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Complete List of Authors:	Harries, Rhiannon; Association of Surgeons in Training, Rashid, Mustafa; The British Orthopaedic Trainee's Association Smitham, Peter ; The British Orthopaedic Trainee's Association Vesey, Alex; Royal College of Physicians and Surgeons in Glasgow Trainee's Committee McGregor, Richard ; Royal College of Surgeons in Edinburgh Training Committee Scheeres, Karl; Psychiatric Trainees' Committee Bailey, Jon; Emergency Medicine Training Association Sohaib, Syed; British Junior Cardiologists Association Prior, Matthew; Royal College of Obstetricians and Gynaecologists Trainees' Committee Frost, Jonathan; Royal College of Obstetricians and Gynaecologists Trainees' Committee Al-Deeb, Walid; The Society of Radiologists in Training Kugathasan, Gana ; The Society of Radiologists in Training Gokani, Vimal; The Association of Surgeons in Training
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What shape do UK trainees want their training to be? Results of a cross-sectional study

Rhiannon L Harries[1]*, Mustafa Rashid[2], Peter Smitham[2], Alex Vesey[3], Richard McGregor[4], Karl Scheeres[5], Jon Bailey[6], Syed Mohammed Afzal Sohaib[7], Matthew Prior[8], Jonathan Frost[8], Walid Al-Deeb[9], Gana Kugathasan[9], Vimal J Gokani[1]

1. Association of Surgeons in Training Council, Association of Surgeons in Training, 35-43 Lincoln's Inn Fields, London, WC2A 3PE, UK

2. British Orthopaedic Trainees Association, British Orthopaedic Association offices, 35-43 Lincoln's Inn Fields, London, WC2A 3PE, UK

3. Royal College of Physicians and Surgeons in Glasgow Trainees' Committee, 232-242 St Vincent Street, Glasgow, G2 5RJ

4. Royal College of Surgeons of Edinburgh Training Committee, Nicholson Street, Edinburgh, EH8 9DW

5. Psychiatric Trainees' Committee, Royal College of Psychiatrists, 21 Prescot Street, London, E1 8BB

6. Emergency Medicine Training Association, Royal College of Emergency Medicine, 7-9 Bream's Buildings, London, EC4A 1DT

7. British Junior Cardiologists Association, British Cardiovascular Society, 9 Fitzroy Square, London, W1T 5HW

8. Royal College of Obstetricians and Gynaecologists Trainees' Committee, 27 Sussex Place, London, NW1 4RG

9. The Society of Radiologists in Training, 3 Eagles Court, Wrexham, LL13 8DJ

***Corresponding author:** president@asit.org (R L Harries)

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Abstract

Objectives

The British Government is acting upon recommendations to overhaul postgraduate training to meet the needs of the changing population, to produce generalist doctors undergoing shorter broad-based training [Greenaway Review]. Only 45 doctors-in-training were involved in the consultation process. This study aims to obtain a focused perspective on the proposed reforms by doctors-in-training from across specialities.

Design

Prospective, questionnaire-based cross-sectional study.

Setting/participants

Following validation, a 31-item electronic questionnaire was distributed via trainee organisations and Postgraduate Local Education and Training Board (LETB) mailing lists. Throughout the 10-week study period, the survey was publicised on several social media platforms.

Results

Of the 3603 demographically representative respondents, 69% knew about proposed changes. Of the respondents, 73% expressed a desire to specialise, with 54% keen to provide general emergency cover. A small proportion (12%) stated that current training-pathway length is too long, although 86% felt that it is impossible to achieve independent practitioner level proficiency in a shorter period of time than is currently required. Opinions regarding credentialing were mixed, but tended towards disagreement. The vast majority (97%) felt credentialing should not be funded by doctors-in-training. Respondents preferred longer placement lengths with increasing career progression. Doctors-in-training value early generalised training (65%), with suggestions for further improvement.

Conclusions

This is the first large scale cross specialty study regarding the Shape of Training Review. Although there are recommendations which trainees support, it is clear that one size does not fit all. Most trainees are keen to provide a specialist service on an emergency generalist background. Credentialing is a contentious issue, however, we believe removing aspects from curricula into post-CCT credentialing programmes with shortened specialty training routes only degrades the current

consultant expertise, and does not serve the population. Educational needs, not political winds, should drive changes in postgraduate medical education and all stakeholders should be involved

Strengths and Limitations

- This study describes the experiences of a cross-sectional cohort of current trainees within the UK regarding the proposals described in the Shape of Training Review. The sample size provides a robust perspective on current opinions on postgraduate training and is 8006% greater in number than the original consultation.
- The wide distribution of the survey in the UK and responses from all training grades, regions and specialties helped to mitigate against speciality subgroup selection bias. However, some specialties had higher response rates than others, this is likely to be explained by the varying degrees of penetration and distribution via specialty trainee groups combined with small number of respondents in the smaller specialties.
- It is recognised that there is an inherent selection bias in those who fully complete the survey.
- In this survey we found a higher than expected incompletion rate (20%). This may be as a result of a copy of the Shape of Training Review not being included at the start of the survey. Given that 24.7% of those who fully completed the questionnaire had not heard of the review, it could be hypothesised that many more who had not heard of the review failed to fully complete the survey.

Introduction

Postgraduate medical training within the UK has seen several changes over the last few decades, most notably the 'Calman reforms' [1], Modernising Medical Careers (MMC) [2] and the introduction of the European Working Time Directive (EWTD) [3]. In 2013, Professor Sir David Greenaway published the Shape of Training review, an independent review of postgraduate medical training [4]. This report made recommendations for the future structure and delivery of postgraduate medical training. The review addresses a wide range of themes including changing patient needs, balance of the medical workforce (specialists or generalists), flexibility of training, the breadth and scope of training and tensions between service and training. The changes proposed in its 19 recommendations are far reaching, with implications for both current and future trainees in the UK (**TABLE 1**).

Despite the impact on both current and future trainees, only 45 doctors-in-training were consulted as part of the Shape of Training Review [5]. Several trainee bodies have since raised concerns regarding the implications of the recommendations [6-10].

At the time of printing, The Academy of Medical Royal Colleges is undertaking a consultation and mapping process on the implementation of the Shape of Training Review recommendations. This study aims were to obtain widespread, representative doctors-in-training opinion on the proposals made by the Shape of Training Review.

Methods

Participants and setting

Duration of postgraduate training in the United Kingdom varies between specialities ranging from 5 years (General Practice) to a minimum of 10 years (Surgical Specialties) as a postgraduate. However, many trainees often take time out of programme to perform research, obtain higher degrees or undertake other valuable educational experiences. Competitive entry into the specialty of choice occurs following completion of the initial post-qualification Foundation Programme (FP) (A two-year programme covering the generality of medicine, with full General Medical Council (GMC) registration occurring after the first year). A variety of run-through and 'uncoupled' (competitive entry at both core and higher training) training pathways exist depending on the specialty. A summary of the 63 training pathways recognised by the GMC are described in **APPENDIX 1**. At time of print, there are currently 53,825 doctors-in-training in the UK as recognised by the GMC [11].

Questionnaire design and distribution

A 31-item, questionnaire was developed, consisting of free-text, binomial and 5-point Likert scale responses. The questionnaire was designed with reference to previously published guidelines on questionnaire-based research [12-14]. The survey tool was peer-reviewed by experienced trainers and piloted by over 20 specialty trainees with a spread of seniority and specialty. Content validity was ensured by this peer-review and piloting process. Given the range of different constructs measured, internal consistency calculations were not undertaken. The feedback received was used to refine the question items. Individual question items were compulsory. No individually identifiable information was collected (e.g. email address); therefore, non-responders could not be identified for follow-up. No incentives were offered for participation. A copy of the questionnaire is included as supplemental information.

A SurveyMonkey (SurveyMonkey.com, LLC, Palo Alto, CA, USA) online link to the survey was distributed to members of the authors' respective trainee doctors associations, as well as those listed in the acknowledgements section. Further communications via local, regional and national mailing lists were sent periodically throughout the 10-week study period. Data collection took place from 25th May 2015 to 3rd August 2015. The ethical dimensions of this non-mandatory evaluation survey were considered and no concerns were identified. Completion of the questionnaire was taken as implied consent to participate in this study.

This study was undertaken by several trainee associations; Association of Surgeons in Training (ASiT), British Orthopaedic Trainee Association (BOTA), Royal College of Physicians and Surgeons of Glasgow Trainees' Committee, Royal College of Surgeons of Edinburgh Trainees' Committee, Psychiatric Trainees' Committee (PTC), Emergency Medicine Trainees' Association (EMTA), British Junior Cardiologists Association (BJCA), Royal College of Obstetricians and Gynaecologists Trainees' Committee, and Society of Radiologist in Training (SRT). Further details can be found in **APPENDIX 2**.

Data analysis

Trainees were asked to state the specialty they intended to pursue. Only specialties recognised by the General Medical Council were included. For purposes of data analysis, specialties were grouped according to the approved specialty training curricula by Royal College, Faculty or Joint Board and are described in **TABLE 2.** Community Sexual and Reproductive Health and Occupational Medicine were excluded from any specialty specific data analysis due to small numbers of respondents. Junior trainees were defined as Foundation Doctor Year 1-2 (FP1, FP2), Core/Specialty Trainee Year 1-2 (CT1/ST1, CT2/ST2) and Core Trainee Year 3 (CT3). Senior trainees were defined as Specialty Trainee Year 3-8 (ST3-8) and Post-CCT Fellow. **FIGURE 1** outlines the current training pathway for UK postgraduates in medicine by stages of training.

Only fully completed questionnaires were included in the analysis. Microsoft Excel (Microsoft, 2010, Redmond, Washington, USA) was used to calculate descriptive statistics. Statistical analysis was performed using Sigma Plot version 11 (Systat Software Inc, UK) and statistical significance was accepted at $p<0.05$. Significance testing was performed using Chi-square test for non-parametric binary data. Free-text responses were independently categorized by theme into groups for analysis by two of the authors, with differences resolved by discussion. Survey sample size calculations were based on standard published formulae [14]

Results

Respondent demographics

A total of 3603 questionnaires were fully completed and included in the analysis. Medical students were excluded from the data analysis (n=166). 980 were excluded due to incompletion. The mean age of respondents was 32 years old (range 23-61) and 53.1% were male. Respondents ranged from Foundation Programme Year One Doctor (FP1) to Post-CCT (Certificate of Completion of Training) Fellow. A summary of demographics of the respondents is provided in **TABLE 3**.

Shape of Training Review

Of the completed survey responses, 75.3% (2713) of respondents stated they had heard of the Shape of Training Review; with senior trainees (ST3-Post-CCT) more aware of the review than junior trainees (FP1-CT3) (68.3% vs. 80.2%; p<0.0001). Of those who responded that they had heard of the Shape of Training Review, 50.3% (1367) stated they had read the report and 69.1% (1876) aware of the recommendations of the report.

Broad-based training

Only 17.6% of respondents stated they wanted to be a generalist clinician providing broad based care based on themes; with Emergency Medicine and General Practice statistically more likely to, compared with other specialties (74.7% vs. 12.7%; p<0.0001). Overall, a third of trainees (33.1%) want to be a generalist within their professional field; this varied between specialties from 73% in general practice and 68% in emergency medicine to just 10% in ophthalmology. Most (73.1%) responded that they wish to be a specialist. Most common specialties aspiring to be a specialist included Surgery (89.6%), Medicine (84.2%), and Radiology (82.4%). 54.4% stated they want to be a specialist but still provide general on-call cover, with Ophthalmology (76%), Surgery (70.9%) and Anaesthetics (65.4%) most likely. Responses per specialty can be found in **FIGURE 2**.

A majority (83.6%) of respondents stated they would prefer to be treated by a specialist if they were a patient, whereas in contrast, only 12.7% would prefer to be treated by a generalist if they were a patient. However, 69% would prefer to be treated by a specialist with a broad based generalist training. 70% responded that they would prefer to be treated by a doctor who deals with a high volume of cases within a narrow specialised range of practice, and in comparison only 9% would prefer to be treated by a doctor who deals with a lower volume of cases within a broad generalised scope of practice.

Length of training

Overall, only 12.5% felt that the duration of their training pathway is too long with 61% volunteering that the training duration in their specialty is appropriate. Interestingly, 21.8% (783) felt that training in their specialty is too short; with those pursuing a career in Emergency Medicine (41.5%), General Practice (41.3%), Pathology (33.1%) and Obstetrics and Gynaecology (31.4%) most likely to state their training duration could be lengthened (**Figure 3)**. Respondents were asked to provide free text comments regarding the length of postgraduate training. Major themes identified included observations that the length of training could only be decreased if the burden of service provision was reduced (122) and that adequate time is needed to gain the breadth of experience necessary to practice independently (109). Several respondents also raised concerns that a decrease in training time would result in a sub-consultant grade (51) or patient safety concerns (34); with some commenting that there is an evidence based drive for specialisation that is at odds with the proposals in the Greenaway review (13). However, some respondents felt that a decrease in the length of training could be possible if less relevant specialties were removed from their training pathway (31) or they intended to become a generalist only (10).

Only 13.4% felt that a competent, independent practitioner in their specialty could be delivered in a shorter length of time within the current system, with those pursuing a career in ophthalmology (28%) and paediatrics (23%) most likely to respond positively yet still with a low agreement rate.

Credentialing

Overall, 37.7% of respondents felt there should be formalised specialist training post-CCT (e.g. general surgery, medicine). 58.5% felt there should be formalised sub-specialist training post-CCT (e.g. transplant surgery). Just 2.2% felt that credentialing should be funded or part-funded by the trainee. 45.4% think that pre-CCT holders should have the same right to access credentialing as CCT holders. 44% think that Staff and Associate Specialist doctors (not on a formal training programme) not on the specialist register should have the same right to access credentialing as CCT holders, whilst only 13.3% felt that allied healthcare professionals should have the same right to access credentialing as CCT holders. However in the free text comments, 59 commented that they did not understand what the term credentialing meant.

Length of placements

Nearly two thirds of respondents (63%) felt that six-month placements were appropriate for early years of postgraduate training, whereas 74% felt that twelve-month placements were appropriate for later years of postgraduate training.

Point of registration

Sixty per cent of all respondents were aware of the proposed change in the point of registration from completion of FP1 to qualification from medical school. Around a third (32.7%) felt that oversubscription of the foundation programme is a current problem and 43.6% recognised that there is a current issue with medical schools having responsibility for FP1s who move to a different region to take up work from their medical school.

Only 11.8% were aware that the proposed change to the point of registration would make graduate-entry medical school programmes non-compliant with European Union Legislation, if medical school programmes remained only 4 years long. Out of all of the respondents, 11.9% stated they had undertaken a graduate-entry medical school training programme; with General Practice (17.9%), Radiology (16.7%) and Ophthalmology (16%) had the highest proportion of graduate entry trainees.

Over half of respondents (56.3%) felt that registration at the end of FP1 was beneficial; with 77.2% and 74.2% raising concerns that patient safety and FP1 supervision may be affected by proposed change in the point of registration, respectively. 37.2% would be in support of the introduction of a national licensing exam prior to qualification from medical school.

Flexibility of training

Majority of respondents (89.6%) agreed that additional flexibility should be built into postgraduate training. 74.9% felt a limitation on out of programme opportunities to a maximum of one year would be of concern to them. Over a third of all respondents (38.2%) stated they have or intended to take 2 years or more out of programme for either research, experience, career break or training (**Figure 4)**; most commonly noted within Medicine (56.7%), Public Health (50%), Obstetrics and Gynaecology (45.5%) and Surgery (42%).

Current training

Overall 4.3% felt their training curriculum is too specialist and 11.3% felt their training curriculum is too generalist. 10.4% felt their training curriculum requires a major overhaul to address the needs of patients, however 42.5% felt their training curriculum requires minor modifications to address the needs of patients. 71.8% felt that core training (CT1-2/ST1-2) in their specialty was a valuable

experience. Just under two thirds (64.7%) stated that core training in their specialty could be improved to include more training opportunities. Trainees pursuing surgery, medicine and paediatrics were most likely to state that their specialty core training could be improved to include more training opportunities (80.5%, 73.3% and 70.1%, respectively), and trainees pursuing pathology and anaesthetics least likely (23.7% and 26.2%, respectively). 69.5% recognised benefit to undertaking rotations in specialties closely related to theirs at core trainee level.

Improving Training

Respondents were asked to provide free text comments on how training could be improved. A breakdown of the major themes is provided in **Table 4**. Most common themes were dedicated protected training experiences (347), a reduction in service provision (282), flexibility for out of programme experiences (134), experience of related specialties to specialty of choice (122) and improved trainer supervision (105). A representative sample of these is provided in **Table 5**.

Discussion

The results of this cross sectional study have revealed that 1 in 4 UK doctors-in-training had not heard of the Shape of Training Review. This is a major review into the changes in medical training, which the authors believe has not been adequately publicised within the profession. Of those that had heard of the review, only 3.7% had been involved in the consultation process. Most doctors in training have not had the opportunity to feed into the review that represents a complete overhaul of their training pathway. Any discussions related to proposed changes affecting postgraduate training should have adequate representation from all stakeholders.

Perhaps unsurprisingly, Emergency Medicine and General Practice trainees were more likely to aspire to be a clinicians delivering broad based care compared to other specialties; with Surgery, Medicine and Radiology trainees more likely to aspire to become specialists. A recent survey by the BJCA, found that 74% of cardiology trainees thought their training was too short [15]. Subsequently, the GMC approved an extension to cardiology training to ST8 for those choosing to dual accredit in cardiology with general medicine. However, the longitudinal survey data found a sharp drop off in number of trainee's dual accrediting thus supporting a trend of lengthening training due to the demand for achievement of competency in the specialist skills within the specialty. There is a plethora of evidence to support that practitioners performing high volume of procedures result in more favourable patient outcomes across a range of specialties [16-23]. It is this evidence that has led to the recent drive of centralisation of complex hospital services such as resectional upper GI surgery, Neurosurgery and radiology, Vascular surgery, gynaecological oncology surgery, Cardiothoracic surgery and thoracic radiology, major trauma, Bone and Soft Tissue Sarcoma surgery and Limb Reconstruction surgery. Rather than reducing the number of specialists, the authors believe that training should be augmented to ensure that specialists also have sufficient general and emergency skills. However, the wide variation in responses by speciality outlines that a one size fits all approach is misguided.

Only 13% felt that it would be possible to deliver an independent practitioner in a shorter period of time within the current system. This major change would require a shift of workload towards an increase in dedicated training alongside a lesser commitment to service provision, with potentially supernumerary posts. Given the current financial difficulties facing the NHS alongside a potential crisis in recruitment and retention on the horizon the opinion from doctors-in-training would suggest that shortening post-graduate training is untenable within the current NHS infrastructure

Nearly all (98%) respondents stated that trainees should not fund credentialing; this is likely due to

the ever-rising costs of medical training. Under the current £9,000 annual fees regime, medical students graduate with debts exceeding £39,000, from university tuition fees alone [24]. Whereas when additional Student Loans Company (SLC) loans are required for maintenance, debt exceeds £81,000. Furthermore doctors-in-training shoulder the burden of costs of postgraduate training. Compulsory training courses, conference attendance, medical indemnity, GMC registration, British Medical Association membership and Royal College or Faculty membership exams and fees mean the costs for meeting the essential criteria for entry into higher specialist training range from £2,215 for Anaesthetics, £2,375 for Emergency Medicine, £2,815 for Medical Specialties, and £3,360 for surgical specialties (with exclusion of Oral and Maxillofacial Surgery which totals £20,780 due to requirement of a Bachelor of Dentistry degree) [25]. These costs do not disappear on entering Specialist Training, rather they continue to increase including all the continued costs previously described and often additionally including higher degree and fellowship expenses [26]. The authors feel strongly that in light of the increasing burden of medical training costs, any proposals for credentialing should be at no additional expense to the trainee.

Aside from funding, there were mixed views with regards to credentialing and this may revolve around the current uncertainty amongst trainees about what credentialing may include. Only 1 in 10 respondents stated that credentialing should be accessible to Allied Healthcare Professionals. Currently the GMC does oversee physician assistants similar to allied healthcare professionals and therefore further work investigating their accountability, continued professional development and role in ensuring doctors-in-training are provided with additional training opportunities is required before the same credentials are available for all healthcare professionals.

