A Proposal to undertake a Pilot to Improve Training in General Surgery

Introduction

The College's report *Improving Surgical Training* (IST), commissioned by Health Education England in 2015, sets out 26 recommendations with the overall aim of improving surgical training. The purpose of training is for newly-qualified surgeons to be able to meet the needs of the service and the population it supports. We recognise that changes to training should go hand in hand with redesigned services, with both needing change if we are successfully to improve training. The IST report proposes a new approach to training, focused initially on general surgery. This is an area of surgical practice where there are also strong, demonstrable and well-documented arguments for changes to the current service delivery model.

This paper therefore sets out a vision for the future delivery of general surgery that not only addresses some of the perceived problems with service delivery, but that also supports our proposals to improve training. It reflects:

- the principles set out in NHS England's *Five Year Forward View*
- recommendations made by the Association of Surgeons of Great Britain and Ireland (ASGBI), Association of Coloproctology (ACGBI) and the Association of Upper-GI Surgeons (AUGIS) for improvements in the delivery of emergency general surgery
- recommendations from the Nuffield Trust in their recent report on the challenges facing emergency general surgery (EGS), which was commissioned by the College

While this document focuses on general surgery, the proposed changes to surgical training could potentially benefit all other surgical specialties.

Addressing trainees' concerns

The College recognises that surgical trainees have raised some concerns about some of the recommendations outlined in the IST report. We would emphasise that many of the recommended changes are designed to improve the experience of trainees, and the quality and quantity of the training that they receive. We will work closely with trainees throughout the process of developing the pilot training programme. It is worth noting that:

- the pilot will be monitored and evaluated to measure the effectiveness of the changes being made and to ensure that benefits are realised
- the case for change in relation the future delivery of general surgery is well evidenced and has professional support
- as part of the pilot planning process, the College, in concert with JCST, will work with HEE to ensure appropriate protection is in place for the pilot cohort of trainees so they are not disadvantaged in any way

A pilot to improve surgical training

Working with HEE, the College in collaboration with the Joint Committee on Surgical Training (JCST) proposes a pilot surgical training programme in General surgery that implements the changes recommended in the IST report. The aim is to equip a CCT-holder with the skills to lead a service that has been reconfigured as we describe below. This will

ultimately improve outcomes for patients by improving the quality of the service and reducing unacceptable levels of variability.

The proposals have been put together based on the following principles:

- an improvement in the quality of trainers, the support that they receive and the time that is allocated to deliver high quality training
- a reduction in the excessive commitment to the service that trainees currently provide
- the need to train and develop a non-medical workforce who in turn will support and, for some activities, replace trainees including undertaking administrative work
- progression through training will be competence based, as currently, with both workplace and simulation assessments including defined activities (Enhanced Professional Activities) and a robust approach to appraisal and assessment
- a need to revise curriculum content to reflect the proposals set out in the IST report

As mentioned above, the success of any pilot is predicated on an appetite for change within the service. This will require positive engagement from HEE (national policy team and local offices), employers, trusts, clinical commissioners and NHS England. The focus at this point is on improving surgical training, with the potential to make it more efficient, and thereby shorter and reduced in cost. However, this improvement must be made in the context of an improved service model (as outlined here). Otherwise, the outcomes of the training will likely be incompatible with the requirements of the service.

General Surgery

The proposed pilot training programme will be in General Surgery. The expectation is for CCT-holders to be able to deal with around 90 per cent of patients with intra-abdominal problems, accepting that a small number of cases will require more specialist care. A large component of emergency work is patient management, decision making and communication which these individuals will be trained to deliver, better than we or current trainees were previously. This approach would be enabled through emergency managed clinical networks. Graduates of the pilot will be expected to provide a contribution to the redesigned emergency service as well as to the management of elective cases where managed clinical networks are already well developed. The cancer networks are perhaps the best example of this.

The focus on EGS should not hide the fact that the trainees taking part in the pilot will undertake both elective and emergency general surgery. The product of the pilot will also have begun to develop a special interest within elective general surgery . Changes in some of the areas of special interest in general surgery have resulted in the majority of emergency activity being within the realms of upper and lower gastrointestinal surgery.

