

**National Paediatric Hospital
Independent Review**

**Commissioned by Dr James Reilly TD
Minister for Health**

Part Two: Clinical Analysis

30.06.2011

Contents

Acknowledgements	3
Abbreviations and Glossary	4
Terms of Reference	5
Executive Summary	6
Methodology	7
The Vision for Ireland's Paediatric Model of Care	8
Co-location / Tri-location	8
Access	10
Helicopter Access	11
The Ambulatory and Urgent Care Centre (AUCC)	11
Research	13
Expansion	13
Design Elements	14
Parents and Care Givers	14
Information and Communications Technology	15
Genetics	15
Conclusions	16

Acknowledgements

The clinical review team greatly appreciates the time and effort of the Government of Ireland, the staff, the medical and family communities and the consultants who have worked with them on this review process.

Dr James Mandell, paediatric urologist, Chair of the Board, National Association of Children's Hospitals (North America); Chief Executive of the Children's Hospital Boston; Chair of the Clinical Review Team.



Dr James Shmerling, Chief Executive Officer of the Children's Hospital of Colorado.



Dr Peter Steer, paediatrician and neonatologist, Chief Executive Officer of Children's Health Services, Queensland, Australia.



Dr Jane Collins, paediatric neurologist and Chief Executive of the Great Ormond Street Hospital for Children.



Abbreviations and Glossary

AUCC	Ambulatory and Urgent Care Centre
Co-location	Locating the NPH on the campus of an adult teaching hospital
Consolidation	Merging the three existing children's hospitals in Dublin into a single institution: the National Paediatric Hospital, referred to herein after as the NPH
CUH	Children's University Hospital
Foundation	<i>refers to the fundraising organisations that raise money for children's health services, paediatric research, and capital projects.</i>
NPHDB	National Paediatric Hospital Development Board
NPH	National Paediatric Hospital
OCSC	O'Connor Sutton Cronin
Tri-location	Locating the NPH and a maternity hospital on the campus of an adult teaching hospital

Terms of Reference

This report has been commissioned by the Minister for Health, Dr James Reilly TD, to provide an independent review of the project to build the new National Paediatric Hospital on the site of the Mater Misericordiae hospital at Eccles Street.

The terms of reference for the review were in two parts:

1. *To examine and independently verify the estimated cost differentials identified in relation to building, equipping and running the proposed National Paediatric Hospital (a) if constructed on the site currently proposed and (b) if constructed to the same specification on notional alternative sites.*
2. *To examine whether the potential clinical benefits, if any, of locating a Children's hospital beside the Adult hospital on the Mater site outweigh:*
 - I. *Any cost differential; and*
 - II. *Any design issues, including access to the hospital.*

Part 1 of the review, financial analysis and cost comparison, has been carried out by a team led by Mr John Cooper of John Cooper Architecture, and is published as 'Part One: Financial Analysis'.

This report represents part 2 of the review. It was undertaken out by a team of four Chief Executive Officers drawn from the National Association of Children's Hospitals (NACHRI) and the Children's Hospitals International Executive Forum (CHIEF). The four team members are:

Dr James Mandell, paediatric urologist, Chair of the Board, National Association of Children's Hospitals (North America); Chief Executive of the Children's Hospital Boston; Chair of the Clinical Review Team.

Dr James Shmerling, Chief Executive Officer of the Children's Hospital of Colorado.

Dr Peter Steer, paediatrician and neonatologist, Chief Executive Officer of Children's Health Services, Queensland, Australia.

Dr Jane Collins, paediatric neurologist and Chief Executive of the Great Ormond Street Hospital for Children.

Executive Summary

After extensive liaison and communication with other members of the review team, and following a number of personal meetings with numerous stakeholders, inspection of the Mater site and the notional alternative sites, and review of patient and non-clinical data, we have prepared the following response.

The clinical review group unanimously and unequivocally recommends the immediate implementation of plans to consolidate the current Dublin inpatient acute care paediatric units into a single National Paediatric Hospital on the Mater site.

We also agree with the need for the ambulatory and urgent care centre which is proposed for the Tallaght site.