Over a tenth of those who completed the survey had undertaken a graduate-entry medical school training programme. If the proposal for a change in the point of registration were implemented, potentially it would result in a loss in those individuals, which may affect the diversity of the workforce. With General Practice, Radiology and Ophthalmology having the highest proportion of those who were graduate-entry, this may have a knock-on effect for recruitment into these specialties. However the reason behind why these specialties had higher proportions of those from graduate-entry medical training programmes were not explored within this study. Approximately three quarters of trainees raised concerns related to both patient safety and FP1 supervision if a change in the point of registration were to be implemented. Prior to any proposed change in the point of registration, we would recommend that the effects on both patient safety and FP1 supervision be rigorously investigated in further detail. The drivers for the change are still unclear;

both oversubscription of the foundation programme and concerns regarding medical schools having little responsibility for FP1s who move out of region have both been suggested. Concerns exist that altering the point of registration to qualification will not address oversubscription, and in fact may worsen the problem due to the potential increase of EU graduates eligible to apply.

Just over a third of respondents stated they were in favour of a national licensing exam that would occur at the end of medical school. National licensing exams may serve to ensure a high quality and standard of medical education, and are essential to practice in Canada and USA (Medical Council of Canada Qualifying Examination and United States Medical Licensing Examination, respectively). Currently within the UK there are a wide range of differing teaching styles delivered across medical schools, all of which rigorously assess a students ability to be a safe and competent doctor on qualification. Prospective students may opt for the training programme that suits their learning style best when applying to universities. A national licensing exam may deter from the variety of teaching programmes currently offered, to the detriment of diversity within the workforce and may increase the assessment burden for undergraduate.

Just under two thirds (64.7%) stated that core training in their specialty could be improved to include more training opportunities, with Surgical Specialties scoring highest (80%). This is reflected in the GMC National Training Survey 2014 [27] results where Surgery showed the lowest satisfaction ratings; however this was mostly seen at Foundation (72%) and Core level (77%) when compared to Higher Specialist Training level (85%). The GMC Survey 2014 also found that programme specialty doctors training to be GP's had the lowest scores for clinical supervision (89%), however when analysis was performed looking at post specialty instead, GP had one of the highest scores for clinical supervision, suggesting that doctors in GP training receive better supervision when in GP practices compared with other rotations. This was supported by free text comments in our survey that suggested that GP trainees in hospital specialties were used to fill rotas and received poor training exposure. Medical Specialties scored lowest for adequate practical experience in the GMC National Training Survey 2014, presumable due to requirement to cover service provision, which again was supported by the free text comments in our survey.

However, despite the negative responses discussed, 69% of trainees stated they would see benefit to undertaking specialties closely related to theirs in the early years of training. This is an area in which training programmes could be enhanced in order to improve postgraduate training.

Recommendations

Relevant issues currently witnessed within UK postgraduate training, include greater need for trainer engagement, improved balance of service provision in favour of training exposure, improvement in junior doctors morale, improved teaching opportunities and improvements made at both a training programme level and health board level. Based on the qualitative feedback provided in this study, recommendations for improving postgraduate training, together with the content and availability of information provided, are summarised in **TABLE 4**. Addressing these issues alone are likely to result in an improvement in postgraduate training.

Conclusions

The results from this study provide evidence of a lack of support for some the key proposals made in the Shape of Training Review. The authors feel the Review failed to adequately include doctors-in-training during their consultation process, despite being the future workforce of the NHS. We would welcome a new, independent review be commissioned with widespread stakeholder engagement from the outset. The wide variation in responses by speciality highlights that a one size fits all may not be the best way forward.

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Contributors

RLH and VJG conceived and designed the study. All authors designed the questionnaire. RLH collected the data. RLH and VJG analysed the data. All authors were responsible for compiling the manuscript and approving the final article.

Competing interests

The authors are current specialist trainees and elected members of their respective trainee organisation. All authors have completed the ICMJE uniform disclosure form at http://www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years, no other relationships or activities that could appear to have influenced the submitted work.

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Data sharing statement

Respondent level data is available from the corresponding author at president@asit.org

Consent to data sharing was not obtained but the presented data are anonymised and risk of identification is low.

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The lead author (RLH)* affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

*The manuscript's guarantor

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Table 1. Summary of the Shape of Training Review's Key Recommendations

1. Full GMC registration should move to the point of graduation from medical school.
2. The Foundation Programme (FP) should continue as a two-year programme, facilitating broad-based learning in community and secondary care settings.
3. Following the FP, doctors will enter 'broad-based specialty training' in a general area of practice, which will proceed for 4–6 years.
4. There will be the option of a single year to be taken within training to expand management/educational/clinical experience.
5. The Certificate of Completion of Training (CCT) will be replaced by a Certificate of Specialty Training (CST).
6. The future CST holder will be eligible to apply for consultant-level posts in the generality of their training area.
7. Subspecialty skills will be acquired after obtaining the CST by a process of 'credentialing'.
8. All changes in training (and therefore the products of the proposed training system) will be based on the local needs of the population.

GMC = General Medical Council; FP = Foundation Programme; CCT = Certificate of Completion of Training; CST = Certificate of Specialty Training

Tabled adapted from Ferguson *et al*, 2014 [7].

Table 2. Specialties classified according to the approved specialty training curricula by Royal College, Faculty or Joint Board

Surgical Specialties	Cardiothoracic Surgery, General Surgery, Oral and Maxillofacial Surgery, Otoloaryngology Surgery, Neurosurgery, Paediatric Surgery, Plastic Surgery, Trauma and Orthopaedics, Urology, Vascular Surgery
Medical Specialties	Allergy, Audiological Medicine, Acute Medicine, Cardiology, Clinical Genetics, Clinical Neurophysiology, Clinical Pharmacology and Therapeutics, Dermatology, Endocrinology and Diabetes, Gastroenterology, General Internal Medicine, Genito-urinary Medicine, Geriatric Medicine, Haematology, Immunology, Infectious Diseases, Medical Oncology, Medical Ophthalmology, Neurology, Nuclear Medicine, Paediatric Cardiology, Palliative Medicine, Pharmaceutical Medicine, Rehabilitation Medicine, Renal Medicine, Respiratory Medicine, Rheumatology, Sport and Exercise Medicine, Tropical Medicine
Intensive Care Medicine	Intensive Care Medicine
Anaesthesia	Anaesthesia
Emergency Medicine	Emergency Medicine
General Practice	General Practice
Obstetrics and Gynaecology	Obstetrics and Gynaecology
Ophthalmology	Ophthalmology
Paediatrics	Paediatrics
Pathology Specialties	Chemical Pathology, Diagnostic Neuropathology, Forensic Histopathology, Histopathology and Medical Microbiology and Virology
Psychiatry Specialties	General Psychiatry, Child and Adolescent Psychiatry, Forensic Psychiatry, Medical Psychotherapy, Old Age Psychiatry and Psychiatry of Learning Disability
Public Health	Public Health
Radiology Specialties	Clinical Radiology and Clinical Oncology

Table 3: Respondent demographics

Question	n	%
Gender		
Male	1879	52.15%
Female	1724	47.85%
Grade		
Foundation Doctor (FP1-FP2)	298	8.27%
Core Trainee (CT/ST1- CT3/SHO3+)	923	25.63%
Higher Trainee (ST3 - ST4)	864	23.98%
Higher Trainee (ST5 - ST6)	790	21.93%
Higher Trainee (ST7 - ST8)	422	11.72%
Research / Clinical Fellow	138	3.83%
Post-CCT	112	3.11%
Other	56	1.55%
Academic Post Holder	308	8.55%
Less than-full time Trainee	346	9.60%
Military Trainee	95	2.64%
Specialty you intend to pursue		
Cardiothoracic Surgery	27	0.75%
Otolaryngology Surgery	89	2.47%
General Surgery	418	11.60%
Neurosurgery	54	1.50%
Oral and Maxillofacial Surgery	26	0.72%
Paediatric Surgery	30	0.83%
Plastic Surgery	89	2.47%
Trauma and Orthopaedics	408	11.32%
Urology	88	2.44%
Vascular Surgery	60	1.67%
Allergy	0	0.00%
Audiological Medicine	1	0.03%
Acute Medicine	26	0.72%
Clinical Genetics	7	0.19%
Clinical Neurophysiology	1	0.03%
Cardiology	128	3.55%
Dermatology	50	1.39%
Clinical Pharmacology and Therapeutics	1	0.03%
Endocrinology and Diabetes	22	0.61%
Gastroenterology	61	1.69%
General Internal Medicine	19	0.53%
Genito-urinary Medicine	13	0.36%
Geriatric Medicine	72	2.00%
Haematology	27	0.75%
Immunology	5	0.14%
Infectious Diseases	32	0.89%
Medical Oncology	11	0.31%
Medical Ophthalmology	0	0.00%
Neurology	23	0.64%
Nuclear Medicine	2	0.06%
Paediatric Cardiology	6	0.17%

Palliative Medicine	18	0.50%
Pharmaceutical Medicine	0	0.00%
Rehabilitation Medicine	4	0.11%
Renal Medicine	16	0.44%
Respiratory Medicine	39	1.08%
Rheumatology	23	0.64%
Sport and Exercise Medicine	4	0.11%
Tropical Medicine	0	0.00%
Intensive Care Medicine	55	1.53%
Anaesthesia	324	8.99%
Community Sexual and Reproductive Health	2	0.06%
Emergency Medicine	101	2.80%
General Practice	184	5.11%
Obstetrics and Gynaecology	176	4.88%
Occupational Medicine	16	0.44%
Ophthalmology	50	1.39%
Paediatrics	231	6.41%
Chemical Pathology	16	0.44%
Diagnostic Neurophysiology	3	0.08%
Forensic Histopathology	2	0.06%
Histopathology	127	3.52%
Medical Microbiology and Virology	33	0.92%
General Psychiatry	84	2.33%
Child and Adolescent Psychiatry	18	0.50%
Forensic Psychiatry	21	0.58%
Medical Psychotherapy	5	0.14%
Old Age Psychiatry	26	0.72%
Psychiatry of Learning Disability	13	0.36%
Public Health	68	1.89%
Clinical Radiology	115	3.19%
Clinical Oncology	16	0.44%
Unsure	17	0.47%
Total responses	3603	100%

Table 4: Respondents recommendations to improve postgraduate training

Trainer improvements:

- More dedicated time to train
- Increased engagement in training
- Better supervision
- Reward/ Incentivise good training
- Accountability to allow opportunities to meet the trainee's learning needs
- Training the trainers in work based assessments and e-portfolio
- Increased mentorship and career advice
- Production of a structured training timetable

Local Education and Training Board (LETB)/ Health Board improvements:

- Feedback on training placements which is acted upon by LETBs
- Poor training placements to have trainees removed
- Adequate notice for new or changed rota and penalties when notice is under six weeks
- Adequate notice for placements so relocations can be planned
- Trainees to be placed in recognised high quality training unit

Training programme improvements:

- Dedicated and protected training experiences
- Bespoke training based on an individuals learning needs
- Increase the length of time for core training and reduce the foundation programme to 1 year
- Themed core training programmes
- Experience placements in specialties closely related to chosen specialty
- Increased flexibility for out of programme research/ experience/ career breaks/ training
- Interdeanery placements to gain sub-specialty experience
- Priority to be given to trainees' for training experiences over Allied Healthcare Professionals (AHPs)
- Management and leadership experience
- More community placements for General Practice and Paediatrics
- More specialty/ sub-specialty experience in later years
- Programme not time limited/ Lengthen training duration
- Less cross-cover emergency work
- Increase working hours/ Relaxation of European Working Time Directive (EWTD)
- More robust Annual Review of Competence Progression (ARCP) processes
- Time allocated for non-clinical activities including audit, quality improvement and e-portfolio

Improve teaching:

- More formal teaching sessions
- Protected teaching time
- More study leave to allow attendance on teaching sessions or courses
- Ability to take study leave and not restricted by service provision
- Better access to simulation facilities

Improve morale:

- Increased access to less than full-time training
- Work-life balance
- No undermining, bullying or discriminatory behavior
- Trainees to be treated as professionals by seniors, managers and colleagues

Decrease service provision:

- Less night shifts
- Less on-call shifts

- Less ward duties at Core Training level
- On-call shifts to include more training opportunities and assessments by seniors
- Rotas to be filled
- Increase the number of Staff and Association Specialty (SAS) doctors to cover service provision
- Better use of AHPs for service provision to allow training opportunities to occur

Improved e-Portfolio:

- Less focus on quantity of work based assessments
- Less focus on indicative numbers of procedures
- More user friendly e-portofolio systems
- Trainer engagement and knowledge of e-portfolio

Increased funding:

- More funding into training resources
- Increased study budget
- Reduction in the costs of conferences, course, training fees and exam fees
- Salaries that reflect the workload and responsibilities of a doctor-in-training

Table 5. Representative qualitative comments from respondents regarding recommendations for improving training

"A greater focus on training. In fact just some training, period!"
"Make trainers more accountable for training outcomes, e.g. numbers, quality of assessment, quality of supervision. They should come to the ARCP."
"If training were to include rotations in closely related specialties, I would not want it to be taken from the time we already have."
"Radiology training is perfect. Keep your mitts off it"
"Core training should not be about service provision"
"The Shape of training recommendation goes against what is happening in the rest of the world. While the United States, Canada and European Union are heading to speciality & sub speciality focused training, I find it amusing reading about the shape of training recommendations"
"It's shocking the lack of general medicine training given a) the number of trainees b) the amount of training money attached to these trainees (where does it go?) c) The number of patients admitted through general medicine d) ageing population e) need for generalists etc. I would suggest: protected teaching time (regular half days twice weekly), adequately staffed rotas (paying internal locums is much better than getting people from agencies), stop wasting our time with e-portfolio 'evidencing' and other such nonsense that is largely box ticking and not training, use the skills labs, teach everyone ultrasound and get them competent in it, simulation training, let people know roots greater than 6 weeks in advance with some sort of punishment for the health board if this isn't done."
"Adequate supervision, and clearly defined standards of supervision."
"Stop hospitals from treating us as temporary annoyances"
"The ability to tailor our own training programme"
"Flexibility and a more individual approach. Some people know what they want to do so tailoring appropriate experience would be better than a one size fits all approach"
"More clued up educational supervisors and training programme directors who actually do things to help you rather than just sit down and make you sign forms that don't actually help you become a better trainee. Deanery-level initiatives to ensure that only interested educational supervisors are chosen and that their outcomes are monitored yearly, just as trainees are. Simple improvements include genuine specific and achievable learning objectives for each year to help trainees to focus their activities, with reference to how other trainees in your specialty have fared with these, so we can all learn from each other. - Also, it feels like whenever you made any comment or complaint about your training, you are not believed or considered to hold a minority opinion (even when there is documentation that you hold the majority view!!)."

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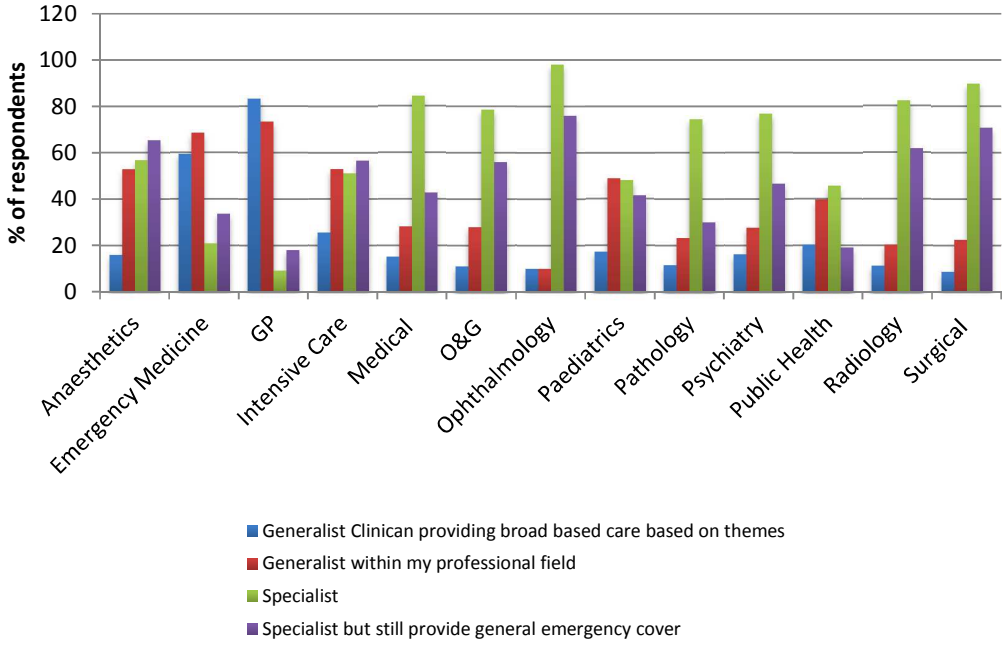

Figure 2. Responses per specialty when asked regarding type of independent practitioner trainees aspired to

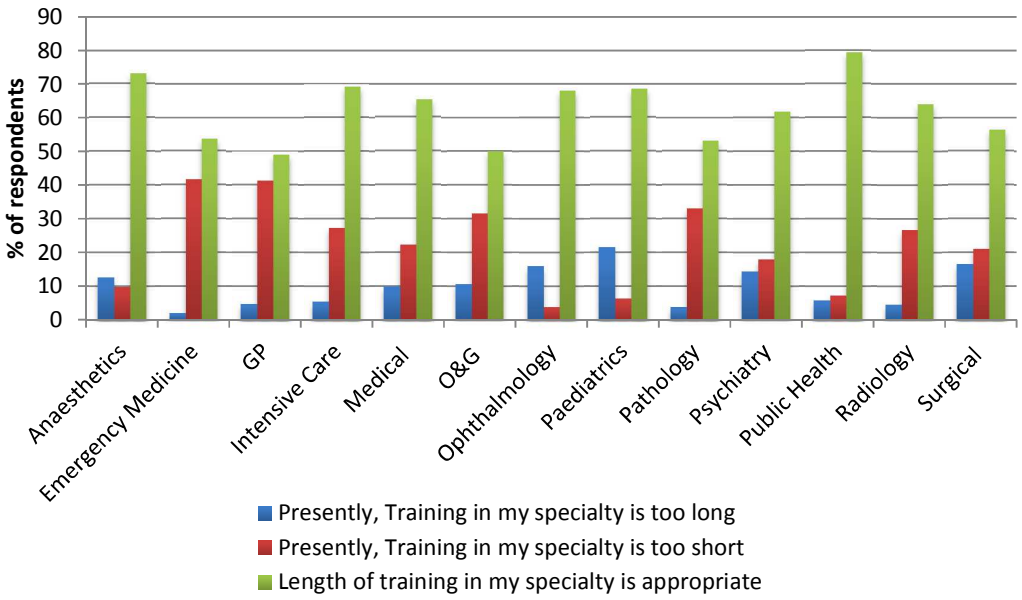

Figure 3. Responses per specialty when asked about the length of training in their specialty

