

North West, North Wales and the Isle of Man Congenital Heart Disease Network Operational Policy

Date: 18/07/2023

Table of Contents

1. Introduction	3
2. Purpose	3
3. CHD service model	4
4. The Network as an ODN	5
5. Hosting Arrangements	6
6. Commissioning Arrangements	6
7. Network team	6
8. CHD Network Governance	9
9. Outcomes & Reporting	12
10. Engagement	12
11. CHD Peripheral Clinics (see Appendix 1)	13
12. Network Work Programme	13
13. Network Core Documents	13
14. Network policies, procedures and guidance documents	14
15. Audit	15
16. Training & Development	15
17. Communication & Engagement	16
18. National networking engagement	16
19. Affiliated academic institutes & Research	16
20. Providers of specialised Pulmonary Hypertension care	17
Appendix 1. Providers of CHD Care	17



1. Introduction

Congenital Heart Disease services within the North West are provided within three localities within England. This includes Lancashire & South Cumbria, Cheshire & Merseyside, and Greater Manchester. In addition to this we also provide services for patients living in North Wales and the Isle of Man which together form the North West, North Wales and the Isle of Man Congenital Heart Disease Operational Delivery Network (NW CHD Network).

Congenital Heart Disease Operational Delivery Networks (ODNs) are currently commissioned by NHS England's Specialised Commissioning team however, with the introduction of the Integrated Care Boards in 2023 it is the aim that in the next couple of years Networks will move to a more integrated model of working, with ICBs at the centre. The role of the ICBs is to join up health and care services, improve people's health and wellbeing, and make sure everyone has the same access to services and gets the same outcomes from treatment. ICBs also oversee how money is spent and make sure health services are working well and are of high quality. The CHD Network will support this approach to care by working together with ICBs, NHS England and providers, to support seamless, person-centred care and tackle health inequalities by prioritising the improvement of the lives of those in the most deprived areas.

Working within this integrated system, Networks have a mandate to develop and implement programmes of work to improve access to specialist resources, and to improve patient outcomes and experience.

The role of the NW CHD Network is to provide impartial advice and expertise to all providers, commissioners and ICBs to develop equitable, high standard services. In order to offer assurance to both providers and commissioners the four key success factors for ODNs, set out by the Chief Nursing Officer and Chief Medical Officer are utilised to review the Network.

- Improved access to and egress to/from services at the right time
- Improved operating consistency
- Improved outcomes
- Increased productivity

2. Purpose

The purpose of this document is to outline the Operational Plan for the NW CHD Network. It describes how the range of services function and the scope of the services offered. It also aims to clearly define the governance and assurance processes in line with national guidance, the Memorandum of Understanding (MOU) for networks and national CHD service specifications.



3. CHD service model

Congenital Heart Disease Services in the North West, North Wales and the Isle of Man are provided through a network model of care, as outlined in the 2016 NHSE Congenital Heart Disease Standards and Specifications document. The model establishes three tiers of providers of clinical care, working in partnership to ensure high quality and consistent care. The Network 'oversees' delivery of care from antenatal diagnosis through to provision of end-of-life care when required.

The recommended model of care including NHSE Standards

- > Level 1 centres: Specialist ACHD or Children's Surgical Centres
- > [Congenital-Heart-Disease-Standards-Level-1-Specialist-Surgical-Centres-Adult.pdf \(england.nhs.uk\)](#)
- > [Congenital-Heart-Disease-Standards-Level-1-Specialist-Childrens-Surgical-Centres-Paediatric.pdf \(england.nhs.uk\)](#)

- > Level 2 centres: Specialist ACHD or Children's Cardiology Centres
- > [Congenital-Heart-Disease-Standards-Level-2-Specialist-Centres-Adults.pdf \(england.nhs.uk\)](#)
- > [Congenital-Heart-Disease-Standards-Level-2-Specialist-Childrens-Cardiology-Centres-Paediatric.pdf \(england.nhs.uk\)](#)

- > Level 3 centres: Local ACHD or Children's Cardiology Centres
- > [Congenital-Heart-Disease-Standards-Level-3-Local-Centres-Adults.pdf \(england.nhs.uk\)](#)
- > [Congenital-Heart-Disease-Standards-Level-3-Local-Childrens-Cardiology-Centres-Paediatric.pdf \(england.nhs.uk\)](#)

