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Education

EDUCATION

The future United Kingdom anaesthetic workforce: training, education, and role boundaries for anaesthetists and others

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Abstract

Anaesthesia is the largest hospital-based specialty in the UK, and the activities of the anaesthesia workforce underpin the care of all patients in the hospital sector. Changes in the way care will be delivered in the future will impact on the workforce as a consequence of patient requirements and funding issues. This article considers these and other factors in the context of the current and future workforce.

Key words: anaesthesia; education, medical; morale

The Royal College of Anaesthetists (RCoA) celebrates 25 yr as a Royal College this year. Amongst the College's many achievements during the past 25 yr has been its support to all working anaesthetists through the education programmes, both in developing the future workforce and in supporting the current one.

Anaesthesia is the largest hospital-based specialty, and its workforce interacts with and underpins the care of all patients in the hospital sector. It is impossible to comment on anaesthesia in the UK without considering the wider picture and the possible impact of current policy and politics on the future workforce. However, the potential impact of the UK leaving the European Union is not included in my considerations. The President of the RCoA recently gave his views on the implications of this decision.[1]

The wider issues

There is a global shortage of health-care staff,[2] and it is estimated that by 2022 there will be a workforce shortage of 22–29%.[2] Compared with other Organisation for Economic Co-operation and Development (OECD) countries, the UK has fewer beds and fewer doctors, spending ~9.8% of our Gross Domestic Product (GDP) on health care and achieving an average life expectancy of 81 yr. In comparison, the USA spends about 17% of its GDP on health care and achieves an average life expectancy of 78 yr. At a time of increasing demand, there is a significant restriction on finances, and the most recent UK Government Comprehensive Spending Review imposes yet more austerity with, for example, Health Education England (HEE) expected to make cuts of up to 30%. Health Education England, in collaboration with the equivalent organizations in Wales, Scotland, and Northern Ireland, is responsible for commissioning training places for anaesthesia from provider organizations and agreeing the total number of places available for training. As a consequence of this and other pressures, as a profession there is a requirement to be open to innovation and change. Anaesthetists generally are good at this and have driven many important changes throughout the last 30 yr, such as the National Confidential Enquiries, in collaboration with others.

The delivery of health care in the UK is a devolved function, which means that England, Scotland, Northern Ireland, and Wales have all evolved different models of contracting for services. But

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all four nations are required to meet the standards set out by the General Medical Council (GMC), including the curriculum and assessment methodologies designed by the RCoA and approved by the GMC for all four nations. This means that doctors who are trained in one part of the country are free to move and work in every part of the UK. Of the 601 training places available for entry into anaesthesia at Core trainee 1 level (CT1) in August 2017, 80% of places were in England, with Scotland having 65 funded placements, Wales 36, and Northern Ireland 18.

England-only issues

Sustainability and Transformation Partnerships (STPs) initiated by the Chief Executive of the National Health Service (NHS), Simon Stevens, in 2016 represent a huge unknown in the future for the NHS and Social Care in England. They were given the triple aim of delivering improved health, improved care, and saving money.[3] They require health and social services to be planned as an integrated process with shared budgets. Inevitably, finance has dominated the agenda, and the recently published plans have also been criticized for a lack of consultation.[3] Many require infrastructure investment to facilitate new ways of working. Very little has been written about the requirement to invest in developing staff. A National Audit Office report published in 2016 estimated that there was already a 6% vacancy rate across the NHS in England[4] and recommended that all key health policies and guidance should explicitly consider the workforce implications. They also commented that Trusts' workforce plans 'appear to be influenced as much by meeting efficiency targets as by staffing needs'. A House of Lords report published in April 2017 described workforce problems as the biggest internal threat to the NHS.[5]

Scotland, Wales, and Northern Ireland do not have formal initiatives called STPs but are financially challenged to a similar extent. They are working collaboratively to address the same issues.