We feel strongly that any further delay or change in plans will impair the ability to deliver the safe and high quality care for the children of Ireland that is long overdue. This is an achievable plan to transform the care of children in Ireland which further delay can only threaten. In the view of this panel the opportunity for all stakeholders to unite and focus their considerable talent on delivering this hospital is the most important contribution they can make. The sections that follow outline the detailed considerations which have helped us to form our conclusion.

While the Clinical Review Team agrees with the proposal to site the National Paediatric Hospital on the Mater campus, with the model of care, and with the overall design of the NPH, it is clear that there is an urgent need to review certain aspects of the programme. Within the framework of the review's terms of reference, we have identified the following key aspects for further review and development:

- Clinician engagement with, and understanding of, the model of care for paediatric services.
- Communication – to the public, to patients, and to staff – of the issues around access to the NPH on the Mater site.
- The development of plans for helicopter access.
- The scope and role of the Ambulatory and Urgent Care Centre at Tallaght.
- Plans for the future direction of research and education functions at the NPH.
- Some elements of the proposed NPH design.
- The role of ICT in supporting the integrated model of care.
- The relationship between the NPH and the Genetics Service.

The aim from this point on should be to ensure that the NPH project is a success, to maximise the opportunity to provide the highest quality service possible to Ireland's children. With that aim in mind, and although outside the review's terms of reference, the Clinical Review Team suggests that a number of other areas also require a fresh approach, and that the relevant stakeholders should prioritise further work in the following areas:

- Governance of the NPH project.
- Consolidation of existing children's services.
- Establishment of an appropriately resourced clinical leadership team.
- Management of the Foundation capital campaign.
- Communication of the workforce plan.
- Development of a comprehensive communications strategy.

Methodology

For much of the period of the review, the clinical review team members were separated from each other by distance and time zones. However, the team was kept fully apprised of the progress of the first part the review by email contact and through a series of weekly teleconferences. These virtual meetings also allowed the team members to formulate the information needs and clarifications that would be key to answering the questions posed in the terms of reference.

The clinical review team members have had access to all documentation submitted over the course of the review period.

Three members of the clinical team were able to make personal visits to the site of the Mater Hospital and three notional, alternative sites discussed in part one of the review.

Two members of the team were present during meetings with stakeholders held on 16th and 17th June in Dublin.

All members of the clinical team, under the Chair Dr James Mandell, have collaborated to provide this report.

The Vision for Ireland's Paediatric Model of Care

The model of care that has been proposed for Ireland's Paediatric Services, with which the Clinical Review Team wholeheartedly agrees, places the child at the centre of a geographically integrated network of high quality paediatric care delivery. At high level, it is illustrated in the diagram on page 9. The proposed single, tertiary paediatric hospital will be a critical component of this national paediatric network. It will need to be linked through joint faculty recruitment, educational venues, coordinated care plans and information technology to regional hospitals, primary caregivers and ambulatory care centres.

The component parts of this health system, working in a coordinated manner, are to provide comprehensive paediatric health services, locally where possible, and centrally when critically ill children need a variety of speciality expertise. It should also be cost effective, allow for growth of specific services when needed, and also provide for significant opportunities for research, academic development and fundraising opportunities for the future benefit of child health across Ireland.

The above represents the current level of aspiration. However, the clinical model of care does not appear to be fully understood by some of the stakeholders. As a consequence, the project does not have the strongly held and widespread support which is required to push it forward and bring all parties together. This should be addressed as a matter of urgency.