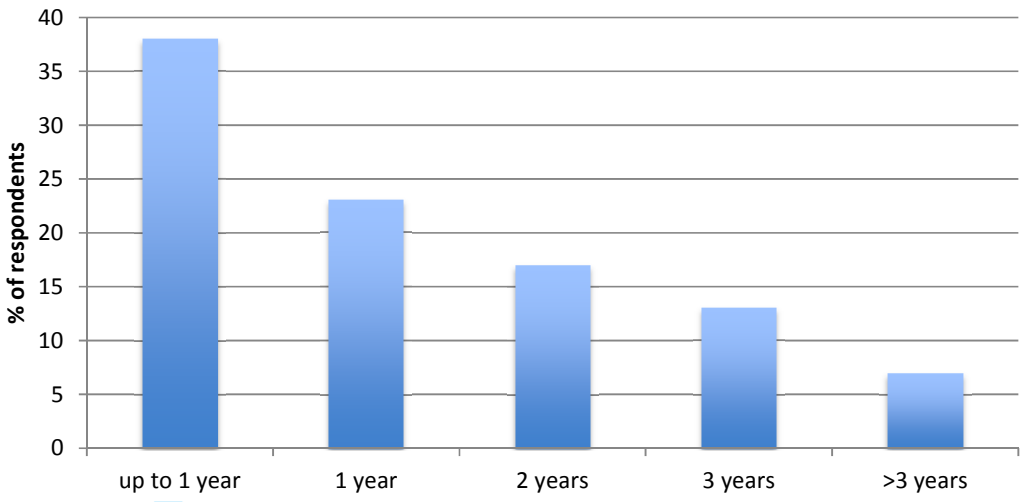

Figure 4. Number of years trainees have or intend to take out of programme

Appendix 1. Indicative length of postgraduate training per specialty

Specialty	Indicative Length of Training Programme
Cardiothoracic Surgery	2 years of CST followed by 6 years of HST. Current pilot of 8 years run-through training
Otolaryngology Surgery	2 years of CST followed by 6 years of HST
General Surgery	2 years of CST followed by 6 years of HST
Neurosurgery	8 years of run-through training
Oral and Maxillofacial Surgery	2 years of CST followed by 6 years of HST. Dentistry undergraduate degree also required
Paediatric Surgery	2 years of CST followed by 6 years of HST
Plastic Surgery	2 years of CST followed by 6 years of HST
Trauma and Orthopaedics	2 years of CST followed by 6 years of HST. Run-through in Scotland
Urology	2 years of CST followed by 5 years of HST
Vascular Surgery	2 years of CST followed by 6 years of HST
Allergy	2 years of CMT followed by 5 years of HST
Audiological Medicine	2 years of CMT/ CST (ENT themed) or 3 years of ACCS/GPST/ Paediatric training, followed by 5 years of HST
Acute Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with General Internal Medicine
Cardiology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Clinical Genetics	2 years of CMT or 3 years of ACCS/ Paediatric training, followed by 4 years of HST
Clinical Neurophysiology	2 years of CMT or 3 years of ACCS/ Paediatric training, followed by 4 years of HST
Clinical Pharmacology and Therapeutics	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Dermatology	2 years of CMT, 3 years of ACCS or Paediatric training (with Core Medical competencies), followed by 4 years of HST
Endocrinology and Diabetes	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with Acute Internal Medicine
Gastroenterology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with Acute Internal Medicine
General Internal Medicine	2 years of CMT or 3 years of ACCS, followed by 3 years of HST
Genito-urinary Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Geriatric Medicine	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Haematology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Immunology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Infectious Diseases	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Medical Oncology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Medical Ophthalmology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Neurology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Nuclear Medicine	2 years of CMT/CST/or 3 years of ACCS/ Paediatric Training (with Core Medical competencies), followed by 4 years of HST
Paediatric Cardiology	3 years of Paediatric training or 2 years of CMT plus 1 year of Paediatric training, followed by 5 years of HST
Palliative Medicine	2 years of CMT/CST/CAT or 3 years of ACCS/GPST, followed by 4 years of HST
Pharmaceutical Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Rehabilitation Medicine	2 years of CMT/CST/CPT or 3 years of ACCS/GPST, followed by 4 years of HST
Renal Medicine	2 years of CMT or 3 years of ACCS, followed by 3 years of HST
Respiratory Medicine	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Rheumatology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Sport and Exercise	2 years of CMT or 3 years of ACCS/GPST, followed by 4 years of HST

Medicine	
Tropical Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Intensive Care Medicine	2 years of CAT or CMT or 3 years of ACCS, followed by 5 years of HST. Possible to dual CCT with General Medicine or Anaesthesia
Anaesthesia	2 years of CAT or 3 years of ACCS, followed by 5 years of HST
Community Sexual and Reproductive Health	6 years of run-through training
Emergency Medicine	3 years of ACCS, followed by 3 years of HST. Current pilot to allow 2 years of CST or emergency medicine experience and 4 years of HST
General Practice	3 years of GPST. Current pilot for 4 years
Obstetrics and Gynaecology	7 years of run-through training
Occupational Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Ophthalmology	7 years of run-through training
Paediatrics	8 years of run-through training
Chemical Pathology	5 years of run-through training
Diagnostic Neurophysiology	2 years of CMT (Neurology themed) or neurosurgery, followed by 4 years of HST
Forensic Histopathology	5 years and six months of run-through training
Histopathology	5 years and six months of run-through training
Medical Microbiology and Virology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Child and Adolescent Psychiatry	3 years of CPT and 3 years of HST
Forensic Psychiatry	3 years of CPT and 3 years of HST
General Psychiatry	3 years of CPT and 3 years of HST
Medical Psychotherapy	3 years of CPT and 3 years of HST
Old Age Psychiatry	3 years of CPT and 3 years of HST
Psychiatry of Learning Disability	3 years of CPT and 3 years of HST
Public Health	5 years of run-through training
Clinical Radiology	5 years of run-through training
Clinical Oncology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST

ACCS= Acute Care Common Stem, CAT= Core Anaesthesia Training, CMT= Core Medical Training, CPT= Core Psychiatry Training, CST= Core Surgical Training, GPST= General Practice Specialist Training, HST= Higher Specialist Training

Appendix 2. Details of the Trainee Associations that undertook this study

Association of Surgeons in Training (ASiT) (http://www.asit.org), is a pan-surgical specialty professional body and registered charity working to promote excellence in surgical training for the benefit of junior doctors and patients alike. Originally founded in 1976, ASiT is independent of the National Health Service (NHS), Surgical Royal Colleges, and specialty associations and has over 2700 members.

The British Orthopaedic Trainee Association (BOTA) (http://www.bota.org.uk) is a democratically elected representative group of doctors in all levels of Trauma and Orthopaedic surgical training in the UK. It was established in 1987 and is independent of the National Health Service (NHS), Surgical Royal Colleges and the British Orthopaedic Association. BOTA has 987 active members currently.

The Royal College of Surgeons of Edinburgh's Trainees' Committee is elected by the College membership to represent and support surgeons in training throughout the United Kingdom. It plays an essential role in the development of courses, events and resources for Trainees and, through its Chair, the elected Trainee Member of Council, raises key issues which impact surgical trainees with the College's Council.

The Psychiatric Trainees' Committee (PTC) (http://www.rcpsych.ac.uk/traininpsychiatry/trainees/ptc.aspx) at the Royal College of Psychiatrists represents psychiatrists in training in the UK, working with the college and other to improve psychiatric training, and advocating for our patients. It is made up of approximately 40 elected representatives from across the four nations, who represent over 3000 psychiatrists in training across the UK.

The Emergency Medicine Trainees Association (EMTA) (http://www.rcem.ac.uk/Training-Exams/EMTA) is an independent non-profit national body that represents over 1200 trainees in Emergency Medicine in the UK. The Association promotes excellence in emergency care and protection of adequate training in Emergency Medicine and the members of the EMTA council sit on all major committees at the Royal College of Emergency Medicine.

The British Junior Cardiologists Association (BJCA) (http://bcs.com/bjca) represents cardiologists in training in the UK. It can trace its origins back to 1948 but was established in its current format in 2000 and its membership includes over 1000 doctors. It is affiliated to the British Cardiovascular Society and has positive working relationships with other cardiovascular organisations and junior doctor groups in the UK and Europe. It aims to act as an advocate for cardiologists in training,

improve access to educational resources in cardiology, and promote the specialty to junior colleagues.

The Royal College of Obstetricians and Gynaecologists Trainees' Committee is a national representative body for junior doctors training in obstetrics and gynaecology. The committee has representation from every region of the UK and provides a forum for trainees to discuss and influence issues relevant to training as well as wider issues relevant to the profession.

The Society of Radiologists in Training (SRT) (http://www.thesrt.co.uk) was founded in 1993 under the auspices of The Royal College of Radiologists. The society is a non-profit making organisation, run by radiology trainees specifically to promote radiology training and education in the UK. The society has over 1800 registered members.

Introduction

Survey on the Shape of Training Review

• Thank you for your interest in this important survey investigating your views on the Shape of Training (or Greenaway) Report, and the changes it proposes to postgraduate medical training.

• The results will be freely disseminated, including through publication and on the trainee association's websites, and provided to Political Leaders, the GMC, the Royal Colleges and Specialty Associations.

• Completion indicates your consent for this analysis, distribution and publication of anonymised, grouped results drawn from this.

• This survey is for ALL TRAINEES AND MEDICAL STUDENTS, REGARDLESS OF SPECIALTY in the UK.

• Individual responses will remain anonymous.

• It takes approx 10 min to complete.

• Click 'NEXT' below to start the survey.

Demographics

Please tell us about you grade, location and specialty

***1. What is your current grade?**

Other (please specify)

***2. In which specialty do you work or intend to pursue?**

Other (please specify)

***3. Which training region do you work in?**

- East Midlands (Trent & Leicester)
- East of England
- KSS
- London
- Mersey
- North West
- Northern
- Northern Ireland
- Oxford
- Peninsula / South West
- Scotland - East
- Scotland - North
- Scotland - Southeast
- Scotland - West
- Severn
- Wales
- Wessex
- West Midlands
- Yorkshire & Humber

Other (please specify)

***4. Do you currently hold an academic post (ACF, Clinical Lecturer, etc)?**

- No
- Yes

***5. Are you a military trainee (i.e. registered with the Defence Postgraduate Medical Deanery)?**

- No
- Yes

***6. Are you in "less than full time" training?**

- Yes
- No
- I do not wish to answer this question

7. How old are you?

Age in years (please enter a number) =

***8. What is your gender?**

- Female
- Male

Shape of Training Review

***9. Have you heard of the Shape of Training Review?**

- Yes
- No

***10. Were you involved in the consultation process?**

- Yes
- No

***11. Have you read the report (full or summary)?**

- Yes
- No

***12. Are you aware of the recommendations made by the report?**

- Yes
- No

Shape of Training Review Recommendations

*13. Broad based training

The Shape of Training Review recommended that 'After the Foundation Programme, doctors will enter broad based specialty training. Specialties or areas of practice will be grouped together. These groupings will be characterised by patient care themes (such as women's health, child health and mental health), and will be defined by the dynamic and interconnected relationships between the specialties. They will have common clinical objectives, set out in the specialty curricula'

With regards to broad based training...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
I want to be a generalist clinician providing broad based care based on themes					
I want to be a generalist within my professional field e.g. general surgeon, general physician					
I want to be a specialist e.g. colorectal surgeon, renal physician					
I want to be a specialist but still provide general on-call cover					
If I were a patient I would prefer to be treated by a specialist					
If I were a patient I would prefer to be treated by a generalist					
If I were a patient I would prefer to be treated by a specialist with a broad based generalist training					
If I were a patient I would prefer to be treated by a doctor who deals with a higher volume of cases within a narrow specialised range of practice					
If I were a patient I would prefer to be treated by a doctor who deals with a lower volume of cases within a broad generalised scope of practice					

Comments

*14. Length of training

The Review recommended that 'Broad based specialty training, after Foundation Programme, will last between four and six years depending on specialty requirements (and depending on how individuals progress through the curricula)'

With regards to length of postgraduate training...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Presently, training is too long in my specialty					
Presently, training is too short in my specialty					
The length of training in my specialty is appropriate					
A competent, independent practitioner in my specialty can be delivered in a shorter length of training within the current system					

Comments

*15. Credentialing

The Review recommended that 'Appropriate organisations, including employers, should develop credentialed programmes for some specialty and all subspecialty training, which will be approved, regulated and quality assured by the GMC'

With regards to credentialing...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
There should be formalised specialist training post-CCT e.g. general surgery, medicine					
There should be formalised sub-specialist training post-CCT e.g. transplant surgery, renal medicine					
Credentialing should be funded or part-funded by the trainee					
Pre-CCT holders should have the same right to access credentialing as CCT holders					
Staff and Associate Specialist doctors not on the specialist register should have the same right to access credentialing as CCT holders					
Allied healthcare professionals should have the same right to access credentialing as CCT holders					

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree

Comments

*16. Longer placements

The Review recommended that 'Appropriate organisations, including employers must introduce longer placements for doctors'

With regards to the length of placements...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
In early years postgraduate training, I think 4 month placements are appropriate					
In early years postgraduate training, I think 6 month placements are appropriate					
In early years postgraduate training, I think 12 month placements are appropriate					
In later years postgraduate training, I think 4 month placements are appropriate					
In later years postgraduate training, I think 6 month placements are appropriate					
In later years postgraduate training, I think 12 month placements are appropriate					

Comments

Point of registration

The Shape of Training Review recommended that 'Full registration should happen at the point of graduation from medical school'

***17. Were you aware of the proposed change in point of registration (from completion of F1 to qualification from medical school)?**

- Yes
- No

***18. Do you think oversubscription of the foundation programme is a problem?**

- Yes
- No
- Unsure

***19. Did you undertake a graduate-entry medical school training programme?**

- Yes
- No

***20. Were you aware that the proposed change to the point of registration would make graduate-entry medical school programmes non-compliant with EU law?**

- Yes
- No

21. With regards to the current pre-registration F1 year.....

	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Registration at the end of F1 offers no benefit					
There is an issue with medical schools having responsibility for F1s who have moved to a different region					

***22. With regards to changing the point of registration...**

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Patient safety will be unaffected					
F1 supervision will be unaffected					
Point of registration should be moved for educational reasons only					
A national licensing exam is a good idea					

Comments

Flexibility in Postgraduate training

***23. Have you been, or are you currently undertaking Out of Programme for Research (OOPR)?**

- Yes
- No
- No, but intending to
- Unsure

***24. Have you been, or are you currently undertaking Out of Programme for Experience (OOPE)?**

- Yes
- No
- No , but intending to
- Unsure

***25. Have you been, or are you currently undertaking Out of Programme for Career Break (OOPCB)?**

- Yes
- No
- No, but intending to
- Unsure

***26. Have you been, or are you currently undertaking Out of Programme for Training (OOPT)?**

- Yes
- No
- No, but intending to
- Unsure

***27. How many years in total, have you or do you intend to take out of programme?**

- <1 year
- 1 year
- 2 years
- 3 years
- >3 years

Comments

***28. With regards to flexibility of training...**

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Additional flexibility should be built into postgraduate training					
OOPR is important to my training					
OOPE is important to my training					
OOPCB is important to my training					
OOPT is important to my training					
Limiting Out of Programme to one year only would not be an issue for me					

Comments

Your current training

***29. With regards to your current training...**

NB: Core Training refers to CT1-2/ST1-2 level

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
My training curriculum is too specialist	○	○	○	○	○
My training curriculum is too generalist	○	○	○	○	○
My training curriculum requires a major overhaul to address the needs of my patients	○	○	○	○	○
My training curriculum requires minor modifications to address the needs of my patients	○	○	○	○	○
At present, Core Training in my specialty is a valuable experience	○	○	○	○	○
Core Training in my specialty could be improved to include more training opportunities e.g. clinic, theatre	○	○	○	○	○
There is benefit to undertaking rotations in specialties closely related to mine at Core Trainee level	○	○	○	○	○

Comments

30. What would improve your training?

31. Any additional comments....

We would like to thank you for your time in completing this survey.

The results will be freely published, including on the trainee association's websites, and copies will be distributed to Political Leaders, the GMC, the Royal Colleges and Specialty Associations.

The Shape of Training Review can be found here:
http://www.shapeoftraining.co.uk

Read our responses to the Shape of Training Review Recommendations here:
http://asit.org/news/shape_of_training
http://www.bota.org.uk/coursealert-topic.php?id=2474

For more information about the work being undertaking on your behalf please visit our websites:
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What shape do UK trainees want their training to be? Results of a cross-sectional study

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What shape do UK trainees want their training to be? Results of a cross-sectional study

Rhiannon L Harries[1]*, Mustafa Rashid[2], Peter Smitham[2], Alex Vesey[3], Richard McGregor[4], Karl Scheeres[5], Jon Bailey[6], Syed Mohammed Afzal Sohaib[7], Matthew Prior[8], Jonathan Frost[8], Walid Al-Deeb[9], Gana Kugathasan[9], Vimal J Gokani[1]

1. Association of Surgeons in Training Council, Association of Surgeons in Training, 35-43 Lincoln's Inn Fields, London, WC2A 3PE, UK

2. British Orthopaedic Trainees Association, British Orthopaedic Association offices, 35-43 Lincoln's Inn Fields, London, WC2A 3PE, UK

3. Royal College of Physicians and Surgeons in Glasgow Trainees' Committee, 232-242 St Vincent Street, Glasgow, G2 5RJ

4. Royal College of Surgeons of Edinburgh Training Committee, Nicholson Street, Edinburgh, EH8 9DW

5. Psychiatric Trainees' Committee, Royal College of Psychiatrists, 21 Prescot Street, London, E1 8BB

6. Emergency Medicine Training Association, Royal College of Emergency Medicine, 7-9 Bream's Buildings, London, EC4A 1DT

7. British Junior Cardiologists Association, British Cardiovascular Society, 9 Fitzroy Square, London, W1T 5HW

8. Royal College of Obstetricians and Gynaecologists Trainees' Committee, 27 Sussex Place, London, NW1 4RG

9. The Society of Radiologists in Training, 3 Eagles Court, Wrexham, LL13 8DJ

***Corresponding author:** president@asit.org (R L Harries)

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Abstract

Objectives

The British Government is acting upon recommendations to overhaul postgraduate training to meet the needs of the changing population, to produce generalist doctors undergoing shorter broad-based training [Greenaway Review]. Only 45 doctors-in-training were involved in the consultation process. This study aims to obtain a focused perspective on the proposed reforms by doctors-in-training from across specialities.

Design

Prospective, questionnaire-based cross-sectional study.

Setting/participants

Following validation, a 31-item electronic questionnaire was distributed via trainee organisations and Postgraduate Local Education and Training Board (LETB) mailing lists. Throughout the 10-week study period, the survey was publicised on several social media platforms.

Results

Of the 3603 demographically representative respondents, 69% knew about proposed changes. Of the respondents, 73% expressed a desire to specialise, with 54% keen to provide general emergency cover. A small proportion (12%) stated that current training-pathway length is too long, although 86% felt that it is impossible to achieve independent practitioner level proficiency in a shorter period of time than is currently required. Opinions regarding credentialing were mixed, but tended towards disagreement. The vast majority (97%) felt credentialing should not be funded by doctors-in-training. Respondents preferred longer placement lengths with increasing career progression. Doctors-in-training value early generalised training (65%), with suggestions for further improvement.

Conclusions

This is the first large scale cross specialty study regarding the Shape of Training Review. Although there are recommendations which trainees support, it is clear that one size does not fit all. Most trainees are keen to provide a specialist service on an emergency generalist background. Credentialing is a contentious issue, however, we believe removing aspects from curricula into post-CCT credentialing programmes with shortened specialty training routes only degrades the current

consultant expertise, and does not serve the population. Educational needs, not political winds, should drive changes in postgraduate medical education and all stakeholders should be involved

Strengths and Limitations

- This study describes the experiences of a cross-sectional cohort of current trainees within the UK regarding the proposals described in the Shape of Training Review. The sample size provides a robust perspective on current opinions on postgraduate training and is 80% greater in number than the original Shape of Training Review consultation.
- The wide distribution of the survey in the UK and responses from all training grades, regions and specialties helped to mitigate against speciality subgroup selection bias. However, some specialties had higher response rates than others, this is likely to be explained by the varying degrees of penetration and distribution via specialty trainee groups combined with small number of respondents in the smaller specialties.
- It is recognised that there is an inherent selection bias in those who fully complete the survey.
- In this survey we found a higher than expected incompletion rate (20%). This may be as a result of a copy of the Shape of Training Review not being included at the start of the survey. Given that 24.7% of those who fully completed the questionnaire had not heard of the review, it could be hypothesised that many more who had not heard of the review failed to fully complete the survey.

Introduction

Postgraduate medical training within the UK has seen several changes over the last few decades, most notably the 'Calman reforms' [1], Modernising Medical Careers (MMC) [2] and the introduction of the European Working Time Directive (EWTD) [3]. In 2013, Professor Sir David Greenaway published the Shape of Training review, an independent review of postgraduate medical training [4]. This report made recommendations for the future structure and delivery of postgraduate medical training. The review addresses a wide range of themes including changing patient needs, balance of the medical workforce (specialists or generalists), flexibility of training, the breadth and scope of training and tensions between service and training. The changes proposed in its 19 recommendations are far reaching, with implications for both current and future trainees in the UK (**TABLE 1**).

Despite the impact on both current and future trainees, only 45 doctors-in-training were consulted as part of the Shape of Training Review [5]. Several trainee bodies have since raised concerns regarding the implications of the recommendations [6-10].

At the time of printing, The Academy of Medical Royal Colleges is undertaking a consultation and mapping process on the implementation of the Shape of Training Review recommendations. This study aims were to obtain widespread, representative doctors-in-training opinion on the proposals made by the Shape of Training Review.