Industrial action

In June 2016 trainees were invited to vote on the proposed new national contract that had been agreed between the British Medical Association (BMA) leadership and NHS Employers. On July 6, 2016 the Secretary of State for Health told the House of Commons that the new contract would be introduced in England, despite the lack of agreement from the majority of trainees balloted.[6] This decision resulted in strike action by trainees, and there are still issues to be resolved.[7] Although pay is clearly part of the problem, there is much unhappiness about many other aspects of their working life that are affecting well-being and morale. Anaesthesia has traditionally been popular with trainees, delivering a well-organized and generally well-supported training programme, but recruitment has been affected in some areas. Recently published data for 2017 recruitment into the first year of anaesthesia training (CT1) shows an overall fill rate for UK of 98% compared with 99% for 2016, with some regional variation (Table 1) (Choudhury A. RCoA Workforce Planning and Recruitment Co-ordinator, personal communication, 2017). Anaesthesia training in the UK requires a further competitive application to enter higher training, termed Specialty Training 3 (ST3). Data show an overall fill rate of 86% for 2017, compared with 89% for 2016, with very marked regional variation (Table 2) (Choudhury A. RCoA Workforce Planning and Recruitment Co-ordinator, personal communication, 2017).

Trainees and the role of the Guardian

Anaesthetic trainees in England will move to the new contract during 2017, and there will be opportunities with the introduction of the new arrangements, including additional responsibilities for the Educational Supervisor, introduction of work schedules, and the new role of the Guardian of Safe Working.[8] The Guardian of Safe Working role was created as part of these new contract arrangements, and each hospital is required to appoint a senior clinician to this role, with responsibility for overseeing working time for trainees and ensuring problems that are reported as 'exceptions' are resolved. This new requirement for exception reporting both with regard to missed education (reported to the Director of Medical Education) and unsafe hours worked (reported to the Guardian) should help to make much more explicit the gap between what can safely be achieved with the current workforce and what is actually required to deliver high-quality training and clinical care. Trainees in Wales, Northern Ireland, and Scotland will remain on the existing contract.

Table 1 Core trainee year 1 fill rates, regional. HEE, Health Education England. Choudhury A, personal communication (Choudhury A. RCoA Workforce Planning and Recruitment Co-ordinator, personal communication, 2017)

Region	Places	Accepted	Held	Declined	Expired	Fill rate (%)
HEE, East Midlands	30	30	0	9	3	100.00
HHE, East of England	40	39	0	7	4	97.50
HEE, Kent, Surrey and Sussex	47	47	0	6	3	100.00
HEE, North East	27	27	0	1	0	100.00
HEE, North West	66	66	0	5	0	100.00
HEE, South West	52	52	0	12	3	100.00
HEE, Thames Valley	13	13	0	3	0	100.00
HEE, Wessex	15	15	0	0	1	100.00
HEE, West Midlands	48	41	0	14	12	85.42
HEE, Yorkshire and the Humber	48	46	0	14	5	95.83
London Recruitment	96	96	0	6	2	100.00
Northern Ireland	18	18	0	2	0	100.00
Scotland	65	65	0	6	2	100.00
Wales	36	35	0	3	10	97.22
Total	601	590	0	88	45	98.17

Table 2 Specialty Trainee year 3 fill rates, regional. HEE, Health Education England. Choudhury A, personal communication (Choudhury A. RCoA Workforce Planning and Recruitment Co-ordinator, personal communication, 2017)

Region	Places	Accepted	Held	Declined	Expired	Fill rate (%)
HEE, East Midlands	26	18	0	1	0	69.23
HHE, East of England	16	16	0	1	0	100.00
HEE, Kent, Surrey and Sussex	22	22	0	1	0	100.00
HEE, North East	24	16	0	1	0	66.67
HEE, North West	40	39	0	2	1	97.50
HEE, South West	17	17	0	1	0	100.00
HEE, Thames Valley	11	11	0	2	0	100.00
HEE, Wessex	6	6	0	1	0	100.00
HEE, West Midlands	30	20	0	3	1	66.67
HEE, Yorkshire and the Humber	44	22	0	1	0	50.00
London Recruitment	79	79	0	8	0	100.00
Northern Ireland	19	18	0	1	0	94.74
Scotland	47	42	0	6	0	89.36
Wales	17	17	0	2	0	100.00
Total	398	343	0	31	2	86.18

