

Report on specialised cardiology services and QIPP

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Specialised Service Areas - Summary

1. Executive summary

This report is one in a series produced by the Specialised Healthcare Alliance looking at various services, including specialised cardiology, which have been prioritised by the National Specialised Commissioning Group in relation to QIPP (a policy which aims to deliver quality and productivity at a time of spending constraint). This report was particularly informed by a stakeholder workshop on specialised cardiology and cardiac surgery services organised by the Alliance and the East Midlands Specialised Commissioning Group in Nottingham on 6th October 2010. A wide range of stakeholders including patients, commissioners, clinicians and representatives from patient organisations attended the workshop.

The report sets out some background information on QIPP and specialised cardiology services before seeking to distil the major themes explored during the workshop in relation to treatment, care and outcomes. For each theme, some context and background with regard to the key issues is given (including some salient issues which it was not possible to discuss at the workshop), as well as an overview of the discussion at the event.

Among the most important points to emerge, attention is drawn to:

- **The advantages of a directory of services to assist accurate, timely referral;**
- **The need to keep central funding to support networks as a key pillar of integrated care;**
- **The potential benefits of collaborative benchmarking between tertiary centres to ensure that patients are tested, treated and set on the road to recovery expeditiously;**
- **The importance of improved procurement alongside better understanding of outcomes and value, maybe through a device register;**
- **Scope for better monitoring and management of outcomes, including greater use of CQUINs and PROMs, subject to improved patient involvement and risk adjustment of results.**

These and other themes are explored in more detail in section 3 of the report.

2. Background

2.1 QIPP

Quality, Innovation, Productivity and Prevention (QIPP) is the flagship policy being used by the NHS to find the £15-20 billion of savings identified by Sir David Nicholson as necessary in 2011/14 as a result of rapidly rising demand for services and a challenging fiscal climate.¹

The overall aim of the scheme is to combine improvements in quality of care with efficiency savings that can be reinvested in front-line services. Ideally, quality and productivity will go hand-in-hand, providing a better service for the patient, as well as cost savings for the NHS as a whole.²

The National Specialised Commissioning Group (NSCG) has prioritised ten services for taking forward the QIPP agenda, with each Specialised Commissioning Group (SCG) leading on one of the services.

In each case, the NSCG has established three main objectives in relation to QIPP as follows:

- Working through the SCG Finance Network, benchmark and demonstrate value for money in the agreed services;
- Working with the SCG Public Health Network, develop common CQUIN (Commissioning for Quality and Innovation)³ goals for the agreed services;
- Working through the SCG Public Health Network, develop common health outcomes for the agreed services.

The East Midlands SCG is leading for specialised cardiac services. The Specialised Healthcare Alliance is looking at all ten services in relation to QIPP. The Alliance's aim is to ensure a balanced discussion between the four strands of QIPP.

QIPP is clearly important in the context of specialised cardiology and cardiac surgery. Given the often high cost and pace of innovation in specialised cardiology and cardiac surgery services, the challenge is to retain and increase quality in an environment where there is pressure to deliver significant efficiency gains and savings.

2.2 Specialised cardiology and cardiac surgery services

Coronary Heart Disease is a national priority and the subject of a National Service Framework (2000). The most recent NSF progress report was published in 2009.⁴

Among the most important developments in the treatment of heart disease during the last decade are:

¹ For background on QIPP: *The NHS quality, innovation, productivity and prevention challenge: an introduction for clinicians* (March 2010), available from [here](#)

² See NHS Improvement's [QIPP site](#) for more background

³ The CQUIN payment framework makes a proportion of providers' income conditional on quality and innovation. See [here](#) for more information.

⁴ *The Coronary Heart Disease National Service Framework: Building on excellence, maintaining progress* (March 2009), available from [here](#)

- An increase in the number of cardiologists and a £735 million investment programme in new facilities;
- Reduced waiting times for heart bypass surgery;
- An increase in the proportion of people with heart attack symptoms treated with thrombolytics ('clot-busting' drugs);
- Around 4 million people now receiving statins (cholesterol-lowering drugs).

An important development in the commissioning and delivery of cardiac services has been the establishment of clinical networks. There are currently 28 cardiac networks across England, which support and facilitate the delivery of integrated care across primary, secondary and tertiary service organisations. In 2009, cardiac networks extended their role and expertise to support stroke. Among their roles, networks are a source of advice and support to commissioners.

A complementary development is the NHS Heart Improvement Programme, established in April 2005, which forms part of NHS Improvement.⁵ The Heart Improvement Programme reports to the Department of Health CHD Programme Board, with a remit to:

- Support cardiac network development;
- Ensure the spread of service improvement within cardiac networks;
- Facilitate the introduction of new service improvement tools and recognised clinical innovations.

