

**Guidance on Revalidation for Cardiologists**  
**Clinical Standards and Guidelines and Practice**  
**Committees**  
**British Cardiovascular Society**  
**Update - May 2014**

## 1.0 Introduction

From late 2012 it has been necessary for licensed practitioners to revalidate in line with [GMC guidance](#). This is to provide reassurance to patients, the public, employers and other healthcare professionals that doctors are up-to-date and fit to practice within their specified roles. Revalidation is required every 5 years and is based around an annual appraisal carried out each year of the 5 year cycle.

The purpose of this document is to provide guidance specific to cardiologists on the sources and content of supporting information that the BCS believes meet the requirements for revalidation while minimising the need for additional data collection. The document does not set out to be prescriptive and other forms of supporting information will be equally acceptable. Revalidation is new and this document will be reviewed in the light of practical experience with the process.

The GMC has set out its generic requirements for medical practice and appraisal in three main documents that should be read in conjunction with the BCS guidance:

- [Good Medical Practice](#)
- [Good Medical Practice Framework for appraisal and revalidation](#)
- [Supporting information for appraisal and revalidation](#)

These are supported by a document from the medical royal colleges and faculties, which provides generic guidance on core supporting information required for appraisal:

[www.rcplondon.ac.uk/sites/default/files/documents/guidance\\_for\\_physicians\\_on\\_supporting\\_information\\_for\\_revalidation\\_.pdf](http://www.rcplondon.ac.uk/sites/default/files/documents/guidance_for_physicians_on_supporting_information_for_revalidation_.pdf)

## 1.1 Supporting Information

There are six types of supporting information that doctors will be expected to provide and discuss at their appraisal at least once in each five year cycle. They are:

1. Continuing professional development (CPD)
2. Quality improvement activity
3. Significant events
4. Feedback from colleagues
5. Feedback from patients
6. Review of complaints and compliments

Categories 3-6 are generic and are dealt with in the RCP document. The current document deals with categories 1 and 2 as applied to cardiology.

Cardiologists should provide supporting evidence across the breadth of their professional activity including areas of general and subspecialty cardiology practice. So cardiologists who participate in a cardiology take or see general cardiology patients in clinics should be able to demonstrate that over the course of the 5 year

revalidation cycle they are keeping up to date through CPD with the generality of cardiology practice outside their own sub-specialty areas.

For each 5 year cycle, demonstration of quality improvement is also required. The RCP recommends one complete audit cycle for each revalidation cycle:

[www.rcplondon.ac.uk/sites/default/files/documents/guidance\\_for\\_physicians\\_on\\_supporting\\_information\\_for\\_revalidation\\_.pdf](http://www.rcplondon.ac.uk/sites/default/files/documents/guidance_for_physicians_on_supporting_information_for_revalidation_.pdf)

If an audit cycle is completed within the 5 year revalidation period then limited additional supporting information is required. Various options are available for cardiology subspecialties and these are detailed in the sections below. Individual cardiologists need to agree with their appraiser those areas of practice for which supporting information for quality improvement is required. For areas of practice with established national audits we strongly recommend participation in such audits with appropriate reflection on the outcome as the most effective way to fulfil these requirements. Where recommended numbers of procedures are mentioned in this document these are taken from existing guidance, are indicative only, and should not be interpreted as being in any way mandatory for continuing practice.

For all areas of practice it is important that cardiologists actively seek feedback from patients and reflect on significant events in their practice as part of quality improvement.

Each licensed doctor has only one Responsible Officer (RO). For those cardiologists with health service appointments the RO will be the individual identified by their NHS employer but all professional activity must be brought to appraisal including that in the independent sector.

## **2.0 General Cardiology**

This section provides guidance to cardiologists on the sources and content of supporting information that the BCS believes will fulfil the requirements for general cardiology. Any cardiologist whose job plan includes a commitment to the care of cardiology ('take') hospital admissions and/or a general cardiology clinic will be required to demonstrate that they have obtained appropriate CPD. Some cardiologists may also choose to complete a quality improvement exercise in general cardiology.

### **2.1 CPD**

This section should be read in conjunction with the Royal College of Physicians revalidation document:

[www.rcplondon.ac.uk/sites/default/files/documents/guidance\\_for\\_physicians\\_on\\_supporting\\_information\\_for\\_revalidation\\_.pdf](http://www.rcplondon.ac.uk/sites/default/files/documents/guidance_for_physicians_on_supporting_information_for_revalidation_.pdf)

All doctors need to demonstrate 50 hours of CPD per year (250 hours over the revalidation cycle). The revalidation track of the BCS annual scientific conference has been developed to support CPD across the breadth of the cardiology curriculum. For this purpose the curriculum has been divided into 18 topics grouped into six chapters:

- a. Ischaemic heart disease
- b. heart failure
- c. inherited and congenital heart disease
- d. valvular and acquired non coronary disease
- e. cardiac rhythm management
- f. professional interactions

Over a five year cycle all main topic areas of the cardiology curriculum are covered by sessions at the Annual Meeting and multiple choice questions related to these sessions will be available online on the BCS website. Selected sessions from the annual meeting are also available as webcasts.

