Health and Social Care Board

Public Health Agency

Review of the Paediatric Congenital Cardiac Service, Belfast Health and Social Care Trust - July 2012

Health and Social Care Board and Public Health Agency's Explanatory Comments

Children in Northern Ireland with heart disease have, for many years, received high quality care provided by a team of highly skilled and experienced doctors, nurses and support staff.

The care of such children typically includes cardiology care and may also include cardiac surgery and interventional cardiology. The latter two are, for the purposes of this paper, sometimes referred to as 'specialist cardiac care'.

The paediatric cardiac surgical and interventional cardiology elements of the services provided in Belfast have been recognised for over a decade to be inherently vulnerable, given the small number of patients being seen and treated each year. This has given rise to concerns regarding the long term sustainability of the paediatric cardiac service. In this context the Minister for Health, Social service and Public Safety, Mr Edwin Poots, announced, on 29 March 2012, the Board's intention to undertake an external review.

The review was commissioned by the Health and Social Care Board, in conjunction with the Public Health Agency, and was undertaken by a Review Panel which was led by Professor Sir Ian Kennedy and included a number of clinical specialists and a parent group representative.

As part of the review, services were assessed against the *Safe and Sustainable* standards which were used to assess children's cardiac

surgical units in England. The review provides advice and direction on the best way to secure high quality care for all children needing specialist cardiac care in the future.

The Review Panel visited Belfast for two days, 23 and 24 April 2012, during which time they had the opportunity to meet with Trust clinicians and managers and with patient representatives. Preparation for the visit required the provision of detailed information from the Trust, and attendance at sessions during the two day visit necessitated a time commitment from a wide range of staff. The Board commends Trust staff for their time and commitment in helping to prepare for the visit and in facilitating the Review Panel's schedule.

The Review Panel concluded that children in Northern Ireland with congenital heart disease are well served by a dedicated and experienced team of consultant paediatric cardiologists and nurses. The review highlighted that there are many excellent features in the current service that present opportunities for the development in the future of a model children's cardiology centre.

The Review Panel did not identify any immediate safety concerns with the current arrangements for the provision of paediatric cardiac surgery in Belfast but did conclude that the surgical element of the service in Belfast was not sustainable. The review recommended that the potential safety risks be addressed within a period of six months. By extension, this would also require the cessation of interventional paediatric cardiology services within the same time period.

The HSCB and PHA are the commissioners of services in Northern Ireland, and the Department of Health Social Services and Public Safety is also fully involved in its role of setting policy for the HSC. The Board wishes to emphasise that, while the organisation and provision of care is a matter for the Trust, the development and configuration of the service is a matter on which the Board and Public Health Agency have the key responsibility, albeit working closely with the Trust.

The collective approach between Department, Commissioners and Trust is illustrated in the collaborative steps to develop a networked arrangement with Our Lady's Children's Hospital, Crumlin. This initiative, led jointly by the Health Departments of each jurisdiction, and with the

commitment of commissioners in N. Ireland and Ireland, has forged a cooperative relationship with the provider in Dublin and facilitated good professional networks. Through this forum all parties have worked to develop a service model within which children could receive care appropriate to their needs either in Belfast or Dublin. It should be noted however that it was beyond the scope of the Review Panel to consider the provision of services in Dublin.

We would wish to emphasise that, throughout the review, where this or other strategic issues are referred to, the overarching responsibilities of Health Departments and commissioners are taken into account. Such strategic matters are not the responsibility of the Trust. Rather, the Trust is a key participant and contributor to service developments in the specialty area of paediatric cardiac services.

Just as the strategic development of services is the responsibility of the Board and Public Health Agency so too is the need to take forward the steps to bring about the necessary service improvements in line with the requirements set out by the Minister.

It is important to recognise that only a small number of children in Northern Ireland require specialist cardiac care, and for some of those children the complexity of their condition requires access to specialist care beyond Northern Ireland. It should also be emphasised that for children who do require an operation almost 9 out of 10 will only need one surgical procedure. It is recognised that for each family surgery may be a significant and stressful event. However, it is crucially important that all children can access the very highest quality of care from skilled and experienced professional teams, which at times necessitates travel to a centre beyond Northern Ireland.

For many years a significant proportion of children from Northern Ireland have travelled to other centres, including some of the sickest and youngest patients who as infants, some only a few days old, may require highly complex surgery. For example, during 2011/12 there were some 140 operations in children and, of these, over one third were transferred outside Northern Ireland for surgery. Most travelled to a centre in England but a number also travelled to Dublin for surgery.

In 2011/12 the Belfast Trust performed about 90 surgical procedures. Children who currently have surgery performed in Belfast are likely to require less complex operations and to have their surgery as a planned procedure rather than an emergency.

In regard to interventional cardiology procedures on children, fewer than 40 are undertaken in Belfast. Again, a number of children who require interventional cardiology procedures are transferred to other centres for cardiology care, with 13 travelling outside Northern Ireland in 2011/12.

Changes in the provision of paediatric cardiac services are anticipated in other parts of the UK. On 4 July it was announced that across England the number of paediatric cardiac surgical units would be reduced, with 3 units expected to cease surgery within a timeframe of the next two years. In Wales, children who require surgery normally access such care in England. These changes reflect the action agreed by the NHS in England and Wales to improve the quality of care by ensuring that all centres comply with *Safe and Sustainable* standards.

In Northern Ireland it is important to ensure that health services provided for the population are consistent with evidence-based best practice. Specifically it is important that every child with heart disease in Northern Ireland receives the high quality care they require to effectively manage their condition and provide the very best outcome.

REVIEW OF THE PAEDIATRIC CONGENITAL CARDIAC SERVICE BELFAST HEALTH AND SOCIAL CARE TRUST

2 JULY 2012

1. Introduction

Congenital heart disease is relatively rare. The Central Cardiac Audit Database suggests that around 8 of every 1000 babies born will have some form of congenital heart disease, though there is a higher incidence in Northern Ireland compared to the rest of the United Kingdom due to the low rate of termination of pregnancy. Services for children with congenital heart disease are becoming increasingly complex. Surgery and interventions demand great technical skill and expertise from all of the professionals in the cardiac teams.

Each year, approximately 140 children under the age of 16 years and 30 adult patients in Northern Ireland require surgery for congenital heart conditions. Most patients have their surgery undertaken at the Belfast Health and Social Care Trust ('the Trust') while a number of children are transferred to other surgical centres outside of Northern Ireland.