Providers of CHD Care in NW CHD Network

Paediatric CHD Care

- > Level 1 Centre: Alder Hey Children's NHS Foundation Trust
- > Level 2 Centre: Royal Manchester Children's Hospital, Manchester Foundation NHS Trust
- > Level 3 Centres: Twenty-six paediatric peripheral cardiology centres

Adult Congenital Heart Disease (ACHD) Care

- > Level 1 Centre: ACHD Surgery and intervention is provided by Liverpool Heart and Chest Hospital NHS Foundation Trust with some Level 1 ACHD medical care being provided by The Royal Liverpool University Hospital
- > Level 2 Centre: Manchester Royal Infirmary, Manchester Foundation NHS Trust
- > Level 3 Centres: Wrexham Maelor Hospital, Blackpool Victoria Hospital and Wythenshawe Hospital



A full list of all the centres involved in providing care (level 1, 2 and 3) to CHD patients (paediatric and ACHD) is available on the Network website: [Hospitals in Network - Northwest, North Wales, Isle of Man Congenital Heart Network \(northwestchdnetwork.nhs.uk\)](http://Hospitals in Network - Northwest, North Wales, Isle of Man Congenital Heart Network (northwestchdnetwork.nhs.uk))

Fetal Cardiology

The Network supports two Fetal Cardiology services at St Mary's Hospital in Manchester and The Liverpool Women's Hospital working closely with their respective Fetal Management Units.

Cardiac Maternity Care

Cardiac maternity care is located at St Mary's Hospital in Manchester and the Liverpool Women's Hospital. They care for a wide variety of ladies with cardiac problems including patients with ACHD providing pre-conceptual counselling through to the management of complex deliveries.

Transitional Care

The Network has developed a regional transition pathway that provides care at both Royal Manchester Children's Hospital (MFT) and Alder Hey Children's NHS Foundation Trust.

4. The Network as an ODN

The North-West, North Wales and The Isle of Man Congenital Heart Disease Network was conceived as an operational delivery network (ODN) as set out in "Delivering operational delivery networks – the way forward, 2012". ODNs is focused on coordinating patient pathways between providers over a wide area to ensure satisfactory access to specialist services. Outcome measures demonstrating an ODN is having a positive impact on patient care might include:

- > Improved access and egress to/from services at the right time
- > Improved operating consistency
- > Improved clinical outcomes
- > Improved patient experience

The network is funded by regional NHSE specialised commissioning and as such is an independent body with no affiliation to any one provider of clinical care. It is felt that maintaining this independent identity remains an important aspect of the Network.

5. Hosting arrangements

The NW CHD Network is hosted by Alder Hey Children's NHS Foundation Trust. Within the agreed envelope of funds, the role of the NW CHD Network 'host' is to enable, oversee and performance manage the Network. This is achieved by establishing a



facilitative, supportive framework to ensure clear lines of responsibility and reporting arrangements to provide assurance.

The host provider has a dual role as host and contributes to the NW CHD Network internal governance processes. The host is not accountable for the compliance of other Network member organisations, accountability for this rests with the NW CHD Network Board and the Assistant Director of Specialised Commissioning in NHS England's North of England Specialised Commissioning Team (North-West Hub).

The host provider is also required to document their position as a Network host in their 'statement of purpose' and to make a notification of practice to the CQC register of their position as the host of a Network.