It is not expected that cardiologists should be able to demonstrate CPD against every topic but the view of the BCS is that completion of at least one topic in all 6 chapters over each 5 year cycle will be suitable supporting information. It is anticipated that many cardiologists will complete more than one topic in each chapter during a five year revalidation cycle.

The BCS also offers a number of courses that cover a range of general cardiology topics and that are useful for gaining CPD credits.

Particular opportunities for CPD occur at:

- The BCS Annual Meeting (Conference)
- The BCS/Mayo Cardiology Review Course
- The BCS 'A year in Cardiology' course
- The BCS 'Cases and Controversies' course

Further details are on the BCS website ([www.bcs.com](http://www.bcs.com))

Similar educational content is available from other cardiology meetings such as the ESC ([www.escardio.org](http://www.escardio.org)), ACC ([www.acc.org](http://www.acc.org)) and AHA ([www.aha.org](http://www.aha.org)).

## **2.2 Quality Improvement Activity**

Active participation in Quality Improvement Activity needs to be demonstrated in each revalidation cycle. This should be done for an aspect of clinical activity appearing in the job plan.

Those cardiologists with a mixed practice of general cardiology have a number of options including:

- a. Use of institutional audit data to demonstrate that they are part of a team managing myocardial infarction (MINAP), ACS, Heart Failure (National Heart Failure Audit) and other cardiology presentations appropriately  
<http://www.ucl.ac.uk/nicor/audits>
- b. Local audit of aspects of clinical practice
- c. Case based discussion:  
[www.rcplondon.ac.uk/sites/default/files/documents/guidance\\_for\\_physicians\\_on\\_supporting\\_information\\_for\\_revalidation\\_.pdf](http://www.rcplondon.ac.uk/sites/default/files/documents/guidance_for_physicians_on_supporting_information_for_revalidation_.pdf)

### 3.0 Coronary Angiography

All cardiologists performing coronary angiography as part of their job plan should be able to demonstrate continuing competence. Recommendations for interventional cardiology are covered separately.

The National Service Framework for Coronary Disease:

[http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/document/digitalasset/dh\\_4057526.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/document/digitalasset/dh_4057526.pdf)

Indicates that trained operators should generally be expected to perform 100 coronary angiograms procedures per year. The BCS has produced a document on continuing competence in coronary angiography and diagnostic catheterisation that provides standards applicable for revalidation:

[http://www.bcs.com/documents/BCS\\_Guidance\\_-\\_Competence\\_in\\_coronary\\_angiography\\_final.pdf](http://www.bcs.com/documents/BCS_Guidance_-_Competence_in_coronary_angiography_final.pdf)

### 4.0 Subspecialty Cardiology

The following sections include guidance on suitable supporting information for the major subspecialty areas of cardiology produced by the relevant Affiliated Groups and Societies for cardiologists who wish to provide evidence in these areas. These are the areas of cardiology for which advanced training is available as part of the curriculum. Versions of this guidance may also be available on the relevant specialty websites. Other supporting information may also satisfy the requirements of revalidation.

#### 4.1 Heart Failure

Cardiologists with a subspecialty interest in heart failure often combine this with imaging, devices, or academia and so may need to provide supporting information for these areas alongside the requirements for heart failure.

There is currently no formal accreditation process for individual cardiologists or cardiology services involved in heart failure care but the British Society for Heart failure (BSH) is currently updating a Clinical Standards document for the management of Heart Failure, which will be available through the BSH website ([www.bsh.org.uk](http://www.bsh.org.uk)). The current curriculum for advanced training in Heart Failure for Cardiologists may also be helpful and is available through the same website. The 2010 NICE guidance for Chronic Heart Failure (<http://publications.nice.org.uk/chronic-heart-failure-cg108>) and the related NICE HF Quality standards:

([www.nice.org.uk/guidance/qualitystandards/chronicheartfailure/home.jsp](http://www.nice.org.uk/guidance/qualitystandards/chronicheartfailure/home.jsp)) and 2010 SIGN guidance ([www.sign.ac.uk/guidelines/fulltext/95/index.html](http://www.sign.ac.uk/guidelines/fulltext/95/index.html)) provide guidance for chronic heart failure. NICE guidance for acute heart failure will be published in September 2014. As new evidence and related standards and guidance emerge, which will be found on [www.bsh.org.uk](http://www.bsh.org.uk) or through related links, those delivering heart failure care will be expected to demonstrate evidence of appropriate CPD and quality improvement activity.