In March 2012 the Northern Ireland Health Minister announced that the Health and Social Care Board ('the Board') would commission an external review to examine the safety and sustainability of the paediatric congenital cardiac service in Belfast.

The independent expert panel was chaired by Professor Sir Ian Kennedy and comprised experts with a background in the provision and commissioning of care for children with complex heart conditions (Appendix A). The panel visited the service on 23 and 24 April 2012 and met clinical and management staff, families and representatives of patients' groups.

The terms of reference of the panel were: to assess the service's current and future compliance with the *Safe and Sustainable* standards, which have been endorsed by the relevant professional associations in the United Kingdom; to identify the implications of non-compliance with the standards for the future care of children in Northern Ireland; and to identify whether there are immediate concerns in relation to safety.

2. **The paediatric congenital cardiac service at the Belfast Health and Social Care Trust**

The Trust reports in its submission to the panel that:

> "*Belfast Health and Social Care Trust delivers integrated health and social care to 340,000 people in Belfast. It also provides specialist services to the 1.7 million population of Northern Ireland. With an annual budget of approximately £1bn and a staff of 18,000 it is one of the largest Trusts in the United Kingdom*
>
> *The Belfast Trust was formed in 2007 by the amalgamation of six former Health Trusts of which the Royal Hospitals was the largest. The hospitals within the Trust treat approximately 210,000 inpatient and day patients a year, 680,000 outpatients and more than 200,000 people at A&E departments. The community component of the Trust is corporate parent to 600 children in care – the majority in foster care. The Trust also is responsible for between 500 and 550 children on the child protection register – and every year receive 800 referrals for children in need of support – mostly in their own home. The Royal Belfast Hospital for Sick Children (RBHSC) is the regional centre for tertiary services and a District General Hospital for the local community. There are 84 inpatient beds in the RBHSC, 8 of which are dedicated to paediatric cardiology and paediatric cardiac surgery in the paediatric cardiac unit*".

The paediatric cardiology service is based in the Children's Hospital. The surgical theatres and catheterisation labs are located at the Royal Victoria Hospital which is on the same campus. Children are transported from the cardiology unit to theatres by ambulance, and immediate post-operative care is provided in a critical care setting at the Royal Victoria Hospital. Children are usually transferred back by ambulance to the Paediatric Intensive Care Unit or to the cardiac ward at the Children's Hospital within 48 hours.

The service relies upon a locum congenital cardiac surgeon mentored by a retired consultant congenital cardiac surgeon. At present, there is no possibility of complex surgical procedures being performed by the locum surgeon in Belfast without supervision.

In view of the small surgical caseload in Belfast and the service's historical reliance on a single-handed surgeon the Trust's management, clinical leads and commissioners have had long-standing concerns about the sustainability of the service in its current form. Within this context the respective Departments of Health, Health and Social Care Board and the Trust have sought to develop what it describes as a 'strategic partnership' with *Our Lady's Children's Hospital* in Dublin over a number of years.

The Trust also has links with surgical units in England, most notably *Birmingham Children's Hospital* to which complex cases are routinely referred.

In 2010 an external review of the service was undertaken by Mr David Barron, Consultant Congenital Cardiac Surgeon at *Birmingham Children's Hospital* and Mr Asif Hasan, Consultant Congenital Cardiac Surgeon at the *Freeman Hospital*, Newcastle. That report did not identify any immediate safety concerns but made a number of recommendations in relation to the need to address sustainability and the limits of the Belfast service in performing complex surgical procedures.

We accept that the inherent vulnerability of the paediatric cardiac surgery is a matter known for some time to both the provider and commissioners of service. While the responsibility for commissioning the service rests with the Health and Social Care Board and the Public Health Agency, we were advised that the development of a partnership arrangement across political jurisdictions, north and south, has been taken forward under the leadership of respective health Departments. Specifically, a strategic group, jointly chaired by the Department of Health, Social Services and Public Safety in Northern Ireland and the Department of Health Ireland has been the forum within which proposals have been explored and a Service Level Agreement has been developed. We understand that the current model of care was developed and agreed by the respective health Departments, commissioners in Ireland and Northern Ireland, the Belfast Trust and *Our Lady's Children's Hospital*. Within this model the Health and Social Care Board and Public Health Agency retain the responsibility for commissioning paediatric cardiac services wherever they are provided.

While this report focuses on the panel's assessment of the Belfast Trust against core standards, we acknowledge that the decision regarding the future model of care is for commissioners to determine.

3. Summary of the panel's conclusions

i. The children of Northern Ireland with congenital heart disease are well served by a dedicated and experienced team of consultant paediatric cardiologists and nurses. There are many excellent features of the current service that present opportunities for the development of a model children's cardiology centre that delivers services in a congenital heart network across Northern Ireland.

ii. It is the surgical element of the service that provokes concern.

iii. The panel has not identified any immediate safety concerns presented by current arrangements.

iv. However, the paediatric congenital cardiac surgical service in Belfast is not sustainable. There is no realistic prospect of the Belfast Trust being able or suitable to meet the demands of the Northern Ireland surgical caseload without assistance from other surgical units.

v. The un-sustainable nature of the paediatric congenital cardiac surgical service at the Belfast Trust presents potential safety risks that must be addressed within clearly defined time limits. **We propose that this must be achieved within 6 months of receipt of this report.** The situation will be exacerbated when the current mentoring arrangements cease on the retirement of the mentor, [redacted]

vi. The implementation of alternative arrangements which would seek to retain even some paediatric congenital cardiac surgery at the Belfast Trust is 'high risk'.

vii. Implementation of a formal 'split-site' arrangement with *Our Ladies Children's Hospital* in Dublin service would not provide safe 24/7 surgical cover to children at the Belfast Trust nor would this arrangement comply with the relevant *Safe and Sustainable* standards (which have been endorsed by the relevant professional associations).

viii. The Health and Social Care Board, the Belfast Trust and *Our Ladies Children's Hospital* must address more clearly the challenges of establishing and managing a formal partnership for such a partnership to be viable and sustainable. There is limited evidence that the proposed partnership across the Belfast Trust and *Our Ladies Children's Hospital* has been subjected to appropriate scrutiny.

ix. Discussions between the Health and Social Care Board, the Belfast Trust and *Our Ladies Children's Hospital* have been continuing for a number of years. A successful outcome to these discussions is unlikely to prove fruitful whilst current arrangements continue.

x. The removal of paediatric cardiac surgical services from the Belfast Trust would also necessitate the cessation of paediatric interventional cardiology services at the Belfast Trust in line with the standards and professional guidance. However, a partnership with *Our Ladies Children's Hospital* provides an opportunity for a reciprocal networking arrangement that could see the Belfast Trust's cardiologists delivering their excellent service, including the interventional element, at *Our Ladies Children's Hospital* in Dublin.

xi. It would require a significant undertaking for capacity to be built at *Our Ladies Children's Hospital* that would enable Dublin safely to provide a surgical service for the whole of Ireland. Coupled with the significant challenges in establishing a formal strategic partnership, alternative arrangements between the Belfast Trust and congenital cardiac surgical units in England should also be actively explored.