Among Heart Improvement's recent work has been a cardiac surgery project. Eight NHS Trusts supported by their local cardiac networks were involved as demonstration sites during 2008/09 in the Cardiac Surgery National Priority Project. Lessons drawn from these sites are outlined in a guide to commissioning cardiac surgical services.⁶

Heart Improvement's priority projects for 2010/11 are:

- Cardiac rehabilitation;
- Heart failure;
- Non-elective inpatient waits;
- Atrial fibrillation in primary care;
- Primary angioplasty (reperfusion);
- Arrhythmia - cardiac devices and inherited cardiac conditions;⁷
- NHS Health Check.⁸

Looking at specialised services, the national definition⁹ encompasses seven specialised service areas:

⁵ A national programme that works with clinical networks and NHS organisations to deliver improvements across the entire pathway of care in several priority areas. These include cancer, cardiac, diagnostics, stroke services and lung improvement

⁶ A Guide to Commissioning Cardiac Surgical Services, available from [here](#)

⁷ Inherited heart disorder services are one of the seven specialised service areas – see below.

⁸ The aims of the project is to support the implementation and delivery of the NHS Health Check programme – a programme of vascular risk assessment and management which will offer preventative checks to all eligible people aged 40-74 to assess their risk of vascular disease (heart disease, stroke, diabetes and kidney disease) followed by appropriate management and interventions.

⁹ Definition No. 13 of the third edition of the Specialised Services National Definitions Set

- Heart, lung and heart & lung transplantation services (including implantable ventricular assist devices);
- Cardiac electrophysiology services;
- Inherited heart disorder services;
- Congenital heart disease services;
- Cardiac surgery and invasive cardiology services;
- Pulmonary hypertension services;
- Cardiovascular magnetic resonance services.

An appendix below provides background notes on the seven specialised services, some of which are commissioned at national level.

It is important to note that the service areas are not discrete but have inter-relationships between them. For example, cardiac electrophysiology services, cardiac surgery and invasive cardiology services may all be used in the treatment of inherited and congenital heart disorders. Furthermore, the boundaries between some of the service areas – notably inherited heart disorder services and congenital heart disease services – may not be sharp or subject to debate.

3. Main themes

This section of the report elaborates on key themes and issues from the workshop, including those highlighted in the executive summary:

3.1 Diagnosis and referral

The advantages of a directory of services to assist accurate, timely referral.

It was suggested that there are huge variations in primary care, with some GPs better at identifying potential cardiac patients than others. GPs also need to accommodate the expectations of patients such as the perception that chest pains warrant a hospital test and that patients have greater confidence in experts.

As emphasised in the commissioning guide on services for patients with inherited cardiovascular conditions, clear referral pathways between primary, secondary and tertiary care are required. This might be assisted by a directory of services to assist accurate, timely referral.

Several participants noted that improved diagnosis will identify more patients. The implications for the whole system of improved diagnosis therefore need to be considered.

3.2 Treatment and care pathway

The need to keep central funding to support networks as a key pillar of integrated care.

The potential benefits of collaborative benchmarking between tertiary centres to ensure that patients are tested, treated and set on the road to recovery expeditiously.

A range of points was raised during the workshop discussions on both a more effective care pathway and choice of treatment within the pathway.

At the front-end, more patients need to be fed into the right pathway via A&E/hospital. One problem is dealing with chest pain within emergency departments. For what are deemed low intensity/risk chest pains, if it is not acute MI / VT / VF¹⁰, the patient receives treatment at the “front door” and is diverted. It was suggested that triage clinics offer a low risk chest pain pathway from A&E, diverting patients away from tertiary centres where appropriate.

The discussion of in-patients identified various blocks in the pathway and areas for potential improvement. These included better prioritising of clinical need against waiting times, co-ordination of bed space between secondary and tertiary care, delays in hospital, transfers between centres and waiting for tests/treatment in hospital, and the need for better exit strategies at the end of care.

Potential areas for improvement in out-patient services include better analysis of referral patterns and GP guidance for referral.

¹⁰ MI: Myocardial Infarction, VT: Ventricular Tachycardia, VF: Ventricular Fibrillation.

Suggestions to improve acute services included better analysis of overall levels of demand, the promotion of more acute physicians to deal with HF and minor AF¹¹, patients aged 85+ to see a geriatrician before seeing a specialist, and restrictions to the 4-hour A&E Target, which can create back-up.