A number of related European Society of Cardiology (ESC) documents may also be of interest:

1. European Society of Cardiology Heart Failure Association Standards for delivering heart failure care. McDonagh TA et al. European Journal of Heart Failure 2011; 13; 235-241
2. ESC Guidelines for the Diagnosis & Treatment of Acute and Chronic Heart Failure. McMurray J et al. EHJ 2012; 33; 1787-1847. Also available through: [www.escardio.org/guidelines](http://www.escardio.org/guidelines)

#### 4.1.1 CPD

Continuing professional development can be demonstrated in a variety of ways for heart failure:

a. Attendance at national or international heart failure meetings (or other relevant cardiovascular meetings). The British Society for Heart Failure recommends that all cardiologists with a subspecialty interest in heart failure should attend relevant heart failure meetings that might include (but are not limited to):

- i. The BSH annual meeting (see [www.bsh.org.uk](http://www.bsh.org.uk))
- ii. The BSH annual Medical Training Day (see [www.bsh.org.uk](http://www.bsh.org.uk))
- iii. The European Society of Cardiology Heart Failure association annual meeting (see [www.escardio.org/HFA](http://www.escardio.org/HFA))
- iv. The Heart Failure Society of America Annual Meeting (see [www.hfsa.org](http://www.hfsa.org))
- v. The BCS annual meeting (this will provide limited HF exposure more applicable to revalidation for general cardiology, see [www.bcs.com](http://www.bcs.com) for information)

b. A range of web resources may also be useful, some of which are developing on line educational platforms and modules for advanced heart failure and or multiple choice questions alongside other learning resources:

- i. [www.bsh.org](http://www.bsh.org) (some of the educational resources will be available for members only and are continuously emerging)
- ii. ESC and ESC HFA websites with initiatives linked to the European HF Curriculum introduced in 2013, a document with considerable overlap with its UK counterpart. Both available through [www.bsh.org](http://www.bsh.org)

c. CPD in the field of heart failure might also include involvement in:

- i. Regional, national or local educational initiatives
- ii. National or international guideline development, e.g. NICE, SIGN, ESC HFA
- iii. Manuscript review for heart failure journals and other relevant journals
- iv. Research

#### 4.1.2 Quality Improvement Activity

Heart failure specialists should demonstrate that they are undertaking activity within the field to deliver, maintain and develop a high quality heart failure service. This will normally include acute hospital care and an outpatient service alongside close and

supportive working with the local community providers. Appropriate supporting information could include:

1. Participation in the National Heart Failure Audit (or undertake an equivalent audit of acute heart failure admissions where participation in the National Heart Failure audit is not a requirement for the acute Trust).
2. At least annual reflection on the data against national benchmarks:

Key outcomes of interest would include inpatient mortality, 30 day and 12 month mortality, and those factors which the National Heart Failure Audit suggests predict better outcomes.
3. Participation in additional local audit, especially in those domains not covered by the National Audit. The National Heart Failure Audit does not currently include an assessment of Quality of Life but this may be incorporated for the future.
4. Demonstration or development of clinical governance mechanisms for those components of the heart failure service for which the specialist is singly or collectively responsible

## **4.2 Interventional cardiology**

All interventional cardiologists should be able to demonstrate continuing competence in all of the percutaneous coronary and non-coronary interventional procedures that they carry out.

The British Cardiovascular Intervention Society (BCIS) recommends that all coronary interventionists should carry out a minimum of 75 percutaneous coronary interventions per annum as primary operator to maintain competence. In addition, the BCIS recommends that all interventional cardiologists should participate in interventional educational programmes and CPD, including attendance at national and/or international interventional cardiology meetings (Heart 2005;91(Suppl VI):vi1–vi27). Cardiologists who carry out non-coronary (structural or congenital) cardiac interventions should also participate in educational programmes relevant to these procedures.

Interventional cardiologists should demonstrate compliance with IRMER regulations, including the requirement for continuing professional development relevant to the medical radiation exposure aspects of their work.

