

Implementing the Clinician Scientist Scheme

A report from the
Academy's Clinical Academic
Training Committee

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April 2002

Summary and recommendations

The Academy of Medical Sciences' 2000 report *The Tenure-track Clinician Scientist: a new career pathway to promote recruitment into clinical academic medicine*¹ (the Savill report) made many recommendations about the development of academic medicine.

The key recommendation was to establish the tenure-track clinician scientist scheme. Other recommendations concerned a research training access scheme, limited earmarking of fellowships and enhancing flexibility in some specialties.

After its report was published, the Council of the Academy of Medical Sciences set up a new committee to make recommendations for implementation of the tenure-track clinician scientist scheme and to monitor and assist implementation of the other proposals.

This report from the Academy's Clinical Academic Training Committee documents progress.

Characteristics of this scheme

The term 'clinician scientist' is used by a variety of organisations to describe different types of scheme. Throughout this report the term 'clinician scientist scheme' refers to arrangements that were recommended in the Academy's 2000 report¹ and that now conform to the national standard as set down by the Clinician Scientist Monitoring Committee.

In essence the main elements of this scheme are as follows:

- the research fellowships provided by sponsoring organisations must be approved by the Clinician Scientist Monitoring Committee as conforming to the national clinician scientist standard;
- appointees to the research fellowships must already hold a higher research degree (or be very close to obtaining one);
- *ad personam* arrangements will be made to allow the appointees to become established as independent researchers and to fulfil the requirements of specialist training;

If these criteria are met then the appointees will be awarded an NTN(A) in place of the NTN already held.

Main findings and recommendations

- 1 There has been considerable progress with the implementation of the clinician scientist scheme since the publication of the Academy's report in 2000.
- 2 There is a growing number of clinician scientist appointments conforming to the national standard, with funding for fellowships provided by the medical research charities, the Medical Research Council and the Department of Health. It is as yet unclear whether funding exists for the full 50 appointments per year as recommended in the Academy's report.
- 3 A new body, the Clinician Scientist Monitoring Committee, has been set up to approve all clinician scientist schemes that conform to the national standard and to act as the final common pathway for confirming that an individual clinician scientist meets the national criteria.
- 4 It is important to obtain the support of university vice chancellors, both to encourage clinician scientist appointments and to provide a tenure-track career path for these high quality clinical scientists.
- 5 The clinician scientist scheme can be embraced by all the clinical specialties.

¹ Academy of Medical Sciences. *The tenure-track clinician scientist: a new career pathway to promote recruitment in clinical academic medicine*. March 2000. <http://www.acmedsci.ac.uk/Clinic.pdf>

- 6 The Academy of Medical Science's mentoring scheme has been set up to provide individual mentors for clinician scientists, drawn from the Academy's Fellowship.
- 7 Special attention needs to be given to doctors who obtain a PhD during their undergraduate medical education and who want to continue in research and also gain clinical skills.
- 8 Job descriptions should be established for clinical lecturer posts that clearly differentiate these posts from specialist registrar posts. It is important that they have protected time for academic activities, including research and teaching.
- 9 Clinical lecturer posts should normally be awarded to candidates who have research degrees.
- 10 There are two distinct groups of SHOs who have different needs in terms of research training. SHOs who will later pursue an academic career would benefit from a period of dedicated research. About five per cent of all SHO programmes should allow between six and 12 months purely for research training.
- 11 The majority of SHOs will benefit from exposure to basic training in research methods and culture as this will provide them with a firm foundation for the practice of evidence-based medicine. To complement existing learning opportunities, universities should make available half day per week courses that over a two-year period could lead to an MSc in clinical science.
- 12 It is essential that flexibility is maintained at all stages in a clinician scientist's career to allow the most appropriate balance of time for clinical work and research.

Feedback is invited

Although the principles that underpinned the creation of this clinician scientist scheme will remain unchanged, the Committee recognises that other developments in postgraduate medical education are likely to have an impact on how the clinician scientist scheme can be best integrated into arrangements for specialty training.

The Committee welcomes feedback on the recommendations in this report so that its advice can be refined in the light of experience. Comments should be sent to:

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10 Carlton House Terrace
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1. Introduction

1 Following the publication of its widely acclaimed report *The Tenure-track Clinician Scientist: a new career pathway to promote recruitment into clinical academic medicine*² (the Savill report), the Council of the Academy of Medical Sciences established its Clinical Academic Training Committee, with membership largely drawn from its Fellows. The remit of this committee is to help take forward implementation of the tenure-track clinician scientist scheme and to consider all sub-specialties of medicine and surgery in the widest dimension. It is also tasked with assisting implementation of the other recommendations of the report. The executive summary of this report is reproduced in Annex 1.