Emergency General Surgery: Challenges

Research into, and discussion of, the challenges of delivering EGS is extensive. It can be summarised as follows:

1. An ageing population means increasing demand for common EGS procedures, and increased likelihood of patients having multiple comorbidities (further impacting outcomes).
2. Unacceptable levels of variation in outcomes and patient experience between hospitals for different EGS procedures.
3. An increased focus on special interests has sometimes led to a reduction in experience in the breadth of general surgical conditions. Surgical specialism is a significant part of the professional identity. While this specialisation enables increasingly complex and innovative surgery, it may come at the cost of being unable to staff an on-call rota for emergency general surgical care. (The challenge for this pilot is to produce surgeons who are specialists in emergency general surgery as well as being specialists within an elective managed clinical network).
4. There has been an inappropriate perception that a general surgeon with a special interest is less specialist than one whose practice is in an area of complex low volume surgery
5. A service that is dependent on trainees often to the detriment of their training.
6. Gaps in rotas due to staff shortages, compounded by the European Working Time Directive and the consequential introduction of shift working.
7. Lack of multi-professional working due to resource limitations and the increasing fragmentation of services.
8. Tariff that fails to fully compensate trusts for providing EGS services (at least in England). Complex contracting and payment mechanisms which compound the problem.
9. Decreasing numbers of hospital beds, with competing priorities between elective and emergency surgery.
10. The political sensitivity around service reconfiguration (particularly in centralising services and closing local hospitals) resulting in protracted debates around change often based on ideology rather than evidence.
11. There is a mistaken belief that a ‘one size fits all’ solution is possible and that the best way forward for a large teaching hospital will be the same as the one for an isolated rural one.

Emergency General Surgery: Vision

At the heart of the challenges facing EGS are four inter-related issues:

1. The desire to improve the quality of care and reduce the current variation in outcomes for patients undergoing EGS
2. The tension between increasing pressures to centralise EGS services while political and demographic pressures argue for sustaining local access.
3. The tension between progressive specialisation and its undisputed benefits for patients, and the need for integrated, holistic, acute care for an increasing number of older patients with multiple co-morbidities.
4. The need to develop a training scheme that produces trained surgeons fit to deliver emergency care in the NHS in an efficient and effective manner

The Nuffield report proposes four interventions which we believe will resolve many of the challenges faced. These are:

1. New training models that support new ways of working
2. The introduction of managed clinical networks

3. The increased use of protocols and pathways
4. The development of a non-medical workforce to support the emergency service

We believe that any pilot training programme in general surgery would contribute to, and would be enhanced by such service changes. A summary of each of these proposals follows.

It is worth emphasising that the service ideally needs to develop in parallel with the changes that we are proposing to the training system.

New training models

The College's report to HEE *Improving Surgical Training* was commissioned in response to the *Shape of Training Review.* The report analyses whether the principles set out in the review could be applied to surgical training in order to improve the experience of our trainees and support future service delivery models.

Our aim is to create a surgical training system that produces competent, confident, self-motivated professionals who are able to provide the highest quality of care to patients in the NHS. We aim to do this by:

- providing them with an appropriate balance between service delivery and training
- professionalising their trainers
- developing curricula that define professional activities emphasising knowledge, clinical and technical skills embedded with professional capabilities and focussing on acquisition of competences learned in the workplace including integrated simulation
- ensuring the newly-qualified surgeon meets current and future patient needs

The last bullet point above requires emphasis. Any training programme we develop must deliver the surgeons that the service requires to meet patient needs.

The current service delivery model for general surgery has significant challenges. To address those challenges, particularly around the variation in emergency outcomes, we have applied the principles in the IST report to the pilot training model for general surgery. The details of the pilot curriculum are outlined in Appendix A of the IST report.

The model we propose is a run-through programme of training where competency based progression determines the duration of training of an individual, within pre-defined limits. Effectively this means identifying individuals early, ensuring directed progress through appropriate training, using effective tools to determine progress and not wasting time in non-productive roles.

On completion, newly-qualified surgeons will have the necessary competencies to take up a post as a senior decision-maker delivering the acute service in either the hub or the spoke of a managed clinical network. Trainees are likely to complete training having developed an interest in either upper gastrointestinal (UGI) or lower gastrointestinal surgery (LGI); where network arrangements include separation of UGI and LGI services, CCT surgeons from the pilot will be able to choose to develop their practice accordingly.

We propose that consultants with sub-specialist skills required by hubs will be developed via post-CCT fellowships (with appropriate quality assurance) linked to workforce needs. Such fellowships may take place before or during the early years of a surgeon's first consultant job. This allows flexibility in career planning for surgeons, acknowledging that a surgeon's

practice will change over the course of their career. It also allows flexibility in workforce planning for the NHS.