Within paediatric services, it was suggested that there is an important role for EMSCG/EMCAS in ensuring network/guideline adherence. Children's congenital cardiac services are currently subject to the Safe and Sustainable National review, the outcome of which will have an impact on services more generally as resources will be focused in implementing the review.

The issue of patients getting lost to the system was also raised. This is a particular concern for patients who, after corrective surgery, are at risk of developing problems later.

The discussion also noted specific treatments that are inappropriately or inconsistently used. For example, there are cases of inappropriate PCI (angioplasty), based on minimum symptoms with the patient not properly risk-stratified.

On devices, it was suggested that more clinical data is needed. For example, NYHA class 2 patients¹² would benefit on preventative grounds, but devices are often implanted too late. For NYHA class 3 patients where the signs may be subtle, again there is a risk of intervening too late. NICE guidance on devices¹³ is already utilised by hospitals, but it was argued that the guidance is still too vague.

Compared with ICD diagnosis, it was argued that patients needing ablation are more symptomatic. However, the success rate from ablation for those with persistent AF (atrial fibrillation) was low. In contrast, it was argued that CRT (cardiac resynchronization therapy) is more evidence-based and that despite the up-front costs, CRT could save on subsequent admissions. However, in practice this is very difficult to demonstrate.

Specific suggestions to improve the delivery of care and effectiveness of care pathways included:

- The need for consultants to be personally involved in delivering care to patients via short daily rather than longer weekly rounds, which has been shown to improve the patient experience and reduce length of stay;
- The need to keep central funding to support networks as a key pillar of integrated care;
- The potential benefits of collaborative benchmarking between tertiary centres to ensure that patients are tested, treated and set on the road to recovery expeditiously.

3.3 Commissioning

Commissioners need to manage contracts more actively to ensure delivery of agreed standards.

¹¹ HF: Heart Failure, AF: Atrial Fibrillation.

¹² New York Heart Association classification of severity of heart failure symptoms. See [here](#) for more information.

¹³ TA95 Arrhythmia - implantable cardioverter defibrillators (ICDs) (review): guidance, available from [here](#)

A theme of the workshop was challenges facing commissioners. These include taking a whole system perspective, evaluating the long-term value for money of different procedures and interventions, the interface between services that fall within and outside the national definition, and the need to actively manage existing contracts.

The recent development of a commissioning guide for services with patients with inherited cardiovascular conditions (one of the seven specialised service areas in the national definition) was presented as a case study at the workshop.¹⁴ Though specific challenges and requirements may vary across different services, the framework and identification of service components in the guide may provide a helpful model for other specialised cardiac services.

According to the commissioning guide, a service for patients with inherited cardiovascular conditions will include the following nine elements:

A service for patients with inherited cardiovascular conditions will include:	
1	Identification of patients with suspected ICCs
2	Appropriate referral which will require clear referral pathways between primary and particularly secondary and tertiary care
3	Diagnosis (including specialist cardiovascular investigation, cardiac pathology and clinical and laboratory genetic elements)
4	Communication and information giving about the condition and its implications
5	Advice and provision of treatment
6	Long term multi-disciplinary support and management
7	A family centred approach
8	Consideration and provision of counselling about risk of recurrence and risk to other family members, and
9	Cascade testing which enables family members to be identified as not being at risk and so can be discharged from follow-up or requiring follow-up if they carry the mutation
Source: NHS Improvement / PHG Foundation	

¹⁴ Preparation of the guide followed a UK needs assessment and service review undertaken between 2007 and 2009 by the PHG Foundation with support from an expert Working Group.¹⁴ Following its report, the PHG Foundation was asked to produce commissioning guidelines for inherited cardiac conditions (ICC) services by the Department of Health, and the Specialised Commissioning Group (SCG) Directors subsequently agreed to designate ICC services as a priority for 2010/11. The PHG Foundation produced the commissioning guide with NHS Improvement. An Inherited Cardiac Conditions Expert Panel under Yorkshire and The Humber Specialised Commissioning Group is taking the work forward.

3.4 Procurement

The importance of improved procurement alongside better understanding of outcomes and value, maybe through a device register.

A central theme of the workshop was the importance of device procurement to overall service productivity and value for money. It is reported that some hospitals are paying twice as much for devices and that there is a significant variation in device performance.

There is scope for smarter procurement that reflects the way in which suppliers operate (for example, companies approaching trusts at the end of their sales quarters). There also needs to be a better understanding of long-term value, with proper assessments of whether expensive devices are justified on the grounds of better patient outcomes and lower total lifecycle costs.

At the workshop there was extensive discussion of procurement hubs. In theory, hubs can improve trusts' buying power but they can be inflexible given the pace of technical innovation. Hubs can also constrain cardiologists' choice of device as high volumes are needed to secure better prices.

