



**Commissioning of Cardiac Services –  
A Resource Pack from the British  
Cardiovascular Society  
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## **1.0 Introduction**

The proposals outlined in the document Liberating the NHS – Commissioning for Patients make it clear that many cardiac services will be commissioned locally. Some services, as yet to be defined, will be commissioned nationally. These are likely to include highly specialised, low volume activity such as cardiac transplantation and paediatric cardiac surgery. Other activity such as primary angioplasty, specialist electrophysiology and complex interventions such as transcatheter aortic valve implants (TAVI) will probably need to be commissioned on a regional basis by groups of consortia acting together under a lead commissioner.

The purpose of this document is to provide a framework for commissioning of cardiac services based on clinical pathways, clinical standards and quality indicators. It should also be emphasised that education and training are essential components of all clinical pathways and should be core elements of all commissioned services.

## **2.0 Outpatient Cardiology**

All outpatient attendances should add value to the patient journey. It is important to maximise the value of each visit, for example by performing relevant tests on the day of assessment. Some patients, for instance those with heart valve disease of moderate severity and those with congenital heart disease, require ongoing specialist review that would in most circumstances be best managed from secondary or tertiary care. The same is true of patients with implanted rhythm management devices. However it is likely that some patients currently seen in secondary care cardiology clinics could be managed in appropriately staffed community based services or discharged from follow up altogether. Decisions need to be made on an individual basis, reflecting local circumstances, and for this reason the BCS is not in favour of the arbitrary prescription of ratios of new to follow up patients.

## **3.0 Clinical Pathways**

Clinical pathways for common cardiology conditions are documented in the Map of Medicine ([www.mapofmedicine.com](http://www.mapofmedicine.com)). The cardiology pathways within Map of Medicine have been evaluated and approved by the British Cardiovascular Society and the Royal College of Physicians and identify when diagnostic investigations such as echocardiography can be performed in a primary care setting and when referral to secondary or tertiary care is appropriate. Precise investigative and referral pathways will vary with local infrastructure and expertise but the overriding principles should be the delivery of a high quality, timely service with avoidance of wasteful duplication of investigation and multiple levels of referral. In order to achieve this certain criteria should be met by any service that is commissioned to provide cardiology investigation and treatment. The most important of these is that the quality of any diagnostic investigations or treatment must be uniformly high wherever they are performed. Local pathways should be agreed following input from all relevant healthcare professionals across primary and secondary care.

Interactive pathways for the management of common cardiac conditions focussing on the 18 week pathway are also available on the Department of Health website:

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_121431](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_121431)

These reinforce the steps which are expected to take place within primary care before referral and those patients who have red flag features and who would be expected to have expedited referral. However they have not been updated since 2009.

#### **4.0 The Role of PWSI in Service Delivery**

Many services are now using Practitioners with a Specialist Interest (PWsl) who have additional specialist training to triage referrals or provide some diagnostic and outpatient cardiology services. The British Cardiovascular Society supports this and has produced a statement on the role of PWsl in the provision of cardiology services:

[http://www.bcs.com/documents/B1Z\\_BCS\\_Statement\\_GPwSI\\_May10.pdf](http://www.bcs.com/documents/B1Z_BCS_Statement_GPwSI_May10.pdf).

The Heart Improvement Program has produced a Skills Based Operational Framework for Practitioners with a Specialist Interest in Cardiology that details the context skills expected of a PWsl and the context in which they should operate:

[http://www.pcc.nhs.uk/uploads/pwslis/March2009/updated\\_cardiology\[1\].pdf](http://www.pcc.nhs.uk/uploads/pwslis/March2009/updated_cardiology[1].pdf)

All services employing PWSI to provide cardiac services should comply with this guidance and ensure that individuals are appropriately trained and accredited, achieve relevant CPD, have access to appropriate infrastructure including formal links to specialist cardiology support and perform regular audit to ensure quality control.