The detailed business case that accompanies this document sets out the work required up to the delivery of a pilot with trainees starting in post in August 2018, following recruitment in 2017.

Managed Clinical Networks

The introduction of major trauma and stroke networks has been a huge success story that has saved and improved the lives of countless patients. Within elective surgery there has also been a move towards the rationalisation and centralisation of less common/rare cancer care in order to concentrate expertise and improve outcomes. We should now consider an extension of this approach to encompass the whole of general surgery.

A managed clinical network would ensure that there is clarity and transparency about what services different facilities can offer. We could direct patients to the most appropriate service for their condition, based on a clear set of locally agreed protocols and pathways.

The managed clinical network would require hub and spoke models encompassing multiple provider organisations, with the active participation of commissioners. Higher volumes of more complex procedures are carried out at the hubs, while widespread access to more routine services including emergencies is maintained via the spokes, as long as there is sufficient volume.

Managed clinical networks will vary in their configuration and in the way that they deliver services. The main drivers will be geography and volume as well as the availability of other medical, clinical and diagnostic services.

We would see this model potentially including consultant-led “front door” assessment and parallel hot clinic with same day access to diagnostic services (radiology and endoscopy) being available at all units that provide acute services (as defined in the ASGBI model). These would be supported by a flexible workforce including:

- a greater proportion of non-medically qualified staff
- greater consultant involvement
- direct access to consultants for GPs and paramedics
- differentiation between hub and spokes, dependent upon the range of services provided and agreed locally

Consolidating some procedures at “hub” units through a network might lessen the need for certain staff groups to be present at some locations. This can generate more efficient ways to achieve 24/7 cover for different roles and consolidate sub-specialty skills in fewer consultants, based on local needs. Through this arrangement, consolidation of some sub-specialty areas of general surgery at hubs will increase the number of procedures relevant surgeons undertake in individual fields, reducing concerns over low volumes.

The new training programme will deliver CCT-holders who are able to manage the unselected emergency take and deal with 90% of all cases, as well as undertake an elective special interest practice, within a spoke. The small number of patients who require more specialist surgery would be transferred to the appropriate hub. On occasion, attendance of a specialist from another hospital may be required.

Trainees may be based anywhere within the network where there is evidence of high quality training and the appropriate training experience (ie clinical material they need exposure to and good trainers)and would rotate through the hub and spokes in order to gain competence across the full range of the curriculum.

Protocols and Pathways

Protocols and pathways have enormous potential to improve outcomes and address a number of the challenges facing EGS. There is robust evidence that, when used effectively, such tools can bring significant benefit. For example, the 'sepsis six' care bundle has been shown to reduce overall mortality from sepsis from 44% to 20%[1] (Daniels 2011).

Despite this, we need to recognise that the application of best practice can be variable and may be lacking. For example, the importance of administering broad-spectrum antibiotics within one hour in cases of suspected sepsis is a well-known standard[2]. However, The National Emergency Laparotomy Audit (NELA) in 2015[3] found that almost half of patients who were assessed as having peritonitis and requiring surgery within six hours had yet to receive the first dose of antibiotics 3.5 hours after admission.

Protocols and pathways may also refer to tools designed to improve the organisation of care and patient flow through the hospital system. Examples include surgical ambulatory care pathways, improved triage and referral pathways and ways of optimising theatre usage. Indeed, in their recent joint document, ASGBI, ACGBI and AUGIS have called for every EGS service to establish "some form of senior surgeon-led front door assessment and parallel hot clinic service" in order to reduce admissions and improve patient flow.[4] The ambulatory care models provide good, evidence-based examples of how hospitals can effectively achieve this.

The combination of managed clinical networks, supported by national/local protocols and pathways, with a senior decision-maker at the front door will directly address a number of the challenges facing EGS and could quickly allow trusts to comply with national standards in both the delivery and organisation of care.

The development of a non-medical workforce

The IST report makes the case for radically re-thinking the surgical workforce and the roles within it. This includes an expansion in the roles of non-medically qualified healthcare professionals, with appropriate clinical support to maintain quality, safety and efficiency. The success of any pilot training programme is absolutely dependent upon the expansion of this workforce, their training, and their willingness and capability to work with surgical trainees.