Methods

Participants and setting

Duration of postgraduate training in the United Kingdom varies between specialities ranging from 5 years (General Practice) to a minimum of 10 years (Surgical Specialties) as a postgraduate. However, many trainees often take time out of programme to perform research, obtain higher degrees or undertake other valuable educational experiences. Competitive entry into the specialty of choice occurs following completion of the initial post-qualification Foundation Programme (FP) (A two-year programme covering the generality of medicine, with full General Medical Council (GMC) registration occurring after the first year). A variety of run-through and 'uncoupled' (competitive entry at both core and higher training) training pathways exist depending on the specialty. A summary of the 63 training pathways recognised by the GMC are described in **APPENDIX 1**. At time of print, there are currently 53,825 doctors-in-training in the UK as recognised by the GMC [11].

Questionnaire design and distribution

A 31-item, questionnaire was developed, consisting of free-text, binomial and 5-point Likert scale responses. The questionnaire was designed with reference to previously published guidelines on questionnaire-based research [12-14]. The survey tool was peer-reviewed by experienced trainers and piloted by over 20 specialty trainees with a spread of seniority and specialty. Content validity was ensured by this peer-review and piloting process. Given the range of different constructs measured, internal consistency calculations were not undertaken. The feedback received was used to refine the question items. Individual question items were compulsory. No individually identifiable information was collected (e.g. email address); therefore, non-responders could not be identified for follow-up. No incentives were offered for participation. A copy of the questionnaire is included as supplemental information.

A SurveyMonkey (SurveyMonkey.com, LLC, Palo Alto, CA, USA) online link to the survey was distributed to members of the authors' respective trainee doctors associations, as well as those listed in the acknowledgements section. Further communications via local, regional and national mailing lists were sent periodically throughout the 10-week study period. Data collection took place from 25th May 2015 to 3rd August 2015. The ethical dimensions of this non-mandatory evaluation survey were considered and no concerns were identified. Completion of the questionnaire was taken as implied consent to participate in this study.

This study was undertaken by several trainee associations; Association of Surgeons in Training (ASiT), British Orthopaedic Trainee Association (BOTA), Royal College of Physicians and Surgeons of Glasgow Trainees' Committee, Royal College of Surgeons of Edinburgh Trainees' Committee, Psychiatric Trainees' Committee (PTC), Emergency Medicine Trainees' Association (EMTA), British Junior Cardiologists Association (BJCA), Royal College of Obstetricians and Gynaecologists Trainees' Committee, and Society of Radiologist in Training (SRT). Further details can be found in **APPENDIX 2**.

Data analysis

Trainees were asked to state the specialty they intended to pursue. Only specialties recognised by the General Medical Council were included. For purposes of data analysis, specialties were grouped according to the approved specialty training curricula by Royal College, Faculty or Joint Board and are described in **TABLE 2.** Community Sexual and Reproductive Health and Occupational Medicine were excluded from any specialty specific data analysis due to small numbers of respondents. Junior trainees were defined as Foundation Doctor Year 1-2 (FP1, FP2), Core/Specialty Trainee Year 1-2 (CT1/ST1, CT2/ST2) and Core Trainee Year 3 (CT3). Senior trainees were defined as Specialty Trainee Year 3-8 (ST3-8) and Post-CCT Fellow. **FIGURE 1** outlines the current training pathway for UK postgraduates in medicine by stages of training.

Only fully completed questionnaires were included in the analysis. Microsoft Excel (Microsoft, 2010, Redmond, Washington, USA) was used to calculate descriptive statistics. Statistical analysis was performed using Sigma Plot version 11 (Systat Software Inc, UK) and statistical significance was accepted at $p<0.05$. Significance testing was performed using Chi-square test for non-parametric binary data. Free-text responses were independently categorized by theme into groups for analysis by two of the authors, with differences resolved by discussion. Survey sample size calculations were based on standard published formulae [14]

Results

Respondent demographics

A total of 3603 questionnaires were fully completed and included in the analysis. Medical students were excluded from the data analysis (n=166). 980 were excluded due to incompletion. The mean age of respondents was 32 years old (range 23-61) and 53.1% were male. Respondents ranged from Foundation Programme Year One Doctor (FP1) to Post-CCT (Certificate of Completion of Training) Fellow. A summary of demographics of the respondents is provided in **TABLE 3**.

Shape of Training Review

Of the completed survey responses, 75.3% (2713) of respondents stated they had heard of the Shape of Training Review; with senior trainees (ST3-Post-CCT) more aware of the review than junior trainees (FP1-CT3) (68.3% vs. 80.2%; p<0.0001). Of those who responded that they had heard of the Shape of Training Review, 50.3% (1367) stated they had read the report and 69.1% (1876) aware of the recommendations of the report.

Broad-based training

Only 17.6% of respondents stated they wanted to be a generalist clinician providing broad based care based on themes; with Emergency Medicine and General Practice statistically more likely to, compared with other specialties (74.7% vs. 12.7%; p<0.0001). Overall, a third of trainees (33.1%) want to be a generalist within their professional field; this varied between specialties from 73% in general practice and 68% in emergency medicine to just 10% in ophthalmology. Most (73.1%) responded that they wish to be a specialist. Most common specialties aspiring to be a specialist included Surgery (89.6%), Medicine (84.2%), and Radiology (82.4%). 54.4% stated they want to be a specialist but still provide general on-call cover, with Ophthalmology (76%), Surgery (70.9%) and Anaesthetics (65.4%) most likely. Responses per specialty can be found in **FIGURE 2**.

A majority (83.6%) of respondents stated they would prefer to be treated by a specialist if they were a patient, whereas in contrast, only 12.7% would prefer to be treated by a generalist if they were a patient. However, 69% would prefer to be treated by a specialist with a broad based generalist training. 70% responded that they would prefer to be treated by a doctor who deals with a high volume of cases within a narrow specialised range of practice, and in comparison only 9% would prefer to be treated by a doctor who deals with a lower volume of cases within a broad generalised scope of practice.

Length of training

Overall, only 12.5% felt that the duration of their training pathway is too long with 61% volunteering that the training duration in their specialty is appropriate. Interestingly, 21.8% (783) felt that training in their specialty is too short; with those pursuing a career in Emergency Medicine (41.5%), General Practice (41.3%), Pathology (33.1%) and Obstetrics and Gynaecology (31.4%) most likely to state their training duration could be lengthened (**Figure 3)**. Respondents were asked to provide free text comments regarding the length of postgraduate training. Major themes identified included observations that the length of training could only be decreased if the burden of service provision was reduced (122) and that adequate time is needed to gain the breadth of experience necessary to practice independently (109). Several respondents also raised concerns that a decrease in training time would result in a sub-consultant grade (51) or patient safety concerns (34); with some commenting that there is an evidence based drive for specialisation that is at odds with the proposals in the Greenaway review (13). However, some respondents felt that a decrease in the length of training could be possible if less relevant specialties were removed from their training pathway (31) or they intended to become a generalist only (10).

Only 13.4% felt that a competent, independent practitioner in their specialty could be delivered in a shorter length of time within the current system, with those pursuing a career in ophthalmology (28%) and paediatrics (23%) most likely to respond positively yet still with a low agreement rate.

Credentialing

Overall, 37.7% of respondents felt there should be formalised specialist training post-CCT (e.g. general surgery, medicine). 58.5% felt there should be formalised sub-specialist training post-CCT (e.g. transplant surgery). Just 2.2% felt that credentialing should be funded or part-funded by the trainee. 45.4% think that pre-CCT holders should have the same right to access credentialing as CCT holders. 44% think that Staff and Associate Specialist doctors (not on a formal training programme) not on the specialist register should have the same right to access credentialing as CCT holders, whilst only 13.3% felt that allied healthcare professionals should have the same right to access credentialing as CCT holders. However in the free text comments, 59 commented that they did not understand what the term credentialing meant.

Length of placements

Nearly two thirds of respondents (63%) felt that six-month placements were appropriate for early years of postgraduate training, whereas 74% felt that twelve-month placements were appropriate for later years of postgraduate training.

Point of registration

Sixty per cent of all respondents were aware of the proposed change in the point of registration from completion of FP1 to qualification from medical school. Around a third (32.7%) felt that oversubscription of the foundation programme is a current problem and 43.6% recognised that there is a current issue with medical schools having responsibility for FP1s who move to a different region to take up work from their medical school.

Only 11.8% were aware that the proposed change to the point of registration would make graduate-entry medical school programmes non-compliant with European Union Legislation, if medical school programmes remained only 4 years long. Out of all of the respondents, 11.9% stated they had undertaken a graduate-entry medical school training programme; with General Practice (17.9%), Radiology (16.7%) and Ophthalmology (16%) had the highest proportion of graduate entry trainees.

Over half of respondents (56.3%) felt that registration at the end of FP1 was beneficial; with 77.2% and 74.2% raising concerns that patient safety and FP1 supervision may be affected by proposed change in the point of registration, respectively. 37.2% would be in support of the introduction of a national licensing exam prior to qualification from medical school.

Flexibility of training

Majority of respondents (89.6%) agreed that additional flexibility should be built into postgraduate training. 74.9% felt a limitation on out of programme opportunities to a maximum of one year would be of concern to them. Over a third of all respondents (38.2%) stated they have or intended to take 2 years or more out of programme for either research, experience, career break or training (**Figure 4)**; most commonly noted within Medicine (56.7%), Public Health (50%), Obstetrics and Gynaecology (45.5%) and Surgery (42%).

Current training

Overall 4.3% felt their training curriculum is too specialist and 11.3% felt their training curriculum is too generalist. 10.4% felt their training curriculum requires a major overhaul to address the needs of patients, however 42.5% felt their training curriculum requires minor modifications to address the needs of patients. 71.8% felt that core training (CT1-2/ST1-2) in their specialty was a valuable

experience. Just under two thirds (64.7%) stated that core training in their specialty could be improved to include more training opportunities. Trainees pursuing surgery, medicine and paediatrics were most likely to state that their specialty core training could be improved to include more training opportunities (80.5%, 73.3% and 70.1%, respectively), and trainees pursuing pathology and anaesthetics least likely (23.7% and 26.2%, respectively). 69.5% recognised benefit to undertaking rotations in specialties closely related to theirs at core trainee level.

Improving Training

Respondents were asked to provide free text comments on how training could be improved. A breakdown of the major themes is provided in **Table 4**. Most common themes were dedicated protected training experiences (347), a reduction in service provision (282), flexibility for out of programme experiences (134), experience of related specialties to specialty of choice (122) and improved trainer supervision (105). A representative sample of these is provided in **Table 5**.

Discussion

The results of this cross sectional study have revealed that 1 in 4 UK doctors-in-training had not heard of the Shape of Training Review. This is a major review into the changes in medical training, which the authors believe has not been adequately publicised within the profession. Of those that had heard of the review, only 3.7% had been involved in the consultation process. Most doctors in training have not had the opportunity to feed into the review that represents a complete overhaul of their training pathway. Any discussions related to proposed changes affecting postgraduate training should have adequate representation from all stakeholders.

Perhaps unsurprisingly, Emergency Medicine and General Practice trainees were more likely to aspire to be a clinician delivering broad based care compared to other specialties; with Surgery, Medicine and Radiology trainees more likely to aspire to become specialists. A recent survey by the BJCA, found that 74% of cardiology trainees thought their training was too short [15]. Subsequently, the GMC approved an extension to cardiology training to ST8 for those choosing to dual accredit in cardiology with general medicine. However, the longitudinal survey data found a sharp drop off in number of trainee's dual accrediting thus supporting a trend of lengthening training due to the demand for achievement of competency in the specialist skills within the specialty. There is a plethora of evidence to support that practitioners performing high volume of procedures result in more favourable patient outcomes across a range of specialties [16-23]. It is this evidence that has led to the recent drive of centralisation of complex hospital services such as resectional upper GI surgery, Neurosurgery and radiology, Vascular surgery, gynaecological oncology surgery, Cardiothoracic surgery and thoracic radiology, major trauma, Bone and Soft Tissue Sarcoma surgery and Limb Reconstruction surgery. Rather than reducing the number of specialists, the authors believe that training should be augmented to ensure that specialists also have sufficient general and emergency skills. However, the wide variation in responses by speciality outlines that a one size fits all approach is misguided.

Only 13% felt that it would be possible to deliver an independent practitioner in a shorter period of time within the current system. This major change would require a shift of workload towards an increase in dedicated training alongside a lesser commitment to service provision, with potentially supernumerary posts. Given the current financial difficulties facing the NHS alongside a potential crisis in recruitment and retention on the horizon the opinion from doctors-in-training would suggest that shortening post-graduate training is untenable within the current NHS infrastructure

Nearly all (98%) respondents stated that trainees should not fund credentialing; this is likely due to

the ever-rising costs of medical training. Under the current £9,000 annual fees regime, medical students graduate with debts exceeding £39,000, from university tuition fees alone [24]. Whereas when additional Student Loans Company (SLC) loans are required for maintenance, debt exceeds £81,000. Furthermore doctors-in-training shoulder the burden of costs of postgraduate training. Compulsory training courses, conference attendance, medical indemnity, GMC registration, British Medical Association membership and Royal College or Faculty membership exams and fees mean the costs for meeting the essential criteria for entry into higher specialist training range from £2,215 for Anaesthetics, £2,375 for Emergency Medicine, £2,815 for Medical Specialties, and £3,360 for surgical specialties (with exclusion of Oral and Maxillofacial Surgery which totals £20,780 due to requirement of a Bachelor of Dentistry degree) [25]. These costs do not disappear on entering Specialist Training, rather they continue to increase including all the continued costs previously described and often additionally including higher degree and fellowship expenses [26]. The authors feel strongly that in light of the increasing burden of medical training costs, any proposals for credentialing should be at no additional expense to the trainee.

Aside from funding, there were mixed views with regards to credentialing and this may revolve around the current uncertainty amongst trainees about what credentialing may include. Only 1 in 10 respondents stated that credentialing should be accessible to Allied Healthcare Professionals. Currently the GMC does oversee physician assistants similar to allied healthcare professionals and therefore further work investigating their accountability, continued professional development and role in ensuring doctors-in-training are provided with additional training opportunities is required before the same credentials are available for all healthcare professionals.

Over a tenth of those who completed the survey had undertaken a graduate-entry medical school training programme. If the proposal for a change in the point of registration were implemented, potentially it would result in a loss in those individuals, which may affect the diversity of the workforce. With General Practice, Radiology and Ophthalmology having the highest proportion of those who were graduate-entry, this may have a knock-on effect for recruitment into these specialties. However the reason behind why these specialties had higher proportions of those from graduate-entry medical training programmes were not explored within this study. Approximately three quarters of trainees raised concerns related to both patient safety and FP1 supervision if a change in the point of registration were to be implemented. Prior to any proposed change in the point of registration, we would recommend that the effects on both patient safety and FP1 supervision be rigorously investigated in further detail. The drivers for the change are still unclear;

both oversubscription of the foundation programme and concerns regarding medical schools having little responsibility for FP1s who move out of region have both been suggested. Concerns exist that altering the point of registration to qualification will not address oversubscription, and in fact may worsen the problem due to the potential increase of EU graduates eligible to apply.

Just over a third of respondents stated they were in favour of a national licensing exam that would occur at the end of medical school. National licensing exams may serve to ensure a high quality and standard of medical education, and are essential to practice in Canada and USA (Medical Council of Canada Qualifying Examination and United States Medical Licensing Examination, respectively). Currently within the UK there are a wide range of differing teaching styles delivered across medical schools, all of which rigorously assess a students ability to be a safe and competent doctor on qualification. Prospective students may opt for the training programme that suits their learning style best when applying to universities. A national licensing exam may deter from the variety of teaching programmes currently offered, to the detriment of diversity within the workforce and may increase the assessment burden for undergraduate.

Just under two thirds (64.7%) stated that core training in their specialty could be improved to include more training opportunities, with Surgical Specialties scoring highest (80%). This is reflected in the GMC National Training Survey 2014 [27] results where Surgery showed the lowest satisfaction ratings; however this was mostly seen at Foundation (72%) and Core level (77%) when compared to Higher Specialist Training level (85%). The GMC Survey 2014 also found that programme specialty doctors training to be GP's had the lowest scores for clinical supervision (89%), however when analysis was performed looking at post specialty instead, GP had one of the highest scores for clinical supervision, suggesting that doctors in GP training receive better supervision when in GP practices compared with other rotations. This was supported by free text comments in our survey that suggested that GP trainees in hospital specialties were used to fill rotas and received poor training exposure. Medical Specialties scored lowest for adequate practical experience in the GMC National Training Survey 2014, presumable due to requirement to cover service provision, which again was supported by the free text comments in our survey.

However, despite the negative responses discussed, 69% of trainees stated they would see benefit to undertaking specialties closely related to theirs in the early years of training. This is an area in which training programmes could be enhanced in order to improve postgraduate training.

Recommendations

Relevant issues currently witnessed within UK postgraduate training, include greater need for trainer engagement, improved balance of service provision in favour of training exposure, improvement in junior doctors morale, improved teaching opportunities and improvements made at both a training programme level and health board level. Based on the qualitative feedback provided in this study, recommendations for improving postgraduate training, together with the content and availability of information provided, are summarised in **TABLE 4**. Addressing these issues alone are likely to result in an improvement in postgraduate training.

Conclusions

The results from this study provide evidence of a lack of support for some the key proposals made in the Shape of Training Review. The authors feel the Review failed to adequately include doctors-in-training during their consultation process, despite being the future workforce of the NHS. We would welcome a new, independent review be commissioned with widespread stakeholder engagement from the outset. The wide variation in responses by speciality highlights that a one size fits all may not be the best way forward.

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Contributors

RLH and VJG conceived and designed the study. All authors designed the questionnaire. RLH collected the data. RLH and VJG analysed the data. All authors were responsible for compiling the manuscript and approving the final article.

Competing interests

The authors are current specialist trainees and elected members of their respective trainee organisation. All authors have completed the ICMJE uniform disclosure form at http://www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years, no other relationships or activities that could appear to have influenced the submitted work.

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Data sharing statement

Respondent level data is available from the corresponding author at president@asit.org

Consent to data sharing was not obtained but the presented data are anonymised and risk of identification is low.

The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive licence (or non exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd to permit this article (if accepted) to be published in BMJ editions and any other BMJPGL products and sublicenses such use and exploit all subsidiary rights, as set out in our licence.

The lead author (RLH)* affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

*The manuscript's guarantor

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Table 1. Summary of the Shape of Training Review's Key Recommendations

1. Full GMC registration should move to the point of graduation from medical school.
2. The Foundation Programme (FP) should continue as a two-year programme, facilitating broad-based learning in community and secondary care settings.
3. Following the FP, doctors will enter 'broad-based specialty training' in a general area of practice, which will proceed for 4–6 years.
4. There will be the option of a single year to be taken within training to expand management/educational/clinical experience.
5. The Certificate of Completion of Training (CCT) will be replaced by a Certificate of Specialty Training (CST).
6. The future CST holder will be eligible to apply for consultant-level posts in the generality of their training area.
7. Subspecialty skills will be acquired after obtaining the CST by a process of 'credentialing'.
8. All changes in training (and therefore the products of the proposed training system) will be based on the local needs of the population.

GMC = General Medical Council; FP = Foundation Programme; CCT = Certificate of Completion of Training; CST = Certificate of Specialty Training

Tabled adapted from Ferguson *et al*, 2014 [7].