4. **Does the panel have any immediate concerns about the safety of the Belfast service?**

We have not identified any immediate safety concerns but we are concerned that the surgical service is not sustainable. This constitutes an un-acceptable risk in itself in that systemic safety concerns can very quickly become immediate safety concerns as a result of sudden, un-planned events.

While we have no doubt that the children of Northern Ireland are served by an excellent cardiology team, our visit has identified systemic safety concerns that will become more 'high risk' the longer the sustainability issues are left un-resolved. We note that our findings mirror those made by Mr Barron and Mr Hasan in their report of 2010 and we are concerned that there is limited evidence that the hospital has taken appropriate steps in response to that report's conclusions about the lack of 24/7 cover for children in the Belfast hospital. The evidence that we heard suggests that the various elements of the Trust's remedial plan are generally responsive in nature, rather than an outcome of a formal, considered strategy.

5. Implications for the future care of children in Northern Ireland

In our opinion there are five options for the future delivery of services:

i. Maintain the status quo

We include this option for completeness even though we have concluded that maintaining the status quo is neither safe nor sustainable. We regard this option as 'high risk' given the findings that we have set out in this report about current arrangements.

Surgery would continue to be performed at a number of surgical units in Belfast, Dublin and England depending on considerations of case complexity, presenting condition and capacity.

It was put to the panel that a formal split-site arrangement for surgery across Belfast and Dublin would result in a surgical establishment of 4 consultant congenital cardiac surgeons and an annual surgical caseload in compliance with the relevant *Safe and Sustainable* standards. We do not agree. The standards require (as a minimum) 4 surgeons to be co-located on a single site so that the service may reap the benefits of safe 24/7 surgical cover via a 1:4 rota. Under the proposed model, only one surgeon would be located in Belfast and this would be contrary to the standards and presents safety risks.

ii. Cease surgery in Dublin and transfer all surgery in Northern Ireland and the Irish Republic to Belfast

It is not realistic to assume that this could be achieved even if it was thought practical and desirable on both sides of the border (and there is no evidence to suggest that it is) particularly given the pressing need to address the sustainability of the Belfast service.

iii. Cease surgery in Belfast and transfer all surgery to Dublin

This option would respond positively to the concerns put to the panel by clinicians, nurses and parents about the importance of a surgical service that sits in relative proximity to the child's home (rather than requiring travel to another part of the United Kingdom) so that disruption to the family is minimised and so that the extended family may act as a support network. The significance that should be attached to such representations is for the Board to determine.

A potential concern presented by this option is that there is no evidence available to the Board to assess the Dublin service. It is not within our terms of reference to assess the service offered in Dublin, but we noted with some concern that the Belfast team were unable to provide assurance as to their understanding of the "safety and sustainability" of the Dublin service[1].

We heard evidence from the Dublin team that there are plans to submit outcome data to the Central Cardiac Audit Database, though it did not appear to us – from the limited evidence that we heard - that there is embedded within the

[1] Subsequent to our visit we were presented with a document prepared by the Dublin service that includes activity figures and narrative about infrastructure and governance. We decided to consider the document even though it was a late submission. Although we are grateful for the report it does not of itself persuade us to re-consider any aspect of our report.

Dublin service a culture of routine collection, validation, analysis and reporting of outcome data. The submission of data to the European registry was stopped in Dublin some years ago due to data protection issues.

Moreover, the Dublin team stated that they do not currently meet a number of core *Safe and Sustainable* standards (we note in this regard that the standards are endorsed by the Society for Cardiothoracic Surgery of Great Britain *and Ireland)*. Our concerns are compounded by the Dublin team's observation that there is a relatively limited commissioning function in the Irish Republic.

We would therefore advise the Board that, were this option to be explored, the Board would wish to reassure itself about the safety and sustainability of the Dublin service (including future compliance with the standards) and how robust commissioning arrangements could be put in place before agreeing to transfer the service.

We were left with a sense that an enhanced relationship with Dublin is regarded by the Trust as the preferred option and that as such it does not warrant significant scrutiny. We strongly disagree. A rigorous scrutiny process requires the Belfast Trust to provide appropriate reassurance by way of a detailed formal proposal including a considered analysis of benefits, risks and mitigations.

Discussions to forge the 'strategic partnership' have been held across Belfast and Dublin for a number of years. Unfortunately, arrangements remain largely informal. Where written agreements do exist (for example, service level agreements) they provide no indication about the long-term strategic intentions of both sides. In our opinion this uncertainty and lack of clarity cannot continue.

Given that this option would necessitate agreement and long-term collaboration across two different health administrations it would present a number of unique practical difficulties that would have to be overcome in order to be implementable. These relate to clinical governance, contracting, employment, finance and political will. These observations were also made by Mr Barron and Mr Hasan in 2010. Our sense is that there is a need to address more robustly and effectively the challenges in this regard.

It was explained to us that a project board has been established, comprising representatives of the Belfast and Dublin services and commissioners, but we were not assured that there is a robust structure in place that can readily overcome the challenges that were apparent to us (and to Mr Barron and Mr Hasan). The Board would therefore want to consider how existing project management arrangements on both sides of the border could be strengthened before any agreement is finalised.

We are conscious that it would constitute a significant undertaking for the Dublin service to expand its capacity and infrastructure to be able safely to assume the Northern Ireland caseload as well as its own. The limited capacity of the paediatric intensive care unit in Dublin – as reported to us - is an example of such a challenge that would have to be resolved in order for the relationship to be viable and sustainable. We were told of plans to build a new children's hospital in Dublin but currently there is limited evidence that sufficient capacity could be introduced in Dublin to meet an all-Ireland caseload.