Morale

One of the biggest issues to arise from the contract dispute relates not to pay, but to morale, with trainees highlighting the lack of compassion and core human values. This was described in a recent article in *The Lancet*, 'Physicians, disillusioned by the productivity orientation of administrators and absence of affirmation for the values of relationships that sustain their sense of purpose, need enlightened leaders who recognise that medicine is a human endeavour and not an assembly line.'[9] The current system is 'dehumanising to those who work within it'.[10]

Mind the gaps

All this is on the background of the decreasing popularity of medicine as a career option. Applications to medical school are decreasing. Data published by University Careers and Admissions Service for the UK (UCAS) shows a reduction in applications in 2015 by 9% compared with 2013.[11] Applications to medicine and dentistry have reduced a further 4% since 2016.[12] In August 2017, Foundation Year 1, the first UK postgraduate year of training, is short of >100 new doctors to fill posts. Approximately half of Foundation Year 2 doctors do not progress directly into specialty training. As mentioned, there is further attrition between core and higher training added to stress and burnout amongst career grade staff. Many hospitals have rota gaps at every level.[13] Perverse tax and pension penalties incentivise older doctors to retire early, and the previous 'norm', which was that the longer and harder consultants work the better rewarded they would be in retirement, is no longer true.[14] In addition, many doctors do not complete training in the 7 yr used in workforce planning data, and the recent dispute may affect choices of specialty or decisions to defer training.[15] These factors combine to suggest that current workforce predictions for the UK may be inaccurate.

Rota gaps have a significant impact on the ability not only to deliver high-quality care, but also to provide a good learning environment. There is also a growing cohort of doctors in non-training posts with a variety of levels of training and experience who are helping to deliver our services. Many have complex training needs and require support delivered from within the employing organization to develop further.

Retention of the current workforce needs to be addressed with a greater sense of urgency as it can no longer be assumed there will be a constant stream of doctors filling the gaps. Trainee morale remains of great concern and, although trainees in anaesthesia have generally indicated a higher level of satisfaction than those in many other hospital programmes, there is still a great deal of unhappiness about current arrangements and the perceived lack of control they have over their own lives.[16] Rotations through different hospitals and departments, lack of engagement by local trainers, and lack of opportunities to feel part of the local team all contribute to a loss of the sense of belonging and feeling valued. In other specialties, this has been ascribed to the loss of the firm system, but in anaesthesia it may be the lack of other opportunities, such as the demise of weekly meetings, morbidity–mortality reviews, clinical audit, and local teaching sessions. All offer opportunity for departments to come together. Health Education England has published some work about trainee morale, highlighting activities that are highly valued by trainees, many of which would seem like basic requirements for any post.[17]

What sort of workforce do we need for the future?

Simon Stevens (Chief Executive of the NHS in England) has identified the need to plan for the Health Service required 10–20 yr in the future.[18] Perhaps, rather than focusing on the detail of training programmes and curricula, it would be useful to consider how to grow and support professional staff who are resilient, flexible, and supported to continue learning actively throughout their careers with the appropriate supporting infrastructure. This was the theme of the recommendations from the Shape of Training Review,[19] and this year the GMC has published key papers setting out how this aim might be supported within the legislative framework. This will include the requirement for all curricula to include the Generic Professional Capabilities Framework,[20] reflecting data that show that one-third of the complaints about doctors relate to clinical knowledge and skills and two-thirds relate to professional values and behaviour. These recommendations apply to all four nations in the UK.

The GMC has recently (2017) published a report addressing flexibility in postgraduate training, again with the aim of moving towards a more easily adaptable system, with recognition of core skills and competencies that are transferable between specialties.[21] The report responds to concerns from trainees, trainers, employers, and patients that the current structures and processes in training have created barriers for trainees who may wish to change their choice of specialty, and that the same structures limit the ability of the system to respond to the changing needs of the service and population needs. The GMC sets out an ambitious timetable of 3 yr to make the changes required to improve flexibility. Patients with increasingly complex co-morbidities and frailty need doctors who retain their generalist skills in addition to specialist ones, and a supportive employer who recognizes the importance of ongoing learning.

