STAFFING CARDIOTHORACIC UNITS

Developing a workforce for the 21st century.

Steven Livesey
Tara Bartley

Background

This document is intended to develop on the foundations laid down in the paper "Exploring New Ways of Working in Cardiothoracic Surgery". That document was published by the Workforce Review Team in February 2005 following a joint workshop held with the SCTS and the SAC in Cardiothoracic Surgery. It was a wide ranging review of the UK Cardiothoracic Workforce and it described in detail the changing forces within the specialty, in particular detailing the effect of changes in cardiological practice (greater willingness to stent with DES, potential reduction in new patients with increased Statin usage) balanced against greater demand fuelled by a progressive reduction in waiting times and an increased willingness to refer and operate on increasingly high risk patients.

The Service Today

It is difficult to predict how any medical specialty will develop over a prolonged time-frame (i.e., greater than ten years) but it is highly likely that there will continue to be a demand for the services of cardiothoracic surgeons because:

- there is already a significant burden of coronary artery disease in the population
- downward pressure on waiting times will maintain activity levels in cardiothoracic units
- increased provision of cardiologists will lead to an increased referral of non-coronary work
- increasing complexity of cases may well result in fewer cases per surgeon.

Failure to develop enough emphasis on thoracic surgery practice has resulted in comparatively poor service for thoracic cancer patients in two main areas:

- in the UK surgical resection rates have remained far lower (<10%) than those achieved in Europe and the USA (>20%),
- oesophageal cancer surgery has been diverted away from thoracic surgical units with high quality services and low mortality rates, often to units with less oesophageal experience and expertise
- increasing amounts of time need to be devoted to working in multidisciplinary cancer teams

However there is certainty about the fact that units will no longer be able to rely on the input of junior doctors in the management of patients to the extent that they used to. The effect of Modernising Medical Careers on the training of junior doctors will have a profound impact on the way units are run. In addition to this we have to plan for a further reduction in the hours doctors in training are allowed to work under the European Working Time Directive - from August 2009 the maximum working week will be 48 hours. These changes mean that an individual doctor in training will have his/her working time focussed on activities directly related to training rather than in the service aspects of general patient management. This document focuses primarily on how units should be staffed at a non-consultant level in this new era.

One solution would be to employ more junior doctors. However, it is now widely accepted that there are too many training places from a cardiac surgical standpoint and that the expansion of these posts in the late 1990s was unnecessary. It is clear that a modest increase in thoracic surgical consultant posts is necessary, particularly with many thoracic surgical consultants in the last ten years of service. In addition the increased specialisation in all cancer surgery will require more man-hours of thoracic consultant time to manage the increasingly complex patient pathway. However, the need to train for these posts is not a relatively major factor in the overall prediction of training post requirements. We are currently working to reduce the number of training places available in order to redress this balance and many of the current cohort of trainees are facing bleak employment prospects once they have completed their training. So employing more of the same would not be appropriate; it would lead to a generation of frustrated young cardiothoracic surgeons – it would also be an expensive solution to the problem.

Staffing units with "Trust doctors" to fill the void left by the lack of trainees is an option. This is also expensive and again will result in a frustrated workforce, as this group have poor prospects of meaningful career progression.

We thus have both a need and an opportunity to break free from the traditional "medical model" of providing cardiothoracic services and develop a workforce that is much more suited to the purpose. With encouragement from the Lead Dean for Cardiothoracic Surgery, the Post-graduate Deans have accepted both that training places need to be reduced and that the money made available by doing this can be used by employing NHS Trusts as "pump priming" for the development of roles that enhance training opportunities for the new generation of MMC trainees. For example, using "Trust doctors" or surgical care practitioners to free trainees from non-training related activities such as on-call, increases the time they have available for training.

It is vital that these opportunities are seized both to provide a loyal and stable cardiothoracic workforce and to maximise the opportunities available for the training of the next generation of cardiothoracic surgeons.

What will the workforce of the future look like?