### **4.2.1 CPD**

CPD in interventional cardiology can be gained in a number of ways:

Attendance at national and international professional meetings and conferences including:

- a. Advanced Cardiovascular Intervention ([www.bcis.org.uk](http://www.bcis.org.uk))



- b. Autumn BCIS meeting ([www.bcis.org.uk](http://www.bcis.org.uk))
- c. Euro PCR ([www.pcronline.com](http://www.pcronline.com))
- d. Trans Catheter Therapeutics (TCT) ([www.tctconference.com](http://www.tctconference.com))
- e. Annual conferences of cardiology societies with an interventional component (e.g. ACC, ESC, BCS) structural and congenital heart disease meetings (e.g. [www.pcrondonvalves.com](http://www.pcrondonvalves.com); [www.csi-congress.org](http://www.csi-congress.org))
- f. Attendance at specialist meetings focussing on specific elements of interventional cardiology practice (for example specific training programmes for particular procedures)
- g. Participation in regional educational meetings (see [www.bcis.org.uk](http://www.bcis.org.uk) for details)
- h. Participation in web-based educational activities relevant to interventional cardiology (e.g. [www.tctmd.com](http://www.tctmd.com), [www.theheart.org](http://www.theheart.org))
- i. Private study of interventional educational material including text books, journals and other scientific literature
- j. Participation in local, regional or national guideline groups (e.g. NICE, ESC)
- k. Manuscript review for interventional journals or preparation of talks on interventional cardiology for presentation at local, regional, national and international meeting

#### 4.2.2 Quality Improvement Activity

Interventional cardiologists should demonstrate that they are carrying out activities to review and improve their service. In particular, interventional cardiologists should demonstrate participation in local and national audit for all cardiac interventions that they carry out. This may include:

- a. Participation in the national audit programme with submission of procedural data to the Central Cardiac Audit Database ([www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/heart-disease](http://www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/heart-disease)). Participation in national audits may focus on the performance of an interventional team, but elements may reflect an individual cardiologist's contribution to the team or service. Interventional cardiologists should reflect on and document individual learning from and response to any audit results.
- b. Production of individual operator funnel plots for comparison with national and local institutional benchmarks.
- c. Personal and institutional audit of indications for intervention and procedural outcomes
- d. Individual case review of major complications or serious adverse events
- e. Demonstration of participation in regular multidisciplinary team meetings ([www.ncepod.org.uk/2008cabg.htm](http://www.ncepod.org.uk/2008cabg.htm); [www.publications.nice.org.uk/management-of-stable-angina-cg126](http://www.publications.nice.org.uk/management-of-stable-angina-cg126))
- f. Demonstration of participation in regular angiography review meetings

#### 4.3 Cardiac Imaging

Echocardiography forms part of the practice of many cardiologists whereas nuclear cardiology, cardiac CT and cardiac MR tend to be performed only by subspecialists. As discussed below those cardiologists with designated



echocardiography sessions in their job plan should be able to demonstrate appropriate CPD and may choose to demonstrate quality improvement activity.

#### **4.4 Echocardiography**

This section describes possible routes for providing supporting evidence for cardiologists with a subspecialty interest in echocardiography and for clinicians who perform or report echocardiography as part of their agreed job plan.

The British Society of Echocardiography (BSE) provides education, recommendations and standards of practice, and a process of individual accreditation for cardiologists and other clinicians who undertake echocardiography (transthoracic, transoesophageal and stress). The BSE has also produced recommendations for quality standards, infrastructure, and a process of institutional accreditation for echocardiography departments. Details of BCS individual accreditation, reaccreditation and departmental accreditation are available at: [www.bsecho.org](http://www.bsecho.org)

##### **4.4.1 CPD**

BCS and BSE Accreditation and up to date Reaccreditation in transthoracic echocardiography (TTE) and/or transoesophageal echocardiography (TOE) is likely to be sufficient to demonstrate adequate CPD for echocardiography for revalidation purposes. BSE accreditation and reaccreditation requires completion of relevant CPD and acquisition of an appropriate number of CPD credits, dependent on practice. A detailed description of the number of BSE reaccreditation points awarded for each activity is available at:

[http://cdn1.cache.twofourdigital.net/u/bsecho/media/39318/bse\\_points\\_dec\\_2011.pdf](http://cdn1.cache.twofourdigital.net/u/bsecho/media/39318/bse_points_dec_2011.pdf)

For those who do not hold current BSE (or equivalent) accreditation the following are recommended:

- a. Attendance at a regular (ideally weekly) departmental echo meeting, where difficult and educational cases are discussed.
- b. Attendance at appropriate specialist meetings. Specialised meetings devoted to echocardiography include, but are not limited to: EuroEcho, the American Society of Echocardiography and the British Society of Echo Annual Meeting. General cardiology meetings may also deliver echo related CPD.
- c. As an alternative to attending meetings and courses a proportion of echo CPD can be obtained through distance learning. The British Society of Echocardiography has a selection of distance learning modules available to members. The EAE also offers a variety of online echocardiography learning resources.

