impact of higher performance improvements on inpatient bed requirements. Our recommendation is that the impact of system reform should be continuously monitored and these projections should be regularly reviewed

- Some specific areas for further monitoring and analysis are identified– including under 5 secondary surgery, non-referred intensive care >24hrs LoS outside Dublin, neonatal intensive care and transitional care
- There should be a specific workstream focused on demand and capacity analysis and this should be integral to the stakeholder engagement process at the next stages to secure buy-in to assumptions and projections and ensure that the process is informed by local experience and the impact of system reform.

B3 Outpatient Capacity Modelling

- Our analysis indicated a capacity requirement of 53 CE rooms at the NPH Tertiary Centre and 23 CE rooms located in the A/UCCs. Again, we recommend that this level of capacity is periodically reviewed to ensure that the impact of any system reform is identified
- Moderate assumptions have made on the potential to outreach outside Greater Dublin and to A/UCCs. Further work is required via detailed care pathways, workforce planning and cost benefit analysis to confirm scope.

B4 Operating Theatres and Procedure rooms

- On the basis of our analysis we recommend a theatre capacity of 20 theatres within the NPH Tertiary Centre network, with 5 located in the A/UCCs
- 2 suites should be provided as shell accommodation for new technologies to be confirmed as the project is progressed
- The facilities at Blanchardstown should be delivered later in the process to allow for adjustment at that point to ensure no over or under-capacity.

B5 Imaging

- We have estimated a future imaging capacity requirement of 26 rooms by applying an assumption of growth in excess of demographic change to current

capacity. 'Shell' space for 2 additional suites is included with theatres. Further activity based analysis is required to validate these assumptions.

Section C : Operational Policies, Hospital Sizing and Preferred Configuration at the Mater Site

C1 Operational Policies

This section of the report considered high level operational and facilities requirements for key services. At the next stage, we recommend that generic approaches be further developed and best practice models adopted across specialties and institutions.

Shared Services

- The potential for shared services is explored in Section C.1.2. It will be essential that all institutions support the principle that duplication of shared services should be avoided where consistent with good clinical practice and demonstrating a capacity for significant savings and value for money
- We recommend that adults and children should not mix in the same environment and therefore that core patient facing clinical services should not be shared with adults – except in rare cases where the costs of dedicated services cannot be justified
- Further, we recommend that Children's care should be delivered by clinical staff with paediatric expertise – this includes laboratory and pharmacy services as noted in Sections C1.2.1 and C1.2.2
- The agenda for change in the new NPH Tertiary Centre model is significant - in merging together the culture, practices and people across three organisations. We recommend that the initial focus should therefore be on integrating services for children in advance of adult and/or maternity services

- We would also propose that the concept of sharing in a co-located physical environment be extended to include access to facilities and amenities, including multi-faith facilities, family facilities, carparking and public restaurants for example, will require a coordinated plan across all three hospitals on the site.

Off site services

- The potential for off-site services is reviewed in Section C1.3. Consideration of on/off site location should be driven by service benefit as the key driver. We recommend that this should be a guiding principle in going forward.

Services and Facilities for parents and Families

- Parents and/or guardians should be supported in caring for their child in hospital. Operational policies and design should allow the parent to be with their child at all times – except when it may not be in their best interests
- The NPH Tertiary Centre should include a Family Resource Centre providing a retreat and resource for families and care givers of inpatients and outpatients. Families accessing Maternity Services would also benefit from the range of services in a Family Resource Centre and consideration should be given to the potential for sharing
- Every parent or nominated carer should be facilitated in staying with their child overnight. In line with international best practice, every bed space including critical care should facilitate one parent sleeping with their child.

Inpatient services

- We recommend that wards should be generic in organisation and layout as far as possible with standard operational policies. Ward design should facilitate flexible bed allocation by specialty, age or dependency
- The evidence from our Reference Sites is that nursing units should be sized between 24 and 30 beds. For the purposes of hospital sizing we recommend 28 bed units, sub-divided into sub-units of 8-10 beds to allow designation by specialty, age or dependency

- We recommend that 100% single room provision should be made. However, there is a case to be made for a small number of beds in multi bed bays and we suggest further debate at the next stage. In particular, children and their parents should be asked their views
- We recommend that the combined area of the single bedroom and en-suite should not be less than 26.5m², and suggest an upper limit of 30m² including the en-suite bathroom subject to configuration. These rooms should be easily convertible to critical care standards.

Ambulatory Services

- Outpatient services should be located for patient and family convenience and ease of way-finding. The organisation should be flexible to accommodate fluctuations in activity by specialties over time. We recommend that consultation and examination room sizes should range from 16m² – 22m²
- Ambulatory therapy services should co-located with outpatients. Dedicated inpatient therapy space should be incorporated at ward level
- An 8 bed observation unit is included in the Emergency Department. However, further consideration of acute emergency assessment models is required at the next stage. This may result in a larger unit which would incorporate some general medical and surgical beds.

Diagnostics and Treatment

- Our recommendation is that the standard theatre size should be 55m². Two rooms could be allocated as major procedure rooms (including endoscopies) and sized at 38m². Three to four rooms should be designed as larger rooms for image guided therapy and complex surgery and should be at least 70m²
- Further consideration of the model for imaging is required. Multi site options should be explored provided that the service is not fragmented.

Administration and staff facilities

- The provision of staff facilities is a key area where opportunities for sharing across the adults, children's and maternity hospitals should be exploited. In a tri-located model, the Mater Hospital site and campus is likely to include more than 6000 staff and students
- Joint HSE / commercial opportunities should be explored to provide a range of staff facilities including, for example, gym and swimming pool facilities, social club and Crèche close to the Mater Hospital site
- Staff residential accommodation will need to be considered from a staff retention and recruitment perspective.

Back of House

- A site-wide horizontal and vertical distribution strategy is critical to effective operation and it is essential that any advanced design for the adult services takes site-wide distribution into account.

C2 Hospital Sizing

Our analysis in section C1 indicates a hospital size in the order of 103,600 m². We consider this level of provision to be reasonable and robust at this stage in the planning process.

- Additional space pressures are noted and these will be subject to review at the next stage and need to be considered in the context of policy, affordability and service benefit.

The next stages of the project will include –

- Development of area requirements on a room by room basis
- Confirmation of affordability envelope
- Integration with workforce planning.

C3 Preferred Configuration on the Mater site

The analysis indicates that the space requirements above can be accommodated on the site with different implications for the amount of unallocated space available for future developments in a tri-located model depending on the extent of off-site provision.

- In a trilocated model, it is likely that the Mater Campus will attract more services in the future. As is evident at CHOP and Toronto (and other hospitals elsewhere) despite reductions in bed numbers, there is constantly a drive towards expansion and renewal.
- In terms of functional relationships, from a paediatric perspective, the recommended model is co-location of critical care with inpatient theatres and essential imaging, day theatres and day surgery recovery
- From a maternity perspective, the recommended arrangement is co-location of delivery suites including obstetric theatres, NICU and essential imaging
- These recommendations can be met in an integrated and concurrent build with maternity services. If the NPH Tertiary Centre is delivered in advance of maternity we suggest an alternative approach that would not unduly constrain the maternity development.
- As the High Level Framework Brief is developed there are a number of areas where early action can help to ensure fulfilment of the vision of a world class children's hospital. In drawing together the themes, there is an imperative to replace existing dysfunctional accommodation without delay, particularly at CUH, and that must be a key objective for the Development Board
- We recommend an integrated and concurrent build with Maternity because, amongst other advantages, it offers most flexibility in meeting the needs of each organisation
- The impact of the new hospital's location on recruitment and retention should be considered as part of a comprehensive workforce strategy which addresses

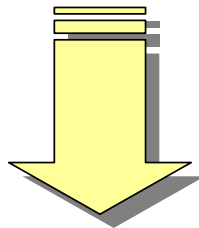
availability of car parking on site, appropriate housing in the locality and clarification of proposals for shared services

- Development of strategies for securing demonstrable environmental quality in the context of an urban site should be an early priority for the Development Board
- In terms of access and overall logistics there are a number of considerations which can be addressed by a coherent whole site plan for logistics and site pedestrian and vehicular traffic. We recommend that a co-ordinated comprehensive whole site development plan be developed
- If the Adult Hospital is commenced in advance of the Children's scheme we strongly recommend that clear parameters and an agreed development and design framework are in place to ensure the schemes remain mutually beneficial
- As is common on all projects of this scale it will be essential to develop transport, access and car parking strategies identifying prioritised provision for patients and for staff who frequently travel between sites, especially for emergencies, and workable off site solutions for staff together with a comprehensive mobility plan. This should include a detailed assessment of traffic and emergency vehicle access and impact at the next stage
- Consultation with Town Planners is outside the remit of this Framework Brief and will follow in the next stages of the project. Issues to be explored at the next stage will include building heights, plot ratios, and design parameters. It will be necessary to consult a number of external stakeholders including heritage groups. However, our International Adviser Ken Schwarz acting in his capacity as consultant to RKW has had informal discussions with the Planners with the HSE to discuss site development potential and it was reconfirmed that the authority was receptive to a denser and higher development on the site compared to earlier applications
- In moving forward we recommend that a forum is established to ensure dialogue across all future users of the site, including the universities, and to ensure that proposals are developed in the best interests of all parties.

Next Steps

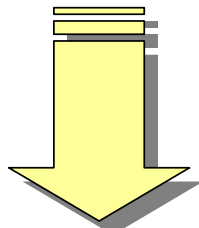
Our recommendations and suggestions for action are shown below.