Lifelong learning

In relationship to education and training, the focus is often on formal undergraduate and postgraduate teaching. However, the majority of learning will take place during the 30+yr in a career grade post as an employee. For this there is no nationally approved curriculum, but, instead, a nationally approved process in the UK to demonstrate ongoing learning and development via annual appraisal and 5-yearly revalidation from the GMC. Encouraging and supporting the drive and initiative of the current workforce is essential in order to meet the challenges of the future. The Pearson review of Appraisal and Revalidation identified key areas for improvement, and its recommendations have been accepted by the GMC.[22] Some issues will be GMC led; others require input from employers. A key area for employers is that of generating useful information to support appraisal. Many Trusts do not as yet provide much useful information, and doctors do much work themselves to achieve appraisal, both via national mechanisms and by individual collection of data. The report recommended that much more should be done to reduce the burden on individuals, which would be a welcome development, but seems unlikely to be a priority in the current era of austerity. A key issue for professionals to address will be the better use of reflection to support ongoing learning. Reflection is regarded as a key component of professional behaviour and integral to appraisal, but the quality of reflection is hugely variable.

The related initiative of credentialing offers the opportunity for career grade staff to train and develop in recognized skills and may be piloted soon. Health Education England is already funding non-doctors' training in skills such as endoscopy and ultrasound, where there are national shortages. These learners are following short, intense courses. Flexibility is also required throughout the lifetime of working for career grade staff, and there is a need to recognize that younger colleagues do not all aspire to the (sometimes unpaid) 50 h week that is still common. There is a very strong desire to see their working life reflecting a better work–life balance, which in no way diminishes their skills, enthusiasm, and motivation to deliver high-quality care. Indeed, their motivation may be better retained when there is overall a more reasonable and flexible approach to what a career grade post might look like, and how that might flex and change to reflect different phases of life, from young children to ageing parents, and including a recognition that a 60-yr-old will not have the stamina of a 40-yr-old. Employers who are already anxious about the impact of offering greater flexibility to trainees will no doubt find offering greater flexibility to career grade staff challenging.

In enhancing the experience of the workforce, there is a need to recognize that the delivery of health care is fundamentally an interaction between one human being and another and to support those characteristics that define it. These are the very values that are used to recruit to medical school. This is in danger of being lost, but it is these values and relationships that sustain a sense of purpose and motivation.[23]

Barriers

The organization of the NHS for both clinical care and education is very complex, and as a large organization, difficult to change.[24] In addition, the requirement for competition rather than collaboration is a barrier in England, although there seems to be an intention to ignore this in the way STPs are focusing on a shared approach to problem solving. Wales, Scotland, and Northern Ireland do not have a legal requirement for competition. However, funding flows for both clinical care and education are also complex, and historically, some parts of them have not reflected activity. This can cause problems in changing the way things are done and where students and trainees are placed to learn.

There is significant fatigue concerning change and new initiatives. The Kings Fund identifies continuity of leadership and organizational stability as two of five key characteristics of high-performing NHS organizations.[25] Sadly, these are sometimes lacking, and it is difficult for many to work up enthusiasm for any new initiative. Yet at local hospital level there is often committed clinical leadership and opportunities to make small changes that make a difference.

What can we do to develop the future workforce?

A key threat to the future anaesthetic workforce is the loss of doctors from the system at all levels. This problem is not unique to medicine or anaesthesia, and recent publications predict big gaps in other staff groups. The recent report from the House of Lords makes for sobering reading.[5] No country can afford to continue to train and then lose so many talented people.

On a macro scale, it is currently impossible to predict the politics or how much or little money future governments will put into health care.[26] However, the focus will be on much better integration of care, focused on patient pathways that recognize the complexity of each patient.[27] What can be done both individually and collectively as professionals to support and develop the future anaesthetic workforce?

