Quantifying the challenges of specialty training: the 2013 British Junior Cardiologists' Association survey

The British Junior Cardiologists' Association surveyed members to analyse their perception and experience of training. Cardiology trainees perceive significant limitations with the current training structure. This article gives suggestions which could lead to improvements in training and patient care.

Introduction

The Francis Inquiry (2013) highlighted the crucial role trainees can play in identifying deficiencies in patient care, describing trainees as 'invaluable eyes and ears' in the hospital. It also recognized the link between good quality clinical care and good training. Trainees may perceive barriers to speaking up if they are concerned that their comments may harm their training and future careers. The last decade has seen considerable upheaval in UK postgraduate medical training with curriculum changes, an expanding array of assessments, and dramatic reductions in working hours leading to reduced training time.

While valuable data on training are obtained from surveys organized by curriculum designers (Royal colleges), regulators (General Medical Council) and regional training bodies, a survey designed and organized by trainees offers a unique and important perspective. The British Junior Cardiologists' Association represents >800 registrar-level cardiology trainees in the UK. Since 2004 the British Junior Cardiologists' Association has conducted eight surveys of its membership and the impact of this type of survey now is arguably greater than ever (Myerson and Greenwood, 2004; Myerson, 2006; Kelly and Gale, 2008; Holdsworth, 2012).

The British Junior Cardiologists' Association has worked closely with the Cardiology Specialist Advisory Committee, which sets the standards for UK cardiology training, and with the British Cardiac Society in the design and implementation of the survey. In addition to collecting the raw metrics of training performance and experience, this survey gauges trainee attitudes and opinion. Much of this opinion reflects a mood across all medical specialties. The Shape of Training review emphasizes the importance of surveys of this type (Greenaway, 2013).

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Methods

Survey questions were formulated by a core working group from the British Junior Cardiologists' Association Council. Through a network of regional representatives, an opinion-gathering exercise was used to identify areas of key concern, and these were used to design the questions. Questions were reviewed by the Cardiology Specialist Advisory Committee. All members were sent a unique link to the survey in March 2013.

Results

Response rate and demographics

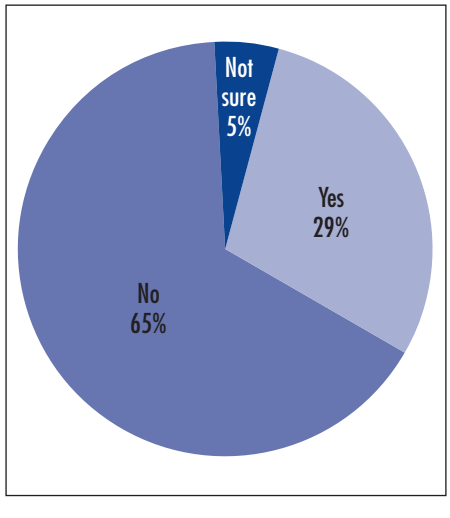
A total of 458 responses were received, representing 57% of the eligible British Junior Cardiologists' Association membership. Of the respondents, 91% held a national training number in cardiology; 78% were male; 79% graduated from UK medical schools, an additional 5% from the European Economic Area, and 12% of other overseas medical schools.

Workplace-based assessments

Workplace-based assessments were introduced following the Modernising Medical Careers reforms of 2007 and have steadily grown to include mini clinical evaluation exercise, case-based discussion, multi-source feedback, acute care assessment tool, direct observation of procedural skills, teaching observation tool, audit assessment tool, and patients' survey. When trainees were asked: 'Do you feel workplace-based assessments are useful assessments of your clinical skills?' only 29% felt they were, with 65% feeling they were not (*Figure 1*). Regarding the number of forms to be completed, 60% felt there were too many and 37% felt the number was just right; 81% believed the assessment system should be simplified.

Trainees were asked to rank the different assessment tools (*Figure 2*). The overwhelming majority (60%) ranked direct observation of procedural skills as the most useful, with multi-source feedback some way behind (22%). Fewer than 7% of trainees ranked any of the other assessment forms as the most useful. These findings must be interpreted in the context that 65% of trainees felt that workplace-

Figure 1. Responses to the question: 'Do you feel workplace-based assessments are a useful assessment of your clinical skills?'.



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based assessments were not a useful assessment of their clinical skills.

Dual accreditation in cardiology and general internal medicine

Introduction of the 2007 cardiology curriculum reduced the time required to train as a cardiologist from 6 to 5 years. This coincided with a reduction in working hours to a maximum of 48 hours per week to achieve compliance with the European Working Time Directive. Consequently, just as the range of skills required of trained cardiologists increased, the time available to complete training was substantially reduced.