Building on the Framework Brief : Next Steps



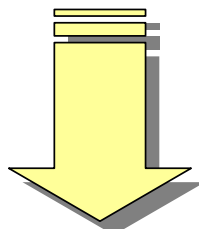
Develop Forum for Cross-Hospital and Cross Specialty-Engagement

- Develop Philosophy, Principles and Model of Care
- Engage with providers on Education, Training and Research
- Engage with Children and Young People and Voluntary Organisations



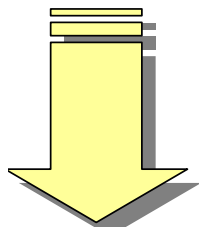
Develop Care Pathways and Processes

- Develop care protocols for National roll out
- Integrate role of primary care and community paediatrics
- Outreach to home, A/UCCs and outside Dublin



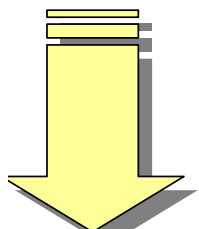
Integrate Workforce Planning

- Consider impact of capacity and requirements across disciplines
- Develop roles of CNSs and ANPs
- Integrate shared services proposals



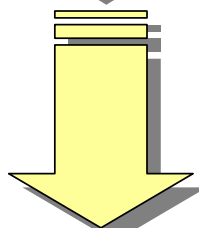
Advance Infrastructure before Tertiary Centre : National and Local

- Implement A/UCC at Tallaght and evaluate
- Integrate IT across hospitals and develop national infrastructure
- Develop framework for Education and Training



Undertake Economic and Financial Appraisal

- Cost Benefit Analysis
- Financial and affordability analyses
- Capital costs



Develop Operational Policies and Schedules of Accommodation

- Monitor and confirm capacity requirements
- Develop processes for clinical and non-clinical functions
- Develop room by room schedules of accommodation

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Appendix 1 Reference Sites Database Summary

Summary Comparison across Reference Sites

United States							Canada			United Kingdom					Europe	Australia
Cincinnati, Cincinnati Children's Hospital	Texas, Austin New Children's Hospital	Texas, Houston Children's Hospital	Illinois, Children's Memorial Chicago	Colorado, Dell Children's Hospital at Fitzsimons	Philadelphia, CHOP	Massachusetts, Boston Children's Hospital	Vancouver, British Columbia Children's Hospital	Toronto, Sick Kids	Calgary, Alberta Children's Hospital	Manchester, Manchester Children's Hospital	London, Evelina Children's Hospital	London, Great Ormond Street	Glasgow, York Hill	Liverpool, Alder Hey	Trondheim Norway, St Olav's Children's Hospital	Melbourne, Royal Children's Hospital

1 General Profile

1.1 Date of Development		open July 2007		due for competition 2012	open October 2007	phased redevelopment due to complete 2010	Currently in a 10 year redevelopment plan			opened 2006		due to complete 2009	opened 2005	expansion project at planning stage	completion 2011	completion 2011	completion 2011	at planning stage
1.2 Governance	stand alone institution	Department of larger hospital network	stand alone institution	stand alone institution	stand alone institution	stand alone institution	stand alone institution	Integrated organisation with maternity	stand alone institution	stand alone institution	integrated Trust with adult and maternity	integrated Trust with adult and maternity	stand alone institution	Currently York-Hill Division includes Maternity	stand alone institution	Integrated organisation with adult and maternity	stand alone institution	
1.3 Activity profile	both mainly tertiary	both, mainly tertiary	secondary / tertiary / quaternary	secondary for Chicago, tertiary for mid-west	both, mainly tertiary	secondary / tertiary / quaternary	secondary / tertiary / quaternary	both, mainly tertiary	secondary / tertiary / quaternary	both, mainly tertiary	secondary / tertiary	secondary / tertiary network	tertiary / quaternary	community/secondary /some tertiary	secondary /tertiary	secondary /tertiary	stand alone institution	
1.4 Age cut off					21		21	19	18	18		18				18	18	
1.5 Satellite Units	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	none	networked with London centres	outreach to other centres	integrated community centres	developing outreach to DGHs and community	none	none	
1.6 Storey (Floors)	7	4	21	11	4	6	11	4	10	6	4	7	7	6	5	5	13	

1.7 Co-location

stand alone	campus model	●	campus model	campus model	●	campus model	campus model	fully integrated model	campus model	●	fully integrated model	fully integrated model	●	fully integrated model	●	fully integrated model	campus model
with adult	●					●			●		●	●		●		●	●
with maternity	●		●	●				●	●		●	●		●		●	●
with Medical School facilities	●		●	●	●	●	●	●	●		●			●	●	●	●
with Research	●		●	●	●	●	●	●	●		●	limited	●	●	●	●	●

1.8 Shared services

non-clinical support						none		●			●	●		●		●	
clinical support	stand alone hospital	stand alone hospital	stand alone hospital	stand alone hospital	stand alone hospital	none	stand alone hospital	●	stand alone hospital	stand alone hospital	● (mixed)	● (mixed)	stand alone hospital	●	stand alone hospital	●	stand alone hospital
core clinical services						proton beam		●			●	●	?			●	

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United Kingdom				
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Europe
Trondheim Norway, St Olav's Children's Hospital

Australia
Melbourne, Royal Children's Hospital

2 Inpatients

2.1 Capacity Profile

Inpatient beds (incl CC)	408	176	464	276	270	442	347	160	362	133	334	134	314	266	289	200	256
Day patient /short stay beds		41		60		24		50	45	36	72	6	57	12	46		97
Critical Care (CC)	94	56	238	92	102	121	74	47	87	20	36	20	38	16	48	20	60
Critical Care as % of inpatient beds	23%	32%	50%	33%	38%	27%	21%	29%	24%	15%	10%	15%	12%	6%	17%	10%	23%
NICU as % of CC	27%	57%	50%	54%	59%	45%	35%	53%	51%	n/a		none (with maternity)			none		50%
NICU as % of total beds	6.1%	18.2%	25.9%	18.1%	22.2%	12.4%	7.5%	15.6%	12.3%	n/a		none (with maternity)			none	none (with maternity)	50%

2.2 Organisation

Bed / ward allocation	generic, allocated by speciality and customised	generic, not assigned to specialities	allocated by speciality but not restricted	generic, allocated by speciality	generic, allocated by speciality	by speciality	by speciality	allocated by speciality	allocated by speciality	generic and shared except oncology and	generic, allocated by speciality	generic allocated by speciality	allocated by speciality	generic shared	generic shared	generic, allocated by speciality	shared except for oncology and mental health
Provision for adolescents						dedicated unit					no IP designation , central recreation	none dedicated		non dedicated	non dedicated		no IP designation , central recreation area
Integrated speciality units (IP, DP,OP)	oncology and haematology	none	no			for haematology and asthma. Cardiac also	No except an 8 bed clinical research centre no but overnight stay is possible	none	cardiology, oncology and haematology	oncology and mental health	oncology and burns	none		none	oncology and malignant haematology	none	oncology and mental health
Care by Parent beds	yes		no						no		yes	no	yes	no	no	no	yes
Long Term Ventilation	yes		1 room	yes	yes	yes		yes	no	yes	no	no	yes	no	yes	no	yes
Acute Rehabilitation	yes		no			yes		yes	no		embedded with neurology and ABI	embedded with neurology	yes	no	embedded with neurology	no	yes
Short stay emergency assessment						yes						no	N/A		yes	no	yes
Short stay elective / extended day care	yes										yes	no	no		no	no	yes
Mental health unit	yes	none	no	yes	yes	no	yes	yes	yes	yes	no	no	yes	no	yes	no	yes

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2.3 Ward design

	Cincinnati	Texas, Austin	Texas, Houston	Illinois	Colorado	Philadelphia	Massachusetts	Vancouver	Toronto	Calgary	Manchester	London, Evelina	London, Great Ormond Street	Glasgow	Liverpool	Trondheim Norway	Melbourne
Standard nursing unit size	24 beds	24 beds	36 beds	24-32 beds	24-32 beds	28 beds	20-36 beds	32 beds	24 beds	26-28 beds	28-32 beds	42 bed floor	various		28-30 beds	24 beds	30 beds
Standard ward: Proportion of single rooms	100%	100%	100%	100%	100%	<100%	<100% but aiming to be 100% in time	88%	83%	90%	40%	12%		50%	71%	100%	80%
Size of single bed room	18.5 -23.5 sqm	21.8sqm	30.6 sqm	21.4 sq m	20.4 sqm	25.5 sqm	26.5sqm			19-20sqm	19 sqm	15 sqm	17 sqm		18 sqm	13.7 sqm	18 sqm
Size of ensuite		5.1sqm			2.7 sqm	5.5 sqm	3.6-4.6 sqm				4.5 sqm	3 sqm			6 sqm	5 sqm	
Critical Care: Proportion of single rooms	100%	100%	100%	100%	100%	mixed	100%	36%	27%		22%	15%			100%	9%	100% flexi-bays

2.4 Parents accommodation

	Cincinnati	Texas, Austin	Texas, Houston	Illinois	Colorado	Philadelphia	Massachusetts	Vancouver	Toronto	Calgary	Manchester	London, Evelina	London, Great Ormond Street	Glasgow	Liverpool	Trondheim Norway	Melbourne
by bedside	not all	yes	yes	yes	yes	yes	yes		yes	yes	yes	yes	yes	yes	yes		yes
within hospital	very few		3 rooms			8 (plus dedicated ICU, oncology)	some		10 rooms	5 central rooms plus some with PICU	15	5			0		8
Ronald Mc Donald or equivalent	Ronald Mc Donald	Ronald Mc Donald	2 units 70 rooms	Ronald Mc Donald	Ronald Mc Donald	Ronald Mc Donald	Patient dormitory	Hostel on site + Ronald Mc Donald + 1 other	Ronald Mc Donald	Ronald Mc Donald	60	22	25 rooms additional to per patient		69	separate patient hotel	35
Location of RMCC	across the street	on site (500 metres walk)	10 rooms on site, 50 rooms 20 miles away			off site 1 mile, bus transport	adjacent building	off site, 5 min drive	off site, close to hospital < 1 km	across the street	on site, separate building	off site, bus transport - planned relocation	Parent's accommodation across street		10 mins walk from main entrance	none	off site, close to hospital