The role of tariff is also important given the different treatment of various devices. ICDs, CRT devices, and aortic stents are excluded from tariff. They are reimbursed at pass-through cost, with any cost-savings shared. East Midlands SCG in its 2010/11 contracting round benchmarked the device costs for Implantable defibrillators, which represent the single highest excluded cost to commissioners. This was to ensure rate comparability across providers, and rates representing 'pass through costs'. The exercise delivered savings of 8 per cent (£500k) in 2010/11. With 5-6,000 devices implanted nationally at an estimated cost of £80-100 million, the potential savings from more efficient procurement are significant.

In contrast, devices such as cardiac valves and pacemakers are within tariff. As a result, providers retain the benefits of more efficient purchasing but commissioners paying tariff cannot distinguish more efficient providers from less efficient providers.

East Midlands SCG is proposing a review of each region's contracting arrangements to improve understanding of the options available, and a review of the devices available based on various characteristics. This information base will enable the NHS to develop a more effective commercial strategy with device suppliers. A further step in this process would be a national devices register to help inform purchasing decisions.

3.5 Outcomes

Scope for better monitoring and management of outcomes, including greater use of CQUINs and PROMs, subject to better patient involvement and risk adjustment of results.

One of the main themes of the workshop was the scope for better monitoring and managing outcomes.

There was agreement that improved monitoring and management of outcomes will include greater use of CQUINs¹⁵ and PROMs¹⁶. It was also suggested that data collection methods used in cancer services might be applied such as survival post diagnosis.

East Midlands SCG is introducing a CQUIN scheme for cardiac services focused on the maximum waiting time for emergency cardiac surgery. Its aim is to streamline and improve the process from identification of a patient requiring urgent treatment and surgery. The indicator has support from the clinical networks and again has been adopted in other specialised commissioning groups across the country.

Other suggestions for CQUINs included cardiac rehabilitation programme quality of life measures (proportion of eligible patients referred to CR and QoL data uptake vs delivery), and verification of a specific HF diagnosis. However, the danger of focusing CQUINs too narrowly on specific processes was raised as it is important not to lose sight of the key patient questions.

A national PROM on revascularisation is currently being developed. Other ideas suggested at the workshop included picking up on duplicated diagnostic tests and measuring anxiety and depression scores in patients. It was also emphasised that patient group/commissioner collaboration in the development of PROMs was imperative. Workshop discussions also touched on the scope for new QOF indicators, including an indicator to encourage the development of BNP¹⁷.

The central caveat highlighted in relation to better monitoring was the need to improve diagnostic coding. In particular it was felt that the adequacy of the relevant OPCS and ICD codes for specialist cardiac services must be addressed. It was also emphasised that there needs to be better risk stratification, with allowance for relative survival (background mortality) and better measurement of quality beyond simply mortality (event-free survival).

¹⁵ See [here](#) for more information on CQUINs.

¹⁶ PROMs: Patient Recorded Outcome Measures. PROMs are initially covering four procedures: hip replacements, knee replacements, hernia and varicose veins. See [here](#) for more information.

¹⁷ BNP: B-type natriuretic peptide blood test.

4. Appendices

4.1 SSNDS Definition No 13. Specialised Cardiology & Cardiac Surgery Services (Adult) Specialised Service Areas - Summary

Specialised service area	Notes
Heart, lung and heart & lung transplantation services (including implantable ventricular assist devices)	<ul style="list-style-type: none"> • Heart, lung and heart & lung transplant service for adults and children nationally commissioned since April 2002 by the NCG for residents of England, Northern Ireland and Scotland (except adult heart transplants which are commissioned by Scotland from a Scottish provider). Wales has separate commissioning arrangements with the providers. • Seven nationally designated centres for adults and two for children in England. • In 2008, 130 heart transplant operations were carried out in the UK. An average of nine heart-lung transplants are carried out each year in the UK. • Ventricular assist devices (VADS) for adults as a “bridge to heart transplant service” nationally commissioned by the NCG since April 2002 on behalf of English residents. From April 2009 five nationally designated centres (previously three). • Ventricular assist devices (VAD) service OR extracorporeal membrane oxygenation (ECMO) for children as a “bridge to heart transplant service”, nationally commissioned by the NCG on behalf of English residents. Two nationally designated centres. • Small number of children (around 10 per year) requiring a heart transplant are supported by either a VAD or ECMO
Cardiac electrophysiology services	<p>Interventions include:</p> <ul style="list-style-type: none"> • Diagnostic electrophysiology study • Radiofrequency and other forms of cardiac ablation • Implantation, revision and renewal of cardiac defibrillator • Cardiac resynchronisation therapy (CRT) • Pacemaker lead extraction using special equipment • 3 dimensional navigation system mapping catheters
Inherited heart disorder services	<ul style="list-style-type: none"> • Inherited cardiovascular conditions (ICCs) include arrhythmia syndromes, cardiomyopathies, arteriopathies, muscular dystrophies and disorders of lipid metabolism caused by single gene variations. Affected individuals are at risk of serious cardiac events and sudden death. • The prevalence of ICCs in the UK is around 340,000. Based on the extrapolation of current service activity, the PHG Foundation estimates that the total annual need for new patient referrals is about 12,800. • A UK needs assessment and service review was undertaken between 2007 and 2009 by the PHG Foundation with support from an expert Working Group.¹⁸ • Following its report, the PHG Foundation was asked to produce commissioning guidelines for inherited cardiac conditions (ICC) services by the Department of Health, and the Specialised Commissioning Group (SCG) Directors subsequently agreed to designate ICC services as a priority for 2010/11.