Only 24% of survey respondents are planning to gain dual accreditation in Cardiology and general (internal) medicine. This is a dramatic fall compared to the first British Junior Cardiologists' Association survey in 2004 when 90% of respondents were planning to dual accredit (*Figure 3*) (Myerson et al, 2004). This may partially be explained by some of the current assessment requirements for general (internal) medicine. When trainees were asked: 'Do you think the current requirements for general (internal) medicine certification are difficult to achieve for cardiology trainees?' 55% said yes, with a further 24% saying yes, but with the caveat that they were achievable. Restoring training to a 6-year programme has been proposed as a potential solution with 74% of trainees responding yes to the question: 'Would you support extending training to include an ST8 year to facilitate dual accreditation in general (internal) medicine, or to increase training time in your subspecialty?'

With European Working Time Directive-compliant weekly job plans limiting access to training opportunities, trainees reported taking measures into their own hands to increase exposure to such activities (*Figure 4*): 92% of trainees reported that they had attended the hospital at least occasionally after night shifts or on scheduled days off to undertake training, with 22% doing so routinely. When asked why, 50% suggested that clinical workload demanded this, 11% felt they could not meet prescribed training requirements to achieve a satisfactory outcome at their annual training appraisal (Annual Review of Competence Progression) during the hours available, and 31% felt they could not obtain the amount of clinical exposure and training that they felt they required personally from a professional development viewpoint. A small proportion (3%) felt under pressure from senior colleagues or managers to attend the hospital outside their prescribed job plan to train effectively.

The average weekly trainee timetable was also examined to address this question in greater detail. Frequently service provision for both cardiology and general (internal) medicine was felt to impede training (*Table 1*). An argument is often presented that in a craft specialty such as cardiology, outpatient clinics, ward rounds and on-call duties all represent training opportunities, and while this is undoubtedly true, such exposure needs to be balanced with other training requirements. For this reason, trainees were specifically asked if they routinely had service commitments outside those that featured within their weekly job

Figure 2. Responses to the question: 'Please rank how useful you feel these workplace-based assessments are starting with the most valuable first.'

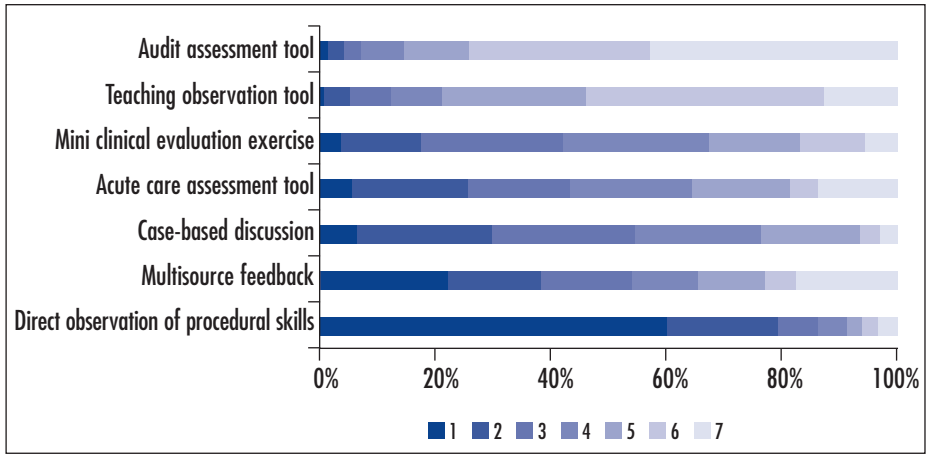


Figure 3. Proportion of trainees planning to obtain dual accreditation in cardiology and general internal medicine, from 2004–2013.