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3 Operating theatres, Intervention suites and Critical Care

Co-located IP and DP theatres	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes			yes	yes	no	yes
Dedicated day lists			yes				no	yes	no	no	yes					yes	yes
Other theatre locations			dedicated cardiac theatres and cath labs (separate)				8 theatres off site, cardiac theatres separate				Burns Unit, NICU	Cardiac theatres with adults		none	none		none
What is the size of a standard operating theatre?	55-74 sqm	37-56sqm	42-65 sqm	68 sqm	52.5 sqm				37-60sqm	56 sqm	40 sqm	38 sqm			55 sqm	38 sqm	50-60 sqm
How are theatre suites arranged?	anaesthetic rooms, shared prep and scrub	no anaesthetic rooms, integral scrub, shared sterile prep	no anaesthetic rooms		no anaesthetic rooms, integral scrub, shared sterile prep			no anaesthetic rooms	no anaesthetic rooms, shared central prep, external scrubs	dedicated anaesthetic rooms, scrub outside	dedicated scrubs, anaesthetic rooms and prep rooms	dedicated scrubs, anaesthetic rooms and prep rooms				no anaesthetic rooms, integral scrub, shared prep	dedicated anaesthetic rooms and prep rooms. Shared scrub
Interventional imaging co-located with theatres	no	cath labs only						yes	4 suites	3 suites	unresolved					yes	cath lab only
Interventional imaging co-located with imaging		yes						yes	no	no	unresolved					no - not all	yes
PICU co-located with theatres	no	yes	yes				no	yes	yes	no -with ED	yes			yes	yes	yes	yes
Model for NICU	separate unit	separate unit	separate unit				separate unit	separate unit	separate unit	none	in women's hospital (adjacent)			in women's hospital (adjacent)	none	separate unit	separate unit with post natal beds
NICU co-located (same floor) with PICU	no	no	no				no	yes	no	n/a	no			yes	n/a	yes	no
Relationship of theatres and critical care to Emergency Department	lift access to level below	lift access to level below	lift access to level below	lift access to level below	lift access to level below	lift access to level below	lift access to level below	on same level	lift access to level below	critical care with ED	lift access to level below	children's emergency co-located with adult	n/a	lift access to level below	lift access to level below	children's emergency co-located with adults -bridge	lift access to level below
Relationship of theatres and critical care to Imaging Department	lift access to level below	imaging dispersed in 3 locations - some on	lift access to level below				lift access to level below	on same level	some imaging at theatre level, dispersed	critical care adjacent to main diagnostics	lift access to level below	lift access to level below		lift access to level below	lift access to level below	3 imaging rooms on same level	lift access to level below
Is natural light available in theatres?	yes	yes	yes	yes	yes		no	yes	no	yes	yes	yes		yes	yes	yes	no

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4 Ambulatory Care and Diagnostics

Does the hospital have a dedicated day unit (dedicated recovery)?	yes	yes	yes	yes	yes	yes-on and off site	yes - Post Anaesthesia Care Unit	yes	no	yes	yes	no	yes	yes	yes	yes	yes	
Are medical day cases integrated with surgical day cases?	no	no	yes- but some exceptions	yes	yes	no	no	no	yes	no	no	yes (excl oncology, dialysis)	separate medical day unit	no	yes	yes (excl oncology, dialysis)	yes	no
Operational Hours	standard day	7 to 7 , no weekends	standard day			outpatients 7 days a week with extended day	7am-5pm some extended hours	up to 7 pm - no weekend working	standard day generally, extended day for medical day cases	varied- some extended day and weekend work	Extended working day	Extended working day			15 session weeks planned	12 hrs per day	standard day	
What is the model for imaging services?	centralised except for cath lab	Dispersed model - Emergency, theatres, outpatients	2 centralised models - IP and OP			currently split due to space constraints	centralised	centralised with satellite in orthopaedic clinic	dispersed	split diagnostic, interventional and fracture clinic	centralised	plain x-ray, MRI, US dedicated to children, other shared with adults	centralised	centralised excl cath lab	dispersed model	centralised next to emergency dept		
Are outpatient facilities shared or designated?	designated by specialty - territoriality an issue	shared across sub-specialities	exam rooms can be shared			shared in satellites , designated in centre, moving to shared	Some sharing, some designated	mixed model	mixed model	generic with specialised facilities	shared except for oncology, dialysis	shared except for cardiology and renal	dedicated mostly	shared	shared except for oncology, + psychology	principle is generic shared	shared	
Are therapy services within the ambulatory setting?	mixed model - mainly integrated in multi-disciplinary units	yes - dedicated inpatients at ward level	mixed model - mainly integrated in multi-disciplinary units			mixed model - mainly integrated in multi-disciplinary units	integrated except designated physical therapy suites		mixed model - mainly integrated in multi-disciplinary units	yes	co-located with outpatients	co-located with outpatients	yes	co-located with outpatients		separate zone from outpatients		
What is the size of a standard consultation and examination room?	9-11 sqm	11 sqm	11 sqm	10-11 sqm	11 sqm	9-11 sqm	10.2 sqm	10 sqm		12sqm	16 sqm	14-18 sqm		16-22 sqm	15 sqm	14 sqm		
Do consulting rooms have access to natural light?	most	yes	30% have	yes	yes	yes-on and off site	most	no	not all	not all	20%	100%		not yet planned	100%	most not		

Appendix 2 International Advisers Questionnaires

National Paediatric Hospital – Ireland

Questionnaire (1) for Clinical Advisers 16/2/07

Introduction

The purpose of this questionnaire is to gain an international perspective about current and emerging best practice in secondary and tertiary paediatric services from leading specialists.

Your views and opinions will help inform the development of a world-class National Paediatric Hospital for Ireland.

1 What range of services may be provided in a dedicated paediatric **Ambulatory Care Centre** (either located on an adult hospital site or stand alone)

a outpatient clinics

b What surgical day procedures (see list), could be conducted in an ambulatory care centre?

c What medical and investigative day procedures could be conducted in an ambulatory setting (see list) ?

d What pathology, radiology and other diagnostic procedures should support an ambulatory setting for children?

What scope is there for sharing these services with an adult hospital ?

e What range of rehabilitation and therapy services should be provided in an ambulatory setting :

i Physiotherapy

ii Occupational Therapy

iii Dietetics

iv Speech and Language Therapy

v Other

2	What are appropriate models for paediatric urgent care , for example a unit located on an adult hospital site, stand-alone, nurse-led ?
	What range of services can be provided ?
a	Assessment and treatment of minor medical illness?
b	Assessment and treatment of minor injuries?
c	Primary/community care services such as vaccinations, community paediatric nursing, child protection, social services liaison?
3	Are there benefits in the co-location of Urgent and Ambulatory Care Centres , for example in terms of :
a	Cross-cover (eg by paediatrically trained anaesthetists)
b	Clinical governance?
c	Access and Opening Times?
d	Critical mass ?
4	What are the critical success factors for ambulatory and urgent care centres
a	Clinical support (imaging, laboratory services)
b	Staffing requirements in terms of skills and numbers of -
i	Paediatrically trained anaesthetists
ii	Paediatrically trained surgeons and physicians
iii	Paediatrically trained nurses?
iv	Other clinical and non-clinical support staff?
c	Access to on-site inpatient accommodation?
d	Access to specialist expertise via telemedicine or clinical decision support systems
e	Retrieval and transport arrangements?
f	Primary and community care infrastructure
5	What communication and coordination protocols need to be in place in Urgent Care Centres to ensure continuity of care -
a	With a tertiary paediatric hospital ?
b	With general practice?
c	With community paediatric nurses?

6	What are the key issues in co-locating paediatric and tertiary adult and maternity hospitals ?
a	Synergies between adult and paediatric specialties/sub-specialties
b	Opportunities eg transitional care, combined critical mass , education and research ?
c	Are there threats (real or perceived) to paediatric hospital identity, sustainability?
7	What services should be dedicated to children on a tri-located tertiary site (adult & maternity)?
8	What are the most important considerations in the physical and operational configuration of shared services (eg laboratories, pharmacy, non-clinical support) in a co-located model to ensure -
a	Effective prioritisation for children ?
b	Efficient overall resource utilisation (human, physical, financial)?
9	We would now like to explore your experience and views regarding appropriate performance and throughput targets for principal paediatric specialties (please refer to the tables below)

**Total Encounters Inpatient and Day Case 2005 : Dublin Secondary
and National Tertiary**

SPECIALITY	Elective	Emergency	ALL
	Inpatient + Day Case	Inpatient	
General Paediatrics	4,493	11,235	15,728
Paediatric Surgery	6,971	3,394	10,365
Orthopaedics	2,859	2,307	5,166
ENT	4,421	536	4,957
Haematology	3,587	458	4,045
Plastic Surgery	1,680	1,256	2,936
Oncology	2,226	178	2,404
Respiratory Medicine	837	1,070	1,907
Ophthalmology	1,191	159	1,350
Nephrology	1,122	186	1,308
Neonatology	146	969	1,115
Cardiology	710	391	1,101
Neurology	577	388	965
Gastro-Enterology	363	279	642
Dermatology	480	61	541
Urology	478	31	509
Rehabilitation Medicine	449		449
Dental Surgery	417	28	445
Endocrinology	210	139	349
Metabolic Medicine	149	190	339
Neurosurgery	154	172	326
Cardio-thoracic Surgery	277	39	316

Specialties with a volume of activity over 300 encounters per annum are listed above ranked in order of volume. This represents 98% of total activity for children under 16 for Dublin Secondary and All-Ireland Tertiary in 2005. Apart from demographics, how do you think these levels of activity will increase or decline over the next 15 years?