Although money is not the main consideration, tax-payers in the United Kingdom are entitled to expect that a partnership arrangement would offer value for money and in this regard we noted a lack of clarity about current contracting and financial arrangements with the Dublin service.

Under this option the Belfast service would retain non-interventional cardiology services. We could not, however, endorse a model of care that seeks the retention of interventional cardiology services in Belfast as this would be contrary to the *Safe and Sustainable* standards - and the professional guidance upon which the standards are based - that requires these services to be delivered only with the support of a congenital cardiac surgeon[2]. We suggest that this option provides an opportunity for the excellent cardiology service in Belfast to develop for the benefit of children on both sides of the border through reciprocal networking arrangements that could see the Belfast cardiologists also delivering their service – including the interventional element - in Dublin.

Thought should also be given to whether this option would permit the Belfast service to accept non-critically ill children post-operatively.

It was suggested to us that cessation of paediatric cardiac surgery in Belfast would have a detrimental impact on other paediatric services at the Belfast Children's Hospital. We do not accept this given the low number of cardiac cases seen in the PICU.

iv. <u>Cease surgery in Belfast and transfer all surgery to England[3]</u>

This option has the advantage of transferring the service to surgical units whose mortality outcomes are routinely monitored by the Central Cardiac Audit Database and whose current and future compliance with the *Safe and Sustainable* standards has been assessed. A number of these centres are regarded as being amongst the best in the world in terms of

[2] Standard A10

[3] The panel feels unable to propose the Glasgow service given that service's non-compliance with the *Safe and Sustainable* standards, as assessed in 2011

quality and outcomes. The impending *Safe and Sustainable* reconfiguration of the surgical units in England gives even greater confidence in this regard.

The established commissioning function in England also provides reassurance under this option. Children from Northern Ireland are already referred to England for more complex surgery, which means that there are existing arrangements and relationships that can be built upon.

This option would not respond positively to the concerns put to us about the inconvenience of travelling to the mainland for surgery, but it is for the Board to determine the relative importance of such representations.

This option would also necessitate the cessation of interventional cardiology services in Belfast. However, the Board could explore the possibility of using the Dublin service for interventional cardiology services, including arrangements for the Belfast cardiologists to deliver the interventional care in Dublin, as we have described.

We are confident that the English surgical units have sufficient capacity to assume the Northern Ireland caseload based on our discussions with them in 2010.

v. <u>Cease surgery in Belfast, plan to transfer all surgery to Dublin but continue to send children to England while capacity is built in Dublin</u>

This hybrid option recognises the significant challenges inherent in trying to develop an adequately resourced all-Ireland service in Dublin, and the fact that in any event the implementation would be gradual over a period of time. Under this option we would propose that the project plan sets a defined reasonable and realistic timescale by which it should be established whether or not sufficient capacity can be introduced in Dublin that would make an all-Ireland service viable. If it is clear by this date that *Our Ladies Children's Hospital* cannot reasonably meet the demands of an all-Ireland caseload

the plan should provide for establishing a permanent formal relationship with surgical units in England, whether solely or in addition to the Dublin service. We are confident that the English surgical units have sufficient capacity to assume the Northern Ireland caseload based on our discussions with them in 2010.

Next steps

In view of the known difficulties in reaching agreement on the implementation of plans relating to the Dublin and Belfast services, if the Board is minded to implement one of the options that would formalise the transfer of surgery to *Our Ladies Children's Hospital* we suggest that the Board considers announcing – as the first step in entering into formal discussion with both services - that the surgical service in Belfast will definitely cease on a given date. We have in any event recommended that safety risks posed by the retention of paediatric cardiac surgery at the Belfast Trust be addressed within six months of this report. In recognition that this may impede the Board's negotiating position, we would also suggest that the Board announces at the same time that the default position would be to transfer all surgical services to England if agreement cannot be reached between Belfast and Dublin within a reasonable and defined timescale.

We make this suggestion because we are mindful that discussions of the 'strategic partnership' have been continuing between Dublin and Belfast for many years. We believe it would inject a stimulus that would help to focus minds on the need to resolve the implementation issues that we describe, not because we believe that there is necessarily any intentional reluctance to reach agreement on either side.

6. Detailed findings

The panel assessed the Trust against each of the core standards using the following scoring criteria:

Score	Definition
	▪ **Inadequate**: No evidence to assure panel members
	▪ **Poor**: Limited evidence supplied
	▪ **Acceptable**: Evidence supplied is adequate, but some questions remain unanswered or incomplete
	▪ **Good**: Evidence supplied is good, and the panel are assured that the centre has a good grasp of the issues
	▪ **Excellent**: Evidence is exemplary

Describe the arrangements for leading and managing the Service at Board level and clinical service level	
Satisfactory There was evidence of a leadership structure and assurance framework that is acceptable for the day to day running of the service. The Trust demonstrated a good grasp of the strategic challenges that it faces regarding the future delivery of the children's congenital heart service.	Concerns Many of the problems facing the children's congenital heart service are well-known and long-standing. There is limited evidence of how the Trust has responded to the systemic elements of sustainability concerns in recent years. There is limited evidence of an appropriate assurance framework relating to the surgical service's relationship with the Dublin service. The Trust's response to the external peer-review in 2010 by Mr Barron and Mr Hasan is not persuasive, particularly in regard to the relationship with Dublin.
Conclusion: ACCEPTABLE	

Describe how the Service fits within the organisation's strategic priorities	
Satisfactory The Trust described a strategy review in 2008 which has led to plans to strengthen the delivery of paediatric services. The panel noted the Trust's plans to move the paediatric cardiac surgical service from the Royal Victoria Hospital to the existing Children's Hospital by the autumn of 2012.	Concerns The re-location of the surgical service should have been a priority for the Trust following the report of Mr Barron and Mr Hasan in 2010. The plans to re-locate the surgical service are dependent upon a business case that is not yet finalised and support from commissioners. The children's heart surgical service is clearly a strategic priority for the organisation but the strategy in this respect is un-clear and not formalised. There is evidence that the Trust's Chief Executive has taken steps to formalise the strategy following internal review. The panel's sense was that the Trust's priority is the retention of a children's congenital surgical service in Belfast, and that there has been an insufficient examination of the long-term strategic benefits - including benefits to children and their families – presented by alternative arrangements. The Trust has un-realistic aspirations about the continued presence of surgeons in Belfast. There was limited evidence that plans to build a new children's hospital are significantly beyond the level of aspiration at this time.
Conclusion: POOR	