Table 2. Specialties classified according to the approved specialty training curricula by Royal College, Faculty or Joint Board

Surgical Specialties	Cardiothoracic Surgery, General Surgery, Oral and Maxillofacial Surgery, Otoloaryngology Surgery, Neurosurgery, Paediatric Surgery, Plastic Surgery, Trauma and Orthopaedics, Urology, Vascular Surgery
Medical Specialties	Allergy, Audiological Medicine, Acute Medicine, Cardiology, Clinical Genetics, Clinical Neurophysiology, Clinical Pharmacology and Therapeutics, Dermatology, Endocrinology and Diabetes, Gastroenterology, General Internal Medicine, Genito-urinary Medicine, Geriatric Medicine, Haematology, Immunology, Infectious Diseases, Medical Oncology, Medical Ophthalmology, Neurology, Nuclear Medicine, Paediatric Cardiology, Palliative Medicine, Pharmaceutical Medicine, Rehabilitation Medicine, Renal Medicine, Respiratory Medicine, Rheumatology, Sport and Exercise Medicine, Tropical Medicine
Intensive Care Medicine	Intensive Care Medicine
Anaesthesia	Anaesthesia
Emergency Medicine	Emergency Medicine
General Practice	General Practice
Obstetrics and Gynaecology	Obstetrics and Gynaecology
Ophthalmology	Ophthalmology
Paediatrics	Paediatrics
Pathology Specialties	Chemical Pathology, Diagnostic Neuropathology, Forensic Histopathology, Histopathology and Medical Microbiology and Virology
Psychiatry Specialties	General Psychiatry, Child and Adolescent Psychiatry, Forensic Psychiatry, Medical Psychotherapy, Old Age Psychiatry and Psychiatry of Learning Disability
Public Health	Public Health
Radiology Specialties	Clinical Radiology and Clinical Oncology

Table 3: Respondent demographics

Question	n	%
Gender		
Male	1879	52.15%
Female	1724	47.85%
Grade		
Foundation Doctor (FP1-FP2)	298	8.27%
Core Trainee (CT/ST1- CT3/SHO3+)	923	25.63%
Higher Trainee (ST3 - ST4)	864	23.98%
Higher Trainee (ST5 - ST6)	790	21.93%
Higher Trainee (ST7 - ST8)	422	11.72%
Research / Clinical Fellow	138	3.83%
Post-CCT	112	3.11%
Other	56	1.55%
Academic Post Holder	308	8.55%
Less than-full time Trainee	346	9.60%
Military Trainee	95	2.64%
Specialty you intend to pursue		
Cardiothoracic Surgery	27	0.75%
Otolaryngology Surgery	89	2.47%
General Surgery	418	11.60%
Neurosurgery	54	1.50%
Oral and Maxillofacial Surgery	26	0.72%
Paediatric Surgery	30	0.83%
Plastic Surgery	89	2.47%
Trauma and Orthopaedics	408	11.32%
Urology	88	2.44%
Vascular Surgery	60	1.67%
Allergy	0	0.00%
Audiological Medicine	1	0.03%
Acute Medicine	26	0.72%
Clinical Genetics	7	0.19%
Clinical Neurophysiology	1	0.03%
Cardiology	128	3.55%
Dermatology	50	1.39%
Clinical Pharmacology and Therapeutics	1	0.03%
Endocrinology and Diabetes	22	0.61%
Gastroenterology	61	1.69%
General Internal Medicine	19	0.53%
Genito-urinary Medicine	13	0.36%
Geriatric Medicine	72	2.00%
Haematology	27	0.75%
Immunology	5	0.14%
Infectious Diseases	32	0.89%
Medical Oncology	11	0.31%
Medical Ophthalmology	0	0.00%
Neurology	23	0.64%
Nuclear Medicine	2	0.06%
Paediatric Cardiology	6	0.17%

Palliative Medicine	18	0.50%
Pharmaceutical Medicine	0	0.00%
Rehabilitation Medicine	4	0.11%
Renal Medicine	16	0.44%
Respiratory Medicine	39	1.08%
Rheumatology	23	0.64%
Sport and Exercise Medicine	4	0.11%
Tropical Medicine	0	0.00%
Intensive Care Medicine	55	1.53%
Anaesthesia	324	8.99%
Community Sexual and Reproductive Health	2	0.06%
Emergency Medicine	101	2.80%
General Practice	184	5.11%
Obstetrics and Gynaecology	176	4.88%
Occupational Medicine	16	0.44%
Ophthalmology	50	1.39%
Paediatrics	231	6.41%
Chemical Pathology	16	0.44%
Diagnostic Neurophysiology	3	0.08%
Forensic Histopathology	2	0.06%
Histopathology	127	3.52%
Medical Microbiology and Virology	33	0.92%
General Psychiatry	84	2.33%
Child and Adolescent Psychiatry	18	0.50%
Forensic Psychiatry	21	0.58%
Medical Psychotherapy	5	0.14%
Old Age Psychiatry	26	0.72%
Psychiatry of Learning Disability	13	0.36%
Public Health	68	1.89%
Clinical Radiology	115	3.19%
Clinical Oncology	16	0.44%
Unsure	17	0.47%
Total responses	3603	100%

Table 4: Respondents recommendations to improve postgraduate training

Trainer improvements:

- More dedicated time to train
- Increased engagement in training
- Better supervision
- Reward/ Incentivise good training
- Accountability to allow opportunities to meet the trainee's learning needs
- Training the trainers in work based assessments and e-portfolio
- Increased mentorship and career advice
- Production of a structured training timetable

Local Education and Training Board (LETB)/ Health Board improvements:

- Feedback on training placements which is acted upon by LETBs
- Poor training placements to have trainees removed
- Adequate notice for new or changed rota and penalties when notice is under six weeks
- Adequate notice for placements so relocations can be planned
- Trainees to be placed in recognised high quality training unit

Training programme improvements:

- Dedicated and protected training experiences
- Bespoke training based on an individuals learning needs
- Increase the length of time for core training and reduce the foundation programme to 1 year
- Themed core training programmes
- Experience placements in specialties closely related to chosen specialty
- Increased flexibility for out of programme research/ experience/ career breaks/ training
- Interdeanery placements to gain sub-specialty experience
- Priority to be given to trainees' for training experiences over Allied Healthcare Professionals (AHPs)
- Management and leadership experience
- More community placements for General Practice and Paediatrics
- More specialty/ sub-specialty experience in later years
- Programme not time limited/ Lengthen training duration
- Less cross-cover emergency work
- Increase working hours/ Relaxation of European Working Time Directive (EWTD)
- More robust Annual Review of Competence Progression (ARCP) processes
- Time allocated for non-clinical activities including audit, quality improvement and e-portfolio

Improve teaching:

- More formal teaching sessions
- Protected teaching time
- More study leave to allow attendance on teaching sessions or courses
- Ability to take study leave and not restricted by service provision
- Better access to simulation facilities

Improve morale:

- Increased access to less than full-time training
- Work-life balance
- No undermining, bullying or discriminatory behavior
- Trainees to be treated as professionals by seniors, managers and colleagues

Decrease service provision:

- Less night shifts
- Less on-call shifts

- Less ward duties at Core Training level
- On-call shifts to include more training opportunities and assessments by seniors
- Rotas to be filled
- Increase the number of Staff and Association Specialty (SAS) doctors to cover service provision
- Better use of AHPs for service provision to allow training opportunities to occur

Improved e-Portfolio:

- Less focus on quantity of work based assessments
- Less focus on indicative numbers of procedures
- More user friendly e-portofolio systems
- Trainer engagement and knowledge of e-portfolio

Increased funding:

- More funding into training resources
- Increased study budget
- Reduction in the costs of conferences, course, training fees and exam fees
- Salaries that reflect the workload and responsibilities of a doctor-in-training

Table 5. Representative qualitative comments from respondents regarding recommendations for improving training

"A greater focus on training. In fact just some training, period!"
"Make trainers more accountable for training outcomes, e.g. numbers, quality of assessment, quality of supervision. They should come to the ARCP."
"If training were to include rotations in closely related specialties, I would not want it to be taken from the time we already have."
"Radiology training is perfect. Keep your mitts off it"
"Core training should not be about service provision"
"The Shape of training recommendation goes against what is happening in the rest of the world. While the United States, Canada and European Union are heading to speciality & sub speciality focused training, I find it amusing reading about the shape of training recommendations"
"It's shocking the lack of general medicine training given a) the number of trainees b) the amount of training money attached to these trainees (where does it go?) c) The number of patients admitted through general medicine d) ageing population e) need for generalists etc. I would suggest: protected teaching time (regular half days twice weekly), adequately staffed rotas (paying internal locums is much better than getting people from agencies), stop wasting our time with e-portfolio 'evidencing' and other such nonsense that is largely box ticking and not training, use the skills labs, teach everyone ultrasound and get them competent in it, simulation training, let people know roots greater than 6 weeks in advance with some sort of punishment for the health board if this isn't done."
"Adequate supervision, and clearly defined standards of supervision."
"Stop hospitals from treating us as temporary annoyances"
"The ability to tailor our own training programme"
"Flexibility and a more individual approach. Some people know what they want to do so tailoring appropriate experience would be better than a one size fits all approach"
"More clued up educational supervisors and training programme directors who actually do things to help you rather than just sit down and make you sign forms that don't actually help you become a better trainee. Deanery-level initiatives to ensure that only interested educational supervisors are chosen and that their outcomes are monitored yearly, just as trainees are. Simple improvements include genuine specific and achievable learning objectives for each year to help trainees to focus their activities, with reference to how other trainees in your specialty have fared with these, so we can all learn from each other. - Also, it feels like whenever you made any comment or complaint about your training, you are not believed or considered to hold a minority opinion (even when there is documentation that you hold the majority view!!)."

Figure 1. UK Training Pathway
Figure 1
209x297mm (300 x 300 DPI)

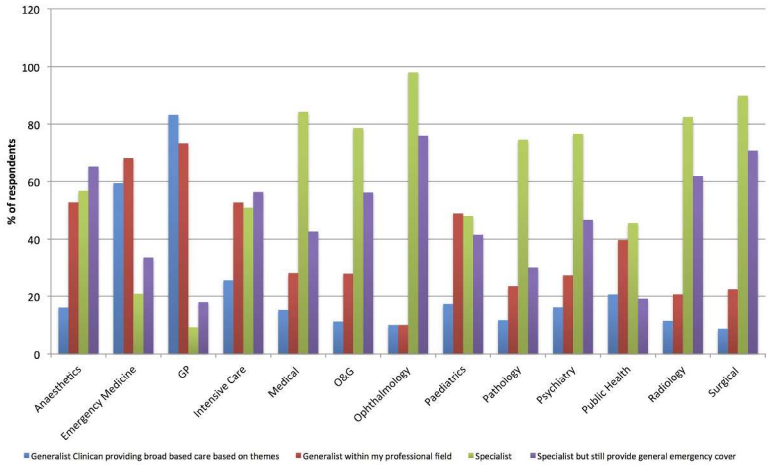

Figure 2. Responses per specialty when asked regarding type of independent practitioner trainees aspired to
Figure 2
297x209mm (300 x 300 DPI)

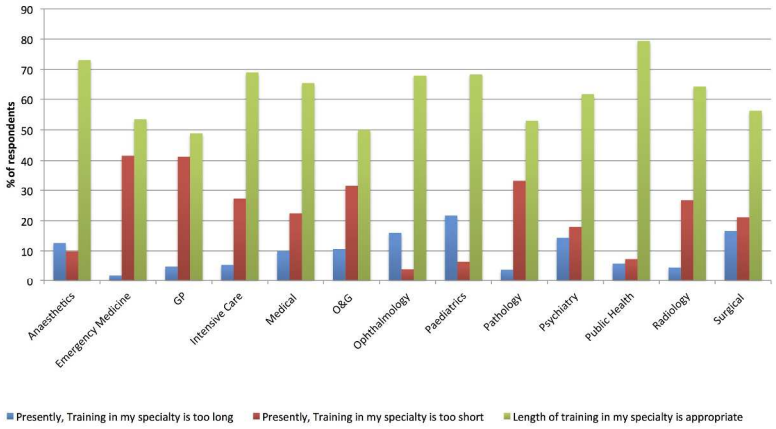

Figure 3. Responses per specialty when asked about the length of training in their specialty
Figure 3
297x209mm (300 x 300 DPI)

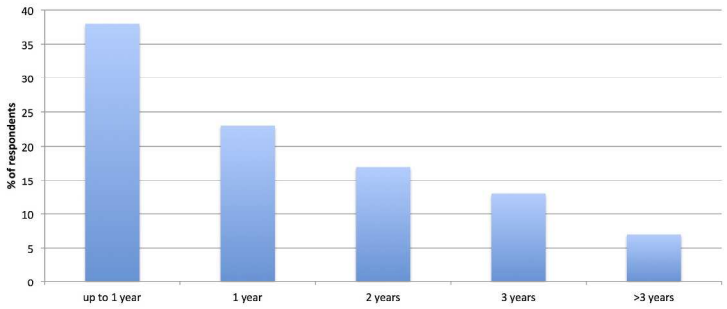

Figure 4. Number of years trainees have or intend to take out of programme
Figure 4
297x209mm (300 x 300 DPI)

Appendix 1. Indicative length of postgraduate training per specialty

Specialty	Indicative Length of Training Programme
Cardiothoracic Surgery	2 years of CST followed by 6 years of HST. Current pilot of 8 years run-through training
Otolaryngology Surgery	2 years of CST followed by 6 years of HST
General Surgery	2 years of CST followed by 6 years of HST
Neurosurgery	8 years of run-through training
Oral and Maxillofacial Surgery	2 years of CST followed by 6 years of HST. Dentistry undergraduate degree also required
Paediatric Surgery	2 years of CST followed by 6 years of HST
Plastic Surgery	2 years of CST followed by 6 years of HST
Trauma and Orthopaedics	2 years of CST followed by 6 years of HST. Run-through in Scotland
Urology	2 years of CST followed by 5 years of HST
Vascular Surgery	2 years of CST followed by 6 years of HST
Allergy	2 years of CMT followed by 5 years of HST
Audiological Medicine	2 years of CMT/ CST (ENT themed) or 3 years of ACCS/GPST/ Paediatric training, followed by 5 years of HST
Acute Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with General Internal Medicine
Cardiology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Clinical Genetics	2 years of CMT or 3 years of ACCS/ Paediatric training, followed by 4 years of HST
Clinical Neurophysiology	2 years of CMT or 3 years of ACCS/ Paediatric training, followed by 4 years of HST
Clinical Pharmacology and Therapeutics	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Dermatology	2 years of CMT, 3 years of ACCS or Paediatric training (with Core Medical competencies), followed by 4 years of HST
Endocrinology and Diabetes	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with Acute Internal Medicine
Gastroenterology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with Acute Internal Medicine
General Internal Medicine	2 years of CMT or 3 years of ACCS, followed by 3 years of HST
Genito-urinary Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Geriatric Medicine	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Haematology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Immunology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Infectious Diseases	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Medical Oncology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Medical Ophthalmology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Neurology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Nuclear Medicine	2 years of CMT/CST/or 3 years of ACCS/ Paediatric Training (with Core Medical competencies), followed by 4 years of HST
Paediatric Cardiology	3 years of Paediatric training or 2 years of CMT plus 1 year of Paediatric training, followed by 5 years of HST
Palliative Medicine	2 years of CMT/CST/CAT or 3 years of ACCS/GPST, followed by 4 years of HST
Pharmaceutical Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Rehabilitation Medicine	2 years of CMT/CST/CPT or 3 years of ACCS/GPST, followed by 4 years of HST
Renal Medicine	2 years of CMT or 3 years of ACCS, followed by 3 years of HST
Respiratory Medicine	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Rheumatology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Sport and Exercise	2 years of CMT or 3 years of ACCS/GPST, followed by 4 years of HST

Medicine	
Tropical Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Intensive Care Medicine	2 years of CAT or CMT or 3 years of ACCS, followed by 5 years of HST. Possible to dual CCT with General Medicine or Anaesthesia
Anaesthesia	2 years of CAT or 3 years of ACCS, followed by 5 years of HST
Community Sexual and Reproductive Health	6 years of run-through training
Emergency Medicine	3 years of ACCS, followed by 3 years of HST. Current pilot to allow 2 years of CST or emergency medicine experience and 4 years of HST
General Practice	3 years of GPST. Current pilot for 4 years
Obstetrics and Gynaecology	7 years of run-through training
Occupational Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Ophthalmology	7 years of run-through training
Paediatrics	8 years of run-through training
Chemical Pathology	5 years of run-through training
Diagnostic Neurophysiology	2 years of CMT (Neurology themed) or neurosurgery, followed by 4 years of HST
Forensic Histopathology	5 years and six months of run-through training
Histopathology	5 years and six months of run-through training
Medical Microbiology and Virology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Child and Adolescent Psychiatry	3 years of CPT and 3 years of HST
Forensic Psychiatry	3 years of CPT and 3 years of HST
General Psychiatry	3 years of CPT and 3 years of HST
Medical Psychotherapy	3 years of CPT and 3 years of HST
Old Age Psychiatry	3 years of CPT and 3 years of HST
Psychiatry of Learning Disability	3 years of CPT and 3 years of HST
Public Health	5 years of run-through training
Clinical Radiology	5 years of run-through training
Clinical Oncology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST

ACCS= Acute Care Common Stem, CAT= Core Anaesthesia Training, CMT= Core Medical Training, CPT= Core Psychiatry Training, CST= Core Surgical Training, GPST= General Practice Specialist Training, HST= Higher Specialist Training

Appendix 2. Details of the Trainee Associations that undertook this study

Association of Surgeons in Training (ASiT) (http://www.asit.org), is a pan-surgical specialty professional body and registered charity working to promote excellence in surgical training for the benefit of junior doctors and patients alike. Originally founded in 1976, ASiT is independent of the National Health Service (NHS), Surgical Royal Colleges, and specialty associations and has over 2700 members.

The British Orthopaedic Trainee Association (BOTA) (http://www.bota.org.uk) is a democratically elected representative group of doctors in all levels of Trauma and Orthopaedic surgical training in the UK. It was established in 1987 and is independent of the National Health Service (NHS), Surgical Royal Colleges and the British Orthopaedic Association. BOTA has 987 active members currently.

The Royal College of Surgeons of Edinburgh's Trainees' Committee is elected by the College membership to represent and support surgeons in training throughout the United Kingdom. It plays an essential role in the development of courses, events and resources for Trainees and, through its Chair, the elected Trainee Member of Council, raises key issues which impact surgical trainees with the College's Council.

The Psychiatric Trainees' Committee (PTC) (http://www.rcpsych.ac.uk/traininpsychiatry/trainees/ptc.aspx) at the Royal College of Psychiatrists represents psychiatrists in training in the UK, working with the college and other to improve psychiatric training, and advocating for our patients. It is made up of approximately 40 elected representatives from across the four nations, who represent over 3000 psychiatrists in training across the UK.

The Emergency Medicine Trainees Association (EMTA) (http://www.rcem.ac.uk/Training-Exams/EMTA) is an independent non-profit national body that represents over 1200 trainees in Emergency Medicine in the UK. The Association promotes excellence in emergency care and protection of adequate training in Emergency Medicine and the members of the EMTA council sit on all major committees at the Royal College of Emergency Medicine.

The British Junior Cardiologists Association (BJCA) (http://bcs.com/bjca) represents cardiologists in training in the UK. It can trace its origins back to 1948 but was established in its current format in 2000 and its membership includes over 1000 doctors. It is affiliated to the British Cardiovascular Society and has positive working relationships with other cardiovascular organisations and junior doctor groups in the UK and Europe. It aims to act as an advocate for cardiologists in training,

improve access to educational resources in cardiology, and promote the specialty to junior colleagues.

The Royal College of Obstetricians and Gynaecologists Trainees' Committee is a national representative body for junior doctors training in obstetrics and gynaecology. The committee has representation from every region of the UK and provides a forum for trainees to discuss and influence issues relevant to training as well as wider issues relevant to the profession.

The Society of Radiologists in Training (SRT) (http://www.thesrt.co.uk) was founded in 1993 under the auspices of The Royal College of Radiologists. The society is a non-profit making organisation, run by radiology trainees specifically to promote radiology training and education in the UK. The society has over 1800 registered members.

Introduction

Survey on the Shape of Training Review

• Thank you for your interest in this important survey investigating your views on the Shape of Training (or Greenaway) Report, and the changes it proposes to postgraduate medical training.

• The results will be freely disseminated, including through publication and on the trainee association's websites, and provided to Political Leaders, the GMC, the Royal Colleges and Specialty Associations.

• Completion indicates your consent for this analysis, distribution and publication of anonymised, grouped results drawn from this.

• This survey is for ALL TRAINEES AND MEDICAL STUDENTS, REGARDLESS OF SPECIALTY in the UK.

• Individual responses will remain anonymous.

• It takes approx 10 min to complete.

• Click 'NEXT' below to start the survey.