Co-location/Tri-location

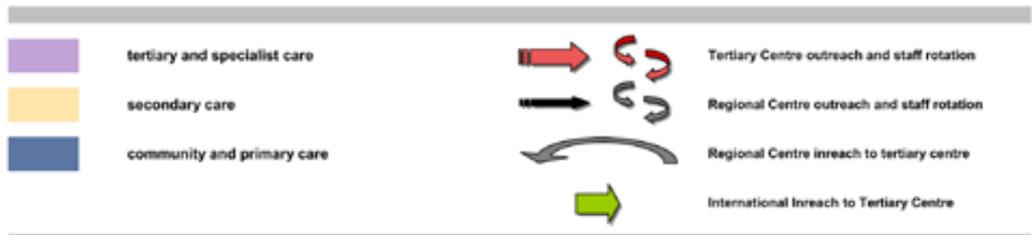
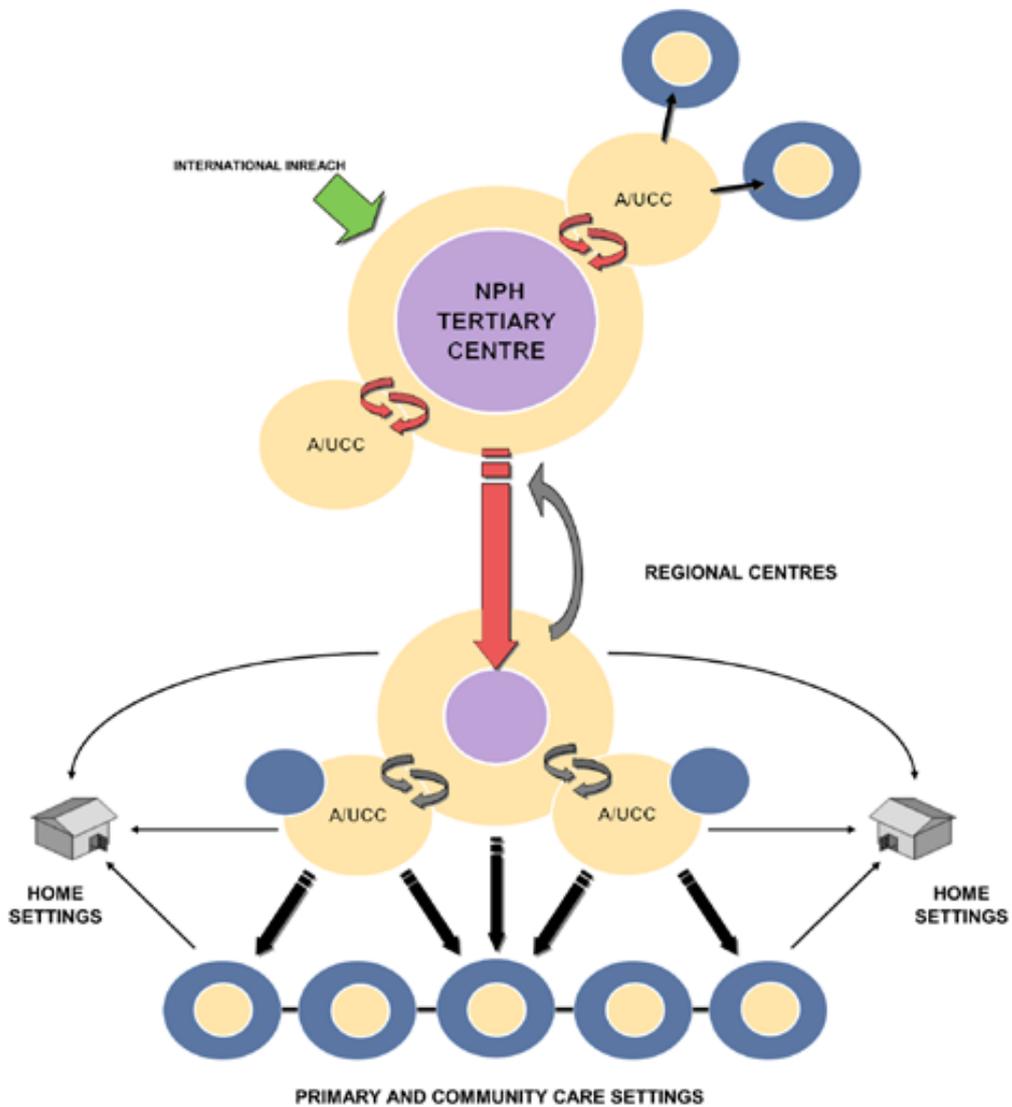
The co-location of the NPH with an adult hospital was seen as advantageous by almost all of the stakeholder groups who presented to the clinical review team. The review team agrees with this view.