Outline the current service delivery arrangements for the Service, including networks and major contracts	
Satisfactory The service's pioneering use of telemedicine across the Northern Ireland network is very good	Concerns The panel did not get the sense that the development of outreach services for children with congenital heart disease is a priority for the service. There is limited evidence of how clinical relationships are being nurtured across the network in Northern Ireland. There is limited evidence of an appropriate assurance framework and contracting arrangements relating to the surgical service's relationship with the Dublin service.
Conclusion: POOR	

Outline main stakeholder groups and their contribution to the current and future service delivery arrangements	
Satisfactory	Concerns There is limited evidence of how the Trust has responded to the known concerns of commissioners. Although the Dublin service is an important stakeholder, arrangements are informal and un-clear in many respects. There is strong support from parents' groups but limited evidence of how they are engaged in the planning and delivery of services.
Conclusion: POOR	

From here-on the panel assessed the service in terms of current and future compliance with the *Safe and Sustainable* standards

Strength of network **The service (in partnership with commissioners) will provide active leadership in its clinical network. This will include managing and developing referral, care, treatment and transfer pathways, policies, protocols and procedures. The service should demonstrate how it will manage the performance of the network and ensure as much care close to home as possible. The network should have good transition arrangements in place and be able to demonstrate effective multi-disciplinary team working.**	
<u>Evidence of compliance</u> The Congenital Cardiac Specialist Nurse has held some study days for community nurses, but these appeared to be ad hoc. The Trust's use of telemedicine across the Northern Ireland network can be regarded as pioneering.	<u>Gaps in compliance</u> There was no convincing evidence of active leadership of the Northern Ireland network. The Trust did not demonstrate a sufficient understanding of how a well-managed clinical network could function for the benefit of children and families in Northern Ireland. There was limited evidence of how the Trust has developed referral and treatment pathways, and policies and protocols with local providers. It was not clear that the development of outreach services was considered to be a priority for the Trust. The Trust's use of tele-medicine is very good but this does not equate to leadership. The Trust did not present evidence of a formally nominated Lead Nurse.

	There was limited evidence of how the Children's Specialist Cardiac Nurse delivers services in the community.

Current Compliance: INADEQUATE

Development plans required to meet the standards

The panel did not receive any explanation of plans or proposals to develop network arrangements in Northern Ireland. The panel had the sense that the Trust's priority in terms of a network was confined to its relationship with the Dublin service and that the benefits of a well-managed local network covering non-interventional care were not sufficiently appreciated.

Development plans: INADEQUATE

Identification of risks and mitigation plans to achieve a safe service

The panel was not presented with any evidence as to how the Trust has identified risks and mitigations in this regard.

Risks and mitigations: INADEQUATE

Panel's view of risks of non-compliance to the future treatment of children

The absence of a well-managed clinical network comprising the numerous NHS services that see children with congenital heart disease in Northern Ireland risks a disjointed approach to the delivery of care that is experienced by families. The delivery of excellent care relies in part on excellent communication and excellent team-working across the different professionals and different services involved in each child's care. Current arrangements effectively confine expertise to the surgical centre to the detriment of continued development of the skills of the medical, nursing and other health professionals in the network. Moreover, in the few instances of clinical practice in the Northern Ireland network that do benefit from the involvement of staff from the Belfast centre, some practices may become un-safe if there is no effective communication or effective leadership from the centre.

Staffing and activity

- **The service must be staffed by a minimum of 4 full-time consultant congenital cardiac surgeons**
- **The service must perform a minimum of 400 paediatric surgical procedures a year, sensibly distributed between the 4 surgeons**
- **The service *should* perform a minimum of 500 paediatric surgical procedures a year**
- **The services must provide enough staff to provide a full 24-hour emergency service within legally compliant rotas, including cover by consultant paediatric cardiologists**
- **Paediatric Intensive Care consultants should be available to the paediatric intensive care unit on a 24/7 basis**
- **Each child should have a named Children's Cardiac Specialist Nurse, working within a Cardiac Liaison team**

Evidence of compliance	Gaps in compliance
The service is sufficiently staffed by a team of experienced and dedicated cardiologists. The Children's Cardiac Specialist Nurse gave evidence of her work with children and families in the hospital.	The service does not meet the standard for 4 consultant congenital cardiac surgeons. The service does not meet the standard for a minimum surgical caseload. The service is unable to deliver a full 24 hour service within legally compliant rotas. In the context of paediatric congenital cardiac patients at the Royal Victoria Hospital the Trust does not meet the standards for anaesthesia cover, which the panel noted was stretched. It is doubtful that the current level of support from the Congenital Cardiac Specialist Nurses is sufficient for the needs of the network.

Current Compliance: INADEQUATE

Development plans required to meet the standards
The panel is concerned that the development plans on which the Trust relies – that of a formal split-site arrangement for surgical cover involving surgeons at *Our Ladies Children Hospital* in Dublin and the Belfast Children's Hospital – would not meet the standards which require 4 surgeons to be co-located on a single surgical site. The need for a team of 4 surgeons to be co-located on a single site in Belfast in the interests of delivering safe 24/7 emergency cover was not sufficiently addressed by the Trust. In the panel's opinion, this core requirement cannot be ignored.

Development plans: INADEQUATE

Identification of risks and mitigation plans to achieve a safe service
The Trust's development plans would, if implemented, result in continued non-compliance with the standards; as such the panel was not reassured that risks had been clearly identified. There are no credible plans to deliver safe 24/7 care. In the panel's opinion, the implementation of plans to recruit a second surgeon at the Belfast Trust would, in view of the small paediatric surgical caseload, exacerbate existing concerns about occasional surgical practice even were the job-plan to include adult congenital work.

Risks and mitigations: INADEQUATE

Panel's view of risks of non-compliance to the future treatment of children
In the panel's opinion, the Trust has not described credible plans for addressing the risks posed by having the surgical unit in Belfast staffed by one or two consultant congenital cardiac surgeons. This presents a risk in relation to sustainability and is also a potential safety risk in terms of lack of safe 24/7 cover, notwithstanding the excellent service delivered by the cardiology, medical and nursing team. The risks to the future care of children in Northern Ireland are clear: the service will continue to be sub-optimal in terms of the experience and skill-mix of the surgeons that it may recruit; safe 24/7 care will not be available, which is a particular concern for post-operative cases; the service will continue to depend on other surgical units for complex cases; the skills and expertise of the medical and nursing team will never develop to the extent that they do in other, larger centres and this will affect all aspects of the child's care; junior staff in the relevant specialities will not be exposed to a sufficient number of cases to become truly excellent in their fields; the service will struggle to keep up with new technologies and new clinical practices, including surgical techniques; there is a risk that clinical outcomes at the Belfast Trust will fall below those of others given the strong evidence across a number of paediatric specialties of the relationship between better outcomes and larger surgical units.