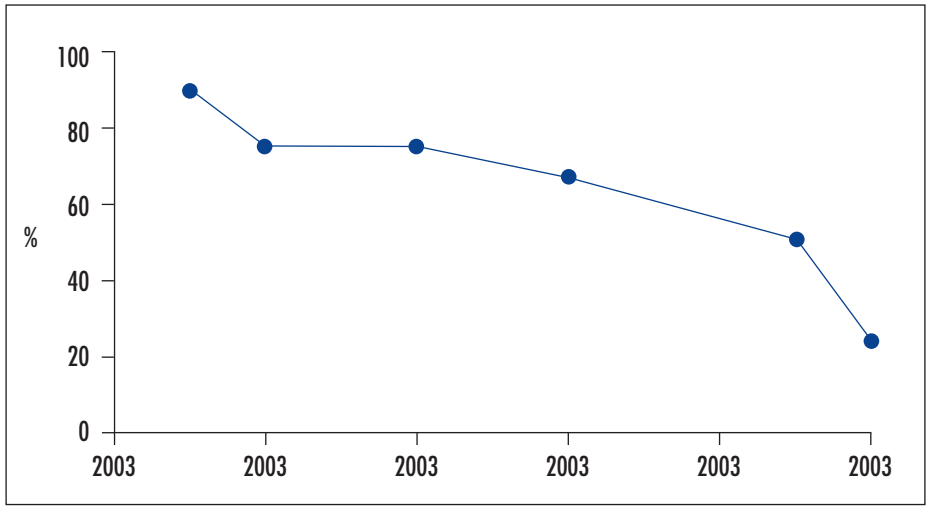
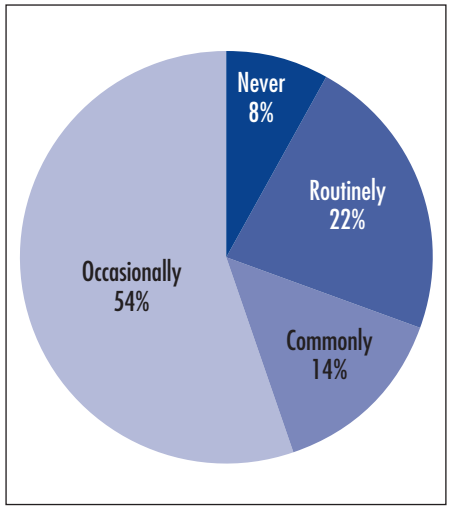


Figure 4. Responses to the question: 'Do you attend the hospital after night shifts or during days off to undertake training?'.



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plan. The burden of these service commitments was substantial with trainees on average working 8 hours extra per week to ensure tasks were adequately completed, although variation was wide (standard deviation 4.6 hours).

Finally trainees' views on subspecialty training in cardiology were examined. The first 3 years of cardiology specialty training are devoted to the acquisition of core skills in cardiology, whereas the final 2 years are spent in subspecialty areas of cardiology such as percutaneous coronary intervention, invasive cardiac electrophysiology and devices, advanced imaging or heart failure. Trainees were asked whether they felt 2 years was sufficient to gain experience in their chosen subspecialty. Over half of respondents (52%) felt that 2 years was not sufficient and only a third (32%) felt that this period was adequate.

Access to training in echocardiography

Competence in echocardiography is a requirement of all core cardiology trainees yet access to training in echocardiography can be difficult. Trainees anecdotally report being 'bleeped' out of their regular echocardiography sessions. Busy outpatient echocardiography lists may not have sufficient time allocated to deliver training, and such training is often delivered by cardiac physiologists rather than cardiologists.

The cardiology curriculum states that obtaining accreditation from the British Society of Echocardiography demonstrates competence in transthoracic echocardiography. Only 26% of trainees surveyed had managed to achieve British Society of Echocardiography accreditation, with 63% of trainees feeling that the requirements for such British Society of Echocardiography accreditation were too difficult to achieve for the majority of trainees.

Accreditation requires trainees to pass a written examination, and submit a logbook of 250 reports (of a specific case mix) with five video cases of defined pathologies. Trainees were previously required to collect these cases 1 year before and after the written examination. In this setting, 39% of trainees who passed the examination in the survey reported they were unable to submit the logbook within the deadline. Since then, and through engagement with trainees, the deadlines have been made more flexible with the requirement for the written examination to now be passed at any time during the 24 months the logbook is collected.

Discussion

Cardiology trainees face a number of challenges in the UK health-care system. Many of these challenges are common to other medical specialties. The survey results show a common theme: the current training environment, with expanding pressures of service delivery, reduced years for training and restricted weekly hours, is making it more difficult to achieve the required competencies as defined by the cardiology curriculum. Furthermore, there is widespread dissatisfaction with the expanding array of assessments.

A dramatic simplification of workplace-based assessments?

The current workplace-based assessments are a well-intentioned intervention in medical education. Unfortunately their efficacy in improving training is unproven and their proliferation ill-conceived. These assessments were originally introduced as formative exercises to guide trainees and trainers but have become a summative threshold, with a minimum number of assessments to be completed annually. There is a widely held scepticism about the benefit of workplace-based assessments at consultant level and in reality completion of the forms has become little more than a box-ticking exercise.

The limitations of workplace-based assessments have been recognized by the General Medical Council and Royal College of Physicians, leading to a current workplace-based assessment pilot (Joint Royal Colleges of Physicians Training Board, 2013a), and in the Shape of Training review (Greenaway, 2013). A systematic review examined the educational impact of current workplace-based assessments using data from 16 different studies, and found that while multi-source feedback can lead to performance improvement, there is no evidence that any other existing workplace-based assessments lead to an improvement in training (Miller and Archer, 2010). There is a considerable cost associated with existing workplace-based assessments, in terms of maintaining the infrastructure and the time it takes consultants and trainees to complete these forms and to link them to aspects of the ePortfolio curriculum.