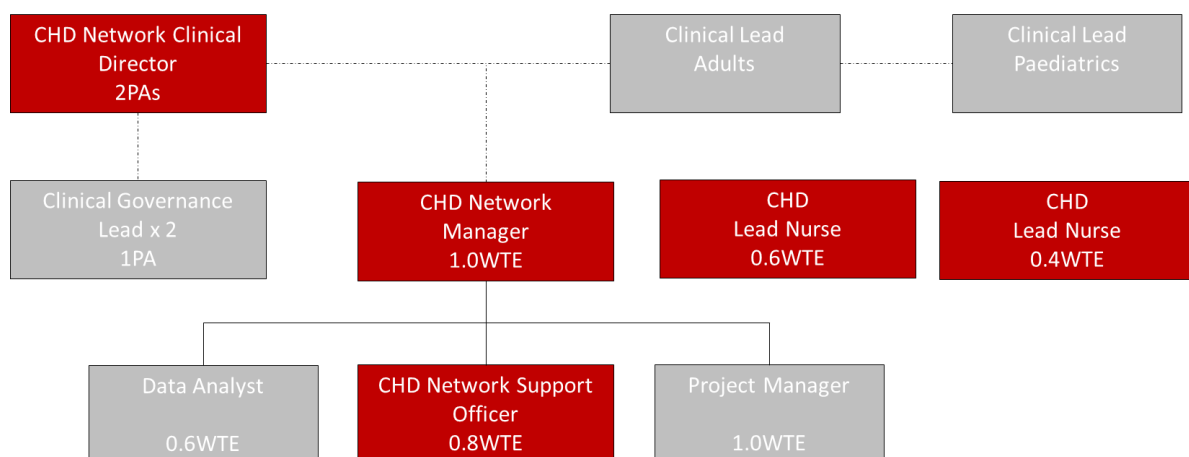
6. Commissioning arrangements

The commissioning of congenital heart disease services by NHS England is covered by Service Specification E05, Congenital Heart Services. This arrangement will remain in place until at least 2024, following which NHS England will confirm if and how financial responsibility for networks will be handed over to the three North West regional ICBs, Cheshire and Merseyside, Greater Manchester and Lancashire and South Cumbria.

7. Network team

The network team is overseen by the NW CHD Board and is accountable to NHS England Specialised Commissioning. The network team acts as a resource, coordinator, and facilitator for all its stakeholders to achieve a collaborative approach to safe, equitable and effective specialised services. It consists of a small and dedicated workforce which is outlined below.

Organogram



The current ODN staffing model is funded through annual funding from NHS England of £219k (plus temporary contracts from underspend)



Network Team Roles & Responsibilities

7.1 Network Clinical Director

The Clinical Director (CD) works as part of a dynamic network support service across the northwest footprint. The CD will support the strategic and operational development of the Network providing coherent and effective strategies to ensure activities are aligned to and support commissioners in achieving high quality outcomes for patients including benefits to population health. The CD will have responsibility for clinical leadership, advice, and engagement.

7.2 Network Manager

The Network Manager provides overall leadership, strategic direction and management for the NW CHD Network. This includes ensuring effective engagement of patients, professionals and constituent organisations in Network activities that support the delivery of national outcome ambitions in line with local needs and resources. The Network Manager strives to ensure that CHD services meet national, local and Trust standards by optimising resources. They will ensure continuous progress is made in service improvements, ensuring service users experience the best possible care and care is delivered in line with commissioning strategies. The Network Manager is required to deliver a whole system work programme for CHD services across the North West of England, North Wales and The Isle of Man working collaboratively with commissioning leads, quality leads and national outcome leads.

7.3 Network Lead Nurse for Quality Improvement (QILN)

Together with the Network Manager, the Quality Improvement Lead Nurse (QILN) supports the strategic direction of the Network and takes a lead role in negotiating, identifying, and implementing plans which contain the required detail for CHD services across the North West to be managed and delivered effectively. The QILN provides professional, expert CHD nursing advice and leadership for the development, implementation and monitoring of strategies that deliver a high quality, patient and family centred service. Added to this, the QILN role will uphold the values and standards of the nursing profession. This will include ensuring effective engagement of patients and families, professionals and constituent organisations in network activities that support the delivery of national outcome ambitions in line with local needs and resources.

7.4 Network Lead Nurse (Education & Research)

The Education & Research Lead Nurse (ERLN) supports the Network by driving transformation through planning, commissioning, and delivery of a comprehensive training and education programme, thus ensuring the clinical workforce is competent and capable of delivering a high quality and reliable service.

The ERLN is responsible for ensuring the provision of high quality multi-professional learning environments as well as promoting and supporting local and national research, ensuring that patients and clinical staff are aware of, and have access to, the research opportunities available to them.



7.5 Network Support Officer

The Network Support Officer provides a comprehensive administrative support service to the NW CHD Network team. The main duties include planning, organising and coordinating the administrative work of the team and the associated Network programme of work, as well as leading on specific projects or aspects of the work plan as required.