General Paediatrics

Paediatric Surgery

Orthopaedics

ENT

Haematology

Plastic Surgery

Oncology

Respiratory Medicine

Ophthalmology

Nephrology

Neonatology

Cardiology

Neurology

Gastroenterology

Dermatology

Urology

Rehabilitation
Medicine

Dental Surgery

Endocrinology

Metabolic Medicine

Neurosurgery

Cardiothoracic
Surgery

Average Length of Stay by Specialty 2005 : Dublin Secondary and National Tertiary

SPECIALITY	Total IP Occupied bed days Secondary and Tertiary	Total IP Encounters Secondary %	Total IP Encounters Tertiary %	ALoS Secondary	ALoS Tertiary	ALoS Secondary and Tertiary
General Paediatrics	39,184	37%	63%	2.8	3.5	3.2
Paediatric Surgery	20,292	65%	35%	2.7	7.5	4.3
Orthopaedics	9,059	84%	16%	2.3	5.9	2.9
ENT	6,834	91%	9%	2.1	7.3	2.6
Neonatology	6,719	59%	41%	4.2	9.9	6.5
Cardiology	6,019	12%	88%	4.9	7.5	7.2
Plastic Surgery	5,081	64%	36%	1.5	5.7	3.0
Respiratory Medicine	4,452	76%	24%	2.8	5.3	3.4
Neurology	4,347	52%	48%	6.2	7.4	6.7
Haematology	3,458	7%	93%	4.3	4.6	4.5
Oncology	3,232	9%	91%	2.8	4.8	4.7
Gastro-Enterology	3,209	47%	53%	5.7	10.2	8.1
Cardio-thoracic Surgery	2,501	3%	97%	4.6	10.2	10.0
Neurosurgery	2,239	32%	68%	3.0	10.9	8.4
Nephrology	2,029	37%	63%	3.4	6.3	5.2
Ophthalmology	1,466	91%	9%	2.2	4.0	2.4
Metabolic Medicine	1,159	65%	35%	2.8	5.3	3.7
Other (not identified)	1,148	63%	37%	3.0	6.8	4.4
Rehabilitation Medicine	830	100%	0%	8.8	0.0	8.8
Endocrinology	634	79%	21%	3.3	5.0	3.6
All specialties Average		54%	46%	2.7	5.1	3.8

The table above indicates average lengths of stay for inpatients for the top 20 specialties ranked in order of occupied bed days in 2005. These specialties represent 98% of total bed days across all specialties for that year. The split between secondary and tertiary activity is also indicated.

How does the average across all specialties compare with your experience?

Do you have any observations or comments on a specialty specific basis?

What factors will influence length of stay over the next 15 years? (generally or for any specific specialty)?

Day Case rates by Specialty 2005 : Dublin Secondary and National Tertiary

SPECIALITY	Secondary %	Tertiary %	Elective IP	Elective DC	Elective IP + DC	Day Case Rate
Paediatric Surgery	65%	35%	1,275	5,696	6,971	82%
General Paediatrics	37%	63%	917	3,576	4,493	80%
ENT	91%	9%	2,138	2,283	4,421	52%
Haematology	7%	93%	303	3,284	3,587	92%
Orthopaedics	84%	16%	827	2,032	2,859	71%
Oncology	9%	91%	516	1,710	2,226	77%
Plastic Surgery	64%	36%	431	1,249	1,680	74%
Ophthalmology	91%	9%	461	730	1,191	61%
Nephrology	37%	63%	203	919	1,122	82%
Respiratory Medicine	76%	24%	233	604	837	72%
Cardiology	12%	88%	448	262	710	37%
Neurology	52%	48%	257	320	577	55%
Dermatology	7%	93%	37	443	480	92%
Urology	66%	34%	62	416	478	87%
Rehabilitation Medicine	100%	0%	94	355	449	79%
Dental Surgery	85%	15%	46	371	417	89%
Gastro-Enterology	47%	53%	118	245	363	67%
Cardio-thoracic Surgery	3%	97%	210	67	277	24%
Radiology	40%	60%	2	239	241	99%
Endocrinology	79%	21%	35	175	210	83%
All specialties Average	54%	46%				74%

The table above indicates day case rates for the top 20 specialties ranked in order of volume of elective activity in 2005. An indication of secondary and tertiary split is also given.

How does the average across all specialties compare with your experiences?

Do you have any observations or comments on a specialty specific basis? Which specialties indicate scope for improvement?

10	Where can information and communication technology make the most effective contribution to the delivery of paediatric services ?
11	What are key ingredients for successful integration of teaching and research in a tertiary paediatric hospital ? Embedded On campus Off site
13	What have been the top 5 successful features of your hospital?
14	What, if you were planning a new tertiary paediatric hospital, would you do differently – Organisational Design Staffing
15	What do you consider to be the most significant future trends in leading edge paediatric service delivery:

*In our next conversation we would like to explore your experience of establishing successful service co-locations **within** a tertiary paediatric hospital (for example clinical adjacencies, patient flows, key design features. We will forward some topics as a basis for our next discussion and look forward to talking to you again soon.*

Thank you

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National Paediatric Hospital – Ireland

Questionnaire (2) for Clinical Advisers and Children's Hospitals 22/2/07

Introduction

The purpose of this questionnaire is to gain an international perspective about current Model of Care features and how services are physically configured **within** the Children's Hospital. The questions below cover a number of aspects relating to Clinical Adjacencies, Patient Flows and Key Design Features.

Your views and opinions will help inform the development of a world-class National Paediatric Hospital for Ireland.

1 Inpatient wards

- a To what extent are inpatient units **Generic** (shared across specialties and sub specialties) or **Designated** (either by age, dependency level or specialty) or **Mixed Mode** ?
- b Are any inpatient units co-located with outpatients and day cases as an **integrated specialty unit** model (eg for haematology and oncology, nephrology or cardiothoracic services)? If so, how does that impact on hospital at night arrangements and flexibility?
- c Does the hospital have any inpatient units designated for Care by Parent, Transitional Care or Acute Rehabilitation? Are mental health beds provided on site?
- d What is the standard **nursing unit size** (numbers of beds) and are these arranged in sub-unit clusters?
- e What is the **proportion of single rooms**? If not 100% how are beds in multi bed bays grouped?
- f What is the **size of the single bedroom** (excluding the ensuite)? Can both parents be accommodated overnight? (If possible please attach a plan)
- g What additional **overnight accommodation** is available for patients and families?
- h What is the **proportion of critical care beds** (as % of total inpatient beds)?
- i What is the **proportion of critical care beds in single rooms**?
- j Please add any **additional comments** you have on ward design

2 Operating Theatres, Intervention Suites and Critical Care

- a To what extent are operating theatres for day and inpatients and interventional imaging **co-located** or **dispersed**? How many operating theatres do you have?
- b Are day theatres ringfenced with **dedicated day case lists**?
- c Are **critical care** facilities – Paediatric and Neonatal - co-located on the same floor as theatres?
- d What is the model for **Paediatric and Neonatal Intensive Care** – are they integrated or in separate units?
- e How do operating theatres and critical care relate to the **Emergency department** – on the same level, linked vertically via dedicated lift, accessible via helipad?
- f How do operating theatres and critical care relate to **Imaging Services** – on the same level or linked vertically via dedicated lift?
- g Are there any issues relating to **anaesthetic cover** to other parts of the hospital resulting from design decisions?
- h Are facilities arranged to provide an **integrated specialty model** for any specialty (eg burns or cardiothoracic) across theatres, recovery, intensive care and acute wards?
- i How are **operating theatre suites** arranged – are scrubs integral to theatre, are anaesthetic rooms provided, is preparation space shared?
- j What is the **size** of a standard operating theatre ?
- k Do you consider that the design of operating theatres for children differs in any way from adults?
- l In what ways does the design of critical care facilities for children differ from adults?
- m Do operating theatres and patient recovery areas have access to **natural light**?
- n Please add any **additional comments** you have on theatre and critical care design

3 Ambulatory Care and Diagnostics

- a Does the hospital have a **dedicated day unit** co-located with day theatres? Is this also co-located with inpatient theatres?
- b Are **medical day cases** integrated with surgical day cases? Are there any exceptions (eg oncology, dialysis, cardiology)?
- c What are the **operational hours** for day services? Is there any weekend working?
- d What is the relationship between **imaging modalities** requiring sedation and recovery to the day unit - separate or co-located?
- e Are **imaging services** provided from one location within the hospital or are there satellite units dispersed in various locations to meet patients' needs?
- f Is it possible to provide an indication of **imaging capacity** by modality?
- g What is the approximate **volume of outpatient attendances** at the hospital ? What are the **operational hours** for day services? Is there any weekend working?
- h To what extent are outpatient facilities **Generic** (shared across specialties and sub specialties) or **Designated** by specialty or **Mixed Mode** ?
- i Are **therapy services** (dietitians, speech therapy etc) integrated within an ambulatory setting? To what extent are facilities designated to therapy services?
- j What is the **size** of a standard consulting and examination room?
- k Do consulting rooms and patient areas have access to **natural light**?
- l Please add any **additional comments** you have on design for ambulatory services

4 Support Services for families and Staff

- a Does the hospital have access to a **Ronald Mc Donald House** for parents? If so how close is it located to the hospital?
- b What other facilities are provided for **parents and families**?
- c What facilities are provided for **staff**?
- d What is **the model for clinical offices** - are these allocated on a shared or single person office basis and are they co-located with the clinical service or discrete?
- e What is **the model for staff changing** – centralised or provided within departments?