A comprehensive account of the BSE recommendations for revalidation and details of meetings can be found at [www.bsecho.org](http://www.bsecho.org).

#### 4.4.2 Quality Improvement Activity

Cardiologists performing or reporting echocardiograms and wishing to provide supporting evidence for revalidation should be able to demonstrate that they are undertaking activity to review and improve their service. In the view of the BCS, a cardiologist working in a department that has current Departmental Accreditation from the BSE or EAE and who has up to date individual (re)accreditation is likely to have fulfilled the requirements for Quality Improvement Activity for revalidation. Cardiologists should ensure that their department's accreditation (i.e. transthoracic and/or transoesophageal and/or stress echo) *covers all the echo modalities* which they undertake. If not, they should be able to provide supplementary evidence.

In other circumstances, cardiologists should be able to demonstrate that they regularly review their activity (using appropriate audit tools) and that appropriate processes are in place to:

- a. Screen referrals for appropriateness and urgency.
- b. Ensure timely reporting and communication of significant findings with referrers.
- c. Review scans at regular departmental echo meetings where difficult and educational cases can be discussed. This should include TOE and DSE where these are performed.
- d. Maintain clinical competence. For cardiologists who perform and/or report echocardiography or are responsible for an echocardiography service as a specified part of their job plan, it is important that competence is maintained and developed through the regular performance of relevant clinical activity – this may include the performance and/or *primary* reporting of echocardiograms (TTE, TOE and DSE).
  - i. For TTE, this need not mandate *performing* a fixed number of scans, but as a guideline should include performing, primary reporting or reviewing a minimum of 100 cases per year.
  - ii. The BSE considers that for TOE an annual volume of 50 scans and for stress echo 100 scans per year averaged over a three year period is sufficient to maintain skills. These numbers are only a guide and operators with substantial previous experience over many years may maintain competence with smaller annual volumes. For TOE the procedure should count towards this total only where the cardiologist performs the procedure as first operator or is at the table assisting a colleague or trainee. For stress echo the operator should provide the primary report.

#### 4.5 Cardiac CT

Most practitioners of cardiovascular CT will have undertaken accreditation via the [British Society of Cardiovascular Imaging](#) (BSCI) or the US [Society of Cardiovascular CT](#) (SCCT). Both the BSCI and SCCT offer level 2 and 3 accreditation. Level 2 is for individuals who report CCT independently whilst Level 3 is intended for departmental leads and individuals with significant clinical or academic leadership roles. There is no formal reaccreditation process so

cardiologists with BSCI or SCCT accreditation will need to be able to demonstrate ongoing compliance with the requirements including appropriate CPD if they are to use certification as supporting evidence for revalidation.

Information on indications for CT coronary angiography, minimum standards for equipment and workforce requirements can be found within the Cardiac Imaging report from the National Imaging Board dated March 2010 and downloadable [here](#).

#### 4.5.1 CPD

Continuing professional development can be obtained in a variety of ways for cardiovascular CT.

Attendance at UK and International cardiology and radiology meetings.

These might include:

- a. The BSCI annual meetings (see [here](#) for information)
- b. The BCS annual meeting cardiovascular CT sessions (see [here](#) for information).
- c. The UKRC annual meeting cardiovascular CT sessions (see [here](#) for information)
- d. The ICNC annual meeting cardiovascular CT sessions (see [here](#) for information)
- e. The SCCT annual meeting (see [here](#) for information)
- f. The RSNA annual Meeting cardiovascular CT sessions (see [here](#) for information)
- g. ESC meeting (see [here](#) for information)
- h. There are a number of regional meetings (e.g. SW Imaging Network (SWINE) and local meetings. See [www.bsci.org.uk](http://www.bsci.org.uk) for details.

ECR and ESCR annual meetings

Web resources include:

- a. BSCI <http://www.bsci.org.uk/trainingeducation>
- b. SCCT: <http://www.scct.org/>
- c. ESC: <http://www.escardio.org/communities/working-groups/nuclear-cardiology/pages/welcome.aspx>
- d. <http://www.escardio.org/communities/Working-Groups/nuclear-cardiology/publications/report-cardiac-ct/Pages/cardiac-ct-review.aspx>
- e. ASNC: <http://www.asnc.org/>
- f. RCR supporting information for revalidation and strengthened appraisal. [www.rcr.ac.uk](http://www.rcr.ac.uk)

#### 4.5.2. Quality Improvement Activity

CCT practitioners should demonstrate that they are undertaking activity to improve their service and, in particular, demonstrate that they regularly review their activity using appropriate audit tools which may include:

- a. Audit of referrals for appropriateness, considering alternative modalities that do not involve ionizing radiation and ensuring that the clinical indication is appropriate

- b. Minimize radiation dose by reviewing protocols and making sure that scans are only undertaken on appropriate scanners. Regular dose audit should be performed with regular contact with medical physicists documented and rectifying action documented when concerns are highlighted.
- c. Audit of timeliness of reporting and communication of significant findings with referrers.
- d. Regularly review scans with peers and referrers to ensure that clinical standards remain high.