Additional temporary posts:

7.6 Project Manager

The Project Manager (PM) supports the professional functioning of the Network by ensuring sound systems are in place for project delivery. The PM is responsible for the development and monitoring of internal processes throughout all phases of a project, including planning, development, and implementation. They will provide timely, up to date information to enable the provision of progress reports to Board, Senior Managers and other staff and members within the NW CHD Network. The PM will support the Network Manager, Lead Nurse(s) and the Clinical Leads in the development of proposals, project plans and new initiatives.

7.7 Data Analyst

The Data Analyst will lead on the provision and development of a comprehensive information management, analysis, and presentation service. This will require the extraction, analysis, interpretation, and presentation of complex information relating to cardiac surgery/intervention and cardiology services. They will be responsible for providing high quality information to the Network in order to assist performance improvement and Network business decision making and take the lead for any queries regarding CHD data on behalf of the Network.

7.8 Clinical Governance Leads

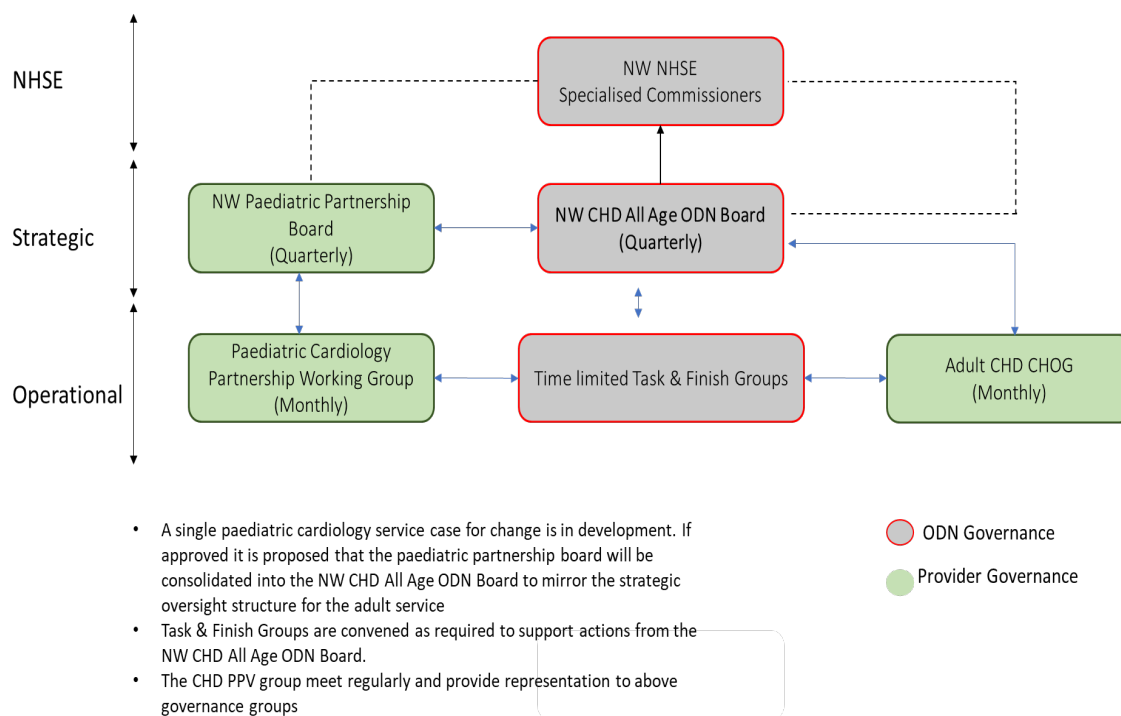
The NW CHD Network has two Clinical Governance Leads sharing 1PA. Their role is to have oversight of all clinical incidents and mortalities across the Network. They are responsible for reviewing the Network risks and for providing alongside the Lead Nurse for quality improvement a governance process to ensure that lessons are learnt and shared across the Network.

8. CHD Network Governance

The Governance Framework is underpinned by an annual work plan which sets out the aims and objectives of the NW CHD Network and enables the Network to monitor progress and implement action plans to address issues as required. This is completed on an annual basis and submitted to the NW CHD Network Board and NHS England Specialised Commissioning for review and approval.