It is likely that units will be run almost entirely by permanent members of staff undertaking those aspects of patient care that they have been trained to do. The current distinctions between the roles of the junior doctor, nurse and therapist will no longer be so obvious. Trainees will be entirely supernumerary and their activities will be focussed entirely on training opportunities – this does not mean that they will not perform some "service functions" but that the service will not be able to rely on trainees for it to function normally. For example, in the cardiac operating theatre, the traditional model would have a consultant surgeon being assisted by a registrar with an SHO harvesting vein. We have already moved some way away from this; an example from cardiac surgery is that the new unit will have a consultant surgeon assisted by a surgical care practitioner with another surgical care practitioner harvesting vein. If a doctor in training is in the operating theatre he/she will be being trained rather than just providing the services of an assistant - for example being taken through an aspect of an operation or assisting with a case that provides new learning material. While surgical assistants are developed to some extent in cardiac surgery this is a concept which will have to be piloted and rapidly developed from a very low base in thoracic surgery. Other aspects of care will have to be radically changed in both parts of our specialty.

Each aspect of care will be carried out by a person with appropriate training; it is envisaged that the trainee will be involved in all these stages as appropriate throughout the training programme. For example:

Initial consultation	Consultant, possibly supervising trainee
Pre-admission clinic	The patient will be seen and pre-clerked by a nurse specialist/surgical care practitioner
Admission	Preadmission details checked by nurse. Consent confirmed by appropriate person
Intra-operative care	Surgeon, surgical care practitioners, possibly trainee(s)
Post-operative care Level 3	ITU nurse supervised by Intensivist. Trainee surgeon may be in attendance for training purposes
Level 2	High care environment run by nurse specialist with appropriate consultant support with registrar and "early years trainee" in attendance for training purposes.
Level 1	Surgical care practitioner, ward nurses
Discharge	Surgical care practitioner, ward nurses
Routine follow-up and	Surgical care practitioner, supervised by consultant.

rehabilitation

These basic areas of the patient journey were identified by the authors of the 2005 document "Exploring New Ways of Working in Cardiothoracic Surgery" and the competencies required to care for patients at each step of the pathway were described. The service will be consultant led from the beginning to the end of the patient's journey, but each practitioner will have appropriate training to administer the care they deliver and will take appropriate responsibility as outlined by their employer or professional body.

ASPECT OF CARE	COMPETENCIES REQUIRED	LEVEL	PROVIDER
Initial consultation (elective, urgent or emergency)	To diagnose, assess and investigate the patient's primary condition. To organise appropriate tests to confirm the diagnosis, evaluate its severity, to detect and assess co-morbid conditions and to assess patient fitness. To formulate a treatment plan, explain this to the patient with relevant alternatives and obtain consent for the proposed operation and possible variations.	4	Consultant Surgeon supported by medical secretary.
Pre-admission clinic	To assess any changes in the patients' fitness, primary condition, co-morbid conditions or therapy since the initial consultation and the bearing these might have on the proposed operative strategy. To finalise admission date, ensure all relevant results are available and undertake any further preoperative tests. To deal with any social or logistic concerns raised by the patient or their carers. To ensure that consent has been obtained. .	3	Surgical care practitioner or Nurse specialist or extended nurse role
Admission (elective, urgent or emergency).	To assess any changes in the patients' fitness, primary condition, co-morbid conditions or therapy since last patient contact and the bearing these might have on the proposed operative strategy. To ensure that consent has been obtained, that all relevant results are available and that the operative details are accurately recorded on the appropriate theatre list.	3	Surgical care practitioner or peri-operative specialist practitioner
Intra-operative care (elective, urgent or emergency)	To ensure that the proposed operation, and any variations necessitated by the findings and events during surgery, are conducted safely and effectively.	4	Consultant Surgeon and Anaesthetist.