Interdependent services

Critical interdependent services must be co-located as defined by the *Framework of Critical Interdependencies*:

- **Paediatric cardiology**
- **Paediatric intensive care**
- **Paediatric Ear Nose Throat (Airways)**
- **Specialised paediatric surgery**
- **Specialised paediatric anaesthesia**
- **Paediatric neurology**
- **Paediatric respiratory medicine**
- **Neonatology**
- **Paediatric nephrology**
- **Clinical haematology**

Evidence of compliance	Gaps in compliance
Subject to the panel's observations on 'gaps in compliance' all services were 'co-located' as defined by the *Framework of Critical Interdependencies*. Although the requirements of the Framework are met, some aspects of the co-location arrangements could be regarded as sub-optimal. The ENT (Airways) service is located at the Royal Victoria Hospital. This is a 'time critical' service but the panel was assured that the service is sufficiently close to the Children's Hospital to meet the requirements of the *Framework*.	Surgery takes place in cardiac theatres at the Royal Victoria Hospital (which resides on the same campus as the Children's Hospital) but procedures are carried out by paediatric trained staff using specialist paediatric equipment. The theatres are remote from the Paediatric Intensive Care Unit but the panel was persuaded that the arrangements for children to be seen post-operatively in a dedicated area within the cardiac intensive care unit do not present immediate safety concerns in that there is sufficient expertise in nursing and ICU staff and provision for parents to stay with their child. There are risks in transporting children post-operatively from the cardiac ICU at the Royal Victoria Hospital to the PICU at the Children's Hospital but the Trust has explained arrangements for transport which are by trained the paediatric staff including PICU

	anaesthetist staff. The panel was assured that the current provision of paediatric anaesthesia services is able to meet the current caseload and case mix though it is vulnerable due to its reliance on two individuals. The Trust has identified that a failure to re-locate paediatric cardiac surgery may risk the sustainability of appropriate anaesthetic and intensive care provision for post-operative care of just cardiac children. Catheterisation labs are located at the Royal Victoria Hospital.
Current Compliance: ACCEPTABLE	

Development plans required to meet the standards

The Trust has plans to move all paediatric surgery to the current Children's Hospital by the autumn of 2012 but this is subject to approval by commissioners. In our opinion the re-location of surgery should have been an immediate priority following the report of Mr Barron and Mr Hasan in 2010. If this plan is implemented it would address the risks that exist at present with the remote nature of the PICU from the theatres and would provide enhanced care for the child by way of appropriately trained PICU staff in a true paediatric setting. However, these plans are dependent upon a business case that is not yet finalised and on support from commissioners.

If the move goes ahead and two beds are moved from intensive care at the Royal Victoria Hospital to the PICU at the Children's Hospital, there was limited evidence that the Trust has considered the knock-on impact to other services. The long-term sustainability of these arrangements (including capacity for other paediatric specialties) seems to rely on the building of a new children's hospital, the plans for which do not go significantly beyond aspiration in the panel's opinion.

The panel noted that catheterisation labs will remain located at the Royal Victoria Hospital if paediatric cardiac surgery re-locates to the Children's Hospital. These arrangements would not be ideal. The Trust has identified a need to review these arrangements, but there is no evidence that the arrangements would be reviewed before the move.

The Trust has identified that a failure to re-locate paediatric cardiac surgery to the Belfast Children's Hospital may risk the sustainability of appropriate anaesthetic and intensive care provision for post-operative care of cardiac children. We noted that training

for PICU nurses has already begun and that some nurses are expected to transfer from the other unit.

The Trust has also described plans to build a new children's hospital on the campus and it has suggested that this would co-locate ENT (Airways) services with PICU and paediatric cardiac surgery and would address concerns about capacity. However, in the panel's opinion plans to build a new children's hospital are no more than aspirations at this stage.

Notwithstanding acceptable current compliance with the co-location standards and acceptable plans for future compliance, the paediatric congenital cardiac surgical service remains un-sustainable for the reasons set out elsewhere in this report.

Development plans: ACCEPTABLE

Identification of risks and mitigation plans to achieve a safe service
The service is currently compliant with the standards and the Trust has described plans to improve the model of delivery further.

The Trust has identified that a failure to re-locate paediatric cardiac surgery may risk the sustainability of appropriate anaesthetic and intensive care provision for post-operative care of cardiac children.

Notwithstanding acceptable current compliance with the co-location standards and acceptable plans for future compliance, the paediatric congenital cardiac surgical service remains un-sustainable for the reasons set out elsewhere in this report.

Risks and mitigations: ACCEPTABLE

Panel's view of risks of non-compliance to the future treatment of children
The service is currently compliant with the standards and the Trust has described plans to improve the model of delivery further.

Notwithstanding acceptable current compliance with the co-location standards and acceptable plans for future compliance, the paediatric congenital cardiac surgical service remains un-sustainable for the reasons set out elsewhere in this report.

Facilities and capacity

The service must demonstrate that it has sufficient staff to meet the demand for inpatient beds, critical care beds and theatre capacity; sufficient capacity to ensure that the demands of emergency and elective surgery can be flexibly managed; there must be facilities in place to ensure easy and convenient access for parents and carers.

Evidence of compliance	Gaps in compliance
If compliance with this standard is assessed with reference to the Belfast Trust's restricted cardiac caseload there is evidence of compliance in terms of adequate capacity for the current restricted elective caseload. The Trust provides free accommodation for parents and carers. There are arrangements for parents to stay with their child in the ward.	If compliance with this standard is assessed with reference to the total paediatric congenital heart caseload in Northern Ireland, the service would not be compliant with the standards as it relies upon other surgical centres to meet its total elective caseload. There is no assurance about arrangements for providing 24/7 care in the Belfast Trust in any event. Accommodation for parents and carers is acceptable although it is cramped and basic.

Current Compliance: POOR

Development plans required to meet the standards

The panel does not agree that a formal split-site surgical model across the Belfast Trust and *Our Ladies Children's Hospital* in Dublin that the Trust describes would result in compliance with the standards. Compliance would require the co-location of at least 4 surgeons on a single surgical site at the Belfast Trust.