Anaesthetic strengths

Anaesthesia has many strengths, in particular the highly structured approach to training, with one-to-one teaching and supervision, and still attracts young doctors of very high calibre. The specialty has retained a broad perspective, and in particular, a whole-patient approach to clinical care, which will be essential to care for an ageing population with multiple co-morbidities. There is a strong track record in team working and a multiprofessional approach, with many areas, such as acute pain and high-dependency units, already working with advanced nurse practitioners, physician associates, and across-specialty boundaries. This needs to develop further and is already identified as a future area of development with the College initiative of perioperative care.[28]

Anaesthesia in the UK has a model of sessional-based care that lends itself to flexibility and a non-hierarchical approach to work and working with others. As a specialty, it is well placed to meet the challenges of the future. More can be done to meet the needs of patients and ensure that the voice of the patients is a central part of this process. This is a particularly important aspect of working towards a more integrated patient pathway. But enhancing the experience of all staff is essential.

Suggestions for improvement

The GMC has evidence that appropriate professional values and behaviour are extremely important to patients.[20] On the front line, the impact of role models is often neglected. However, each of us can play a role in supporting the development of appropriate values and behaviour, demonstrating them by means of our own behaviour on a daily basis. It is, in fact, a very powerful learning tool. And it costs nothing.

Senior staff can take a personal interest in the trainees. As a specialty, in the wonderful position of having planned one-to-one contact, that interaction can be conducted in a positive and supportive manner. Younger colleagues may aspire to work in a slightly different manner, reflecting generational differences, but they are no less committed to delivering excellent health care. It is important to recognize and make explicit the 'tension between the kind of thinking and feeling elicited by focussing on how to promote kind, person centred care on one hand, and by standardisation, regulation and performance management on the other'.[23]

Doing the basics well is vital. The HEE document recently published on trainee morale talks about the importance of a named consultant, weekly designated contact, regular feedback on performance, contact details for emergencies, protected time for learning, team working, rota management with clinical input, and ensuring trainees feel valued by the employer.[17] Much of this is about the current roles of senior staff both in providing *ad hoc* clinical supervision, and in the GMC-recognized roles of named Clinical and Educational Supervisor. Their activities should be core to the working of a good department, such as providing good induction, rotas appropriate for learning needs, weekly meetings, and in-house teaching.

On a departmental level, more support is required for College Tutors in ensuring that the value of training is not lost, but enshrined as a core requirement of safe patient care. Departments struggle sometimes to recruit senior staff to undertake these roles as they are not perceived to be of great value by some colleagues. They are often poorly valued in the job-planning process in comparison with clinical activity.

The introduction of work schedules and the new role of Guardian of Safe Working represent an opportunity for the specialty to identify and articulate clearly what trainees are expected to do and achieve and to address the barriers to doing this in each training environment. This may mean looking again at current working arrangements and reviewing whether they are really effective in delivering the twin aims of service delivery and learning. This is an opportunity to look again at the rota and how it impacts on trainees. Many trainees describe with despair the effect of poorly designed rotas on their lives.[17] Those that leave to do locum work often cite having some control over their own lives as a key factor in this decision. Trainees can and should be involved in rota design and management.

At an organizational level, the Guardian of Safe Working is required to report quarterly to the Trust Board on the number and types of problems that trainees report. It may be a surprise to know that many Trust boards have not always regularly reviewed the quality of trainee experience despite recommendations that they should. The Report of the Mid Staffordshire NHS Foundation Trust Public Enquiry highlighted the value of seeking the opinion of both medical students and trainees on the clinical care at every hospital, regarding them as valuable 'eyes and ears' who bring a fresh perspective, having moved around to different institutions as part of their training.[29] They are also the future workforce.

The RCoA is already active in many areas, as the Perioperative Medicine Initiative demonstrates.[27] It is also designing the new e-portfolio to support lifelong learning, with all information from training being retained and accessible to support ongoing education.[30] The College will be working with the GMC to revise the curriculum, focusing more on outcomes and supporting flexible approaches.

Where are the boundaries?