Thank you for your time and co-operation in completing this questionnaire. If you would like information on the outcome of our survey we would be happy to share the results.

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Appendix 3 List of Stakeholders Consulted

Stakeholder Consultation

We wish to thank the following individuals and organisations that have been consulted in the Stakeholder Engagement processes during this High Level Framework Brief.

Aengus O'Marcaigh	OLCHC
Alan Irvine	OLCHC
Alice O'Flynn	HSE Social Inclusion Unit
Allen Dunne	Disability Federation of Ireland
Andrew Green	OLCHC
Anne Coughlan	OLCHC
Anne Douglas	Mater Hospital
Anne O'Donnell	Office of the Minister for Children / AMNCH
Anne O'Meara	OLCHC
Anne Tynan	Temple Street
Anthea Bryce-Smith	OLCHC
Arif Awan	Temple Street / OLCHC
Bairbre Nic Aonghusa	Office of the Minister for Children
Basil Elnazir	AMNCH
Billy Bourke	OLCHC
Breda Lawless	HSE
Breda O'Donnell	Temple Street
Brendan Drumm	HSE
Brendan O'Hare	Intensive Care Society of Ireland/OLCHC
Brendan Doody	AMNCH
Brian Conlon	Mater Hospital
Brian Lynch	Temple Street
Bridget Conway	OLCHC
Candice Whitfield	OLCHC
Caroline Conneely	Temple Street
Catherine Joyce	Bodywhys
Catherine Matthews	OLCHC
Catherine McDaid	AMNCH
Charlie O'Neill	Temple Street
Chris Fitzpatrick	Coombe Hospital

Christine Endig	OLCHC
Ciaran Clifford	OLCHC
Ciaran Meeghan	Mater Hospital
Colin McMahon	OLCHC
Colm Costigan	OLCHC
Colm Sandlear	Temple Street
Corina McMahon	OLCHC
Dairin Hines	Temple Street
Damian Ward	Temple Street
Damien Moyles	OLCHC
David Barton	OLCHC
David Coghlan	AMNCH
David Corcoran	Rotunda/Temple Street
David Doran	OLCHC
David Mannion	OLCHC
David Moore	OLCHC
David Orr	OLCHC
David Wall	Temple Street
Declan Cody	OLCHC
Deirdre Coakley	OLCHC
Deirdre Mills	OLCHC
Deirdre Devaney	Temple Street
Denis Gill	Royal College of Surgeons / Temple Street
Denise McDonald	AMNCH
Dick Walsh	Temple Street
Donal Brosnahan	OLCHC
Brendan Doody	CAMHS
Ciara Martin	AMNCH
Edna Roche	AMNCH
Eleanor Molloy	OLCHC
Ethna Phelan	OLCHC
Eugene Dempsey	OLCHC
Dr Eustace	Temple Street
Jerry Kelleher	OLCHC
Margaret Sheridan	OLCHC
Pamela O'Connor	OLCHC
Patsy Lenane	Temple Street
Dubhfeasa Slattery	CUH
Elaine Boyce	Irish Association for Spina Bifida & Hydrocephalus
Eleanor Knopfler	OLCHC

Eleanor McGovern	OLCHC
Eleanor Molloy	Holles Street/OLCHC
Emily Logan	Ombudsman for Children's Office
Emily O'Kane	OLCHC
Emma Curtis	AMNCH
Evelyn Griffin	CanTeen
Feargal Quinn	OLCHC
Fidelma Keogh	Children in Hospital -Ireland
Fin Breathnach	OLCHC
Fionnuala Gardiner	OLCHC
Fiona Brennan	OLCHC
Fiona McNicholas	OLCHC
Godfrey Fletcher	Cystic Fibrosis Ireland
Georgina Wade	Cleft Lip and Palate Association of Ireland
Ger Hughes	OLCHC
Geraldine Dunne	Brainwave, the Irish Epilepsy Organisation
Geraldine Regan	OLCHC
Gerry Canny	OLCHC
Glynis Peel	OLCHC
Heather Armstrong	OLCHC
Helen Allen	OLCHC
Helen Byrne	CCHC
Irish Association of Children's Nurses	
Jaques Noel	OLCHC
Jean Farrell	OLCHC
Jim Davenport	OLCHC
Joan Hutchinson	OLCHC
John McKeirnan	Faculty of Royal College of Physicians
John Russell	OLCHC
Karen O'Driscoll	OLCHC
Katherine McElwee	OLCHC
Kathleen Crumlish	OLCHC
Kathryn Mc Dermott	OLCHC
Kay O'Brien	Temple Street
Keelin Hession	OLCHC
Kevin Carson	Temple Street
Lars Nolke	OLCHC
Laura	OLCHC
Laura Vianni	Beaumont
Liam Claffey	Temple Street

Louise Gallagher	AMNCH
Lucy Nugent	Temple Street
Margaret Rodgers	Heartchildren
Maria Noonan	OLCHC
Marie Caroll	OLCHC
Marie O Keefe	Temple Street
Marie Walsh	OLCHC
Marion Rowland	OLCHC Research Centre
Mark Murphy	Irish Kidney Association
Martin Cowley	Mater Hospital
Martin Hogan	HSE
Martin Hughes	Mater Hospital
Martin White	Coombe/OLCHC
Mary Chambers	Temple Street
Mary Kavanagh	OLCHC
Mary McKay	Temple Street
Mary O Connor	Children in Hospital -Ireland
Mary Waldron	OLCHC
Maura Connolly	AMNCH
Michael Capra	OLCHC
Michael Geary	Rotunda Hospital
Michael Hanna	Council of Deans of Faculties with Medical Schools in Ireland
Michael Lyons	AMNCH
Michael Lyons	OLCHC
Michael Reardon	OLCHC
Michael Robson	National Maternity Hospital
Michelle Cotter	Temple Street
Mike Stephens	Temple Street
Miriam Fallon	OLCHC
Miriam Hederman O Brien	Joint standing committee Maternity Hospitals of Dublin
Mr D Allcutt	Beaumont / Temple Street
Mr Flintcroft	Temple Street
Mr M Earley	Temple Street
Neil Adamson	OLCHC
New Crumlin Hospital Group	
Niall Mulligan	Mater Hospital
Nicki O'Sullivan	Temple Street
Niamh O'Sullivan	OLCHC
Nursing Representative Group	Temple Street

Olga Gallagher	OLCHC
Olivia Egan	OLCHC
Orla Killeen	OLCHC
Owen Hensey	Temple Street
Paddy Fleming	OLCHC
Pamela O'Connor	OLCHC
Pat MacDonnell	Children in Hospital -Ireland
Patricia Doherty	Children in Hospital -Ireland
Paul Cunniffe	Temple Street
Peter Grealley	AMNCH
Phillip Mayne	Temple Street
Prem Puri	OLCHC
Ian Graham	AMNCH
Joe McMenamin	OLCHC
June Nunn	OLCHC
Martin Corbally	OLCHC
Muiris Fitzgerald	HSE METR Committee
Andrew Green	NCMG
Hilary Hoey	AMNCH
Janet Allen	Conway Institute
Rachel Kenna	OLCHC
Rita O'Shea	Temple Street
Rosena Goghan	OLCHC
Rosie Sheerin	Children in Hospital -Ireland
Sandra Nolan	Jack and Jill Foundation
Sean Walsh	OLCHC
Sharon Hayden	OLCHC
Sheila McKen	Temple Street
Sheila O'Connor	Patient Focus
Shona Quinn	AMNCH
Sinead Moran	Jack and Jill Foundation
Stephen McLearie	AMNCH
Steven Home	OLCHC
Terence Montaghue	OLCHC
Tom Finn	HSE
Tom Maloney	Mater Hospital
Tom Matthews	UCD
Tracey Wall	OLCHC
Val Grimes	Temple Street
Eileen Tracey	Temple Street

Thanks also to

Many people have assisted us in preparing this High Level Framework Brief, we would like to thank all including -

Belinda Bullivant	OLCHC
Carol McGuinness	CHOP
Cathy Sequin	The Children's Hospital, Toronto
Ciara Carroll	Coombe Women's Hospital
Conor Teljeur	Trinity College Dublin
Curt Williams	Zimmer Gunsul Frasca Architects
David Peck	Children's Hospital Boston
Dr Richard Newton	Children's Hospital Manchester
Elaine Morgan	Royal Liverpool Children's Hospital
Ellen Walsh	OLCHC
Freda O'Connor	Mater Hospital
Hugh O' Brodovich	The Children's Hospital, Toronto
Ian Simington	McKinsey
John Blignaut	GBBN Architects
John Wedge	The Children's Hospital, Toronto
Julie Mitchell	Zimmer Gunsul Frasca Architects
Karl Sonnenberg	Zimmer Gunsul Frasca Architects
Katherine Morgan	FKP Architects
Kathleen Margolis	FKP Architects
Lorraine Culloty	CUH
Madeleine Bell	CHOP
Marisa Nichini	BC Children's and BC Women's Hospital & Health Centre
Martina Collins	BC Children's and BC Women's Hospital & Health Centre
Milton Gardner	Kasian Architecture Interior Design & Planning
Nathaniel Gunn	McKinsey
Paula Jacobson	Kasian Architecture Interior Design & Planning
Per Christian Brynildsen	Medplan AS Arkitekt
Rachel Pugh	Children's Hospital Boston
Richard Zajac	SickKids, Toronto
Ronan Merrick	Central Statistics Office
Shawn Lavin	Seton Family of Hospitals
Shinpei Tsay	Zimmer Gunsul Frasca Architects
Suzanne Kelly	OLCHC
Valerie Bradshaw	AMNCH
Victoria Nichols	Zimmer Gunsul Frasca Architects