It should be acknowledged that while the clinical advantages available from co-location with an adult hospital are positive, the distribution of tertiary adult services across the metropolitan Dublin area is fragmented. However, this does not compromise the advantages and efficiencies of co-location that are possible with shared non clinical support services.

All groups presenting to the Review Team spoke of the imperative of additional co-location (tri-location) with a tertiary maternity and neonatal service.

If the National Paediatric Hospital is built on the Mater site, this would provide a base for the further strategic planning of adult services and a base for the relocation of the Rotunda Maternity Hospital.

The Mater site also offers the best opportunity to place the National Paediatric Hospital in a health community with all the partners needed to develop children's services, including research and education, in addition to the maternity and adult services.



Access

Access, travel times, and the question of accessibility for the community of greater Dublin, and for those beyond greater Dublin, remain a concern for many of the stakeholders who presented to the review team. These issues have been the source of many submissions and protests to the Minister and to the media.

Comprehensive travel studies have been provided by the NPHDB consultant team. The panel was made aware that a comprehensive Traffic Impact Assessment has been submitted to, and negotiated in detail with, Dublin City Council as part of the planning consultation for the new development. These have reassured the Clinical Review Team. The studies appear to be thorough, well tested and statistically reliable, and they have taken into account the 'worst case scenario' – the possibility that the Metro North station will not be developed on the site.

There are also a several background issues which were thought worthy of consideration in the current debate:

Emergency: there is already significant emergency paediatric traffic in Dublin's city centre. The busiest children's emergency department in the city – the CUH at Temple Street - is situated 400 metres from the proposed development at Eccles Street. No information which we have received or presentation we have attended has identified that access to Temple Street is of major concern. CUH Temple Street currently deals with 45 000 attendances per year. The proposed volume of activity at the new NPH on opening will be around 65 000 attendances per year ie an increase of 45% on existing levels.

Parking: there is virtually no parking on the CUH Temple Street site. There will be 736 patient parking spaces in the NPH development, which will be secure and safe with direct lift access to the main foyer and the emergency department. A significant proportion of these will be dedicated for emergency patients.

Travel management: The traffic studies looked at journey times for emergency patients from inside and outside the Dublin conurbation using the M50 and established the travel times along the major radial routes from the orbital motorway to the Eccles Street site at various times of the day. They identified, not surprisingly, that the longest journey times are in the morning peak period. The majority of paediatric attendances at emergency departments take place between 12.00 and 20.00, when the journey times are at their shortest.

Elective care: The OCSC Travel Time survey report identifies that elective care is, by its definition, planned and that tertiary attendances from outside the Dublin conurbation can be planned to make effective use of the highway networks.

The availability of good public transport is a strong positive for the Mater site. One of the laudable successes of the existing Mater Hospital has been to increase staff use of public transport to 70% for journeys to work by means of Mobility Management Planning. It is important in the wider context of Europe-wide carbon reduction targets that the NPH is not planned around over-reliance on private car transport for staff travel. Furthermore, for parents who are staying at the hospital with their children for significant periods of time, the ability to access the city centre for brief periods of time on public transport is an advantage.

Access is less of an issue for parents than appropriate and high quality care. Currently parents can and do travel across the globe to access care for their children.

The provision in Ireland of a first class facility that unites expertise and develops local care is by far the most important factor for this group.

There has also been comprehensive planning and coordination with local councils and ambulance services.

Helicopter Access

A National Paediatric Hospital must have provision for comprehensive services, including retrieval services. Access to the hospital must include helicopter access. From the information available to us, we understand that the planned helipad is intended to be a campus facility serving the National Paediatric Hospital, the Mater Hospital and the Maternity facility.

Analysis has been undertaken to test various locations for the Mater campus helipad. Those tests showed that it would not be feasible (for reasons of wind speed and turbulence) to provide a helipad on levels 16 or 17. The tests also included a wind analysis of theoretically placing the helipad at level 9. While this would not be possible on the NPH it may be feasible on level 9 at the Mater adult hospital. This option is being tested and the results are expected shortly. We are assured that all options will be subject to stringent safety criteria, detailed design considerations and the statutory planning approval process. We have been informed that it is intended to provide a dedicated access route from the helipad to the NPH, which will not pass through public or adult areas. The review of helicopter landing options also includes options for contingency/backup occasions.