#### **5.0 The Role of Specialist Nurses**

Specialist nurses have an important role to play in the management of many cardiac conditions both in primary and secondary care. Anecdotal evidence suggests that such posts are under threat due to costs constraints. The BCS believes that this is a false economy and strongly supports the continued contribution of specialist nurses to cardiology care. Specialist nurses working in the primary care setting (for instance community heart failure services) should have formal links with their colleagues in secondary care and clear governance arrangements should be in place.

#### **6.0 Links to Secondary Care Cardiology**

All cardiac services commissioned outside of established NHS secondary care arrangements must have formal arrangements for appropriate onward referral to secondary care in the event of suspicion of a serious cardiac pathology. In some cases referral could be via e-mail or telephone discussions but where these become a routine part of a service there should be formal recognition with the development of an appropriate local tariff.

There is an understandable pressure to reduce the volume of referrals to secondary care on the assumption that this will reduce costs. Whilst this may be the case in some instances, it is important to bear in mind that a specialist opinion in an appropriate patient at an early stage can reduce subsequent attendance and minimise the use of diagnostic testing.

## **7.0 The Role of Open Access Services**

Open access services (echocardiography, stress testing, Holter monitoring) provided by secondary care have an important role to play in the provision of diagnostic cardiology. It is vital to specify whether the service is commissioned simply to provide an investigation or to in addition to provide interpretation and advice.

Open access services may be provided either on hospital premises or in partnership with primary care in a community setting and should be quality assured with appropriate governance arrangements and regular systematic audit. A potential advantage is the inbuilt access to specialist cardiology opinion in the event of abnormal investigations.

## **8.0 The Scope of Commissioning**

This document refers to diagnostic and interventional procedures that are part of cardiology clinical pathways. Appendix A contains a list of the services that the BCS believes should be commissioned at a local or regional level.

## **9.0 Diagnostic Cardiology**

The sections below provide specific information on the commissioning of cardiac investigations including the context in which they may safely be provided. All services irrespective of their point of delivery should be able to provide audit data on access times and must be able to provide appropriate access to original data (e.g. Holter recordings and echocardiographic images) to secondary care to avoid duplication of investigation.

### **9.1 Holter monitoring and ambulatory blood pressure recording**

Both may be performed in a primary care, tier 2 or secondary care setting. Commissioning criteria:

All equipment must be appropriate for the task and adequately maintained according to the manufacturer's instructions with calibration checks as required.

All recordings should be performed, analysed and interpreted by individuals with specific training for the technique. All should be timed and dated with a clear audit trail of who has performed and reported the test and organised any further action. Immediate access to specialist cardiology opinion should be available in case of suspected major abnormalities. Hard copy or electronic versions of all results should be available in the patient's clinical records and included in any onward referral to secondary or tertiary care.

## 9.2 Exercise Stress Testing

Treadmill or bicycle exercise testing is usually performed in a secondary care setting supervised by medical staff or suitably trained and experienced physiologists. Immediate access to full resuscitation facilities and medical attention is mandatory. Where technician lead exercise testing is performed existing guidelines should be adhered to:

[http://www.bcs.com/documents/tech\\_protocol\\_2003.pdf](http://www.bcs.com/documents/tech_protocol_2003.pdf)

## 9.3 Cardiac Imaging

The cardiac imaging subgroup of the National Imaging Board has produced a report with broad recommendations for the commissioning of imaging services. This can be used as an overall framework for the commissioning of cardiac imaging services.

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_114380](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_114380)

### 9.3.1 Transthoracic Echocardiography

Transthoracic echocardiography (TTE) may be performed in a hospital or community setting. The British Society for Echocardiography has produced guidelines for competencies for individuals providing community echocardiography for suspected heart failure and for the commissioning of community echocardiography:

[http://bsecho.org/index.php?option=com\\_content&task=view&id=31&Itemid=96](http://bsecho.org/index.php?option=com_content&task=view&id=31&Itemid=96)

<http://bsecho.org/AccreditationPackACE.pdf>

Community based services should fulfil these criteria and all services commissioned to provide echocardiography should meet the requirements of the BSE Departmental accreditation program for TTE.