Network Governance Structure



8.1 Network Board

The primary concern of the NW CHD ODN Board is to facilitate, through Network activity, high quality individualised care for patients requiring CHD services. It will identify and monitor strategic aims, align service development to national and local priorities and ensure identification of future needs to maintain and improve patient access and equity of service delivery to the required standards.

The Board consists of executive representatives able to authorise plans and commit resources on behalf of their organisations. Collectively they provide clear direction and leadership for the NW CHD Network team and functions within the North-West of England, North Wales and The Isle of Man. NW CHD Network Board members are chosen to represent their particular group of organisations (e.g. provider, commissioner, ODN) on behalf of the patient pathway, to facilitate improved service delivery and outcomes on behalf of service users. The Chair of the Board is independent of the ODN and of North West CHD providers. Board meetings are held quarterly.

8.2 Senior Leadership Team (SLT)

The primary role of the SLT is to oversee and forward plan activity to develop new, and improve upon existing, high quality individualised care initiatives for patients requiring these services. It will identify and monitor NW CHD Network operational priorities to align service development to national and local priorities and ensure identification of future needs to maintain and improve patient access and equity of service delivery to the required standards. The NW CHD Network SLT comprises the Network Clinical Director, Network Manager and Lead Nurses. The group is supported by the host organisation's Associate Director of Strategy & Partnerships. The Network Manager chairs the group. SLT meetings are held monthly.



8.3 Risk

The Network has two risk leads, one representing adults and one representing paediatrics. They work together with the Network quality improvement lead nurse and Network manager to form an integral part of the governance framework underpinning the Networks function. All CHD providers should inform the Network of items listed on individual Trusts risk registers pertaining to the care of children and adults with congenital heart disease. It may be appropriate that some of these risks are jointly listed on the NW CHD Network risk register as well. The NW CHD Network are responsible for overseeing the process by which risk should be reported and the process for overseeing action against those risks, mitigating further risk and ameliorating any future risk. The Network Board will review the Network's principal risks, their status (i.e., progress against action plans) and their residual risks as a standing item at least quarterly. North West Commissioners will as part of the Board membership be able to review and have access to the risk register. The risk register will be shared with The WHSSC Planning Manager at their request.

8.4 Clinical Governance

The NW CHD Network Clinical Governance meeting is held every 6 months and provides a forum for centres to discuss incidents regardless of level of harm if there is a potential for lessons to be learnt to prevent harm and mortalities where a diagnosis of congenital heart disease has been the cause of death. It is an opportunity to share best practice and lessons learnt and to agree any changes in pathways as a result. These requirements do not replace an individual provider's responsibility to report and act upon incidents and mortality reviews within their own institution. The reporting to the Network should be seen as additional to and not instead of local reporting and actions.

8.5 Patient and Public Voice group (PPV)

The role of the PPV group is to represent the views and experiences of patients & families. The patient and public voice is vital in helping to improve the care that is provided across the North-West, North Wales and the Isle of Man Congenital Heart Disease Network. The PPV group provides input from a diverse background to help the NW CHD Network reach all members of its community with information about congenital heart disease as well as providing critical feedback in order to challenge services which need to improve.

8.6 Document Management

The Network has a dedicated procedure for the writing and development of Network documents. This is to ensure that all material produced is up to date, evidence based where possible and relevant. As part of this process the NW CHD Network has two Ratification Groups. One for paediatric documents and one for ACHD documents. The ratification group members represent the MDT across the Network footprint and provide strategic oversight with responsibility for promoting appropriate, safe, rational and effective clinical and non-clinical policies to be used across the North-West, North Wales and The Isle of Man Congenital Heart Disease Network. They are accountable to



the NW CHD Network Board. There is an expectation that recommendations made by the Ratification Groups will be implemented.

The Network has a robust system of monitoring documents in circulation to ensure that they are reviewed and kept up to date on a regular basis.

External groups that are part of the Network governance structure

NW Paediatric Partnership Board

The Paediatric Partnership Board is responsible for overseeing the delivery and development of agreed collaborative objectives for the NW paediatric clinical networks including NW women and children's ODNs. It ensures they are cost effective, accountable, well governed, and clearly contribute to the continuous improvement of specialised commissioned services and outcomes for children and young people.