The Ambulatory and Urgent Care Centre (AUCC)

As currently planned, the model of care for Paediatric Services in Ireland proposes a 'hub and spoke' arrangement, as illustrated in the diagram provided on page X. The AUCC will be one of the 'spokes', and will serve the population of South Dublin, providing day case, ambulatory and urgent care facilities.

The clinical review team fully supports the need for urgent care and secondary care and some appropriate day surgery services at a peripheral metropolitan site to support access to appropriate high quality care as close to home as possible. This service plan is appropriate and successfully validated across the world.

The model of care for children assumes care close to home wherever possible, and the plans for the AUCC respond to this need. However, the review team saw evidence that the model and scope of services are not understood consistently among stakeholders. Despite the planning documentation regarding the Tallaght site, there was (among those who presented to the Review Panel) considerable variation in views of what services and models of care are to be offered.

The clinical review team suggests a review and fresh consideration of the breadth of services to be offered at the Tallaght AUCC, not least to ensure common understanding among medical and nursing staff and the wider community. Staff, patients and parents should be engaged with developing the detail of the centre.

The AUCC at Tallaght should offer Urgent Care services, but there should be consideration of extending to a 24 hour service with an appropriate number (between 6 to 8) of 23-hour short stay beds. Such a strategy would have a number of positive benefits: it would relieve significantly the number of transfers that will be required between Tallaght and the NPH; eliminate the challenging management issue of closure of the service in the late evening; provide further support to the day surgery program; and give the option for a broader casemix to be included. This would also allow the model of care to be developed and tested in a supported setting and could be reviewed after an agreed trial period.

The AUCC's elective ambulatory services should be concentrated on secondary and community paediatric services. High volume tertiary services where there is a critical mass of tertiary providers would enable (over time) the development of some selective outreach tertiary clinics (for example, diabetes clinics). This explicit strategy would not and should not exclude the challenge to every subspecialty to consider regional sub-specialty outreach services where resources allow to further develop the local care strategy. This approach would also ease any concerns that some 'fragile' subspecialties (where numbers are low, e.g. infectious diseases) would not be split across the city.

While not raised by all stakeholder groups, a comprehensive, well-planned community education campaign will be necessary with this new service configuration.

A number of groups presenting to the review team spoke of a dilution of the original single tertiary hospital vision/concept with the planned Tallaght Services. This misrepresents the comprehensive service model of care. The service plan does not envisage a 'two hospital' model, so service planning, resourcing, staff education and community education should at all times emphasise the linked, hub-and-spoke arrangement. The model is driven by a patient and family centric service plan with numerous international examples as evidence of its successful and worthwhile implementation.

A further concern raised was the possibility of scope creep over time, eventually diluting the single children's hospital concept. Skilled governance and competent operational management will ensure Tallaght's contribution will remain appropriate and consistent with the single service vision. It is not unreasonable that services will evolve over time at both the Tallaght site and at regional centres as the national health plan and model of care for children is implemented and indeed the strategy for developing services should allow care delivery systems to flex to patient and carer needs over the long term.

Concern was expressed by some physicians that the Tallaght service plan was driven primarily as a consequence of insufficient space at the planned tertiary facility. While the detailed planning of services may have been delayed and/or compromised by the poor quality of ambulatory data, the proposed 117,000 m² facility should have ample capacity to provide any ambulatory space required for tertiary clinics. Again, this misinformation or misrepresentation undermines the vision and, more importantly, the 'buy-in' and momentum for this important project.

Research

Research and education are critical elements of the mission of a tertiary children's hospital. There is an opportunity with this development to bring together committed but fragile and fragmented elements of paediatric research across Dublin. This development could also be the leverage to bring the three major affiliated universities together with clinical scientists from the three Dublin paediatric hospitals to develop a shared vision for child health research for Ireland. This represents a very real opportunity for Ireland to develop a health community across the age spectrum that is built on knowledge and enquiry.