<http://www.accredityourdepartment.org/>

In order to avoid unnecessary duplication of scans the images of community scans must be available for patients referred to secondary care in such a form that they can be incorporated into any digital archive. All echocardiographers performing and reporting independently should have BSE or EAE individual accreditation or an equivalent qualification.

<http://bsecho.org/Accreditation%20Pack%20TTE%20-%20Feb%202011.pdf>

<http://www.escardio.org/communities/EAE/accreditation/TTE/Pages/aims.aspx#requirements>

There must be immediate access to specialist cardiology review when major abnormalities are suspected.

### **9.3.2 Transoesophageal Echocardiography**

Transoesophageal echocardiography is an invasive procedure restricted to secondary or tertiary care. Services providing TOE should do so to the standards identified in the BSE Departmental Accreditation Documents (see link above). In particular operators should be able to demonstrate that they are appropriately trained, have sufficient activity to maintain competence and undertake relevant CPD.

### **9.3.3 Stress Echocardiography**

Stress echocardiography, either pharmacological or exercise, is a specialist procedure performed within cardiology departments. Commissioned services should adhere to the standards contained within the BSE Departmental Accreditation Document (see link above). Where services are setting up formal links with established high volume services are strongly encouraged. Operators should be able to demonstrate that they are appropriately trained, have sufficient activity to maintain competence and undertake relevant CPD. The BSE has published guidelines for the practice of stress echocardiography:

[http://heart.bmj.com/content/90/suppl\\_6/vi23.extract?eaf](http://heart.bmj.com/content/90/suppl_6/vi23.extract?eaf)

### **9.3.4 Cardiac Magnetic Resonance Imaging (CMR)**

Cardiac magnetic resonance imaging requires specialist equipment and subspecialist training in either cardiology or cardiac radiology. It is not part of the remit of general radiology departments. Specifications and competencies for the provision of a CMR service are detailed in the document 'Delivering Cardiovascular Magnetic Resonance Imaging in the UK' produced jointly by the British Society for Cardiac Magnetic Resonance Imaging (BSCMR) and the British Society for Cardiac Imaging (BSCI) and available on the BSCMR website ([www.bscomr.org](http://www.bscomr.org)). All commissioned CMR services should fulfil these specifications.

### **9.3.5 Cardiac CT Imaging (CCT)**

Cardiac CT can be provided on most modern CT scanners imaging at 64 slices or greater. However, it requires subspecialty training in cardiology or cardiac radiology and is not part of the remit of general radiology departments. Specifications for the provision of a cardiac CT service are provided in the National Imaging Board report (see above). Recommended competencies for individual practitioners running a CCT service are provided on the BSCI website:

<http://www.bsci.org.uk/accreditation>

All commissioned CCT services should meet both the institutional and individual criteria.

### **9.3.6 Nuclear Cardiology**

Myocardial perfusion scanning (MPS) can be provided on modern twin headed gamma cameras (which may also be used for non-cardiology nuclear imaging as well). General specifications for such a service are provided in the National Imaging Board document. Reporting of SPECT imaging requires subspecialist training in nuclear cardiology, nuclear medicine or radionuclide radiology. Most of these services in the UK are housed within Nuclear medicine or Radiology departments, but a few are solely run by Cardiology. All commissioned services should be provided by a suitably trained and experienced individual and should fulfil the requirements of the National Imaging Board document. The British Nuclear Cardiology Society (BNCS) recommend that subspecialists undertake the CBNC examination, although this is voluntary and not a requisite for reporting MPS.

Departments have to conform to legislation in the form of IRMER and the clinical lead will usually also hold an ARSAC licence.

Further details are available from the BNCS website ([www.bncs.org.uk](http://www.bncs.org.uk)).