ACHD Congenital Heart Operational Group (CHOG)

The purpose of the ACHD Operational Group is to ensure that the partnership between the Liverpool Level 1 organisation, and the level 2 and level 3 organisations across the North West is working smoothly and all policies, procedures and processes are being adhered to in order to provide high quality care to patients and maximise outcomes. The ACHD Congenital Heart Operational Group (CHOG) is responsible to the oversight of operational planning and activities within the service. The group will provide assurance and recommendations to the NW CHD ODN Board following each meeting as necessary.

9. Outcomes & Reporting

The North-West, North Wales and the Isle of Man Congenital Heart Disease Network reports regularly on data, and provides updates on progress through the following means:

- Monthly regional & national data submissions to commissioners
- Quarterly report to regional commissioners
- Annual report
- Annual newsletter

The reports and dashboards are a means of monitoring activity and clinical outcomes throughout the year, with measures being aligned to national standards where appropriate.



10. Engagement

10.1 Provider engagement

The NHS England 'Operational Delivery Network Memorandum of Understanding' sets out the principles against which the NW CHD Network will operate and engage with providers within the Network area.

The NW CHD Network is fully engaged with the Paediatricians with Expertise in Cardiology who provide services across the 26 peripheral clinics. Regular meetings, chaired by PECSIG members, are facilitated by the Network to ensure information and lessons learnt are shared widely and to promote ongoing engagement across the region.

10.2 User engagement

The NW CHD Network Patient and Public Voice group will help to shape the Network's approach to patient and public involvement across the Network. The Network provides support with advertising and promoting the group, recruitment of members, meetings, general administration and organising patient & family information days. There is Network representation at the regular monthly meetings, and specific task and finish groups as required. The PPV Group Chair is represented at CHD Network Board on a quarterly basis.

In addition, the NW CHD Network also supports a Learning Disability (LD) Forum whereby patients with additional needs and their families are also represented. The LD Forum meets monthly.

11. CHD peripheral clinics (see Appendix 1)

Paediatric peripheral clinics are provided throughout the region by Level 1 and 2 Paediatric Cardiology Consultant staff. Usually, these clinics are undertaken in conjunction with a local Paediatrician with Expertise in Cardiology (PECSIG).

ACHD clinics are supported throughout the region by the Level 1 ACHD Consultant Cardiology Team based at Liverpool Heart and Chest Hospital. Support is also offered locally by Cardiologists with a special interest in ACHD. Clinics are supported by the ACHD Specialist Nurses from Liverpool Heart and Chest Hospital and Manchester Royal Infirmary with Wrexham Maelor providing their own ACHD Specialist Nurse.

12. Network work programme

The work programme sets out the Network's aims and objectives as agreed with regional specialised commissioners and local ICBs. The work programme includes:

- Data, Database, Dashboards & KPI's
- Clinical Pathways, Policies & Protocols
- Training & Education



Clinical Governance & Risk Management
 Communication & Engagement
 Finance
 Research
 Service Improvement

13. Network Core Documents

In line with national standards the Network will continue to produce/review the following documentation:

Document	Frequency
Annual report	Produced annually
Work programme	Produced annually
Training and development plan	Reviewed every 3 years
Governance	Reviewed every 3 years
Research	Reviewed every 3 years
Engagement and communication	Reviewed every 3 years
Risk register	Updated every month
Operational policy	Reviewed every 3 years
Policies/plans, guidance, and pathways	Individual review dates 2-3 yearly

These documents (reviewed and revised where necessary) set out what the Network is, why the Network exists and how it functions and facilitates change.

The annual report provides an opportunity to describe the on-going role of the Network, document regional demographics with respect to patients and provision of care and to record 'success stories and strengths' identified throughout the region, together with current challenges and Network aspirations.

The operational policy defines the 'structure of the Network', including terms of reference, agreed constitution, identified care providers/key members, together with outlining the agreed reporting mechanisms. It documents the facilities in place to permit effective communication between all Network members involved in the provision of patient care (including care of paediatric cardiology patients and ACHD patients). The operational policy records clinical guidelines agreed by the Network membership, approved Network pathways and clarifies the mechanisms that permit monitoring of regional outcomes and review of governance issues/serious incidents, to include 'lessons learnt' and how any advice regarding improvements can be disseminated to regional membership. Research, audit and recognising that the Network has a responsibility to provide education for core members, together with supporting members (clinical/non-clinical) remains an integral part of the operational policy.