Appendix 4 Written Submissions

Respiratory Division OLCHC/AMNCH/CUH

Mr PW Eustace

Prof Jonathan Hourihan O'Brien Professor of Paediatrics UCC

Mary Ormsby Principle Dental Surgeon A Model of Care for Oral Health

James Binchy IAEM

Prof. Hilary Hoey Head of Department of Paediatrics TCD

Temperature Controlled Pharmaceuticals

Desmond Duff MB FIRCPI FAAP

CanTeen Ireland Young Peoples Cancer Support Group

Department of Gastroenterology OLCHC Vision for

Allied Health Professional Group Mar 2007

Richard Bruton TD with Ms Ann Gilmore

Iarnrod Eireann 12.01.07

Heart Children Ireland

Bodywhys - The Eating Disorders Association of Ireland

Cleft Lip and Palate Association

The Cystic Fibrosis Association of Ireland

Disability Federation of Ireland

Children in Hospital Ireland

Children's Hospital School CUH

Department of Infection Prevention and Control OLCHC

Update on ODCP 2004 Submissions OLCHC (various submissions)

Requirement for Hepa Filtration for Immunocompromised Patients Department of Infection Prevention and Control OLCHC

Requirements for ENT services Mr Alexander Blaney CUH

Haematology and Oncology Centre OLCHC

Neonatology Team Meeting (with RKW) OLCHC Team

Cardiology and Cardiothoracic Services OLCHC Team

Physiotherapy Department CUH

Cochlear Implant Programme Beaumont Hospital

Faculty of Paediatrics, RCPI Newborn Care at the new National Children's Hospital

Hospice Friendly Hospitals Programme Irish Hospice Foundation

RMCC Ireland (Ronald Mc Donald Children's Charities)

Consultant Neonatologists Children's University Hospital

Department of Child & Adolescent Psychiatry OLCHC

A World Class Paediatric Dermatology Services in the New National Paediatric Hospital.
March 2007

Irish Association for Emergency Medicine : Provision of Emergency Medical Services for Children in the Greater Dublin Area following the development of a single National Tertiary Paediatric Hospital June 2007

Response from OLCHC – Letter from Michael Lyons, Chief Executive following stakeholder engagements on 28 – 29 June 2007 (04 July 2007)

Email from Professor Hilary Hoey in response to the stakeholder engagement on 28 – 29 June 2007 (04 July 2007)

Irish Association for Emergency Medicine response to stakeholder meeting 29 June (03 July 2007)

Letter to P Barron and J O'Brien from Dr Ciara Martin (Consultant in Emergency Medicine AMNCH) and Dr Mary McKay (Consultant in Emergency Medicine CUH), October 2007

Appendix 5 Specialty and Service Issues

A3.6 Specialty Models and Issues

Emerging from stakeholder discussions are a number of areas where alternative models of care are being debated. This is to be expected at this stage and the examples below (not exhaustive) are noted to herald the discussions that will form part of the project's subsequent development. A number of submissions and papers provide further detail of current thinking. These are listed in Appendix 4. In our discussions many stakeholders also referred to detailed facilities requirements which will inform the next stage of this project and the information will be compiled for handover to the Development Board

Anaesthetics

Issues to be explored across the three hospitals at the next stage include -

- The future model for anaesthetics and intensive care – separate or integrated management?
- To what extent should anaesthesia, sedation and recovery facility be provided beyond the core theatre and critical care areas?
- Should all operating theatres have anaesthetic rooms?
- The scope to streamline and co-ordinate pre-operative assessment via doctor-led nurse managed clinics?
- Is a holding area within the operating department an appropriate model for children and if so what contribution could it make to improving throughput?

Cardiology and Cardiac Surgery Services

Cardiology and cardiac surgery services for paediatrics are centralised at OLCHC currently. Workload has increased in complexity over the last 5 years including hypoplastic left heart syndrome and development of ECLS. A 32 county congenital cardiac programme is under discussion. Currently, outreach services are underdeveloped. From a stakeholder perspective the preferred model would be for the service in the institute model with integrated inpatients, outpatients, investigations, theatres and dedicated imaging. A key issue is to what extent critical care, theatres and imaging should be dedicated to cardiac services or shared within the critical care, day case and theatre environments. Fetal procedures are currently undertaken at OLCHC and there will be strong links with the Maternity hospital.

Services and capacity enhancements suggested include dedicated MRI and a hybrid operating theatre / catheterisation laboratory.

The submission to RKW by Heart Children Ireland stresses the need for a thought out plan for the smooth transition of young adults to the adult service and the requirement for cardiologists with expertise in 'grown-up' congenital heart defects.

Cleft Lip and Palate

The Dublin Cleft Centre – organised jointly by St James' Hospital, CUH and OLVHC treats 80% of cases in Ireland, mainly at CUH. The catchment covers nearly the whole country. This is an example of existing cross-site collaboration which will benefit from physical centralisation. The services from the Dublin Centre will migrate to the NPH Tertiary Centre and at the next stage a dialogue on implications is required with St James. Children will receive treatment into early adulthood and the Cleft Lip and Palate Association advocates that young people up to 18 should be treated in a paediatric setting. The NPH Tertiary Centre will need to provide the full range of disciplines and specialties with input to the service including orthodontics, maxillofacial surgery, plastic surgery, paediatric dentistry, SALT, psychology and genetics. It will be essential that the design facilitates a multidisciplinary approach.

Critical Care

The Critical Care Services will encompass -

- Medical ICU
- Surgical ICU
- HDU (e.g. for cleft palate service)
- Cardiac ICU
- Neuro ICU
- Transitional Care
- NICU

The future of NICU provision is the subject of local analysis (see neonatology) and will be informed by the outcome of the review of obstetric and gynaecology services. We have received alternative suggestions regarding the relationships of critical care and the transitional care Unit (TCU) and the provision of single rooms. An expansion of the ECMO service is anticipated.

Dental

Paediatric Dentistry services are currently based in OLCHC, AMNCH and the Dental Hospital, previous plans for CUH at the Mater site did not include dental services. Services are provided to a wide range of specialties and to day and outpatients. The paediatric dental team is integral to comprehensive health care for children.

The submission to RKW identifies a need for development of oral health to meet the need nationwide, a lack of sedation and anaesthetic facilities for children nationwide and a lack of specialist paediatric care in the community. It also suggests that a co-ordinated approach between the tertiary/secondary care units and the local primary care unit would greatly assist children and their parents in achieving optimum oral care. It will be essential that the paediatric dental team within the NPH Tertiary Centre develops links to other centres including the Dublin Dental School, regional orthodontic units and the cranio facial unit at St James.

Dermatology

Paediatric dermatology has expanded rapidly in Ireland in the last 6 years, provided by 6 paediatric dermatologists in the Greater Dublin area. OLCHC provides a National service for a range of disorders including Epidermolysis Bullosa Service and a supra-regional laser service for vascular birthmarks.

The written submission to RKW on behalf of these dermatologists highlights the current high volume of secondary care in part due to poor community infrastructure. It predicts a decrease in inpatient admissions due to improved specialist nursing care. The submission highlights the importance of the tertiary hospital setting for increasingly complex interventions and the importance of the multidiscipline team approach in a child friendly environment. In addition to comprehensive management of rare and severe skin diseases, dermatologists provide a service to a wide range of other medical disciplines within the tertiary centre.

The submission to RKW identifies the specialty view of detailed accommodation requirements on a room by room basis.

Emergency Department

The new model is to be supplemented by an observation / assessment unit to support admission avoidance. There is a question as to whether these be within and managed by the Emergency Department or within a larger adjacent assessment unit managed by general paediatrics, which is the model being adopted at Alder Hey in

Liverpool for example. The emergency beds that relate to a larger unit would already be included in the modelled bed numbers in Section B. Decontamination facilities and major incident provision should be included for the NPH Tertiary Centre.

Endocrinology and Diabetes

Diabetes services are co-ordinated across the three children's hospital sites and a common diabetes management package is being implemented. The vision is that a number of centres will be established nationally with complex care only provided from the tertiary base. A priority should be managed in the community. The network will depend heavily on a central diabetes register and IT links. Working practices differ across the three hospitals at present, but the service is predominantly ambulatory.

The current plan at OLCCH is for a dedicated self contained unit with 24 hour telephone support and drop in services. From a stakeholder perspective the preference is that this model should be retained in the future. The diabetes service has close links with ophthalmology. The endocrinology service has clinical links with ophthalmology, adolescent gynaecology and imaging.

AMNCH provides a national service for diabetes and complex conditions such as Prader Willi syndrome.

ENT / Audiology Cochlear Implant

The national cochlear implant programme currently delivered at Beaumont Hospital will be incorporated within the NPH Tertiary Centre. In the new model a co-location with ENT and Audiology is proposed with the opportunity to share facilities subject to satisfying the specific requirements of the service. A brief has been prepared for the reprovision of facilities for cochlear implant if retained on the Beaumont site. This envisaged an extension of services and facilities which, has not been fully factored into this Framework Brief and will need to be considered in the next stages of the project.

Gastroenterology

Paediatric gastroenterology, hepatology and nutrition are currently provided from a single national centre at OLCCH and include the National Children's Liver Unit, the only paediatric gastroenterology / endoscopy service in the Country and the only home parenteral nutrition service.