Should we completely revise our approach to trainee assessment? Historically assessment and educational progression has been by written and practical examination, and through mentoring and feedback from supervisors. Cardiology already has a well-developed examination: the knowledge-based assessment which is now being adopted across continental Europe. It is interesting that, in contrast to many other professions, most of the assessments do not involve a critical report or appraisal from a pre-designated line manager (or supervising consultant). Rather, the trainee can subjectively pick and choose the particular health-care professionals and patients that he/she will approach for an 'objective' opinion. The authors contend that a supervisor's report could be used to highlight areas for trainees to develop their skills and knowledge much better than, for example, a limited number of case-based discussions.

Table 1. The average weekly timetable – self-reported challenges

On average, how many procedure-based training sessions (0.5 days) do you complete per week?	3.3 (SD 2)
On average, how many outpatient clinic sessions do you complete per week?	1.7 (SD 0.8)
Do you have a session per week identified for research and audit?	Yes: 33%
Does cardiology service provision (ward rounds and clinics beyond your agreed personal development plan) limit access to training in your current post?	Yes: 45%
Does general medicine service provision (ward rounds and clinics beyond your agreed personal development plan) limit access to training in your current post?	Yes: 26%
During an average week, how many hours do you work beyond your scheduled working hours undertaking clinical or related tasks?	8.0 (SD 4.6)

SD = standard deviation

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Happily, such an innovation is already in development in the shape of the 'multiple consultant report' (Joint Royal Colleges of Physicians Training Board, 2013b). In a specialty like cardiology, with many procedures and techniques in which to achieve competency, there is a case for retaining the direct observation of procedural skills, and trainee opinion from this survey reflects this. The evidence for the other workplace-based assessments in their current format is weak, and a better, evidence-based approach is needed to document training experience.

Reforms to the structure of training

One clear finding from this survey is that trainees find it challenging to achieve all competencies in the current framework. Significant changes to the model of training may follow the Shape of Training review. Cardiology has evolved significantly as a specialty, with an increasing range of complex investigations and treatments for patients, requiring a specific and varied skill set. Currently, cardiologists are required to train in at least some general (internal) medicine, and general and subspecialty cardiology in 5 years, the last of which invariably includes the acquisition of extensive craft skills. The authors believe that this is the reason that less than a quarter of trainees plan to dual accredit in general (internal) medicine. Attempting to compress these skills into a shorter training programme will risk the stability and safety of cardiology services, including primary percutaneous coronary intervention networks. The authors hope this will be considered when any recommendations from the Shape of Training review are implemented.

Cardiology forms a large, and increasing, proportion of the unselected medical take (Royal College of Physicians, 2012). The authors believe that a combination of the transfer of patients with cardiac presentations directly to specialist cardiac units and a 7-day cardiology consultant service in medical admissions units would benefit patients. Specialist assessment and decisions at the point of admission allow for early institution of the best medical care and consequently reduced length of stay, relieving pressure on medical admissions units (Birkhead et al, 2006; Walker et al, 2012). A model which asks all specialists to continue in their increasingly super-specialized practice and to cover the unselected general (internal) medicine take is inefficient and, most importantly, unsafe. Trainees already appear to be voting with their feet and single accrediting in cardiology.

A model for trainee engagement

The British Junior Cardiologists' Association has presented these results at the 2013 British Cardiovascular Society Annual Conference, and has discussed the results at the Cardiology Specialist Advisory Committee with regional feedback communicated to individual training programme directors. Questions relating to training in echocardiography have also been reviewed by the British Society of Echocardiography Council and are leading to further positive developments in the delivery of echocardiography training, including a change in the logbook submission deadlines and a joint echocardiography training day with the British Society of Echocardiography. This model for integrated engagement of trainees with trainers has already yielded positive results and could be replicated across all medical specialties.

Conclusions

In addition to demonstrating trends in training and trainee choices, the British Junior Cardiologists' Association survey is an example of how well-organized trainee feedback can have a positive impact on the training of both current and future trainees which will ultimately lead to better care for patients. **BJHM**

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KEY POINTS

- Fewer cardiology trainees are now planning to dual accredit in general internal medicine and cardiology, which may be partially a result of the requirements now needed to demonstrate competence in both.
- The majority of cardiology trainees feel that current workplace-based assessments are not a useful assessment of their clinical skills.
- With the expanding range and complexity of skills required of cardiologists, trainees are finding it challenging to acquire all these skills in the shortened time and working hour constraints currently in place.

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