Those researchers presenting to the Review panel (along with their Foundation support) were passionate advocates of the research agenda. However it was clear that there has been no serious collaborative planning across the city. There appears to be good will and positive relationships (including with universities) but no core consolidated plan for research development committed to by all relevant parties.

While it was noted that all researchers presenting to the review team were pleased with the research space currently designed within the planned NPH, it is of concern that such planning has occurred without a consolidated vision/plan for the future of research.

The greatest concern of researchers was that their space was potentially disposable and hence at great risk.

Unfortunately the fragmented nature of paediatric tertiary services across three sites in Dublin has compromised the development of child health research. All concerned acknowledged the poor relative performance of child health researchers in national / peer reviewed competition. This relative poor performance was also documented in the Australian context, where the Brisbane child health community fragmented over two sites resulted in a very poor relative performance to interstate peers, on all measurable research parameters.

Expansion

There are general concerns (very acute for some groups) about the expansion / future proofing options given the choice of the inner city Eccles Street site, with little current land for expansion once the only remaining building footprint is committed to the Rotunda Maternity Hospital for tri-location with the adult and paediatric hospitals.

The NPH Development Board has planned expansion space within the facility envelope, but this is not widely known nor understood. More importantly, the Temple Street facility will remain committed to health care service use once the Children's Hospital moves. This was confirmed by the Temple Street Board.

It would be advantageous to have a 'master planning' process for the Temple Street site with a view to having the site committed to children's health care and having a binding understanding with the Temple Street site owners. Being able to speak to this availability more explicitly would allay some concerns. Beginning the dialogue with the hospital and clinical community now will be an important part of long term strategies.

Design elements

The Clinical Review Team supports the overall design proposed for the NPH on the Mater site. However, a number of concerns about elements of the existing design were raised by clinicians during our interviews. As a result, and in line with established practice, we would recommend a focussed review of some elements of the planned facility; namely:

- Emergency department design
- Radiology adjacencies
- Patient flows (particularly to operating theatres and the paediatric intensive care unit)
- The vertical alignments and associations of the usual 'hot floor' elements.

Design development should at the earliest opportunity test the plans against patient journeys to ensure the facility is child focussed and operationally efficient. A wide range of clinician representatives should be involved in this work, and it would be beneficial to have greater clinical representation on the development board.

As a general point, the design of every department in the new NPH should be of a comparable standard, or preferably superior to, any current facilities for children in Dublin.

Parents and Care Givers

The review team heard from a group of parents and care givers, representing a coalition of around 40 disease-specific support groups.

This coalition of parents is passionate and committed to the NPH project, and they clearly want to see early progression on the current selected site. They spoke positively about their engagement at all stages of the planning process and expressed grave concerns regarding any delay that may be consequent on decisions taken as a result of the independent review. The parents expressed disappointment at the division within the clinical community and institutional leadership regarding the progression of the NPH project. They suggested that there remained (sadly) an inappropriate weighting on an individual institution's welfare rather than a genuine priority for the child and the future of child health.

The parents also pointed out – from their own experience – the poor state of the current children's hospital facilities and the woeful nature of parent and patient accommodation in children's hospitals. They expressed their concern that any delay in this development in improving the physical environment in which children are cared for, would unnecessarily place children at risk of serious harm.

Information and Communications Technology

We were unable to discern a well-developed plan to provide comprehensive, integrated ICT across the paediatric care system. This causes dissatisfaction and concern among health care providers, since a comprehensive ICT strategy is a critical enabler for delivery of safe contemporary health care and for the planned national and hospital models of care.

ICT is also critical to how the hospital will operate, from the Building Management System to nurse call systems, and as such needs to be part of the design development phase to ensure the building optimises technology to support both patient care and staff needs.

The vision of clinicians engaged in the process is of a paperless hospital. Such a goal, while laudable, may be difficult to achieve given the current ICT status of the three core consolidating institutions and the progress on a national ICT strategy. However it is critical that a plan is confirmed, resourced and implemented to enable safe contemporary health care practice across Dublin and the hub and spoke network in the rest of the country.