The long-term plans to address capacity by building a new children's hospital are not significantly beyond aspiration at this stage.

Development plans: POOR

Identification of risks and mitigation plans to achieve a safe service
There was an acceptable identification of risks by the Trust but the measures by way of mitigation are not realistic when considered against the broader concerns about the long-term sustainability of the service.

The long-term plans to address capacity by building a new children's hospital are no more than aspirations at this stage.

Risks and mitigations: POOR

Panel's view of risks of non-compliance to the future treatment of children
The re-location of paediatric cardiac surgery to the current Children's Hospital will not address the systemic problems that pose risks within the service. In the panel's opinion, pursuit of an agenda to retain paediatric cardiac surgery at the Belfast Trust would ultimately perpetuate the current risks, and distract attention away from the problem of lack of coherent leadership in the network, no matter how well the Trust tries to address the individual elements of the problems of sustainability.

Age-appropriate care

All care will be individually tailored to reflect the child's developmental age, and appropriate transitional arrangements will be in place.

Evidence of compliance	Gaps in compliance
There was acceptable evidence of arrangements for the transition to adult services, including written protocols. The Trust provides off-site transition clinics. There is acceptable evidence of support from clinical psychology and from dedicated congenital cardiac specialist nurses.	Cardiac surgery is performed at the Royal Victoria Hospital, which means that adolescents are admitted post-operatively to a dedicated paediatric area of the adult cardiac critical care unit. There is no dedicated in-patient area for adolescents at the Children's Hospital, and there are limited facilities for adolescents on the wards. It is doubtful that the current level of support from the congenital cardiac specialist nurses is sufficient for the needs of the network.

Current Compliance: ACCEPTABLE

Development plans required to meet the standards

It was not clear to the panel how plans to re-locate paediatric cardiac surgery from the Royal Victoria Hospital to the current Children's Hospital would address the needs of adolescents and in particular the lack of a dedicated in-patient area for adolescents.

It is doubtful that the proposed increase in support from the congenital cardiac specialist nurses will be sufficient for the needs of the network.

It was not clear to the panel how the proposed relationship with *Our Ladies Children's Hospital* in Dublin would respond to the specific needs of adolescents.

Development plans: ACCEPTABLE

Identification of risks and mitigation plans to achieve a safe service

There is currently acceptable compliance with the relevant standards as they relate to the delivery of services for adolescents under existing arrangements.

Risks and mitigations: ACCEPTABLE

Panel's view of risks of non-compliance to the future treatment of children

There is currently acceptable compliance with the relevant standards as they relate to the delivery of services for adolescents under existing arrangements, though further consideration should be given to the needs of adolescents on the wards.

Information and choices

The service must demonstrate that arrangements are in place that allow parents, carers, children and young people to actively participate in decision making at every stage in their child's care

Evidence of compliance	Gaps in compliance
There was good evidence of support from clinical psychology though this does not extend to services in the network. There was good evidence of support from the congenital cardiac specialist nurses. A nurse is in attendance at all clinics. There was good evidence of how the congenital cardiac specialist nurse is in contact with peers in other surgical centres on a day-to-day basis about specific children. Telephone advice is available to parents via a 24/7 nursing service.	Parents are not supplied with a written care plan as a matter of routine. There was limited evidence that parents and carers are offered support in obtaining second surgical opinions from other surgical centres. There was limited evidence of how parents are supported by way of information when their children are referred to surgical units. In particular, the Trust should consider how to make parents fully informed in writing about such matters as obtaining consent for surgery and eligibility for reimbursement of travel and accommodation costs and the process for reimbursement.

Current Compliance: GOOD

Development plans required to meet the standards
The plans for patient-held records are commendable.

It is doubtful that the proposed increase in support from the congenital cardiac specialist nurses will be sufficient for the needs of the network.

Development plans: GOOD

Information and choices
Identification of risks and mitigation plans to achieve a safe service
There is currently good compliance with the relevant standards as they relate to the delivery of services under existing arrangements.

Risks and mitigations: GOOD

Panel's view of risks of non-compliance to the future treatment of children
There is currently good compliance with the relevant standards as they relate to the delivery of services under existing arrangements.

Where children are referred to other surgical centres the Trust should consider how to make parents fully informed in writing of the process for obtaining consent for surgery and eligibility for reimbursement of travel and accommodation costs and the process for reimbursement.

Ensuring excellent care

- **The service must have a dedicated management group for the internal management and coordination of service delivery**
- **Clinical teams will operate within a robust and documented clinical governance framework**
- **The service must have, and regularly update, a research strategy and research programme that documents current and planned research activity**
- **The service must demonstrate how it develops innovative working practice**

Evidence of compliance	Gaps in compliance
The Trust described acceptable arrangements for the internal management of the service and acceptable clinical governance arrangements. There is acceptable evidence of the approach to clinical audit. The panel notes the active research programme in so far as it relates to paediatric cardiology services. The Trust can be regarded as a pioneer in its use of telemedicine in Northern Ireland.	It is unclear how clinical governance arrangements relate to outreach services. There is limited evidence of an appropriate assurance framework relating to the Trust's relationship with *Our Ladies Children's Hospital* in Dublin. The links with Queen's University are unclear from the evidence submitted.

Current Compliance: ACCEPTABLE

Development plans required to meet the standards

The panel notes that the Trust has chosen to focus on the relationship with Our Ladies Children's Hospital in Dublin in setting out development plans to meet compliance with the standards relating to 'Ensuring Excellent Care'. This means that the Trust has offered no evidence of plans to meet the standards in so far as they relate to the service offered in Belfast.

Development plans: POOR

Identification of risks and mitigation plans to achieve a safe service

The evidence demonstrates gaps in the Trust's understanding of how a formal split-site arrangement with *Our Ladies Children's Hospital* in Dublin would work and the practical implications of implementing and managing such an arrangement.

As was noted by Mr Barron and Mr Hasan in their 2010 report, given that this option would necessitate agreement and long-term collaboration across two different health administrations it presents a number of practical difficulties that would have to be overcome in order to be implementable, relating to clinical governance, contracting, employment, finance and political will. It was explained to the panel that a Project Board has been established, comprising representatives of the Dublin and Belfast services and commissioners, but there was limited evidence that there is a robust structure in place that can readily overcome the long-standing challenges in establishing and managing this relationship. Both the Trust and commissioners should therefore consider how existing project management arrangements on both sides of the border would have to be strengthened before any agreement is finalised.