### **9.3.7 Coronary Angiography**

Coronary angiography is carried out in secondary or tertiary facilities. A specification for the equipment required for a cardiac catheter lab is given in the National Imaging Board Document (see above). All commissioned services should have equipment that meets or exceeds this specification. There are no specific UK standards for individual operators but all operators should have completed a recognised training program and must be able to provide supporting evidence of ongoing competence. Coronary angiography is not part of the National Cardiac Audits but all operators and institutions should conduct regular formal audits of complications, access times and levels of activity.

## **10.0 Interventional Treatments**

### **10.1 Coronary Angioplasty**

The evidence base and current guidelines for the performance of coronary angioplasty (PCI) are available at:

<http://www.escardio.org/guidelines-surveys/esc-guidelines/GuidelinesDocuments/guidelines-revasc-FT.pdf>

Coronary angioplasty (PCI) is carried out in secondary and tertiary care facilities. Criteria for individual operators and institutions wishing to provide PCI services have been developed by BCIS. Whilst these criteria were developed for new centres wishing to commence PCI activity they are applicable to all units undertaking PCI.

[http://www.bcis.org.uk/resources/BCIS\\_New\\_Site\\_Guidance\\_31012011.pdf](http://www.bcis.org.uk/resources/BCIS_New_Site_Guidance_31012011.pdf)

All services commissioned to provide PCI should conform to these standards.

PCI must be commissioned as part of a strategy that includes surgical revascularisation by coronary artery bypass grafting (CABG). The ESC guidelines for revascularisation (see link above) emphasise the need for a multidisciplinary approach and all PCI services should have formal links with a cardiac surgical unit including access to an MDT for discussion of more complex cases. Recommendations for joint decision making in patients undergoing coronary revascularisation are contained in the 'The Heart of the Matter' report from NCEPOD and should be adhered to by all units commissioned to perform PCI or CABG:

[http://www.ncepod.org.uk/2008report2/Downloads/CABG\\_report.pdf](http://www.ncepod.org.uk/2008report2/Downloads/CABG_report.pdf)

All commissioned services must collect complete local procedural data and submit to national audits.

### **10.2 Structural Interventions**

Structural interventions are non-coronary catheter based interventions to the heart or great vessels that require specialist training and expertise and should only be performed in appropriate tertiary settings.

#### **10.2.1 Valve Interventions**

Valve interventions include balloon dilation of the mitral and aortic valves and percutaneous approaches to aortic valve implant (TAVI) and reduction of mitral regurgitation. All are specialist techniques restricted to specifically trained operators in tertiary centres with on-site cardiac surgery. Treatment should only be undertaken after multidisciplinary review and in accordance with current guidelines for the treatment of valve disease:

<http://www.escardio.org/guidelines-surveys/esc-guidelines/GuidelinesDocuments/guidelines-VHD-FT.pdf>

BCIS and the Society of Cardiothoracic Surgeons with the Department of Health TAVI Steering Group have developed a specification for centres undertaking TAVI procedures and all commissioned services should fulfil these criteria which include a requirement to submit procedural data to national audits:

<http://www.bcis.org.uk/resources/documents/BCIS%20SCTS%20position%20statement.pdf>

Similar standards are now available for services that undertake catheter based interventions to reduce the degree of mitral regurgitation:

<http://www.bcis.org.uk/resources/BCISSCTSPositionStatementmitraclip.pdf>

### **10.2.2 Other Structural Interventions**

Percutaneous left atrial appendage occlusion for non valvular atrial fibrillation is an option in patients at high risk for thromboembolism who are unable to tolerate anticoagulation. It is restricted to specialist centres with on-site cardiac surgery:

<http://www.nice.org.uk/guidance/index.jsp?action=article&o=47575>

Alcohol septal ablation is used for selected patients with hypertrophic cardiomyopathy and should only be performed in specialist centres with on-site cardiac surgery after multidisciplinary review:

<http://www.nice.org.uk/guidance/IPG40>

## **11.0 Adult Congenital Heart Disease**

All patients with proven or suspected adult congenital heart disease should have access to expert opinion from a suitably experienced cardiologist. The Department of Health has produced commissioning guidelines for the provision of services for adults with congenital heart disease.