Further guidance for imaging specialists on gathering appropriate information to support appraisal is available from the RCR.

## **4.6 Cardiovascular Magnetic Resonance**

This section provides a guideline for revalidation of clinicians who undertake CMR work.

The British Society for Cardiovascular Magnetic Resonance (BSCMR) and BSCI have published standards for CMR reference centres:

[http://bscmr.org/assets/files/CMR\\_service/BSCMR+BSCI\\_CMV\\_standards\\_2010.doc](http://bscmr.org/assets/files/CMR_service/BSCMR+BSCI_CMV_standards_2010.doc)

These are currently in an early stage of roll out but will in future be a useful tool for revalidation purposes.

The BSCMR does not provide an accreditation or certification process. The Society for Cardiovascular Magnetic Resonance provides certification at both level 2 (independent practitioner) and level 3 (departmental head). There is no formal reaccreditation process so those cardiologists with SCMR accreditation will need to be able to demonstrate ongoing compliance with the requirements including appropriate CPD if they are to use certification to demonstrate that they are up to date and fit to practice.

Training in CMR has only recently been formalised and cardiologists performing CMR may have considerable experience without formal certification or completion of a recognised advanced curriculum.

### **4.6.1 CPD**

Continuing professional development can be obtained in a variety of ways, including:

- a. Level 2 or 3 courses in CMR approved by SCMR or BSCMR. In the view of the BCS and BSCMR cardiologists with current SCMR level 2 or 3 certification will have fulfilled the CPD criteria for revalidation.
- b. Clinical and scientific meetings, such as the BSCMR, BCS, SCMR, ESC annual meetings and other meetings endorsed by the BSCMR.
- c. Other educational courses which do not necessarily meet Level 2 or Level 3 requirement but which are approved by SCMR or BSCMR.

- d. Web-based resources recognised by the BSCMR and SCMR (see [www.bscomr.org](http://www.bscomr.org), [www.escardio.org](http://www.escardio.org) and [www.scomr.org](http://www.scomr.org))

#### 4.6.2 Quality Improvement Activity

Clinicians practicing CMR should demonstrate that they are undertaking activity to improve their service and that they regularly review their activity using appropriate audit tools. In addition, they should be able to demonstrate that appropriate processes are in place to:

- a. Ensure timely reporting and communication of significant findings with referrers.
- b. Regularly review scans with peers and referrers.
- c. Highlight significant untoward incidents (SUI) both via the standard clinical governance processes.

#### 4.7 Nuclear Cardiology

The [Certification Board of Nuclear Cardiology](#) (CBNC) has provided a US based accreditation examination that is endorsed by the [European Association of Cardiovascular Imaging](#) (EACVI). This can be used for appraisal purposes.

The BNCS does not provide an accreditation process but does endorse the BNMS departmental audit as one method of peer review.

Information on indications for MPS and minimum standards for equipment and workforce requirements can be found within the Cardiac Imaging report from the National Imaging Board dated March 2010 and downloadable [here](#).

The BNCS believes that a peer review process using the published competence based tools would encourage independent practitioners to embrace peer review as an integral part of the revalidation process.

##### 4.7.1 CPD

Continuing professional development can be demonstrated in a variety of ways for Nuclear Cardiology:

- a. Attendance at UK and International nuclear medicine, cardiology and radiology meetings.