The Trust itself reports that discussions with Dublin have been going on for a number of years. The panel feels strongly that a defined timescale should be set and adhered to.

Risks and mitigations: INADEQUATE

Panel's view of risks of non-compliance to the future treatment of children

In so far as the panel can respond to the evidence offered in regard to the proposed relationship with *Our Ladies Children's Hospital* in Dublin, the panel does not feel that the Trust has adequately acknowledged the challenges in establishing this relationship. Moreover, while it is not within the panel's terms of reference to assess the service offered in Dublin, we noted with some concern that the Belfast Trust was unable to explain why it is assured about the safety and sustainability of the Dublin service in the absence of any objective evidence. The paediatric cardiac surgical in Dublin has not been externally reviewed and has not submitted data to the Central Cardiac Audit Database. There is an over-reliance on personal relationships across the Dublin and Belfast teams rather than formal, accountable structures.

The panel heard from the Dublin team that they do not currently meet a number of core *Safe and Sustainable* standards. Concerns may be compounded in this respect by the Dublin team's observation that there is a relatively limited commissioning function in the Irish

Republic.

The panel has the sense that as an enhanced relationship with *Our Ladies Children's Hospital* is regarded by the Trust as the 'preferred option it does not warrant significant scrutiny. The panel disagrees. A rigorous scrutiny process requires the Trust's Board to provide commissioners and other stakeholders with a detailed analysis of risks, mitigations and benefits, and a detailed proposal for implementation including a feasible timetable.

END OF REPORT

APPENDIX A
PANEL MEMBERS

(Chair) Professor Sir Ian Kennedy

Professor Kennedy chaired the public inquiry into the care of children receiving heart surgery at the Bristol Royal Infirmary between 1984 and 1995. His landmark 'Kennedy Report' in 2001 highlighted fundamental flaws in the planning, delivery and management of paediatric cardiac surgical services and it made a number of recommendations around safety, medical competency and public involvement relevant to the NHS as a whole. He was chairman of the Healthcare Commission from 2003 to 2009 after which he became the chair of the Kings Fund inquiry into the quality of general practice in England. In 2010 he chaired an independent expert panel which assessed all 11 of the hospitals in England that provide children's heart surgical services as part of the *Safe and Sustainable* review, which was the single largest review of a single clinical speciality in the history of the NHS.

Dr Michael Godman

Dr Godman is a retired Consultant Paediatric Cardiologist. He worked in the Royal Hospital for Sick Children in Edinburgh until 1999, during which time he was also a Senior Lecturer in the Department of Child Life and Health, and the Medical Director for the hospital. From 1999 to 2008 he worked in Riyadh, Saudi Arabia as Co-Chairman of the Department of Cardiac Sciences. He is Chairman of the Association of European Paediatric Cardiologists, and also President of the British Paediatric Cardiac Association. In 2010 he was a member of the *Safe and Sustainable* expert panel.

Maria von Hildebrand

Maria von Hildebrand has been working in patient and public involvement since 1995. She is the founder of Constructive Dialogue for Clinical Accountability, a national charity set up in partnership with patients, the public and clinicians. The objective of her work has been to improve the information exchange between health care professionals and patients, to ensure there is knowledge transfer and shared responsibility for the process of informed consent resulting in improved quality and safety outcomes for public benefit. She has worked as a policy adviser to the Department of Health, including input to the National Service Framework for Children, the Every Child Matters Framework, the Paediatric Review for Paediatric and Congenital Cardiac Services, as an independent patient advocate for both adult and paediatric Cardiac Audit Data Committees and the National Bowel Cancer Audit Prospectus Committee. In 2010 she was a member of the *Safe and Sustainable* expert panel.

Mr James Monro
Mr Monro was a Consultant Cardiac Surgeon in the NHS until 2004. He was President of the Society of Cardiothoracic Surgeons of Great Britain and Ireland from 2000-2002, and during this time was co-chairman of the committee which produced the "Report of the Paediatric and Congenital Cardiac Services Review Group". He was also heavily involved with the UK Central Cardiac Audit Database. Mr Monro was President of the European Association for Cardiothoracic Surgery in 2003 and 2004 and founding Chairman of the European Association for Cardiothoracic Surgery Congenital Cardiac Surgical Committee. In 2010 he was a member of the *Safe and Sustainable* expert panel.

Dr Neil Morton
Dr Morton is a Consultant in Paediatric Anaesthesia and Pain Management at Royal Hospital for Sick Children in Glasgow and a Senior Lecturer at University of Glasgow. He has specialised in paediatric cardiac anaesthesia since 1989. He was President of the Association of Paediatric Anaesthetists of Great Britain and Ireland and Editor-in-Chief of the international Journal of Paediatric Anaesthesia. In 2010 he was a member of the *Safe and Sustainable* expert panel.

Sally Ramsay
Sally Ramsay is registered as a children's nurse. Her NHS career culminated in 8 years as Director of Nursing in a children's hospital. For the past 7 years she has worked independently. Her work has included service and education reviews, preparing expert reports and writing standards and clinical guidance documents for the Royal College of Nursing. In 2010 she was a member of the *Safe and Sustainable* expert panel.

Dr Roy Sievers
Dr Sievers is a Consultant Paediatrician with cardiology expertise working at Portsmouth Hospitals NHS Trust. He is a member of the executive committee of the Paediatricians with Expertise in Cardiology Specialist Interest Group and has chaired the development of a new Royal College of Paediatrics and Child Health curriculum for paediatricians wishing to train in this area.

Julia Stallibrass MBE
For the last 20 years Julia Stallibrass has worked in the NHS in various public health and commissioning roles, most recently as Head of Specialised Services Commissioning in the National Specialised Commissioning Team. She has also worked for the Department of Health where she was the policy lead for commissioning specialised services. Whilst at the Department of Health she produced the Carter Report on the 'Review of Commissioning Arrangements for Specialised Services' (May 2006) and was a member of the working group that produced the *Critical Interdependencies Framework* for specialised paediatric services in 2008. She retired in 2009 and in that year she received an MBE for services to the NHS. In 2010 she was a member of the *Safe and Sustainable* expert panel.

Declarations of interest

Dr Godman, Dr Morton and Mr Monro know clinicians working at the Trust

Sally Ramsay is currently involved in another review of NHS services in Belfast

Dr Morton and Dr Sievers are employed by NHS Trusts in the field of children's heart services