The College is working with HEE on a separate, but related project to understand the current and potential roles that different members of the surgical team may undertake. This reported in April 2016.

Non-medically qualified practitioners are already employed across the country to free up junior doctors to maximise their training opportunities. In doing so, they have provided continuity of care and become a highly skilled, stable workforce. We have listed examples of the roles that the extended surgical team might undertake within the *Improving Surgical*

[1] http://www.ncbi.nlm.nih.gov/pubmed/21398303
[2] http://www.rcseng.ac.uk/publications/docs/higher-risk-surgical-patient/@@download/pdffile/higher_risk_surgical_patient_2011_web.pdf
[3] http://www.nela.org.uk/
[4] http://asgbi.org.uk/download.cfm?docid=9C028BBD-259C-4483-B33AF3F5F51EE1B2

Training report. While it is relatively easy to see how the non-medical workforce might support surgeons in the early years of training (e.g. first two years following Foundation Training), we recognise that more complex tasks relating to patient management will continue to require senior trainee and consultant input.

- Day-to-day activities might include the assessment of undifferentiated or deteriorating patients via history and examination instituting investigations with appropriate consultation on treatment and progress review with surgeon colleagues.
- Staff in these new roles may also be responsible for performing practical procedures and minor surgery, as well as communicating with the patient, their relatives and other health professionals.

The most common background of such clinicians is nursing, and the Advanced Nurse Practitioner (ANP) or Surgical Care Practitioner (SCP) roles are the most widely known. Whilst ANPs and SCPs typically have nursing experience, Physician's Associates (PAs) typically have a background in undergraduate science followed by a two-year clinical qualification, and other staff such as paramedics or pharmacists, working as advanced clinical practitioners following bespoke training, come from a wide range of backgrounds. By broadening the background of those who may undertake advanced clinical practitioner roles we may avoid the depletion of the nursing workforce, which is often felt to be a concern regarding the development and expansion of such roles.

Another under-developed area is administrative support. There is increasing evidence that junior surgical trainees are spending excessive amounts of time undertaking administrative tasks that contribute little to their training or education. We need to improve this problem, thereby freeing up doctors to provide care and to receive training.

The College believes that there is a broad consensus within surgery that new roles are going to be a crucial part of the future of the surgical workforce. We are keen to explore the potential for extending the scope of roles for non-medically qualified staff in the acute setting, under the appropriate supervision of the senior decision-maker, in order to support service delivery particularly within a managed clinical network model of care.

While the exact composition of the surgical team will be determined locally as circumstances will differ, we envisage that in the future the emergency general surgery team will be led by senior decision-makers who are supported by a team:

- appropriately trained non-medically qualified staff;
- trainees rotating out of surgical hubs; and
- other middle grade staff such as SAS doctors (who may be able to support more senior trainees)

Trainee rotas should be structured to ensure adequate time for elective training, with ideally at least ten individuals on the rota (there is evidence that more persons than this might be required).

Conclusion

This paper proposes a pilot training programme in General Surgery. We recognise that changes to training should go hand in hand with redesigned services, with both needing change if we are successfully improve training. We have outlined our vision for the future delivery of general surgical services. Many of the principles we have put forward would have resonance across urgent and emergency care.

If this vision is shared, and if the appetite exists for change within the service, we can facilitate changes to the training programme through a managed and properly evaluated pilot. Alongside improvements to training, NHS England, clinical commissioners and providers will need to commit to service changes to the service, while HEE will need to facilitate the expansion of the non-medical workforce, and Trusts will need to employ them.

These changes to service and training must be synchronised. Our proposals mean that it will take several years to deliver a cohort of appropriately trained CCT-holders. Whilst this suggests that a reorganised service may not need to be in place for some time, there is no time to waste in making the improvements we have recommended. Similarly, we will continue to work with HEE on the development of the non-medical workforce as these roles will be key in supporting the pilots commencing in 2018 and the improved model of training for the future.

We are very aware of the risk of delivering a product of training that the service does not want and cannot accommodate. We owe the pilot cohort of trainees a duty of care and we need to be able to provide reassurance that the programme of training we envisage will support them in their career aspirations and will equip them to successfully fulfil consultant-level posts.

There is a chequered history of using changes to training to leverage changes to service. We believe that history has taught us that the transformation of the service and the transformation of the workforce must go hand-in-hand. There must be agreement to the changes and the part to be played by each stakeholder if we are to achieve our shared goals.