¹⁸ *Heart to Heart: inherited cardiovascular conditions services*, PHG Foundation (June 2009), available from [here](#)

Specialised service area	Notes
Congenital heart disease services	<ul style="list-style-type: none"> • Congenital heart problems occur in around 7/1000 pregnancies • Success of diagnostic and treatment strategies over the last 20 years has resulted in most patients with congenital heart disease surviving to adulthood (Pre-1980, less than 20% reached adulthood, now over 85% survive into adulthood). • Approx 180,000 GUCH (Grown-Up Congenital Heart) in England, and for the first time ever more adults than children with congenital heart disease. Increasing nationally by about 2,500 per year. • Majority require ongoing follow up and treatment in adult life in a centre with expertise in adult congenital heart disease. • Transition from paediatric to the adult congenital service supported by joint clinics between the paediatric specialist centre and the adult specialist centre. Adult congenital heart disease specialist centres provide diagnostic and interventional services for teenagers and adults. • Department of Health Adult Congenital Heart Disease Commissioning Guide (May 2006) suggests a hub and spoke service model, concentrating expertise in a small number of specialist centres and developing local centres which provide shared care under protocols agreed with the specialist centre. • ESC guidelines for the management of grown-up congenital heart disease just published. More specific regarding conditions and treatments. • British Congenital Cardiac Society definition of a GUCH Specialist. • Only 17 FT Specialist ACHD Consultants in England, 1 Scotland, 1 Northern Ireland (None in Wales) • Dedicated GUCH / ACHD Units around the country – up to 14 in England, 1 in Scotland, 1 in NI • The Specialist Commissioning Groups (SCG) are considering inherited cardiac conditions services as a priority in their designation timetable for 2010/11, with Yorkshire and Humber SCG leading the work
Cardiac surgery and invasive cardiology services	<ul style="list-style-type: none"> • Includes specialist activity (except specialised adult congenital heart disease) within adult cardiac surgery and some interventional nonrevascularisation cardiology procedures • Invasive interventional cardiology refers to percutaneous cardiovascular procedures which are therapeutic as opposed to diagnostic • Primary percutaneous coronary intervention for ST-elevation myocardial infarction (STEMI) no longer considered a specialised service as it is carried out in more than 50 hospitals

Specialised service area	Notes
Pulmonary hypertension services	<ul style="list-style-type: none"> • According to PHA-UK, there are approximately 4,000 diagnosed PH sufferers in the UK with an estimated additional 4,000 undiagnosed sufferers • Pulmonary hypertension service for children nationally commissioned and designated by the NCG since April 2007 on behalf of English residents. There is a single nationally designated centre for children (Great Ormond Street). • Six English centres for pulmonary hypertension services for adults nationally designated since September 2001, but unlike all other NCG services, the service is not nationally commissioned by the NCG and the costs continue to be funded by PCTs. • One specialist PH centre in Scotland. • Pulmonary thrombo-endarterectomy (PTE) service nationally commissioned since April 2000 by the National Commissioning Group on behalf of English residents. There is a single nationally designated centre. • A diagnosis of pulmonary hypertension usually established in a local hospital through echocardiography.
Cardiovascular magnetic resonance (CMR) services	<ul style="list-style-type: none"> • Around 20 centres in England currently providing CMR of which half have a relatively small workload according to the National Definition
<p>Sources: National Definition, NHS Improvement, GUCH Patients Association, Pulmonary Hypertension Association, Foundation for Genomics and Population Health (PHG Foundation)</p>	