	To assist in the operation performing those steps delegated to them and for which appropriate training has been received.	3	Surgical care practitioner, Anaesthetic care practitioner
Post-operative care (Level 3)	To monitor the patient's physiological recovery from surgery, detect any variations from agreed parameters and ensure speedy intervention to correct such deviations.	3	Specialist anaesthetic team, or Intensive care team, supported by surgical team. Appropriate Specialist Care Practitioner as 1st line, supported by appropriate Consultants
Post-operative care (Level 2)	To manage the multi-organ dysfunction consequent upon the primary condition, the operative treatment and any post-operative complications.	4	Consultant Intensivist with critical care practitioner
Post-operative care (Level 1)	To monitor post-operative recovery, detect any deviations from the expected course, manage those that fall within protocol and report all such events to medical staff. Order investigations and prescribe drugs as required by protocol. Perform those routine post-operative tasks delegated to them and for which appropriate training has been received.	3	Surgical care practitioner, supported by outreach critical care practitioner or peri-operative specialist practitioner.
Discharge	To coordinate discharge date with patient, carers and primary care team. Ensure that an adequate supply of drugs are issued for any interim period, that suitable support is available within the community, that adequate documentation is provided to primary care team and other involved specialists and that follow-up arrangements are in place and communicated.	3	Surgical care practitioner, peri-operative specialist practitioner or ward sister.
Death	To ensure that relatives are informed in a sensitive manner and have adequate bereavement counselling, that where appropriate the coroner is informed, that all documentation related to the Death Certificate is available and that relatives have an early opportunity to discuss matters with the medical staff	3	Consultant surgeon, consultant anaesthetist, specialist registrars, surgical care practitioner, peri-operative specialist practitioner or ward sister
Routine follow-up and rehabilitation	To monitor by phone contact and/or clinic attendance that post-operative recovery is uneventful. To detect any deviations from the expected course, manage those that fall within protocol and report all such events to medical staff. To ensure that appropriate long-term supervision is arranged with referring specialist and/or primary care team. Ensure that appropriate rehabilitation has been put in place.	3	Surgical care practitioner or peri-operative specialist practitioner

Priority review clinic	To assess serious or refractory post-operative complications, to detect residual or recurrent disease and ensure that appropriate referral is made to other specialist teams.	4	Consultant

What new roles are required to support these services?

The document also identified the new roles that would be required to provide services in this way.

- Surgical Care Practitioners

The training required to fulfill the Surgical Care Practitioner role has yet to be widely available but several sites have developed in-house training and the Society of Cardiothoracic Surgeons has in place an examination to assess competence and knowledge after two years of training, be it in-house or via established Higher Education Institutions. Development work has been progressed by the Modernisation Agency building on local developments. These developments have been entirely in cardiac surgery and a greater emphasis on the role and training of Thoracic Surgical Practitioners is required.

The development of the Surgical Care Practitioner role as defined in the table above has encompassed two distinct types of competencies relating to a) surgical techniques in theatre and b) pre and post operative care in the ward and out-patient clinic environment. It is suggested that these two roles will attract different types of people from different professional backgrounds.

The Surgical Care Practitioner is a Pre, Intra and Post Operative Role that includes diagnostic/some surgical intervention as part of the surgical team. The SCP will move from direct, to indirect and eventually proximal supervision. The consultant surgeon retains overall responsibility for the patient's care.

- Perioperative Specialist Practitioners

This is a surgical ward base role that involves the duties previously delivered by surgical SHOs. Duties include pre operative assessment, clerking, preparation for surgery, post-operative care, pain management, discharge and postoperative clinics.

- Anaesthetic Care Practitioners

The aim of the New Ways of Working in Anaesthesia (NWWA) Programme is to develop a practitioner role within the anaesthetic team that is supported by appropriate education and training. I am unaware of any examples of the integration of these roles into the cardiothoracic team.

- Critical Care Practitioners

The critical care programme is exploring opportunities for role redesign at Advanced/Senior Practitioner (Adv CCP) and Assistant Practitioner (Ass CCP) levels and is supported by the Intensive Care Society, BACCN and Intercollegiate Board.