[http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh.digitalassets/@dh/@en/documents/digitalasset/dh\\_4134696.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh.digitalassets/@dh/@en/documents/digitalasset/dh_4134696.pdf)

### **11.1 Simple congenital Interventions (PFO/isolated ostium secundum ASD)**

A joint working group of the BCS, BCIS and the British Congenital Cardiac Association has defined standards for individuals and units undertaking simple adult congenital interventions which for the most part are restricted to the device closure of patent foramen ovale (PFO) and isolated ostium secundum atrial septal defects.

These will be published shortly and will be added to this document. Services commissioned to undertake such procedures should fulfil these criteria and will be experienced in structural heart interventions with on-site cardiac surgery.

## **11.2 Complex congenital interventions**

There are low volume highly specialised procedures that should only be performed in specialised adult congenital heart disease units by suitably trained operators (see DH document link above).

## **12. Heart Rhythm Management**

The initial assessment of patients with symptomatic arrhythmias may be carried out in a primary care setting ([www.mapofmedicine.com](http://www.mapofmedicine.com)) but for those with complex or high risk rhythm disturbances or persistent symptoms referral for specialist cardiology assessment is required.

Guidelines for the provision of specialist rhythm management services are available for the Heart Rhythm UK website:

[http://www.hruk.org.uk/html/main/guidelines\\_all.html](http://www.hruk.org.uk/html/main/guidelines_all.html)

### **12.1 Pacemaker and Defibrillator Implantation**

HRUK has developed standards for services implanting and following pacemakers and defibrillators. Any provider contracted for these services should meet the standards:

<http://www.hruk.org.uk/Docs/Guidelines/HRUK%20Standards%20for%20Implantation%20and%20Follow-up%20of%20Cardiac%20Rhythm%20Management%20Devices%20-%20February%202011%20FINAL.pdf>

### **12.2 Diagnostic and Interventional Electrophysiology**

Standards for the provision of diagnostic and interventional electrophysiology services are also available on the HRUK website. Any service contracted to provide electrophysiology services should meet these standards:

<http://www.hruk.org.uk/Docs/Guidelines/HRUK%20competency%20standards%20for%20EP%20and%20ablation%20-%20Sept%202010%20FINAL.pdf>

All services implanting devices or undertaking electrophysiology should submit data to the HRUK audits. This should be a condition of commissioning.

The ablation of persistent atrial fibrillation has provoked considerable discussion. HRUK has produced a position statement on this procedure:

<http://www.hruk.org.uk/Docs/Position%20Statements/HRUK%20Position%20Statement%20on%20Ablation%20for%20Persistent%20AFib.pdf>

### **13. Heart Failure**

NICE has published comprehensive guidelines on the provision of services for patients with cardiac failure:

<http://www.nice.org.uk/nicemedia/live/13099/50514/50514.pdf>

Quality standards for heart failure have also been developed:

<http://www.nice.org.uk/media/D6F/93/CHFQualityStandard.pdf>

These documents include the scope of services that should be provided including diagnostics, imaging, pharmacological and interventional treatments and rehabilitation. Patients with cardiac failure should have access to the full range of services covered within these documents including a specialist and a multidisciplinary team.

### **14. Cardiac Rehabilitation**

Cardiac rehabilitation should be available to all patients who have suffered a myocardial infarction or undergone revascularisation, either percutaneous or surgical. It may also be appropriate for other groups such as those patients with heart failure (see above). The Department of Health has published a commissioning guide for cardiac rehabilitation:

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH\\_117504](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH_117504)

### **15. Sources of Expert Advice**

Expert advice on specific areas of cardiology practice and commissioning is available from the British Cardiovascular Society and its Affiliated Groups ([www.bcs.com](http://www.bcs.com)). Locality specific advice is available from the Heart and Stroke Networks:

<http://www.improvement.nhs.uk/heart/CardiacNetworks/tabid/97/Default.aspx>