The work programme sets out the Network's aims and objectives as agreed with regional specialised commissioners and local ICBs.

14. Network policies, procedures and guidance documents

The network has developed, approved, and adopted a number of policies, protocols, pathways and guidance documents. These are produced by individual members, or through collaboration of small groups of experts (often for use within their own Trusts) and following ratification by the Network, are adopted regionally. The Network has responsibility for keeping version control and monitoring when documents require further reviews and updates.

The Network expects individual hospitals to ratify 'adopted network documentation' in line with their own hospital required processes. There is an expectation for Network members to engage with the development, review and improvement of these documents to ensure that all patients in the network catchment area receive standardised, equitable care/treatment.

15. Audit

All level one, two and three cardiology units within the catchment area have a commitment to audit with respect to the following national standard:

"Participation in a programme of ongoing audit of clinical practice must be documented. At least one audit of clinical practice (or more if required by NHS commissioners) of demonstrable clinical significance will be undertaken annually."

The Network has and will continue to collate regional audit programmes when shared as well as undertake regional audits/self-assessments to improve quality.

16. Training & Development

The Network delivers a varied education programme which includes several training opportunities delivered either remotely or face to face. These range from Network study days, bespoke training for individual specialities e.g psychology or sonographers and link nurses, right through to helping to design and deliver a bespoke ACHD masters module delivered in collaboration with Liverpool John Moore's University.

More specifically the Network has developed a competency-based training programme for the role of the paediatric and ACHD nurse with a special interest in CHD. This includes providing a regular forum for networking and support and includes all the regional CHD specialist nurses who provide individual mentorship to nurses wanting to expand this role.



The Network has a designated Education Task and Finish Group that meets monthly to collaborate on and agree on educational priorities for the whole MDT and region. This is chaired by the Lead Nurse.

The Network collaborates nationally with other Networks to provide specialist educational events. In addition, the Network has driven the development of eLfh CHD Modules that are available on HEE portal and are accessible to all health care and social care professionals in England. These modules provide basic information for the non-specialist.

The NW CHD Lead Nurse (Education & Research) will continually work with the Network team and CHD service providers to identify, plan, facilitate and deliver multidisciplinary CHD education and training that, amongst other things; is responsive to changes in clinical practice, shares learning from clinical governance and supports quality improvement.

17. Communication & Engagement

The North-West, North Wales and the Isle of Man Congenital Heart Disease Network recognises the importance of high quality and comprehensive engagement and communication within the CHD specialty and with patient/parent representatives. The network will continue to develop a robust communication and engagement strategy for the future. The network website will become the central method of communication, with additional support via the Network twitter feed and focused updates/communication via meetings and email to share information and events as required.

18. National networking engagement

The North-West, North Wales and the Isle of Man Congenital Heart Disease Network participates in the national CHD Network meetings, highlighting concerns and sharing solutions with colleagues to improve services across all regions.

19. Affiliated academic institutes & research

The North-West, North Wales and the Isle of Man Congenital Heart Disease Network is directly affiliated with Liverpool John Moore's University through the regional lead for CHD research, Professor Attilio Lotto, Consultant Paediatric Cardiothoracic surgeon, Alder Hey. Several Network members have their own direct links with either Liverpool



John Moore's University or the University of Liverpool. Colleagues within the ACHD services have affiliations with both Edge Hill and Liverpool John Moore's University. The Liverpool Centre for Cardiovascular Science (LCCS) has been formed as a strategic research platform, bringing together world-leading research and clinical specialists in cardiovascular biology and medicine. The NW CHD Network are proud to support the work of University of Liverpool, Liverpool Heart and Chest Hospital Trust, Liverpool John Moores University and Liverpool Health Partners who have allied their forces to tackle the stark issue of Cardiovascular health in the North West. Active links with other HEIs across the region are in development. As previously highlighted, the Network dedicates part of the Autumn study day every year to a review of regional research/audit relating to CHD

Providers of specialised pulmonary hypertension care

Paediatrics

The service for Pulmonary Hypertension (PH) in children provides care for children with all forms of pulmonary hypertension, excluding PPHN presenting within the neonatal period.