Demographics

Please tell us about you grade, location and specialty

***1. What is your current grade?**

Other (please specify)

***2. In which specialty do you work or intend to pursue?**

Other (please specify)

***3. Which training region do you work in?**

- East Midlands (Trent & Leicester)
- East of England
- KSS
- London
- Mersey
- North West
- Northern
- Northern Ireland
- Oxford
- Peninsula / South West
- Scotland - East
- Scotland - North
- Scotland - Southeast
- Scotland - West
- Severn
- Wales
- Wessex
- West Midlands
- Yorkshire & Humber

Other (please specify)

***4. Do you currently hold an academic post (ACF, Clinical Lecturer, etc)?**

- No
- Yes

***5. Are you a military trainee (i.e. registered with the Defence Postgraduate Medical Deanery)?**

- No
- Yes

***6. Are you in "less than full time" training?**

- Yes
- No
- I do not wish to answer this question

7. How old are you?

Age in years (please enter a number) =

***8. What is your gender?**

- Female
- Male

Shape of Training Review

***9. Have you heard of the Shape of Training Review?**

- Yes
- No

***10. Were you involved in the consultation process?**

- Yes
- No

***11. Have you read the report (full or summary)?**

- Yes
- No

***12. Are you aware of the recommendations made by the report?**

- Yes
- No

Shape of Training Review Recommendations

*13. Broad based training

The Shape of Training Review recommended that 'After the Foundation Programme, doctors will enter broad based specialty training. Specialties or areas of practice will be grouped together. These groupings will be characterised by patient care themes (such as women's health, child health and mental health), and will be defined by the dynamic and interconnected relationships between the specialties. They will have common clinical objectives, set out in the specialty curricula'

With regards to broad based training...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
I want to be a generalist clinician providing broad based care based on themes					
I want to be a generalist within my professional field e.g. general surgeon, general physician					
I want to be a specialist e.g. colorectal surgeon, renal physician					
I want to be a specialist but still provide general on-call cover					
If I were a patient I would prefer to be treated by a specialist					
If I were a patient I would prefer to be treated by a generalist					
If I were a patient I would prefer to be treated by a specialist with a broad based generalist training					
If I were a patient I would prefer to be treated by a doctor who deals with a higher volume of cases within a narrow specialised range of practice					
If I were a patient I would prefer to be treated by a doctor who deals with a lower volume of cases within a broad generalised scope of practice					

Comments

*14. Length of training

The Review recommended that 'Broad based specialty training, after Foundation Programme, will last between four and six years depending on specialty requirements (and depending on how individuals progress through the curricula)'

With regards to length of postgraduate training...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Presently, training is too long in my specialty					
Presently, training is too short in my specialty					
The length of training in my specialty is appropriate					
A competent, independent practitioner in my specialty can be delivered in a shorter length of training within the current system					

Comments

*15. Credentialing

The Review recommended that 'Appropriate organisations, including employers, should develop credentialed programmes for some specialty and all subspecialty training, which will be approved, regulated and quality assured by the GMC'

With regards to credentialing...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
There should be formalised specialist training post-CCT e.g. general surgery, medicine					
There should be formalised sub-specialist training post-CCT e.g. transplant surgery, renal medicine					
Credentialing should be funded or part-funded by the trainee					
Pre-CCT holders should have the same right to access credentialing as CCT holders					
Staff and Associate Specialist doctors not on the specialist register should have the same right to access credentialing as CCT holders					
Allied healthcare professionals should have the same right to access credentialing as CCT holders					

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree

Comments

*16. Longer placements

The Review recommended that 'Appropriate organisations, including employers must introduce longer placements for doctors'

With regards to the length of placements...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
In early years postgraduate training, I think 4 month placements are appropriate					
In early years postgraduate training, I think 6 month placements are appropriate					
In early years postgraduate training, I think 12 month placements are appropriate					
In later years postgraduate training, I think 4 month placements are appropriate					
In later years postgraduate training, I think 6 month placements are appropriate					
In later years postgraduate training, I think 12 month placements are appropriate					

Comments

Point of registration

The Shape of Training Review recommended that 'Full registration should happen at the point of graduation from medical school'

***17. Were you aware of the proposed change in point of registration (from completion of F1 to qualification from medical school)?**

- Yes
- No

***18. Do you think oversubscription of the foundation programme is a problem?**

- Yes
- No
- Unsure

***19. Did you undertake a graduate-entry medical school training programme?**

- Yes
- No

***20. Were you aware that the proposed change to the point of registration would make graduate-entry medical school programmes non-compliant with EU law?**

- Yes
- No

21. With regards to the current pre-registration F1 year.....

	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Registration at the end of F1 offers no benefit					
There is an issue with medical schools having responsibility for F1s who have moved to a different region					

***22. With regards to changing the point of registration...**

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Patient safety will be unaffected					
F1 supervision will be unaffected					
Point of registration should be moved for educational reasons only					
A national licensing exam is a good idea					

Comments

Flexibility in Postgraduate training

***23. Have you been, or are you currently undertaking Out of Programme for Research (OOPR)?**

- Yes
- No
- No, but intending to
- Unsure

***24. Have you been, or are you currently undertaking Out of Programme for Experience (OOPE)?**

- Yes
- No
- No , but intending to
- Unsure

***25. Have you been, or are you currently undertaking Out of Programme for Career Break (OOPCB)?**

- Yes
- No
- No, but intending to
- Unsure

***26. Have you been, or are you currently undertaking Out of Programme for Training (OOPT)?**

- Yes
- No
- No, but intending to
- Unsure

***27. How many years in total, have you or do you intend to take out of programme?**

- <1 year
- 1 year
- 2 years
- 3 years
- >3 years

Comments

***28. With regards to flexibility of training...**

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Additional flexibility should be built into postgraduate training					
OOPR is important to my training					
OOPE is important to my training					
OOPCB is important to my training					
OOPT is important to my training					
Limiting Out of Programme to one year only would not be an issue for me					

Comments

Your current training

***29. With regards to your current training...**

NB: Core Training refers to CT1-2/ST1-2 level

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
My training curriculum is too specialist	○	○	○	○	○
My training curriculum is too generalist	○	○	○	○	○
My training curriculum requires a major overhaul to address the needs of my patients	○	○	○	○	○
My training curriculum requires minor modifications to address the needs of my patients	○	○	○	○	○
At present, Core Training in my specialty is a valuable experience	○	○	○	○	○
Core Training in my specialty could be improved to include more training opportunities e.g. clinic, theatre	○	○	○	○	○
There is benefit to undertaking rotations in specialties closely related to mine at Core Trainee level	○	○	○	○	○

Comments

30. What would improve your training?

31. Any additional comments....

We would like to thank you for your time in completing this survey.

The results will be freely published, including on the trainee association's websites, and copies will be distributed to Political Leaders, the GMC, the Royal Colleges and Specialty Associations.

The Shape of Training Review can be found here:
http://www.shapeoftraining.co.uk

Read our responses to the Shape of Training Review Recommendations here:
http://asit.org/news/shape_of_training
http://www.bota.org.uk/coursealert-topic.php?id=2474

For more information about the work being undertaking on your behalf please visit our websites:
http://www.asit.org
http://www.bota.org.uk

Follow us on Twitter for the latest updates:
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@bota_uk

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported
Objectives	3	State specific objectives, including any prespecified hypotheses
Methods		
Study design	4	Present key elements of study design early in the paper
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group
Bias	9	Describe any efforts to address potential sources of bias
Study size	10	Explain how the study size was arrived at
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding
		(*b*) Describe any methods used to examine subgroups and interactions
		(*c*) Explain how missing data were addressed
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy
		(*e*) Describe any sensitivity analyses

Continued on next page

Results		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed
		(b) Give reasons for non-participation at each stage
		(c) Consider use of a flow diagram
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders
		(b) Indicate number of participants with missing data for each variable of interest
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time
		Case-control study—Report numbers in each exposure category, or summary measures of exposure
		Cross-sectional study—Report numbers of outcome events or summary measures
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included
		(*b*) Report category boundaries when continuous variables were categorized
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses
Discussion		
Key results	18	Summarise key results with reference to study objectives
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence
Generalisability	21	Discuss the generalisability (external validity) of the study results
Other information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

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What shape do UK trainees want their training to be? Results of a cross-sectional study

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What shape do UK trainees want their training to be? Results of a cross-sectional study

Rhiannon L Harries[1]*, Mustafa Rashid[2], Peter Smitham[2], Alex Vesey[3], Richard McGregor[4], Karl Scheeres[5], Jon Bailey[6], Syed Mohammed Afzal Sohaib[7], Matthew Prior[8], Jonathan Frost[8], Walid Al-Deeb[9], Gana Kugathasan[9], Vimal J Gokani[1]

1. Association of Surgeons in Training Council, Association of Surgeons in Training, 35-43 Lincoln's Inn Fields, London, WC2A 3PE, UK

2. British Orthopaedic Trainees Association, British Orthopaedic Association offices, 35-43 Lincoln's Inn Fields, London, WC2A 3PE, UK

3. Royal College of Physicians and Surgeons in Glasgow Trainees' Committee, 232-242 St Vincent Street, Glasgow, G2 5RJ

4. Royal College of Surgeons of Edinburgh Training Committee, Nicholson Street, Edinburgh, EH8 9DW

5. Psychiatric Trainees' Committee, Royal College of Psychiatrists, 21 Prescot Street, London, E1 8BB

6. Emergency Medicine Training Association, Royal College of Emergency Medicine, 7-9 Bream's Buildings, London, EC4A 1DT

7. British Junior Cardiologists Association, British Cardiovascular Society, 9 Fitzroy Square, London, W1T 5HW

8. Royal College of Obstetricians and Gynaecologists Trainees' Committee, 27 Sussex Place, London, NW1 4RG

9. The Society of Radiologists in Training, 3 Eagles Court, Wrexham, LL13 8DJ

***Corresponding author:** president@asit.org (R L Harries)

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Abstract

Objectives

The British Government is acting upon recommendations to overhaul postgraduate training to meet the needs of the changing population, to produce generalist doctors undergoing shorter broad-based training [Greenaway Review]. Only 45 doctors-in-training were involved in the consultation process. This study aims to obtain a focused perspective on the proposed reforms by doctors-in-training from across specialities.

Design

Prospective, questionnaire-based cross-sectional study.

Setting/participants

Following validation, a 31-item electronic questionnaire was distributed via trainee organisations and Postgraduate Local Education and Training Board (LETB) mailing lists. Throughout the 10-week study period, the survey was publicised on several social media platforms.

Results

Of the 3603 demographically representative respondents, 69% knew about proposed changes. Of the respondents, 73% expressed a desire to specialise, with 54% keen to provide general emergency cover. A small proportion (12%) stated that current training-pathway length is too long, although 86% felt that it is impossible to achieve independent practitioner level proficiency in a shorter period of time than is currently required. Opinions regarding credentialing were mixed, but tended towards disagreement. The vast majority (97%) felt credentialing should not be funded by doctors-in-training. Respondents preferred longer placement lengths with increasing career progression. Doctors-in-training value early generalised training (65%), with suggestions for further improvement.

Conclusions

This is the first large scale cross specialty study regarding the Shape of Training Review. Although there are recommendations which trainees support, it is clear that one size does not fit all. Most trainees are keen to provide a specialist service on an emergency generalist background. Credentialing is a contentious issue, however, we believe removing aspects from curricula into post-CCT credentialing programmes with shortened specialty training routes only degrades the current

consultant expertise, and does not serve the population. Educational needs, not political winds, should drive changes in postgraduate medical education and all stakeholders should be involved

Strengths and Limitations

- This study describes the experiences of a cross-sectional cohort of current trainees within the UK regarding the proposals described in the Shape of Training Review. The sample size provides a robust perspective on current opinions on postgraduate training and is 80% greater in number than the original Shape of Training Review consultation.
- The wide distribution of the survey in the UK and responses from all training grades, regions and specialties helped to mitigate against speciality subgroup selection bias. However, some specialties had higher response rates than others, this is likely to be explained by the varying degrees of penetration and distribution via specialty trainee groups combined with small number of respondents in the smaller specialties.
- It is recognised that there is an inherent selection bias in those who fully complete the survey.
- In this survey we found a higher than expected incompletion rate (20%). This may be as a result of a copy of the Shape of Training Review not being included at the start of the survey. Given that 24.7% of those who fully completed the questionnaire had not heard of the review, it could be hypothesised that many more who had not heard of the review failed to fully complete the survey. The demographics of those who did not fully complete the survey were comparable to those that did complete the survey, eliminating a potential completion bias of the respondents.

Introduction

Postgraduate medical training within the UK has seen several changes over the last few decades, most notably the 'Calman reforms' [1], Modernising Medical Careers (MMC) [2] and the introduction of the European Working Time Directive (EWTD) [3]. In 2013, Professor Sir David Greenaway published the Shape of Training review, an independent review of postgraduate medical training [4]. This report made recommendations for the future structure and delivery of postgraduate medical training. The review addresses a wide range of themes including changing patient needs, balance of the medical workforce (specialists or generalists), flexibility of training, the breadth and scope of training and tensions between service and training. The changes proposed in its 19 recommendations are far reaching, with implications for both current and future trainees in the UK (**TABLE 1**).

Despite the impact on both current and future trainees, only 45 doctors-in-training were consulted as part of the Shape of Training Review [5]. Several trainee bodies have since raised concerns regarding the implications of the recommendations [6-10].

At the time of printing, The Academy of Medical Royal Colleges is undertaking a consultation and mapping process on the implementation of the Shape of Training Review recommendations. This study aims were to obtain widespread, representative doctors-in-training opinion on the proposals made by the Shape of Training Review.

Methods

Participants and setting

Duration of postgraduate training in the United Kingdom varies between specialities ranging from 5 years (General Practice) to a minimum of 10 years (Surgical Specialties) as a postgraduate. However, many trainees often take time out of programme to perform research, obtain higher degrees or undertake other valuable educational experiences. Competitive entry into the specialty of choice occurs following completion of the initial post-qualification Foundation Programme (FP) (A two-year programme covering the generality of medicine, with full General Medical Council (GMC) registration occurring after the first year). A variety of run-through and 'uncoupled' (competitive entry at both core and higher training) training pathways exist depending on the specialty. A summary of the 63 training pathways recognised by the GMC are described in **APPENDIX 1**. At time of print, there are currently 53,825 doctors-in-training in the UK as recognised by the GMC [11].

Questionnaire design and distribution

A 31-item, questionnaire was developed, consisting of free-text, binomial and 5-point Likert scale responses. The questionnaire was designed with reference to previously published guidelines on questionnaire-based research [12-14]. The survey tool was peer-reviewed by experienced trainers and piloted by over 20 specialty trainees with a spread of seniority and specialty. Content validity was ensured by this peer-review and piloting process. Given the range of different constructs measured, internal consistency calculations were not undertaken. The feedback received was used to refine the question items. Individual question items were compulsory. No individually identifiable information was collected (e.g. email address); therefore, non-responders could not be identified for follow-up. No incentives were offered for participation. A copy of the questionnaire is included as supplemental information.

A SurveyMonkey (SurveyMonkey.com, LLC, Palo Alto, CA, USA) online link to the survey was distributed to members of the authors' respective trainee doctors associations, as well as those listed in the acknowledgements section. Further communications via local, regional and national mailing lists were sent periodically throughout the 10-week study period. Data collection took place from 25th May 2015 to 3rd August 2015. The ethical dimensions of this non-mandatory evaluation survey were considered and no concerns were identified. Completion of the questionnaire was taken as implied consent to participate in this study.

This study was undertaken by several trainee associations; Association of Surgeons in Training (ASiT), British Orthopaedic Trainee Association (BOTA), Royal College of Physicians and Surgeons of Glasgow Trainees' Committee, Royal College of Surgeons of Edinburgh Trainees' Committee, Psychiatric Trainees' Committee (PTC), Emergency Medicine Trainees' Association (EMTA), British Junior Cardiologists Association (BJCA), Royal College of Obstetricians and Gynaecologists Trainees' Committee, and Society of Radiologist in Training (SRT). Further details can be found in **APPENDIX 2**.

Data analysis

Trainees were asked to state the specialty they intended to pursue. Only specialties recognised by the General Medical Council were included. For purposes of data analysis, specialties were grouped according to the approved specialty training curricula by Royal College, Faculty or Joint Board and are described in **TABLE 2.** Community Sexual and Reproductive Health and Occupational Medicine were excluded from any specialty specific data analysis due to small numbers of respondents. Junior trainees were defined as Foundation Doctor Year 1-2 (FP1, FP2), Core/Specialty Trainee Year 1-2 (CT1/ST1, CT2/ST2) and Core Trainee Year 3 (CT3). Senior trainees were defined as Specialty Trainee Year 3-8 (ST3-8) and Post-CCT Fellow. **FIGURE 1** outlines the current training pathway for UK postgraduates in medicine by stages of training.

Only fully completed questionnaires were included in the analysis. Microsoft Excel (Microsoft, 2010, Redmond, Washington, USA) was used to calculate descriptive statistics. Statistical analysis was performed using Sigma Plot version 11 (Systat Software Inc, UK) and statistical significance was accepted at $p<0.05$. Significance testing was performed using Chi-square test for non-parametric binary data. Free-text responses were independently categorized by theme into groups for analysis by two of the authors, with differences resolved by discussion. Survey sample size calculations were based on standard published formulae [14].

Results

Respondent demographics

A total of 3603 questionnaires were fully completed and included in the analysis. Medical students were excluded from the data analysis (n=166). 980 were excluded due to incompletion. The mean age of respondents was 32 years old (range 23-61) and 53.1% were male. Respondents ranged from Foundation Programme Year One Doctor (FP1) to Post-CCT (Certificate of Completion of Training) Fellow. A summary of demographics of the respondents is provided in **TABLE 3**.

Shape of Training Review

Of the completed survey responses, 75.3% (2713) of respondents stated they had heard of the Shape of Training Review; with senior trainees (ST3-Post-CCT) more aware of the review than junior trainees (FP1-CT3) (68.3% vs. 80.2%; 95%CI 0.50-0.68, p<0.0001) and male trainees more aware of the review than female trainees (78.2% vs. 72.2%; 95%CI 0.62-0.84, p<0.001) . Of those who responded that they had heard of the Shape of Training Review, 50.3% (1367) stated they had read the report and 69.1% (1876) aware of the recommendations of the report.

Broad-based training

Only 17.6% of respondents stated they wanted to be a generalist clinician providing broad based care based on themes; with Emergency Medicine and General Practice statistically more likely to, compared with other specialties (74.7% vs. 12.7%; 95%CI 15.40-27.30, p<0.0001). Overall, a third of trainees (33.1%) want to be a generalist within their professional field; this varied between specialties from 73% in general practice and 68% in emergency medicine to just 10% in ophthalmology. Most (73.1%) responded that they wish to be a specialist. Most common specialties aspiring to be a specialist included Surgery (89.6%), Medicine (84.2%), and Radiology (82.4%). 54.4% stated they want to be a specialist but still provide general on-call cover, with Ophthalmology (76%), Surgery (70.9%) and Anaesthetics (65.4%) most likely. Responses per specialty can be found in **FIGURE 2**.

A majority (83.6%) of respondents stated they would prefer to be treated by a specialist if they were a patient, whereas in contrast, only 12.7% would prefer to be treated by a generalist if they were a patient. However, 69% would prefer to be treated by a specialist with a broad based generalist training. 70% responded that they would prefer to be treated by a doctor who deals with a high volume of cases within a narrow specialised range of practice, and in comparison only 9% would

prefer to be treated by a doctor who deals with a lower volume of cases within a broad generalised scope of practice.

Length of training

Overall, only 12.5% felt that the duration of their training pathway is too long with 61% volunteering that the training duration in their specialty is appropriate. Interestingly, 21.8% (783) felt that training in their specialty is too short; with those pursuing a career in Emergency Medicine (41.5%), General Practice (41.3%), Pathology (33.1%) and Obstetrics and Gynaecology (31.4%) most likely to state their training duration could be lengthened (**Figure 3)**. Respondents were asked to provide free text comments regarding the length of postgraduate training. Major themes identified included observations that the length of training could only be decreased if the burden of service provision was reduced (122) and that adequate time is needed to gain the breadth of experience necessary to practice independently (109). Several respondents also raised concerns that a decrease in training time would result in a sub-consultant grade (51) or patient safety concerns (34); with some commenting that there is an evidence based drive for specialisation that is at odds with the proposals in the Greenaway review (13). However, some respondents felt that a decrease in the length of training could be possible if less relevant specialties were removed from their training pathway (31) or they intended to become a generalist only (10).

Only 13.4% felt that a competent, independent practitioner in their specialty could be delivered in a shorter length of time within the current system, with those pursuing a career in ophthalmology (28%) and paediatrics (23%) most likely to respond positively yet still with a low agreement rate.

Credentialing

Overall, 37.7% of respondents felt there should be formalised specialist training post-CCT (e.g. general surgery, medicine). 58.5% felt there should be formalised sub-specialist training post-CCT (e.g. transplant surgery). Just 2.2% felt that credentialing should be funded or part-funded by the trainee. 45.4% think that pre-CCT holders should have the same right to access credentialing as CCT holders. 44% think that Staff and Associate Specialist doctors (not on a formal training programme) not on the specialist register should have the same right to access credentialing as CCT holders, whilst only 13.3% felt that allied healthcare professionals should have the same right to access credentialing as CCT holders. However in the free text comments, 59 commented that they did not understand what the term credentialing meant.