Where are we now? (December 2006)

The rate of progress in developing a new workforce has been slower than was envisaged when the "Exploring New Ways of Working in Cardiothoracic Surgery" document was published. Why has this been the case?
There are certainly several reasons for this;

- lack of acceptance or awareness of the need to change
- general uncertainty about the direction and timescale of the MMC programme
- financial constraints resulting in an inability to develop the new roles locally whilst still employing junior doctors to maintain rotas etc.

Progress has also been variable across the country and it would be appropriate to do a "stock-take" at this stage. The situation is worse in thoracic surgery which will none-the-less be equally affected by changes in the numbers and the service roles of trainees.

What are the next steps?

A stock-taking exercise would be helpful in identifying the extent of progress throughout the country – it would also highlight some of the barriers to change. This could be done utilising both the resources of the Society for Cardiothoracic Surgery / SAC and also the network connections of the Heart Improvement Programme.

Vision

A more detailed assessment of exactly what is needed would follow on from the stock-taking exercise, building on the experience of units that have already moved in this direction e.g., nurse led high care etc, however the vision is of a seamless, robust system with timely intervention along the patient pathway and collaborative working patterns.
It is important that there is multidisciplinary support for the development of these roles as well as their continuing education. A clinical career pathway is needed for nurses and other healthcare professionals who undertake these roles that is reflective of the level of care delivered and the level of analytical thinking and further education required to practice at this level. (Currently, these factors are not always reflected and this may prove to be a dis-incentive). This is vital to attract individuals who can, with appropriate development, lead and direct care and can also teach and share knowledge with colleagues from different disciplines.

Benefits

There are many benefits that will result from the multidisciplinary collaborative approach. It will enable the delivery of a high quality of care which does not vary according to the time of day and which will lead to tangible improvements in patient care and in the efficiency of the service.
Specific benefits expected from this approach are:

- a reduction in errors and clinical incidents
- a reduction in patient length of stay
- a reduction in cancelled operations
- appropriate medicine prescribing, dose, time etc.
- improved documentation of care
- a reduction in complaints.

Challenges

It is vital that the development of these roles has a national profile and is done in a systematic way. There are many examples of local developments to learn from – but it is important that time (and money) are not wasted in re-learning these lessons and to this end national direction is now needed as there are many challenges to be overcome. In the current financial climate of streamlining services with pressure to reduce the number of senior nurses, the nursing profession cannot continue to expand and encompass traditional medical roles from existing budgets alone. In order to perform these roles, staff will need academic qualifications, clinical supervision and mentorship. Many of the training issues have been identified, but national consistency will help mobility in the workforce.

There are some specific issues such as nurse prescribing and patient consent that are currently dealt with locally, and again, a more unified, national approach is needed – not least to overcome the reticence of some employers and professional groups.

In order to give these changes the best chance of success, it is important to be proactive in creating a realistic but efficient service; being reactive could result in a demoralised workforce and deterioration in clinical care.

Solutions

The solution to meaningful development of this major reorganisation of the way the service is delivered lies in a change in culture in the NHS that moves away from traditional division of medical and nursing roles. It requires multidisciplinary support for education, practice and strategic development, creating new ways of working in all disciplines.

There needs to be a national view on how practitioners with these advanced skills are registered which may require the creation of new professional bodies.

These changes to the workforce cannot be made without appropriate investment. There is no doubt in our minds that the type of workforce envisaged will provide better value for money, but achieving this change will require investment in the short term as in many instances the new

workforce will need to be trained to new skill levels in parallel with existing staff. Trusts are unlikely to be able to find this investment themselves in the current financial climate.

Appendix.

Summary of Interactive Feedback from discussion workshop:

The Impact of MMC & Evolution of New Medical & Nursing Roles.