The importance of this element cannot be understated from the perspectives of the clinical users and the future governors of this health care service and institution.

Genetics

A number of clinicians presenting to the review team expressed disappointment that the National Genetics Service was not to be included in the move from its current site at Our Lady's Childrens Hospital, Crumlin, to the new National Paediatric Hospital.

While historically Genetics as a clinical specialty emerged from the paediatric setting, the recent explosion of the genetics knowledge base, and its application, has seen an increasingly broad engagement of genetic services across the full range of clinical disciplines, in particular Oncology. However, the rapidly evolving neuro-genetics and equivalent developments across every medical and surgical discipline and subspecialty mean that Genetics is becoming an increasingly academic discipline. As such, it requires a very solid laboratory and research base, and will be based less and less solely within the realms of child health.

So while the decision not to plan for the National Genetic Service in the NPH may be correct, clarity about the presence, availability and engagement of genetics clinical services within the tertiary facility is critical. It is unclear whether the genetic service itself has been party to the decision making – but the genetics service leadership must engage and communicate their vision for the future of national genetic services, and partner with the clinical child health community in the application of the vision within the child health sector and more particularly within the new National Paediatric Hospital.

Conclusions

The review panel are grateful for the opportunity to participate in this independent review of the proposed location of the National Paediatric Hospital.

There was clear enthusiasm and support for a consolidated children's hospital from all those representing the interests of the existing children's hospitals, including the Boards, clinicians, researchers, parents and Foundation representatives.

We believe there is the potential to develop a state-of-the-art integrated paediatric tertiary hospital, academic centre and integrated network that will be the envy of countries throughout the EU. It is conceivable that this National Paediatric Hospital could become a destination point for children outside of Ireland to seek certain specialised care. For the children of Ireland this new integrated network of care certainly has the capacity to offer a safer, higher quality service that is effective, efficient and equitable.

There was a strong consensus from all of the interviewees that we provide a clear and decisive recommendation on the preferred site for the new National Paediatric Hospital. Furthermore, the first part of the independent review – financial analysis and cost comparison – has concluded that there is no significant difference in the costs of constructing the National Paediatric Hospital on the Mater site, compared with a number of notional alternative sites.

Accordingly we recommend the Mater site as previously proposed.

It is sometimes said that 'the enemy of excellence is perfection'. Of all those who were critical of this site, none offered concrete alternatives. Rather, there was comment about the specific attributes of an ideal location that were absent from the Mater site. The reality is that no perfect site is available, and consequently the review team considered those options that are viable and achievable. We understand that no one site has all of the requisite adult and current paediatric services that make that site a perfect choice. Given those services that are available, and the plan to consolidate others at the Mater site, our recommendation is again reinforced.

We unequivocally believe that co-locating with tertiary adult and maternity hospitals is essential to the development of an excellent paediatric service. This has become best practice internationally and was recognized in the McKinsey report. A good community based children's hospital could be developed on a green field alternative but it would not be able to offer the full range of tertiary and quaternary services that can be developed in concert with adult and maternity services. In effect the current fragmentation of services would persist.

Our meeting with architects who presented an analysis of traffic flow and access addressed our questions and concerns with those issues. In addition, we were satisfied with the Emergency Transport representative's assurance that 'blue light' access onto the Mater site did not pose an issue. We believe the traffic and access issues raised can be mitigated. Using a co-located helicopter landing site should prove no problem if an access bridge is made available.

We have addressed several concerns here that have been expressed in writing or during our interview process and that we believe will require further consideration. These are:

- Clinician engagement with, and understanding of, the model of care for paediatric services.
- Communication – to the public, to patients, and to staff – of the issues around access to the NPH on the Mater site.
- The development of plans for helicopter access.
- The scope and role of the Ambulatory and Urgent Care Centre at Tallaght.
- Plans for inclusion of research and education functions at the NPH.
- Some elements of the proposed NPH design.
- The role of ICT in supporting the integrated model of care.
- The relationship between the NPH and the Genetics Service.

The active inclusion of parent and care giver associations will also be an important element in the success of the NPH project. They should be given ample opportunity to influence further planning and design work.