Length of placements

Nearly two thirds of respondents (63%) felt that six-month placements were appropriate for early years of postgraduate training, whereas 74% felt that twelve-month placements were appropriate for later years of postgraduate training.

Point of registration

Sixty per cent of all respondents were aware of the proposed change in the point of registration from completion of FP1 to qualification from medical school. Around a third (32.7%) felt that oversubscription of the foundation programme is a current problem and 43.6% recognised that there is a current issue with medical schools having responsibility for FP1s who move to a different region to take up work from their medical school.

Only 11.8% were aware that the proposed change to the point of registration would make graduate-entry medical school programmes non-compliant with European Union Legislation, if medical school programmes remained only 4 years long. Out of all of the respondents, 11.9% stated they had undertaken a graduate-entry medical school training programme; with General Practice (17.9%), Radiology (16.7%) and Ophthalmology (16%) had the highest proportion of graduate entry trainees.

Over half of respondents (56.3%) felt that registration at the end of FP1 was beneficial; with 77.2% and 74.2% raising concerns that patient safety and FP1 supervision may be affected by proposed change in the point of registration, respectively. 37.2% would be in support of the introduction of a national licensing exam prior to qualification from medical school.

Flexibility of training

Majority of respondents (89.6%) agreed that additional flexibility should be built into postgraduate training, with junior trainees more likely to agree than senior trainees (91.7% vs. 88.4%; 95%CI 1.14-1.85, p<0.001) and female trainee more likely to agree than male trainees (92.4% vs. 87.0%; 95%CI 1.46-2.28, p<0.001). 74.9% felt a limitation on out of programme opportunities to a maximum of one year would be of concern to them. Over a third of all respondents (38.2%) stated they have or intended to take 2 years or more out of programme for either research, experience, career break or training (**Figure 4)**; most commonly noted within Medicine (56.7%), Public Health (50%), Obstetrics and Gynaecology (45.5%) and Surgery (42%).

Current training

Overall 4.3% felt their training curriculum is too specialist and 11.3% felt their training curriculum is too generalist. 10.4% felt their training curriculum requires a major overhaul to address the needs of

patients, however 42.5% felt their training curriculum requires minor modifications to address the needs of patients. 71.8% felt that core training (CT1-2/ST1-2) in their specialty was a valuable experience. Just under two thirds (64.7%) stated that core training in their specialty could be improved to include more training opportunities. Trainees pursuing surgery, medicine and paediatrics were most likely to state that their specialty core training could be improved to include more training opportunities (80.5%, 73.3% and 70.1%, respectively), and trainees pursuing pathology and anaesthetics least likely (23.7% and 26.2%, respectively). 69.5% recognised benefit to undertaking rotations in specialties closely related to theirs at core trainee level.

Improving Training

Respondents were asked to provide free text comments on how training could be improved. A breakdown of the major themes is provided in **Table 4**. Most common themes were dedicated protected training experiences (347), a reduction in service provision (282), flexibility for out of programme experiences (134), experience of related specialties to specialty of choice (122) and improved trainer supervision (105). A representative sample of these is provided in **Table 5**.

Discussion

The results of this cross sectional study have revealed that 1 in 4 UK doctors-in-training had not heard of the Shape of Training Review. This is a major review into the changes in medical training, which the authors believe has not been adequately publicised within the profession. Of those that had heard of the review, only 3.7% had been involved in the consultation process. Most doctors in training have not had the opportunity to feed into the review that represents a complete overhaul of their training pathway. Any discussions related to proposed changes affecting postgraduate training should have adequate representation from all stakeholders.

Perhaps unsurprisingly, Emergency Medicine and General Practice trainees were more likely to aspire to be a clinician delivering broad based care compared to other specialties; with Surgery, Medicine and Radiology trainees more likely to aspire to become specialists. A recent survey by the BJCA, found that 74% of cardiology trainees thought their training was too short [15]. Subsequently, the GMC approved an extension to cardiology training to ST8 for those choosing to dual accredit in cardiology with general medicine. However, the longitudinal survey data found a sharp drop off in number of trainee's dual accrediting thus supporting a trend of lengthening training due to the demand for achievement of competency in the specialist skills within the specialty. There is a plethora of evidence to support that practitioners performing high volume of procedures result in more favourable patient outcomes across a range of specialties [16-23]. It is this evidence that has led to the recent drive of centralisation of complex hospital services such as resectional upper GI surgery, Neurosurgery and radiology, Vascular surgery, gynaecological oncology surgery, Cardiothoracic surgery and thoracic radiology, major trauma, Bone and Soft Tissue Sarcoma surgery and Limb Reconstruction surgery. Rather than reducing the number of specialists, the authors believe that training should be augmented to ensure that specialists also have sufficient general and emergency skills. However, the wide variation in responses by speciality outlines that a one size fits all approach is misguided.

Only 13% felt that it would be possible to deliver an independent practitioner in a shorter period of time within the current system. This major change would require a shift of workload towards an increase in dedicated training alongside a lesser commitment to service provision, with potentially supernumerary posts. Given the current financial difficulties facing the NHS alongside a potential crisis in recruitment and retention on the horizon the opinion from doctors-in-training would suggest that shortening post-graduate training is untenable within the current NHS infrastructure

Nearly all (98%) respondents stated that trainees should not fund credentialing; this is likely due to the ever-rising costs of medical training. Under the current £9,000 annual fees regime, medical students graduate with debts exceeding £39,000, from university tuition fees alone [24]. Whereas when additional Student Loans Company (SLC) loans are required for maintenance, debt exceeds £81,000. Furthermore doctors-in-training shoulder the burden of costs of postgraduate training. Compulsory training courses, conference attendance, medical indemnity, GMC registration, British Medical Association membership and Royal College or Faculty membership exams and fees mean the costs for meeting the essential criteria for entry into higher specialist training range from £2,215 for Anaesthetics, £2,375 for Emergency Medicine, £2,815 for Medical Specialties, and £3,360 for surgical specialties (with exclusion of Oral and Maxillofacial Surgery which totals £20,780 due to requirement of a Bachelor of Dentistry degree) [25]. These costs do not disappear on entering Specialist Training, rather they continue to increase including all the continued costs previously described and often additionally including higher degree and fellowship expenses [26]. The authors feel strongly that in light of the increasing burden of medical training costs, any proposals for credentialing should be at no additional expense to the trainee.

Aside from funding, there were mixed views with regards to credentialing and this may revolve around the current uncertainty amongst trainees about what credentialing may include. Only 1 in 10 respondents stated that credentialing should be accessible to Allied Healthcare Professionals. Currently the GMC does oversee physician assistants similar to allied healthcare professionals and therefore further work investigating their accountability, continued professional development and role in ensuring doctors-in-training are provided with additional training opportunities is required before the same credentials are available for all healthcare professionals.

Over a tenth of those who completed the survey had undertaken a graduate-entry medical school training programme. If the proposal for a change in the point of registration were implemented, potentially it would result in a loss in those individuals, which may affect the diversity of the workforce. With General Practice, Radiology and Ophthalmology having the highest proportion of those who were graduate-entry, this may have a knock-on effect for recruitment into these specialties. However the reason behind why these specialties had higher proportions of those from graduate-entry medical training programmes were not explored within this study. Approximately three quarters of trainees raised concerns related to both patient safety and FP1 supervision if a change in the point of registration were to be implemented. Prior to any proposed change in the

point of registration, we would recommend that the effects on both patient safety and FP1 supervision be rigorously investigated in further detail. The drivers for the change are still unclear; both oversubscription of the foundation programme and concerns regarding medical schools having little responsibility for FP1s who move out of region have both been suggested. Concerns exist that altering the point of registration to qualification will not address oversubscription, and in fact may worsen the problem due to the potential increase of EU graduates eligible to apply.

Just over a third of respondents stated they were in favour of a national licensing exam that would occur at the end of medical school. National licensing exams may serve to ensure a high quality and standard of medical education, and are essential to practice in Canada and USA (Medical Council of Canada Qualifying Examination and United States Medical Licensing Examination, respectively). Currently within the UK there are a wide range of differing teaching styles delivered across medical schools, all of which rigorously assess a students ability to be a safe and competent doctor on qualification. Prospective students may opt for the training programme that suits their learning style best when applying to universities. A national licensing exam may deter from the variety of teaching programmes currently offered, to the detriment of diversity within the workforce and may increase the assessment burden for undergraduate.

Just under two thirds (64.7%) stated that core training in their specialty could be improved to include more training opportunities, with Surgical Specialties scoring highest (80%). This is reflected in the GMC National Training Survey 2014 [27] results where Surgery showed the lowest satisfaction ratings; however this was mostly seen at Foundation (72%) and Core level (77%) when compared to Higher Specialist Training level (85%). The GMC Survey 2014 also found that programme specialty doctors training to be GP's had the lowest scores for clinical supervision (89%), however when analysis was performed looking at post specialty instead, GP had one of the highest scores for clinical supervision, suggesting that doctors in GP training receive better supervision when in GP practices compared with other rotations. This was supported by free text comments in our survey that suggested that GP trainees in hospital specialties were used to fill rotas and received poor training exposure. Medical Specialties scored lowest for adequate practical experience in the GMC National Training Survey 2014, presumable due to requirement to cover service provision, which again was supported by the free text comments in our survey.

However, despite the negative responses discussed, 69% of trainees stated they would see benefit to undertaking specialties closely related to theirs in the early years of training. This is an area in which training programmes could be enhanced in order to improve postgraduate training.

Recommendations

Relevant issues currently witnessed within UK postgraduate training, include greater need for trainer engagement, improved balance of service provision in favour of training exposure, improvement in junior doctors morale, improved teaching opportunities and improvements made at both a training programme level and health board level. Based on the qualitative feedback provided in this study, recommendations for improving postgraduate training, together with the content and availability of information provided, are summarised in **TABLE 4**. Addressing these issues alone are likely to result in an improvement in postgraduate training.

Conclusions

The results from this study provide evidence of a lack of support for some the key proposals made in the Shape of Training Review. The authors feel the Review failed to adequately include doctors-in-training during their consultation process, despite being the future workforce of the NHS. We would welcome a new, independent review be commissioned with widespread stakeholder engagement from the outset. The wide variation in responses by speciality highlights that a one size fits all may not be the best way forward.

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Contributors

RLH and VJG conceived and designed the study. All authors designed the questionnaire. RLH collected the data. RLH and VJG analysed the data. All authors were responsible for compiling the manuscript and approving the final article.

Competing interests

The authors are current specialist trainees and elected members of their respective trainee organisation. All authors have completed the ICMJE uniform disclosure form at http://www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years, no other relationships or activities that could appear to have influenced the submitted work.

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Data sharing statement

Respondent level data is available from the corresponding author at president@asit.org

Consent to data sharing was not obtained but the presented data are anonymised and risk of identification is low.

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The lead author (RLH)* affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

*The manuscript's guarantor

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Table 1. Summary of the Shape of Training Review's Key Recommendations

1. Full GMC registration should move to the point of graduation from medical school.
2. The Foundation Programme (FP) should continue as a two-year programme, facilitating broad-based learning in community and secondary care settings.
3. Following the FP, doctors will enter 'broad-based specialty training' in a general area of practice, which will proceed for 4–6 years.
4. There will be the option of a single year to be taken within training to expand management/educational/clinical experience.
5. The Certificate of Completion of Training (CCT) will be replaced by a Certificate of Specialty Training (CST).
6. The future CST holder will be eligible to apply for consultant-level posts in the generality of their training area.
7. Subspecialty skills will be acquired after obtaining the CST by a process of 'credentialing'.
8. All changes in training (and therefore the products of the proposed training system) will be based on the local needs of the population.

GMC = General Medical Council; FP = Foundation Programme; CCT = Certificate of Completion of Training; CST = Certificate of Specialty Training

Tabled adapted from Ferguson *et al*, 2014 [7].

Table 2. Specialties classified according to the approved specialty training curricula by Royal College, Faculty or Joint Board

Surgical Specialties	Cardiothoracic Surgery, General Surgery, Oral and Maxillofacial Surgery, Otoloaryngology Surgery, Neurosurgery, Paediatric Surgery, Plastic Surgery, Trauma and Orthopaedics, Urology, Vascular Surgery
Medical Specialties	Allergy, Audiological Medicine, Acute Medicine, Cardiology, Clinical Genetics, Clinical Neurophysiology, Clinical Pharmacology and Therapeutics, Dermatology, Endocrinology and Diabetes, Gastroenterology, General Internal Medicine, Genito-urinary Medicine, Geriatric Medicine, Haematology, Immunology, Infectious Diseases, Medical Oncology, Medical Ophthalmology, Neurology, Nuclear Medicine, Paediatric Cardiology, Palliative Medicine, Pharmaceutical Medicine, Rehabilitation Medicine, Renal Medicine, Respiratory Medicine, Rheumatology, Sport and Exercise Medicine, Tropical Medicine
Intensive Care Medicine	Intensive Care Medicine
Anaesthesia	Anaesthesia
Emergency Medicine	Emergency Medicine
General Practice	General Practice
Obstetrics and Gynaecology	Obstetrics and Gynaecology
Ophthalmology	Ophthalmology
Paediatrics	Paediatrics
Pathology Specialties	Chemical Pathology, Diagnostic Neuropathology, Forensic Histopathology, Histopathology and Medical Microbiology and Virology
Psychiatry Specialties	General Psychiatry, Child and Adolescent Psychiatry, Forensic Psychiatry, Medical Psychotherapy, Old Age Psychiatry and Psychiatry of Learning Disability
Public Health	Public Health
Radiology Specialties	Clinical Radiology and Clinical Oncology

Table 3: Respondent demographics

Question	n	%
Gender		
Male	1879	52.15%
Female	1724	47.85%
Grade		
Foundation Doctor (FP1-FP2)	298	8.27%
Core Trainee (CT/ST1- CT3/SHO3+)	923	25.63%
Higher Trainee (ST3 - ST4)	864	23.98%
Higher Trainee (ST5 - ST6)	790	21.93%
Higher Trainee (ST7 - ST8)	422	11.72%
Research / Clinical Fellow	138	3.83%
Post-CCT	112	3.11%
Other	56	1.55%
Academic Post Holder	308	8.55%
Less than-full time Trainee	346	9.60%
Military Trainee	95	2.64%
Specialty you intend to pursue		
Cardiothoracic Surgery	27	0.75%
Otolaryngology Surgery	89	2.47%
General Surgery	418	11.60%
Neurosurgery	54	1.50%
Oral and Maxillofacial Surgery	26	0.72%
Paediatric Surgery	30	0.83%
Plastic Surgery	89	2.47%
Trauma and Orthopaedics	408	11.32%
Urology	88	2.44%
Vascular Surgery	60	1.67%
Allergy	0	0.00%
Audiological Medicine	1	0.03%
Acute Medicine	26	0.72%
Clinical Genetics	7	0.19%
Clinical Neurophysiology	1	0.03%
Cardiology	128	3.55%
Dermatology	50	1.39%
Clinical Pharmacology and Therapeutics	1	0.03%
Endocrinology and Diabetes	22	0.61%
Gastroenterology	61	1.69%
General Internal Medicine	19	0.53%
Genito-urinary Medicine	13	0.36%
Geriatric Medicine	72	2.00%
Haematology	27	0.75%
Immunology	5	0.14%
Infectious Diseases	32	0.89%
Medical Oncology	11	0.31%
Medical Ophthalmology	0	0.00%

Neurology	23	0.64%
Nuclear Medicine	2	0.06%
Paediatric Cardiology	6	0.17%
Palliative Medicine	18	0.50%
Pharmaceutical Medicine	0	0.00%
Rehabilitation Medicine	4	0.11%
Renal Medicine	16	0.44%
Respiratory Medicine	39	1.08%
Rheumatology	23	0.64%
Sport and Exercise Medicine	4	0.11%
Tropical Medicine	0	0.00%
Intensive Care Medicine	55	1.53%
Anaesthesia	324	8.99%
Community Sexual and Reproductive Health	2	0.06%
Emergency Medicine	101	2.80%
General Practice	184	5.11%
Obstetrics and Gynaecology	176	4.88%
Occupational Medicine	16	0.44%
Ophthalmology	50	1.39%
Paediatrics	231	6.41%
Chemical Pathology	16	0.44%
Diagnostic Neurophysiology	3	0.08%
Forensic Histopathology	2	0.06%
Histopathology	127	3.52%
Medical Microbiology and Virology	33	0.92%
General Psychiatry	84	2.33%
Child and Adolescent Psychiatry	18	0.50%
Forensic Psychiatry	21	0.58%
Medical Psychotherapy	5	0.14%
Old Age Psychiatry	26	0.72%
Psychiatry of Learning Disability	13	0.36%
Public Health	68	1.89%
Clinical Radiology	115	3.19%
Clinical Oncology	16	0.44%
Unsure	17	0.47%
Total responses	3603	100%

Table 4: Respondents recommendations to improve postgraduate training

Trainer improvements:

- More dedicated time to train
- Increased engagement in training
- Better supervision
- Reward/ Incentivise good training
- Accountability to allow opportunities to meet the trainee's learning needs
- Training the trainers in work based assessments and e-portfolio
- Increased mentorship and career advice
- Production of a structured training timetable

Local Education and Training Board (LETB)/ Health Board improvements:

- Feedback on training placements which is acted upon by LETBs
- Poor training placements to have trainees removed
- Adequate notice for new or changed rota and penalties when notice is under six weeks
- Adequate notice for placements so relocations can be planned
- Trainees to be placed in recognised high quality training unit

Training programme improvements:

- Dedicated and protected training experiences
- Bespoke training based on an individuals learning needs
- Increase the length of time for core training and reduce the foundation programme to 1 year
- Themed core training programmes
- Experience placements in specialties closely related to chosen specialty
- Increased flexibility for out of programme research/ experience/ career breaks/ training
- Interdeanery placements to gain sub-specialty experience
- Priority to be given to trainees' for training experiences over Allied Healthcare Professionals (AHPs)
- Management and leadership experience
- More community placements for General Practice and Paediatrics
- More specialty/ sub-specialty experience in later years
- Programme not time limited/ Lengthen training duration
- Less cross-cover emergency work
- Increase working hours/ Relaxation of European Working Time Directive (EWTD)
- More robust Annual Review of Competence Progression (ARCP) processes
- Time allocated for non-clinical activities including audit, quality improvement and e-portfolio

Improve teaching:

- More formal teaching sessions
- Protected teaching time
- More study leave to allow attendance on teaching sessions or courses
- Ability to take study leave and not restricted by service provision
- Better access to simulation facilities

Improve morale:

- Increased access to less than full-time training
- Work-life balance
- No undermining, bullying or discriminatory behavior
- Trainees to be treated as professionals by seniors, managers and colleagues

Decrease service provision:

- Less night shifts
- Less on-call shifts

- Less ward duties at Core Training level
- On-call shifts to include more training opportunities and assessments by seniors
- Rotas to be filled
- Increase the number of Staff and Association Specialty (SAS) doctors to cover service provision
- Better use of AHPs for service provision to allow training opportunities to occur

Improved e-Portfolio:

- Less focus on quantity of work based assessments
- Less focus on indicative numbers of procedures
- More user friendly e-portofolio systems
- Trainer engagement and knowledge of e-portfolio

Increased funding:

- More funding into training resources
- Increased study budget
- Reduction in the costs of conferences, course, training fees and exam fees
- Salaries that reflect the workload and responsibilities of a doctor-in-training

Table 5. Representative qualitative comments from respondents regarding recommendations for improving training

"A greater focus on training. In fact just some training, period!"
"Make trainers more accountable for training outcomes, e.g. numbers, quality of assessment, quality of supervision. They should come to the ARCP."
"If training were to include rotations in closely related specialties, I would not want it to be taken from the time we already have."
"Radiology training is perfect. Keep your mitts off it"
"Core training should not be about service provision"
"The Shape of training recommendation goes against what is happening in the rest of the world. While the United States, Canada and European Union are heading to speciality & sub speciality focused training, I find it amusing reading about the shape of training recommendations"
"It's shocking the lack of general medicine training given a) the number of trainees b) the amount of training money attached to these trainees (where does it go?) c) The number of patients admitted through general medicine d) ageing population e) need for generalists etc. I would suggest: protected teaching time (regular half days twice weekly), adequately staffed rotas (paying internal locums is much better than getting people from agencies), stop wasting our time with e-portfolio 'evidencing' and other such nonsense that is largely box ticking and not training, use the skills labs, teach everyone ultrasound and get them competent in it, simulation training, let people know roots greater than 6 weeks in advance with some sort of punishment for the health board if this isn't done."
"Adequate supervision, and clearly defined standards of supervision."
"Stop hospitals from treating us as temporary annoyances"
"The ability to tailor our own training programme"
"Flexibility and a more individual approach. Some people know what they want to do so tailoring appropriate experience would be better than a one size fits all approach"
"More clued up educational supervisors and training programme directors who actually do things to help you rather than just sit down and make you sign forms that don't actually help you become a better trainee. Deanery-level initiatives to ensure that only interested educational supervisors are chosen and that their outcomes are monitored yearly, just as trainees are. Simple improvements include genuine specific and achievable learning objectives for each year to help trainees to focus their activities, with reference to how other trainees in your specialty have fared with these, so we can all learn from each other. - Also, it feels like whenever you made any comment or complaint about your training, you are not believed or considered to hold a minority opinion (even when there is documentation that you hold the majority view!!)."