Below is a transcript of the discussion held at a workshop held in the Forum for Cardiothoracic Practice sessions at the recent meeting of the Society for Cardiothoracic Surgery, held on 14 March 2007 in Manchester

The meeting was opened by Tara Bartley.
Cheryl Tomlinson, Project Manager, Peri-operative specialists for the National Nurse Practitioner Programme spoke about the Programme. The discussion was opened by Chris Munsch & Steve Livesey who outlined the benefits of the development of alternatives to the medical model of patient care and some of the constraints to expanding these roles.

The discussion initially focussed on the need for a national overview of this fundamental change in the way patients are cared for.
With the background information on the Nurse Practitioner Programme already given by Cheryl Tomlinson it was discussed whether further dissemination of this work should be driven nationally of whether it should be left to local / regional mechanisms. The was a strong, though not unanimous feeling that unless this was driven nationally progress would be much slower than was ideal.
There was a strong feeling that plans for dissemination should already be in place.

The points raised in the discussion fell into four main areas
training issues
background
finance
professional issues

Training Issues

The following issues were raised in this context:

- "Dissolution of NPP is criminal" – this reflected a strong feeling that the valuable work done by the NPP would not be put to best use as much of the learning and momentum would be lost

- "Perhaps a group of trusts could get together to explore things with a local Higher Education Institute and use core curriculum to deliver generic training, with speciality specific stuff delivered at trust level." There was a strong feeling that the role of Higher Education Institutes needs exploring further - this is happening with various trusts linking with local universities to deliver specialist and advanced practitioner modules

- "Each trust is an independent financial institute – leave it to them to work out what to do and how to fund it."

Background

Anxiety was expressed by some participants that these new roles would result in individual's role as a nurse being subsumed by the medical team. However, the over-riding view was that practitioners would carry their nursing ethos and philosophy into these new roles.
It was pointed out that not all practitioners undertaking "new roles\" will have a nursing background.

- "We must not lose underpinning nursing roles"
- "Are you still a nurse?"
- "Not everyone is/was a nurse"
- "Will we get taken over by the medics and be seen as part of the medical team"

Professional Issues

There was considerable discussion concerning the professional status of practitioners undertaking new roles. Concern was expressed about varying roles and standards - in particular how the professional bodies they are currently registered with would regard their new roles and whether liability would rest with the individual or the Trust and to what extent they could still rely on support from their professional body. It is imperative that the Nursing and Midwifery Council formally recognise the registration of Advanced Nurse Practitioner qualifications - this has been under discussion for several years but has not come to fruition as yet. Currently nurses can register their specialist practice qualification. A view was expressed that a national structure would help.

- We need a 'Modernising Nursing Careers'
- Liability and accountability issues
- Who is going to assess the competences and provide the regulation
- Do we want to create a new 'profession' or raise the standards for all nurses
- Where is the career progression in this.
- These posts must become permanent.
- What about infra structure – secretarial support offices etc
- Is a Masters level programme of study necessary?

Finance

The problem of recruiting, training and backfilling practitioners who would like to train to undertake the new roles was discussed extensively. There was a strong feeling that in the current financial climate there was insufficient money resting in |trusts to train people in new roles whilst maintaining clinical cover with medical staff. This was seen as a very real problem, which if not addressed centrally will slow the pace of reform considerably.

- "Local support is needed but difficult to convince financial managers"
- "Why can't we divert money from junior doctors salaries to fund programmes"
- "How do we get funding out of the Deans"

There is no mention of banding and the financing of these roles. The NNP suggests that many of these nurses are at Band 7 whilst in training, but there are also many positions being advertised and filled at band 8a - this is reflective of the increased responsibility for patient management and the unsocial hours being worked with the 24/7 cover that is needed. Moreover, there are issues about filling these posts with senior nurses who are already working at band 7. Expansion of their role should involve promotion in line with increased management decision-making and additional practice development.

Appropriate experience and training are vital - promoting Band 5/6 nurses into these roles will allow them to be banded at 7 (which appears to be one line of thinking) however, where does this leave the nurses already working at Band 7? Importantly the role is about clinical analysis and team management planning so requires experienced nurses to be employed, does this equate to most Band 5 nurses?