It is very likely that new models of care will be variable, subject to local requirements. Anaesthesia is already progressing with the Perioperative Medicine Initiative[27] that builds on existing work around preoperative care. A recent article discussed the challenges facing health-care professionals and the need to understand workforce requirements in 'terms of capacity, capability and collaboration'.[31]

The sessional nature of the work of the anaesthetist facilitates involvement in such activities, but it must be valued equally to that of doing an operating list. For example, contrast 5 h pay as a 1.25 Programmed Activity (PA) for doing an operating theatre list, with 4 h pay or 1 PA to do, say, a preoperative clinic.

Anaesthetists retain a broad skill base and are in a position to offer help to other areas. Over Christmas 2016, when elective lists were cancelled, anaesthetists were asked to help in other areas of the hospital. Although in no way suggesting that this should be occurring regularly, better preparation to do this, perhaps by agreeing in advance how and what help can be provided and who can supervise, is possible.[32] Guidance is available from HEE and RCoA, and such a plan would complement the already mandatory Major Incident plan in every hospital.

There are other areas where anaesthetists can flex and stretch their roles, depending on capability and collaboration with others, but much depends on capacity. There is very likely again to be local variability tailored to local needs, and the role of the RCoA is to ensure that the outcome of the training programme remains an anaesthetist with broad-based clinical skills and experience plus strong generic skills for lifelong learning.

Developing other roles

Key to supporting doctors, given that there is likely to be a shortage in every specialty plus shortages in other clinical professions, will be the need to have an open mind about the development of new roles. There is still anxiety that these represent a threat to the role of the doctor. Given that there is a prediction by 2022 that there will be a 22–29% shortage of health-care staff globally,[2] more of every type of staff would be desirable. But both money and training capacity will inevitably limit numbers.

Anaesthesia can continue to play a role in training, supporting, and advocating the value of other staff as part of a

multiprofessional team. Anaesthetists already work with, train, and learn from a range of professionals, including nurses, midwives, advanced nurse practitioners, operating department practitioners, physiotherapists, and others.

Sometimes the public are confused about this plethora of others, and it is important to ensure that patients are educated and informed about these roles and their value.

Physician associates

The physician associate (PA) role is relatively uncommon at present. There has been training in the UK for some years but at relatively low numbers. Health Education England has expanded places, so 2018 will see a number of new PAs start to graduate around England and Wales, with less interest currently in Scotland and Northern Ireland. The RCoA has been involved with this initiative for some time. Colleagues who work with anaesthetic PAs describe their work as excellent (Michael S, Personal communication, 2017). The majority of the new graduates in 2018 will be a generic product, having followed a national curriculum with a national examination. These are all science graduates, often with a master's degree, and are following an intensive 2 yr course on a medical model. Some are closely integrated with the local medical school; others are running alongside the training of other health-care professionals. The intention is to draw into the health-care workforce a new group of graduates who would not have considered a career in the NHS and not deplete the ranks of other professions, particularly nursing. There is no intention to achieve independent practice, unlike in medicine. In fact, there is an absolute requirement to work closely with a named doctor. Those who graduate will be a generic practitioner, and what they do and how they develop will be the responsibility of the employer. Many of the first cohorts are likely to go into general practice, but there are also opportunities in hospital medicine. Anaesthetists are likely to meet PAs on the wards, in emergency departments, and in medical admissions units. Roles vary and are very team and location specific, but they provide an additional resource that needs to be nurtured. Currently, PAs are unable to prescribe or order ionizing radiation because they are not a regulated professional group. However, there is an intention to address this issue. Meanwhile, all are part of a national voluntary registration scheme.

Conclusions

No one can be sure what the health service will look like 20 yr in the future. There will remain a requirement for a robust, resilient, and flexible adult learner. All anaesthetists need to make a contribution to recruiting, nurturing, training, and retaining clinical staff to deliver health care. Who knows when you will need them?

Declaration of interest

A.E.C. is a consultant anaesthetist and has been involved in teaching and training for 25 yr as a clinical supervisor, educational supervisor, college tutor for the Royal College of Anaesthetists, Director of Medical Education, and currently, as Associate Medical Director for Appraisal and Revalidation. A.E.C. has also been a member of a number of regional and national educational training committees, including the Royal College of Anaesthetists, the National Association of Clinical Tutors UK (NACTUK), and The Society for Education in Anaesthesia UK (SEAUK).

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