The service is predominantly ambulatory in focus and multi-disciplinary in approach. Kings Hospital London provides a research service. Proximity of the ambulatory and inpatient core is desirable and the preferred model is that inpatients across the three services are co-located. The specialty sees significant benefit in co-location with the Gastroenterology Unit at the Mater. Future service developments include a GI laboratory, potential for ERCP and endoscope ultrasound.

General Paediatrics

Due to historical appointment patterns there are few general paediatricians in Dublin as a consequence of which referral by GPs tends to be directly to sub-specialists. This is also reflected in the use of Emergency Departments as a means of access to specialists (as reported at OLCCHC). Development of general paediatrics would relieve pressure on sub-specialties and, if available at the front line, help to reduce avoidable admission.

Infectious Diseases

There has been an escalation in workload over recent years including more direct referrals and primary infections including TB and congenital hepatitis. Currently there is no paediatric immunologist or paediatric allergy service and these are anticipated future developments. The requirement for developing sexual health services for adolescents in the paediatric centre has also been suggested. The service has strong links with infection control. Natural clinical affinities include dermatology, immunology and allergy services. Education and research are essential components of the service.

Mental Health

Mental health liaison services are provided across all three children's hospital sites. However, there are no designated mental health beds and children are admitted under another specialty – usually general paediatrics.

8 new child and adolescent teams are planned each year nationally over a 5 year cycle. The focus for CAMHS will increasingly be in primary care.

There will be a requirement on the NPH tertiary site for children with co-morbid physical health issues including complex eating disorders and children who deliberately self harm.

A Vision for Change (Department of Health and Children 2006) envisages 5 inpatient children and adolescent units nationally providing 100 beds. Nationally, there are currently 2 specialist child and adolescent mental health inpatient units, one in Galway and the other at Cheeverstown in Dublin.

There is a question as to whether day services should be part of the unit as the policy is that eating disorders will be managed locally as far as possible via outreach services. The unit will also need to meet the requirements as a designated approved centre.

Under the provision of the Mental Health Act 2001 the unit must provide services for young people up to 18 years.

- Appropriate balance between achieving distinct and appropriate inpatient environment and de-stigmatising integration
- Access to own external space
- Distinction / flexibility between eating disorders and other psychiatric beds?

Metabolic Medicine

The National Centre for Inherited Metabolic Disease is located at the CUH. It is the tertiary centre for the investigation and treatment of children suspected of having a metabolic genetic disease. There are close clinical links with the newborn screening programme, the metabolic laboratory and genetics and the service follows approximately 1,400 patients nationwide with a variety of inborn errors of metabolism. Following nearly 40 years of screening approximately 50% of patients are over 16 years. A paper submitted by the centre identifies a number of service priorities including –

- Current ratios of metabolic consultants to patients are well below the EU average
- A lack of adequate and appropriate services for patients over 16 still seen at CUH
- The need for shared care and outreach and secondary services at regional level
- Funding for new therapies – in particular enzyme replacement therapy
- Expansion of newborn screening with implications for clinician and laboratory staffing.

Neonatology

We have had a number of submissions and meetings with neonatologists across all three children's hospitals. All submissions stress the importance of co-location of maternity services with the tertiary paediatric centre and the desirability of an integrated concurrent build. All suggest a single unified neonatal scheme across Dublin with a single consistent rota. The submission by neonatology suggests a requirement for 60 NICU and PICU beds (assuming co-location of Maternity Hospital) within the paediatric hospital in close proximity to imaging and operating theatres and adjacent to the fetal assessment and delivery suite of the Maternity hospital. The model and functional content will be confirmed following the outcome of the Obstetric and Gynaecology Services review. In the event of a delay in the commissioning of the co-built Maternity Hospital a temporary 30 bed (stakeholder suggestion) independently staffed neonatal unit would be required in the interim.

Nephrology

A paper prepared jointly by consultants at CUH and OLCHC sets out the preferred model of care and projected functional content for nephrology services within a unit integrating inpatient beds, dialysis stations and counselling suites and office accommodation. The specialty has strong links with urology and the co-location of the specialties is proposed.

Neurosurgery

Neurosurgery inpatient services for children are currently provided from Beaumont Hospital and clinics are provided at Beaumont, CUH and OLCHC – 50% of the activity is elective. Currently less than 10% of work is day case based although a shift to more day case work is anticipated in the future. The issue of whether paediatric neurosurgery nursing staff from Beaumont will transfer with the service needs to be addressed. The service has existing links with neurology, neuroradiology, neuropathology, neonatal and paediatric care and oncology. Facilities will be required for stereotactic neurosurgery.

Ophthalmology

Ophthalmology and Orthoptic services are provided currently on all 3 sites. Approximately 2/3 of all inpatient work is undertaken at CUH. OLCHC provided approximately 2/3 of the total outpatient activity. Specialist surgical services and 24 hour emergency services are provided at the Royal Eye and Ear. A 24 hour service is envisaged in the NPH tertiary centre. Visiting arrangements for surgeons from the Eye and Ear will be required because of the specialist nature of the surgery. The

clinical view is that much of the outpatient Orthoptic service including medical ophthalmology could and should be provided in community settings. It has been suggested that current comparatively low day case rates relate to operation issues rather than clinical impediments to change.

Orthopaedics

Trauma and elective orthopaedics are provided at OLCHC and CUH. Emergency services only are provided at AMNCH. A key issue raised is access to theatre capacity for emergency cases. Current practice is that most emergency operating is undertaken outside normal working hours (but there are some dedicated lists at OLCHC).

There has been a recent significant increase in workload referred from outside Dublin because of the lack of paediatric orthopaedic consultant service in Cork which has put significant pressure on the service.

For the inpatient service proximity to theatres is important. For the outpatient service immediate access to plain x-ray is essential and there are close links with physiotherapy.

Plastic Surgery and Burns

Currently OLCHC and the paediatric partner in the national burns centre with St James Hospital. Plastic surgery is provided at CUH and OLCHC. The plastic surgery service has strong links with cleft services which are currently centralised at St James' Hospital, craniofacial and maxillofacial services. Other specialty affinities include orthopaedics, dermatology and ENT.

The preferred model is that burns beds should be located with plastic surgery inpatients because of the requirement for specialist nursing skills but should be close to ICU. The preferred model is that burns procedures are undertaken in the main theatres as designated sessions. The plastics dressings' clinic should co-locate with the inpatient service as nursing staff work across both elements of the service. As burns patients have a longer length of stay, access to outdoor space from the bedroom is important. From a nursing perspective availability of HDU beds at ward level or centralised is an issue for resolution across all specialties.

Respiratory

The speciality has submitted proposals for future requirements for cystic fibrosis based upon recommendations within the Pollock Report which has not been endorsed by the HSE and we understand has now been superseded by another report. The specific needs of this patient group for isolation are recognised and at the next stage innovative approaches should be identified to meet this requirement whilst ensuring that dedicated facilities are utilised at optimum capacity.

Rheumatology

The National Rheumatology service is provided from OLCCH with monthly clinics at CUH and developing outreach services as part of a shared care model. The preferred model within the NPH tertiary centre is for a neighbourhood grouping of the multi-disciplinary team with adjacencies to immunology and dermatology, and hydrotherapy. A gait analysis room is proposed in the centre's submission to RKW. The policy regarding this will require clarification with reference to the facilities available at the Central Remedial Clinic.

Appendix 6 Departmental Schedule of Accommodation

Assumptions Underpinning the Schedule of Accommodation

Staffing Numbers

Future staffing trends will drive the requirements for the level of staffing facilities on the site – including car parking, office accommodation and staff changing facilities. Current staffing trends have been provided by all three children's hospitals for 2006.

Workforce planning is outside the scope of this High Level Framework Brief and therefore we have made assumptions as follows –

- With the exception of medical staff, assumed steady state of staffing levels on the basis that increase in staffing levels due to demographic change and current staffing gaps will be off-set by efficiency gains in integrating three hospitals and new ways of working
- A 25% increase in medical staff is assumed.

Office Accommodation

- We have assumed that 90% of management and administrative staff will require dedicated office space (10% exclusive for receptionists and others who will be located with clinical services)
- We have assumed that of the WTE for consultant and non-consultant medical staff that 30% will not require dedicated office space but will have access to shared admin space at departmental level. The underlying assumption is that staff who are not full time will share desk space
- We have assumed that 20% of nursing staff (CNSs and AHPs) will have dedicated desk space (pre WTE) and 20% of AHPs. The remainder will have access to shared office space included in department area allowances
- Additionally, we have assumed that departmental space allowances for approximately 10% of the overall office requirement.

On that basis we have calculated a requirement for central office space for management and administration and clinical offices for 870 people approximately.

The space allowance of 9m² per person is based on an assumption that office accommodation will be arranged in modules for 20 people with 20% single offices, 80% shared or open plan and 1 meeting room per 20 people.

Staff Changing

Our schedule of accommodation assumes that staff changing will be centralised on evidence and current thinking in the UK suggests that this is the best model for effective Infection Control (with linen services controlling staff uniforms). The exceptions to this are services where staff work in clean environments including –

- Operating Theatres
- Critical Care
- Sterile Services
- Mortuary
- Aseptic Preparation
- Catering.

In calculating staff changing rooms we have made the following assumptions –

- 100% of nursing staff will require uniform changing
- 90% of AHPs will require uniform changing
- 30% of support service staff will require uniform changing
- Lockers will be shared on a shift basis
- 3 shifts per day
- 30% of staff requiring changing will change within departments (as outlined above).

On this basis the requirement for central changing is for 400 people at any one time.