Figure 1. UK Training Pathway
Figure 1
209x297mm (300 x 300 DPI)

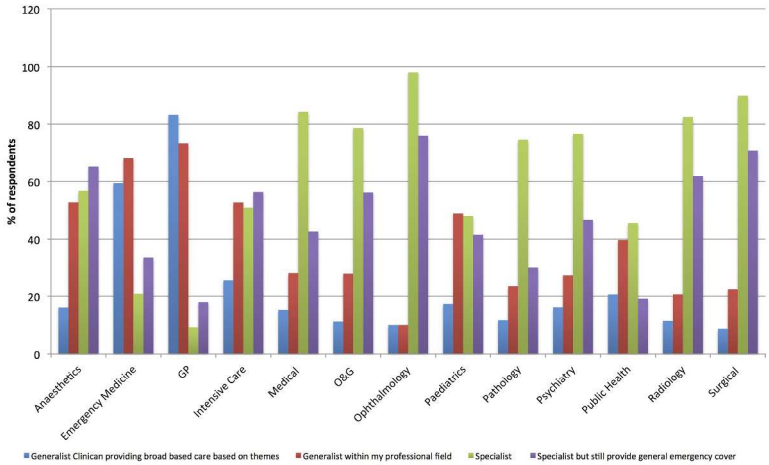

Figure 2. Responses per specialty when asked regarding type of independent practitioner trainees aspired to
Figure 2
297x209mm (300 x 300 DPI)

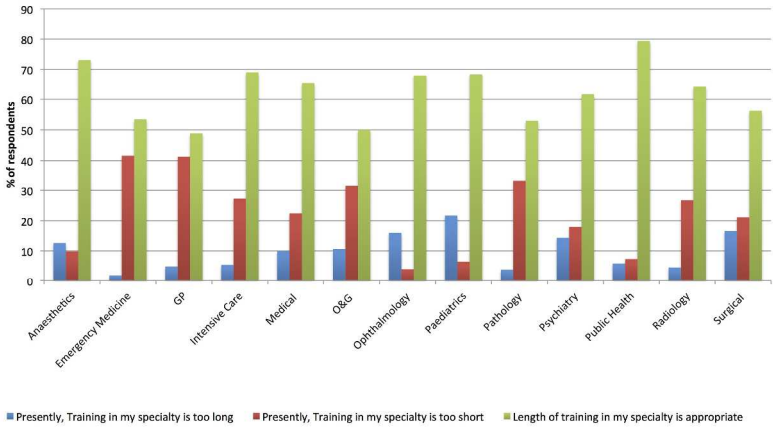

Figure 3. Responses per specialty when asked about the length of training in their specialty
Figure 3
297x209mm (300 x 300 DPI)

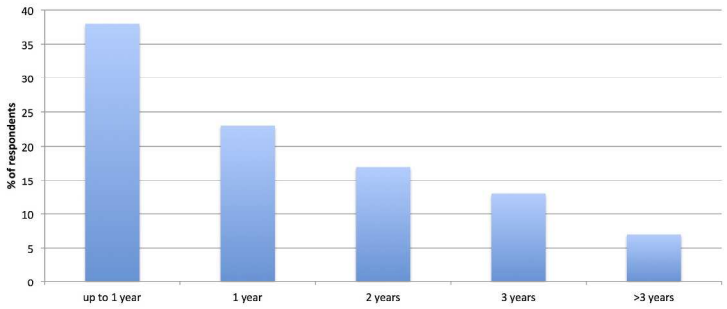

Figure 4. Number of years trainees have or intend to take out of programme
Figure 4
297x209mm (300 x 300 DPI)

Appendix 1. Indicative length of postgraduate training per specialty

Specialty	Indicative Length of Training Programme
Cardiothoracic Surgery	2 years of CST followed by 6 years of HST. Current pilot of 8 years run-through training
Otolaryngology Surgery	2 years of CST followed by 6 years of HST
General Surgery	2 years of CST followed by 6 years of HST
Neurosurgery	8 years of run-through training
Oral and Maxillofacial Surgery	2 years of CST followed by 6 years of HST. Dentistry undergraduate degree also required
Paediatric Surgery	2 years of CST followed by 6 years of HST
Plastic Surgery	2 years of CST followed by 6 years of HST
Trauma and Orthopaedics	2 years of CST followed by 6 years of HST. Run-through in Scotland
Urology	2 years of CST followed by 5 years of HST
Vascular Surgery	2 years of CST followed by 6 years of HST
Allergy	2 years of CMT followed by 5 years of HST
Audiological Medicine	2 years of CMT/ CST (ENT themed) or 3 years of ACCS/GPST/ Paediatric training, followed by 5 years of HST
Acute Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with General Internal Medicine
Cardiology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Clinical Genetics	2 years of CMT or 3 years of ACCS/ Paediatric training, followed by 4 years of HST
Clinical Neurophysiology	2 years of CMT or 3 years of ACCS/ Paediatric training, followed by 4 years of HST
Clinical Pharmacology and Therapeutics	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Dermatology	2 years of CMT, 3 years of ACCS or Paediatric training (with Core Medical competencies), followed by 4 years of HST
Endocrinology and Diabetes	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with Acute Internal Medicine
Gastroenterology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST. Extra year to dual CCT with Acute Internal Medicine
General Internal Medicine	2 years of CMT or 3 years of ACCS, followed by 3 years of HST
Genito-urinary Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Geriatric Medicine	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Haematology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Immunology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Infectious Diseases	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Medical Oncology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Medical Ophthalmology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Neurology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Nuclear Medicine	2 years of CMT/CST/or 3 years of ACCS/ Paediatric Training (with Core Medical competencies), followed by 4 years of HST
Paediatric Cardiology	3 years of Paediatric training or 2 years of CMT plus 1 year of Paediatric training, followed by 5 years of HST
Palliative Medicine	2 years of CMT/CST/CAT or 3 years of ACCS/GPST, followed by 4 years of HST
Pharmaceutical Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Rehabilitation Medicine	2 years of CMT/CST/CPT or 3 years of ACCS/GPST, followed by 4 years of HST
Renal Medicine	2 years of CMT or 3 years of ACCS, followed by 3 years of HST
Respiratory Medicine	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Rheumatology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST
Sport and Exercise	2 years of CMT or 3 years of ACCS/GPST, followed by 4 years of HST

Medicine	
Tropical Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Intensive Care Medicine	2 years of CAT or CMT or 3 years of ACCS, followed by 5 years of HST. Possible to dual CCT with General Medicine or Anaesthesia
Anaesthesia	2 years of CAT or 3 years of ACCS, followed by 5 years of HST
Community Sexual and Reproductive Health	6 years of run-through training
Emergency Medicine	3 years of ACCS, followed by 3 years of HST. Current pilot to allow 2 years of CST or emergency medicine experience and 4 years of HST
General Practice	3 years of GPST. Current pilot for 4 years
Obstetrics and Gynaecology	7 years of run-through training
Occupational Medicine	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Ophthalmology	7 years of run-through training
Paediatrics	8 years of run-through training
Chemical Pathology	5 years of run-through training
Diagnostic Neurophysiology	2 years of CMT (Neurology themed) or neurosurgery, followed by 4 years of HST
Forensic Histopathology	5 years and six months of run-through training
Histopathology	5 years and six months of run-through training
Medical Microbiology and Virology	2 years of CMT or 3 years of ACCS, followed by 4 years of HST
Child and Adolescent Psychiatry	3 years of CPT and 3 years of HST
Forensic Psychiatry	3 years of CPT and 3 years of HST
General Psychiatry	3 years of CPT and 3 years of HST
Medical Psychotherapy	3 years of CPT and 3 years of HST
Old Age Psychiatry	3 years of CPT and 3 years of HST
Psychiatry of Learning Disability	3 years of CPT and 3 years of HST
Public Health	5 years of run-through training
Clinical Radiology	5 years of run-through training
Clinical Oncology	2 years of CMT or 3 years of ACCS, followed by 5 years of HST

ACCS= Acute Care Common Stem, CAT= Core Anaesthesia Training, CMT= Core Medical Training, CPT= Core Psychiatry Training, CST= Core Surgical Training, GPST= General Practice Specialist Training, HST= Higher Specialist Training

Appendix 2. Details of the Trainee Associations that undertook this study

Association of Surgeons in Training (ASiT) (http://www.asit.org), is a pan-surgical specialty professional body and registered charity working to promote excellence in surgical training for the benefit of junior doctors and patients alike. Originally founded in 1976, ASiT is independent of the National Health Service (NHS), Surgical Royal Colleges, and specialty associations and has over 2700 members.

The British Orthopaedic Trainee Association (BOTA) (http://www.bota.org.uk) is a democratically elected representative group of doctors in all levels of Trauma and Orthopaedic surgical training in the UK. It was established in 1987 and is independent of the National Health Service (NHS), Surgical Royal Colleges and the British Orthopaedic Association. BOTA has 987 active members currently.

The Royal College of Surgeons of Edinburgh's Trainees' Committee is elected by the College membership to represent and support surgeons in training throughout the United Kingdom. It plays an essential role in the development of courses, events and resources for Trainees and, through its Chair, the elected Trainee Member of Council, raises key issues which impact surgical trainees with the College's Council.

The Psychiatric Trainees' Committee (PTC) (http://www.rcpsych.ac.uk/traininpsychiatry/trainees/ptc.aspx) at the Royal College of Psychiatrists represents psychiatrists in training in the UK, working with the college and other to improve psychiatric training, and advocating for our patients. It is made up of approximately 40 elected representatives from across the four nations, who represent over 3000 psychiatrists in training across the UK.

The Emergency Medicine Trainees Association (EMTA) (http://www.rcem.ac.uk/Training-Exams/EMTA) is an independent non-profit national body that represents over 1200 trainees in Emergency Medicine in the UK. The Association promotes excellence in emergency care and protection of adequate training in Emergency Medicine and the members of the EMTA council sit on all major committees at the Royal College of Emergency Medicine.

The British Junior Cardiologists Association (BJCA) (http://bcs.com/bjca) represents cardiologists in training in the UK. It can trace its origins back to 1948 but was established in its current format in 2000 and its membership includes over 1000 doctors. It is affiliated to the British Cardiovascular Society and has positive working relationships with other cardiovascular organisations and junior doctor groups in the UK and Europe. It aims to act as an advocate for cardiologists in training,

improve access to educational resources in cardiology, and promote the specialty to junior colleagues.

The Royal College of Obstetricians and Gynaecologists Trainees' Committee is a national representative body for junior doctors training in obstetrics and gynaecology. The committee has representation from every region of the UK and provides a forum for trainees to discuss and influence issues relevant to training as well as wider issues relevant to the profession.

The Society of Radiologists in Training (SRT) (http://www.thesrt.co.uk) was founded in 1993 under the auspices of The Royal College of Radiologists. The society is a non-profit making organisation, run by radiology trainees specifically to promote radiology training and education in the UK. The society has over 1800 registered members.

Introduction

Survey on the Shape of Training Review

• Thank you for your interest in this important survey investigating your views on the Shape of Training (or Greenaway) Report, and the changes it proposes to postgraduate medical training.

• The results will be freely disseminated, including through publication and on the trainee association's websites, and provided to Political Leaders, the GMC, the Royal Colleges and Specialty Associations.

• Completion indicates your consent for this analysis, distribution and publication of anonymised, grouped results drawn from this.

• This survey is for ALL TRAINEES AND MEDICAL STUDENTS, REGARDLESS OF SPECIALTY in the UK.

• Individual responses will remain anonymous.

• It takes approx 10 min to complete.

• Click 'NEXT' below to start the survey.

Demographics

Please tell us about you grade, location and specialty

***1. What is your current grade?**

Other (please specify)

***2. In which specialty do you work or intend to pursue?**

Other (please specify)

***3. Which training region do you work in?**

- East Midlands (Trent & Leicester)
- East of England
- KSS
- London
- Mersey
- North West
- Northern
- Northern Ireland
- Oxford
- Peninsula / South West
- Scotland - East
- Scotland - North
- Scotland - Southeast
- Scotland - West
- Severn
- Wales
- Wessex
- West Midlands
- Yorkshire & Humber

Other (please specify)

***4. Do you currently hold an academic post (ACF, Clinical Lecturer, etc)?**

- No
- Yes

***5. Are you a military trainee (i.e. registered with the Defence Postgraduate Medical Deanery)?**

- No
- Yes

***6. Are you in "less than full time" training?**

- Yes
- No
- I do not wish to answer this question

7. How old are you?

Age in years (please enter a number) =

***8. What is your gender?**

- Female
- Male

Shape of Training Review

***9. Have you heard of the Shape of Training Review?**

- Yes
- No

***10. Were you involved in the consultation process?**

- Yes
- No

***11. Have you read the report (full or summary)?**

- Yes
- No

***12. Are you aware of the recommendations made by the report?**

- Yes
- No

Shape of Training Review Recommendations

*13. Broad based training

The Shape of Training Review recommended that 'After the Foundation Programme, doctors will enter broad based specialty training. Specialties or areas of practice will be grouped together. These groupings will be characterised by patient care themes (such as women's health, child health and mental health), and will be defined by the dynamic and interconnected relationships between the specialties. They will have common clinical objectives, set out in the specialty curricula'

With regards to broad based training...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
I want to be a generalist clinician providing broad based care based on themes					
I want to be a generalist within my professional field e.g. general surgeon, general physician					
I want to be a specialist e.g. colorectal surgeon, renal physician					
I want to be a specialist but still provide general on-call cover					
If I were a patient I would prefer to be treated by a specialist					
If I were a patient I would prefer to be treated by a generalist					
If I were a patient I would prefer to be treated by a specialist with a broad based generalist training					
If I were a patient I would prefer to be treated by a doctor who deals with a higher volume of cases within a narrow specialised range of practice					
If I were a patient I would prefer to be treated by a doctor who deals with a lower volume of cases within a broad generalised scope of practice					

Comments

*14. Length of training

The Review recommended that 'Broad based specialty training, after Foundation Programme, will last between four and six years depending on specialty requirements (and depending on how individuals progress through the curricula)'

With regards to length of postgraduate training...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Presently, training is too long in my specialty					
Presently, training is too short in my specialty					
The length of training in my specialty is appropriate					
A competent, independent practitioner in my specialty can be delivered in a shorter length of training within the current system					

Comments

*15. Credentialing

The Review recommended that 'Appropriate organisations, including employers, should develop credentialed programmes for some specialty and all subspecialty training, which will be approved, regulated and quality assured by the GMC'

With regards to credentialing...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
There should be formalised specialist training post-CCT e.g. general surgery, medicine					
There should be formalised sub-specialist training post-CCT e.g. transplant surgery, renal medicine					
Credentialing should be funded or part-funded by the trainee					
Pre-CCT holders should have the same right to access credentialing as CCT holders					
Staff and Associate Specialist doctors not on the specialist register should have the same right to access credentialing as CCT holders					
Allied healthcare professionals should have the same right to access credentialing as CCT holders					

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree

Comments

*16. Longer placements

The Review recommended that 'Appropriate organisations, including employers must introduce longer placements for doctors'

With regards to the length of placements...

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
In early years postgraduate training, I think 4 month placements are appropriate					
In early years postgraduate training, I think 6 month placements are appropriate					
In early years postgraduate training, I think 12 month placements are appropriate					
In later years postgraduate training, I think 4 month placements are appropriate					
In later years postgraduate training, I think 6 month placements are appropriate					
In later years postgraduate training, I think 12 month placements are appropriate					

Comments

Point of registration

The Shape of Training Review recommended that 'Full registration should happen at the point of graduation from medical school'

***17. Were you aware of the proposed change in point of registration (from completion of F1 to qualification from medical school)?**

- Yes
- No

***18. Do you think oversubscription of the foundation programme is a problem?**

- Yes
- No
- Unsure

***19. Did you undertake a graduate-entry medical school training programme?**

- Yes
- No

***20. Were you aware that the proposed change to the point of registration would make graduate-entry medical school programmes non-compliant with EU law?**

- Yes
- No

21. With regards to the current pre-registration F1 year.....

	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Registration at the end of F1 offers no benefit					
There is an issue with medical schools having responsibility for F1s who have moved to a different region					

***22. With regards to changing the point of registration...**

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Patient safety will be unaffected					
F1 supervision will be unaffected					
Point of registration should be moved for educational reasons only					
A national licensing exam is a good idea					

Comments

Flexibility in Postgraduate training

***23. Have you been, or are you currently undertaking Out of Programme for Research (OOPR)?**

- Yes
- No
- No, but intending to
- Unsure

***24. Have you been, or are you currently undertaking Out of Programme for Experience (OOPE)?**

- Yes
- No
- No , but intending to
- Unsure

***25. Have you been, or are you currently undertaking Out of Programme for Career Break (OOPCB)?**

- Yes
- No
- No, but intending to
- Unsure

***26. Have you been, or are you currently undertaking Out of Programme for Training (OOPT)?**

- Yes
- No
- No, but intending to
- Unsure

***27. How many years in total, have you or do you intend to take out of programme?**

- <1 year
- 1 year
- 2 years
- 3 years
- >3 years

Comments

***28. With regards to flexibility of training...**

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Additional flexibility should be built into postgraduate training					
OOPR is important to my training					
OOPE is important to my training					
OOPCB is important to my training					
OOPT is important to my training					
Limiting Out of Programme to one year only would not be an issue for me					

Comments

Your current training

***29. With regards to your current training...**

NB: Core Training refers to CT1-2/ST1-2 level

	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
My training curriculum is too specialist	○	○	○	○	○
My training curriculum is too generalist	○	○	○	○	○
My training curriculum requires a major overhaul to address the needs of my patients	○	○	○	○	○
My training curriculum requires minor modifications to address the needs of my patients	○	○	○	○	○
At present, Core Training in my specialty is a valuable experience	○	○	○	○	○
Core Training in my specialty could be improved to include more training opportunities e.g. clinic, theatre	○	○	○	○	○
There is benefit to undertaking rotations in specialties closely related to mine at Core Trainee level	○	○	○	○	○

Comments

30. What would improve your training?

31. Any additional comments....

We would like to thank you for your time in completing this survey.

The results will be freely published, including on the trainee association's websites, and copies will be distributed to Political Leaders, the GMC, the Royal Colleges and Specialty Associations.

The Shape of Training Review can be found here:
http://www.shapeoftraining.co.uk

Read our responses to the Shape of Training Review Recommendations here:
http://asit.org/news/shape_of_training
http://www.bota.org.uk/coursealert-topic.php?id=2474

For more information about the work being undertaking on your behalf please visit our websites:
http://www.asit.org
http://www.bota.org.uk

Follow us on Twitter for the latest updates:
@ASiTofficial
@bota_uk

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported
Objectives	3	State specific objectives, including any prespecified hypotheses
Methods		
Study design	4	Present key elements of study design early in the paper
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group
Bias	9	Describe any efforts to address potential sources of bias
Study size	10	Explain how the study size was arrived at
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding
		(*b*) Describe any methods used to examine subgroups and interactions
		(*c*) Explain how missing data were addressed
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy
		(*e*) Describe any sensitivity analyses

Continued on next page

Results		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed
		(b) Give reasons for non-participation at each stage
		(c) Consider use of a flow diagram
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders
		(b) Indicate number of participants with missing data for each variable of interest
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time
		Case-control study—Report numbers in each exposure category, or summary measures of exposure
		Cross-sectional study—Report numbers of outcome events or summary measures
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included
		(*b*) Report category boundaries when continuous variables were categorized
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses
Discussion		
Key results	18	Summarise key results with reference to study objectives
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence
Generalisability	21	Discuss the generalisability (external validity) of the study results
Other information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.