These might include:

- i. The BNCS annual meeting (see [here](#) for information)
- ii. The BNMS annual meetings (see [here](#) for information)
- iii. The BCS annual meeting (see [here](#) for information)
- iv. The ICNC bi-annual meeting (see [here](#) for information)
- v. The SNM annual meeting (see [here](#) for information)
- vi. The EANM annual meeting (see [here](#) for information)
- vii. The ESC meeting (see [here](#) for information)
- viii. The ASNC meeting (see [here](#) for information)

b. Web resources include:

- i. [ESC working group in Nuclear Cardiology](#)
- ii. [RCR supporting information for revalidation and appraisal](#)
- iii. [ESC educational course](#)
- iv. [BNCS](#)
- v. [EANM course in nuclear cardiology](#)
- vi. [ASNC/IAEA webinars on MPS](#)

#### **4.7.2 Quality Improvement Activity**

NC practitioners should seek to demonstrate that they are undertaking activity to improve their service and in particular demonstrate that they regularly review their activity (using appropriate audit tools) to make sure that appropriate processes are in place to:

- a. Screen referrals for appropriateness, considering alternative modalities that do not involve ionizing radiation and ensuring that the clinical indication is appropriate.
- b. Minimize radiation dose by reviewing protocols and making sure that scans are only undertaken on appropriate cameras. Regular dose audit should be performed with regular contact with medical physicists documented and rectifying action documented when concerns are highlighted.
- c. Ensure timely reporting and communication of significant findings with referrers.
- d. Regularly review scans with peers and referrers to ensure that clinical standards remain high.

#### **4.8 Cardiac Rhythm Management**

There is no formal accreditation process for individual cardiologists or cardiology departments involved in heart rhythm management but BHRS has produced documents on indications for Cardiac Rhythm Services, minimum standards for equipment, and workforce requirements. These are downloadable from <http://www.heartrhythmuk.org.uk/>

##### **4.8.1. CPD**

Continuing professional development can be demonstrated in a variety of ways for Cardiac Rhythm Management:

- a. Attendance at UK and International arrhythmia or cardiology meetings.

These might include:

- i. The HRC annual meeting
- ii. The BCS annual meeting
- iii. The HRS annual meetings
- iv. The EHRA biannual meeting

- v. The Cardiostim Meeting annual meeting
- vi. The ESC meeting

b. Web resources include:

- i. HRS: [IBHRE certification](#)
- ii. ESC: [Invasive EP EHRA certification](#)
- iii. ESC: [Pacing & ICD EHRA certification](#)
- iv. British Heart Rhythm Society: <http://www.bhrs.com>

#### **4.8.2 Quality Improvement Activity**

Cardiac Rhythm Management practitioners should seek to demonstrate that they are undertaking activity to improve their service and in particular demonstrate that they regularly review their activity:

- a. All cardiologists involved in CRM should submit data to the national cardiac rhythm management audit.
- b. Review of performance and critical incident review.
- c. Participation in local audit.

Departmental accreditation is not yet available from the British Heart Rhythm Society but this process is likely to be introduced over the next few years. IQIPS certification for Cardiac Physiological Services will be introduced shortly and Practitioners may be involved in departmental audit for this process.

#### **4.9 Adult Congenital Heart Disease (ACHD)**

The BCCA does not provide an accreditation process but has published guidance regarding the definition of both a 'Specialist ACHD Cardiologist', and a 'Cardiologist with an Interest in ACHD',

[http://www.bcs.com/documents/09\\_March\\_FINAL\\_guch\\_definitions.doc](http://www.bcs.com/documents/09_March_FINAL_guch_definitions.doc)

All Cardiologists practicing in ACHD should do so as part of a regional network, with a designated specialist centre and formal 'spoke' arrangements for local centres. Evidence of these network links and arrangements should be demonstrated to support revalidation.

Many specialist ACHD cardiologists and most cardiologists with an Interest in ACHD will have other areas of practice, for example imaging, electrophysiology or heart failure.

##### **4.9.1 CPD**

CPD should reflect the objectives of your PDP. CPD can be achieved in a number of ways, but typically include:



- a. Attendance at Regional, National and International meetings concentrating on congenital heart disease (This list is not exhaustive)
  - i. BCCA Annual General Meeting ([www.bcca2012.co.uk](http://www.bcca2012.co.uk))
  - ii. World Congress of Paediatric cardiology and cardiac surgery (every 4 years) (<http://wcpccs2013.co.za/>)
  - iii. Advanced Symposium on Congenital Heart Disease in the Adult (alternate years) ([www.achd8.co.uk/](http://www.achd8.co.uk/))
  - iv. ESC Working Group: Annual European Meeting (annual) (<http://www.escardio.org/communities/Working-Groups/guch/Pages/welcome.aspx>)
  - v. Paediatric and Adult Interventional Cardiac Symposium (annual) (<http://www.picsymposium.com/>)
  - vi. International Symposium on Adult Congenital Heart Disease (annual) ([http://www.uhn.ca/Focus\\_of\\_Care/Munk\\_Cardiac/whats\\_new/ACHD\\_Conference/index.asp](http://www.uhn.ca/Focus_of_Care/Munk_Cardiac/whats_new/ACHD_Conference/index.asp))
  - vii. Annual Meeting on Cardiac Problems in Pregnancy (annual) (<http://www.cppcongress.com/>)
  - viii. Cardiology in the Young (annual) ([www.gosh.nhs.uk](http://www.gosh.nhs.uk))
- b. A personal record of “open book” knowledge assessments related to e-learning or other knowledge assessments.