Pathology and Laboratory Services

Pathology services have been sized on the basis of the current staffing levels of approximately 175 for both OLCHC and CUH combined. It has been assumed that an additional staffing requirement resulting from increased activity and demographic change will be off-set by efficiency gains achieved in integrating the services from 2 hospital sites. We have applied space planning norms as follows –

- 20m² per person gross departmental area for laboratory space. This is a gross allowance and will include an allowance for specialist labs and support spaces and functions in addition to wet lab and bench area
- An additional 10m² for persons requiring office space (assumed as 50 people).

These planning norms are based on standards adopted in schemes elsewhere¹⁹ and assume modern modular lab accommodation with a high level of sharing and automation.

The schedule of departmental areas includes an allowance for the stem cell laboratory, subject to a policy decision on where that is located.

Emergency Department

This is based on the number of treatment and assessment rooms for a department of 40,000 attendances (extrapolated to 45,000 attendances) in HBN 22 Accident and Emergency

Outpatients

The modelled requirement for outpatient consulting suites is 53 rooms. This includes dedicated rooms for a number of specialties. In addition the schedule includes an additional allowance for specialty specific requirements, so for example the additional allowance for dermatology includes for PUVA facilities and the additional allowance for ophthalmology makes provision for orthoptics.

Cochlear Implant Programme

A brief has been submitted based on a proposal for a stand alone facility on the Beaumont Hospital site which totalled 700m². In a shared environment with Audiology and ENT outpatients, much of this accommodation would be shared. Therefore at this stage we have assumed 60% of the 700m² subject to more detailed assessment at the next stage.

Respiratory Medicine

A detailed submission has been received which sees a significant expansion of requirements for cystic fibrosis and lung function compared to current provision

¹⁹ Kings College London and Kings Hospital adopt these planning norms for clinical and research laboratory space.

across the 3 sites. Subject to validation at the next stage this is not all reflected in the high level SoA but is included under additional space pressures.

Other Specialties

During the course of consultation we have received various submissions on detailed accommodation requirements across specialties and services. These are for development at the next stage and a compilation of responses will be available for the Development Board.

At the next stage the schedule of accommodation will be determined on a detailed basis via collaboration across specialties and the 3 children's hospitals, therefore, it would be inappropriate for this high level Brief to reflect the views of any one organisation and it is fair to say that there are some conflicting views at present.

It is important to note that space for activities away from the centre is included in the Ambulatory and Urgent Care Centres, so for example they include significant space for therapies.

Office provision and specialties

Much work is yet to be completed on the future workforce profile for the hospital as a whole and on a specialty or service basis. It is therefore not appropriated to assign office accommodation at this stage on a specialty basis.

NPH Tertiary Centre : Schedule of Departmental Accommodation

Hospital sizing : All services

1 Ambulatory Care

1.1 Emergency Department

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
Emergency Centre	1 45k attn	1146	1,146
A+E imaging	1 rdr/us	136	136
Plaster Suite	1 suite	51	51
Observation places	8 places	29	229

1.2 Outpatients

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
Generic consult suites	53 CE rooms	65	3,436
dermatology	1 add'nl all'nce	100	100
ophthalmology	1 add'nl all'nce	250	250
dental oral and maxillofacial	1 add'nl all'nce	230	230
ENT and audiology	1 add'nl all'nce	330	330
cochlear implant	1 add'nl all'nce	424	424
oncology and haematology	1 add'nl all'nce	300	300
diabetes and endocrinology	1 add'nl all'nce	250	250
plastics and burns	1 add'nl all'nce	100	100
respiratory	1 add'nl all'nce	400	400
gastroenterology	1 add'nl all'nce	65	65
metabolic medicine	1 add'nl all'nce	200	200
Child Development	1 add'nl all'nce	300	300
Pre-admission	1 area	180	180
Phlebotomy + IV Team	1 area	120	120
Child Protection / Sexual Abuse Service	1 dept	450	450
Liaison psychiatry +psychology	1 dept	600	600
Social services	1 dept	300	300

1.3 Day patients

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
Surgical Medical Haem Onc day patients	34 places	35	1,190
Dialysis	3 places	52	155

Sub Total Ambulatory Care

10,943

2 Inpatients

2.1 Generic Inpatient beds

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
Generic wards	294 beds	62.3	18,304
Specialty specific support:			
Sleep studies (respiratory)	1 unit	75.0	75
Burns +Plastics	1 allow'ce	75.0	75
Renal	1 allow'ce	50.0	50
Metabolic medicine	1 allow'ce	45.5	46
Orthopaedic	1 allow'ce	30.0	30
Oncology and haematology	1 allow'ce	100.0	100

2.2 Critical Care

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
PICU / NICU / TCU	73 beds	76.6	5,592

2.3 Specialist beds

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
BMT/Transplant/CF/Other isolation	20 beds	70.5	1,409
All Unit	2 beds	76.6	153
Mental Health	20 beds	62.3	1,245

2.4 Inpatient support

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
Special feeds / Formula kitchen unit	1 dept	250.0	250
Parents Overnight Stay	15 rooms	27.2	408

Sub Total Ambulatory Care

409 beds

27,737

**NPH Tertiary Centre : Schedule of
Departmental Accommodation**

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
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3 Diagnostics + Treatment

3.1 Diagnostic investigations

Neurophysiology	1 dept	300.0	300
Non-invasive cardiology	1 dept	350.0	350
Urodynamics	1 dept	80.0	80

3.2 Imaging

Radiography + flouroscopy	5 RDR	190.0	950
Ultrasound	5 US	45.0	225
MRI	2 MRI	190.0	380
CT	1 CT	190.0	190
Nuclear Medicine	2 GC	190.0	380
Bone density	1 RDR	100.0	100
Interventional	2 RDR	190.0	380

3.3 Theatres

Same day admissions area	1 area	335.9	336
Theatres	10 theatres	268.7	2,749
Major procedures suite	2 suites	149.2	298
Cardiac Catheterisation	1 cath lab	237.0	237
Image Guided Therapy (expansion)	2 suites	368.1	736
Imaging expansion allowance	2 suites	190.0	380
Anaesthetics/ECLS base	1 dept	350.0	350

3.4 Therapies

Physiotherapy	1 dept	600.0	600
Hydrotherapy	1 dept	350.0	350
Occupational therapy	1 dept	200.0	200
Speech Therapy	1 dept	200.0	200
Orthotics + Prosthetics	1 dept	50.0	50
Nutrition + Dietetics	1 dept	90.0	90
Play Therapy + Play Centre	1 dept	350.0	350
Music Therapy	1 dept	50.0	50
Complementary therapies	1 dept	50.0	50

Sub Total Diagnostics and Treatment

10,361

NPH Tertiary Centre : Schedule of Departmental Accommodation

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
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4 Clinical support

4.1 Pathology + Laboratory services

Generic: lab	175 people	20.0	3,500
Generic: office	50 people	10.0	500
Stem Cell lab	1 unit	150.0	150
Mortuary + PM	1 dept	350.0	350

4.2 Pharmacy

storage and distribution	1 area	300.0	300
dispensing inpatients	1 area	300.0	300
aseptic preparation	1 area	300.0	300
radio-pharmacy	1 area	80.0	80
drugs information	1 area	50.0	50

4.3 Other Clinical Support

Medical illustration	1 dept	75.0	75
Biomedical engineering	1 dept	250.0	250
Equipment library / distribution	1 dept	300.0	300
Sterile services	1 expn	700.0	700
Palliative Care team	1 unit	80.0	80
Transfer + Retrieval service	1 unit	100.0	100
Hospital school	1 sch	351.6	352

Sub Total Clinical Support

7,387

5 Non-clinical support

5.1 Front of House

Main Entrance	1 dept	300.0	300
Admissions	1 area	100.0	100
Discharge Lounge	1 area	100.0	100
Multi Faith facilities	1 dept	200.0	200
Retail + Café	1 allowance	200.0	200
Liaison services	1 allowance	30.0	30
Family Resource Centre	1 allowance	375.0	375
Interpretation Services	1 allowance	20.0	20
Voluntary Services	1 allowance	100.0	100

5.2 Back of House

Technical services	1 dept	300.0	300
Domestics	1 dept	75.0	75
Switchboard	1 dept	50.0	50
Transport	1 dept	50.0	50
Portering	1 dept	100.0	100
Catering			
<i>kitchen</i>	1 dept	800.0	800
<i>staff dining</i>	1 allowance	200.0	200
<i>family dining</i>	1 allowance	300.0	300
Materials Management	1 dept	300.0	300
Waste Management	1 dept	50.0	50
Linen	1 dept	200.0	200

NPH Tertiary Centre : Schedule of Departmental Accommodation

Functional Content	Functional Unit (FU)	Area per FU sq m	TOTAL GDA sq m
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5.2 Administration + staff facilities

Staff changing	1 allowance	400.0	400
On-call	10 rooms	25.0	250
Creche	1 dept	700.0	700
Occupational Health	1 dept	100.0	100
Corporate functions			
<i>Executive team</i>	1 allowance	500	500
<i>PR/Communications/Fundraising</i>	1 allowance	100	100
<i>Patient services</i>	1 allowance	80	80
<i>Nurse management</i>	1 allowance	150	150
<i>Finance</i>	1 allowance	250	250
<i>Risk management / quality improvement</i>	1 allowance	150	150
<i>Human Resources</i>	1 allowance	150	150
<i>Information Management</i>	1 allowance	300	300
Clinical offices	1 allowance		
<i>Consultants + medical</i>	200 people	9.0	1,794
<i>Nurse specialists AHPs</i>	100 people	9.0	897
<i>AHPs</i>	130 people	9.0	1,166
<i>Administrative support</i>	200 people	9.0	1,794
Medical records	1 dept	300.0	300

Sub Total Non-Clinical Support

12,931

TOTAL departmental area sqm

69,360

Communications allowance (17%)

11,791

Plant allowance (13%)

9,017

TOTAL gross area sqm

90,167