Great Ormond Street Hospital for Children NHS Foundation Trust (GOSH) is the only UK centre funded to design treatment plans and to authorise the prescription of the specialised medication.

Paediatric patients diagnosed with significant pulmonary hypertension, may either be assessed directly at GOSH, or maybe reviewed in specialised PH outreach clinics staffed by GOSH clinician and a local Paediatric Cardiologist (in the North-West, such a clinic is undertaken at Royal Manchester Children's Hospital).

ACHD

Specialised services for patient with PAH related to ACHD are held at the Level 2 Centre at Manchester Royal Infirmary (Manchester Foundation NHS Trust). This is separately commissioned as a shared care Level 2 Service with the Level 1 Centre for PH being based at Sheffield Pulmonary Vascular Disease Unit (Royal Hallamshire Hospital). This clinic has two dedicated ACHD Consultants who specialise in the monitoring and treatment of PAH in ACHD and the clinic is supported by a Consultant in PAH from Sheffield. This service initiates and up titrates specialist oral treatments for PAH. It is responsible for inputting data into the national PH Database. It does not provide support for patients requiring escalation of therapy to nebulised, subcutaneous or intravenous routes. The services is also supported by the ACHD Nurse Specialist Team at Manchester Royal Infirmary



Appendix 1. Providers of CHD Care

Paediatric

Level 1: Specialist Children's Surgical Centre

- > Alder Hey Children's Hospital

Level 2: Specialist Children's Cardiology Centre

- > Royal Manchester Children's Hospital

Level 3: Local Children's Cardiology Centre's

- > Wythenshawe Hospital (University Hospital of South Manchester)
- > Royal Albert Edward Infirmary (Wigan Infirmary) Wrightington, Wigan & Leigh Hospitals
- > Wrexham Maelor Hospital
- > Whiston Hospital (St Helens and Knowsley teaching Hospitals NHS Trust)
- > Warrington Hospital Warrington & Halton Hospitals NHS Foundation Trust
- > Rochdale Infirmary
- > Glan Clwyd Hospital
- > Royal Preston Hospital (Lancashire teaching Hospitals NHS Foundation trust)
- > Stepping Hill Hospital (Stockport NHS Foundation Trust)
- > Leighton Hospital, Mid Cheshire NHS Foundation Trust
- > Royal Lancaster Infirmary (University Hospitals of Morecambe Bay)
- > Nobles Hospital Isle of Man (IOM)
- > Countess of Chester Hospital (NHS Foundation Trust)
- > Burnley General Teaching Hospital (East Lancashire Hospitals NHS Trust)
- > Royal Bolton Hospital (Bolton NHS Foundation Trust)
- > Blackpool Teaching Hospital NHS Foundation Trust
- > Furness General Hospital (University Hospitals of Morecambe Bay FT)
- > Bangor Ysbyty Gwynedd Hospital
- > Arrowe Park
- > Aberystwyth / Bronglais General Hospital
- > The Royal Oldham Hospital (Pennine Acute Hospitals NHS Trust)

Adult

Level 1: Specialist ACHD Surgical Centre

- > Liverpool Heart and Chest Foundation NHS Trust

Level 2: Specialist ACHD Cardiology Centre's

- > Manchester University NHS Foundation Trust, Manchester Royal Infirmary

Level 3: Local ACHD Cardiology Centre's

- > Wrexham Maelor Hospital



- > Blackpool Victoria Hospital
- > Wythenshawe Hospital

Fetal

The following hospitals provide care for women until the birth of their child. The hospital the woman delivers in maybe one of these units or a local hospital to the women. If the baby requires immediate operative or interventional care post-delivery delivery should be booked for the Liverpool Women’s Hospital.

- > Liverpool Women’s Hospital (Liverpool)
- > St Marys Hospital (Manchester)



- **Level 1: Specialist ACHD or Children’s Surgical Centre’s**
- **Level 2: Specialist ACHD or Children’s Cardiology Centre’s**
- **Level 3: Local ACHD or Children’s Cardiology Centre**