#### 4.9.2 Quality Improvement Activity

ACHD practitioners should seek to demonstrate that they are undertaking activity to improve their service and that they regularly review their activity.

1. All operators performing ACHD interventions should ensure that they participate in national audit programs. Outcomes should be benchmarked against national or other data where possible. ACHD cardiologists performing complex procedures in small numbers should provide evidence that such cases are discussed by an appropriately configured MDT.
2. Participation in at least one complete audit cycle pertinent to your own practice in ACHD (audit, practice review and re-audit) in every 5 year revalidation cycle. This can include participation in national audit with appropriate reflection.
3. Case Reviews: Evidence that MDT discussions form a routine part of practice should be produced. BCCA recommends that for revalidation purposes, evidence of the quoracy of the MDT, a summary of the discussions which took place and, where relevant, the outcome of the proposed intervention should be noted. In line with RCP guidance two cases per year should be presented and should include reflection against national standards or guidelines and include evidence of discussion with peers or presentation at department meetings.
4. ACHD clinicians treating patients with pulmonary hypertension with targeted pulmonary vasodilator therapy should demonstrate that all such patients are entered into the national audit database.

5. For ACHD cardiologists with a special interest in heart disease in pregnancy, evidence of discussion of cases with the obstetric team including an obstetrician, and obstetric anaesthetist, and evidence of relevant CPD in this area should be demonstrated.

NB: Additional details for paediatric cardiologists, much of which is applicable to Consultants specialising in ACHD, can be found at:

[http://www.bcs.com/documents/Revalidation\\_for\\_Paediatric\\_Cardiologists-FINAL\\_January\\_2012.pdf](http://www.bcs.com/documents/Revalidation_for_Paediatric_Cardiologists-FINAL_January_2012.pdf)

#### **4.10 Cardiovascular Disease Prevention and Rehabilitation (CVDPR)**

The majority of cardiologists who will need to revalidate across the breadth of their job plan typically undertake CVDPR for 1 PA or less of their contracted duties. Their performance is inextricably linked to that of the CVDPR programme for which they are clinical lead. This section describes possible paths to revalidation in CVDPR.

Currently, there is no formal accreditation process currently for cardiologists with a subspecialty interest in CVDPR. However, the British Association for Cardiovascular Prevention and Rehabilitation (BACPR) has produced Standards and Core Components for CVDPR that include service and workforce requirements and cardiologists with CVDPR as a subspecialty should be able to show evidence of their service working towards these standards.

##### **4.10.1 CPD**

Continuing professional development can be demonstrated in a variety of ways for CVDPR:

- a. Attendance at BCS sessions led by BACPR or CVDPR topics within the revalidation track
- b. CVDPR session at other General Cardiology national and international meetings (ESC, AHA, ACC)
- c. BACPR e Learning modules that update current knowledge and best practice  
<http://www.bacpr.com/pages/default.asp>

Further CPD opportunities may include:

- i. The BACPR annual meeting
- ii. The British Hypertension Society annual meeting
- iii. The Heart UK annual meeting
- iv. The Diabetes UK annual meeting
- v. EuroPrevent Annual Congress
- vi. American Association of Cardiovascular Prevention and Rehabilitation

Additional web resources

- i. <http://www.escardio.org/communities/EACPR/Pages/welcome.aspx>

- ii. <http://www.aacvpr.org/EventsEducation/tabid/61/Default.aspx>
- iii. Participation in (as faculty or student) teaching sessions / courses/certification/MSc in CVDPR e.g.
- iv. <http://www1.imperial.ac.uk/medicine/teaching/postgraduate/preventivecardiology/>

#### **4.10.2 Quality Improvement Activity**

Prevention and rehabilitation cardiologists should demonstrate that they are carrying out activities to review and improve their service. This should include the following activities:

- a. Audit of their CVDPR practice at both institutional and national level.
- b. (<http://www.cardiacrehabilitation.org.uk>)
- c. Audit at local level should include evaluation of the CVDPR service in terms of access (i.e. reaching priority groups) and uptake (i.e. recruitment of priority groups) and also outcomes (clinical and patient-related) benchmarked against national data.

Additional evidence may be derived from:

- a. Demonstration of participation in regular multidisciplinary team meetings.
- b. Demonstration of participation in evaluation of the patient experience.