2 The membership of the Academy's Committee was as follows:

Professor Roland Levinsky	(Chair)	Professors Pierre Guillou, John Pickard,	
Professor Albert Aynsley Green	(Paediatrics)	and John Temple	(Surgery)
Professors Michael Arthur, Charles Pusey,		Professor Ann Louise Kinmonth	(General Practice)
John Savill and Mark Walport	(Internal Medicine)	Professor Stephen Smith	(Obstetrics & Gynaecology)
Professor Stephen Challacombe	(Dentistry)	Professor Ian Lauder	(Pathology)
Professor Pierre Foëx	(Anaesthesia & Intensive Care)	Professor Robin Murray	(Psychiatry)

Method of working

3 The Committee met three times. Members contributed the details of the academic training arrangements in their own specialty (see Section 3). The section on the Committee's mentoring scheme was provided by the secretariat. The section on the implementation of the other recommendations in the Savill report is based on written comments from members in response to a letter received by the Committee's chairman from Professor John Temple in his role of chairman of the Academic and Research sub-group of Advisory Group on Medical Education, Training and Staffing (AGMETS).

How this report is structured

4 The next section gives an overview of progress in implementing the clinician scientist scheme. Section 3 shows how the scheme can be accommodated within the specialty training requirements in the major specialties. The Academy wishes to stress that the diagrams show pathways that many people may wish to follow but they are not prescriptive. Flexibility of training arrangements is essential.

5 Section 4 gives details of the Academy of Medical Sciences' mentoring scheme for clinician scientists. Section 5 gives an account of progress with Recommendations 3, 4 and 5 of the Savill report, concerning a research access scheme, earmarking fellowships and ensuring flexibility.

6 Annex 1 reproduces the executive summary from the Savill report. Annex 2 presents the remit of the Clinician Scientist Monitoring Committee. Annex 3 gives data from the Council of Heads of Medical Schools about senior academic positions and vacancies. Annex 4 provides current advice on the specialty training requirements in each of the specialties. Annex 5 gives further details about the way forward for academic general practice.

² Academy of Medical Sciences. *The tenure-track clinician scientist: a new career pathway to promote recruitment in clinical academic medicine*. March 2000. <http://www.acmed.sci.ac.uk/Clinic.pdf>

2. Overview of progress in implementation

- 7 There has been considerable progress since the publication in April 2000 of the Academy's report *The Tenure-track Clinician Scientist: a new career pathway to promote recruitment into clinical academic medicine* (the Savill report). Many organisations are now on board.
- 8 At the launch of the report the Medical Research Council announced its immediate support with the creation of a joint MRC/Academy clinician scientist fellowship. The Department of Health has also embraced the clinician scientist scheme and has agreed to provide funding for eight positions each year for five years, amounting to 40 potential future senior academics, to be appointed on merit. Several medical charities including the Wellcome Trust, The PPP Foundation (clinician scientist fellowships in surgery), Leukaemia Research Fund and Arthritis Research Campaign are supporting clinician scientist fellowships conforming to the model set out in the Academy's report and now conforming to the national standard. As at March 2002, 36 clinician scientist appointments have been recognised as conforming to the new arrangements.
- 9 Since the publication of the Academy's report, a national monitoring committee has been set up. The Clinician Scientist Monitoring Committee, chaired by the Department of Health's Director of Research and Development, has the remit to approve clinician scientist schemes put forward by the major funding bodies against the national standard and to be the final common path to approve the appointment of individual clinician scientists under the scheme. This will enable the appointee to be awarded an NTN(A). More details of the NTN(A) are given in paragraphs 15 - 19. Further details of the Clinician Scientist Monitoring Committee are given in Annex 1.
- 10 Although there has been considerable progress in making appointments, it remains unclear whether there are sufficient funds available to achieve the target of 50 clinician scientist appointments each year as recommended in the Savill report. More funds may well be needed.
- 11 The Academy urges all universities with a medical school to support the clinician scientist scheme actively. They can best do this by making a commitment now to offering clinician scientists a senior academic position in the relevant discipline and university, with honorary NHS consultant status with an appropriate NHS partner, at the end of the five-year period. In many cases, vice chancellors might need only to underwrite provision of such a post since the most competitive clinician scientists are likely to obtain externally funded senior research fellowships. This will fulfil the Academy's aspiration to achieve tenure-track status for these clinician scientists.

The clinician scientist scheme and specialist training

- 12 The Academy's Committee has concentrated its efforts on demonstrating how the clinician scientist scheme can be fitted into training in the major clinical specialties. Section 3 of this report gives further details of how this will work. The Committee has highlighted the problems facing the craft specialties including surgery, general practice and pathology, in particular in recruiting suitably trained research-active staff to senior academic positions. In these specialties it is not uncommon to have only one applicant for the position or for it to remain vacant. Data are provided in Annex 2, courtesy of the Council of Heads of Medical Schools.

Retention of NTNs

- 13 The Committee heard that there is still misunderstanding about whether specialist registrars can retain their NTN while they undertake a period of research. There is clear provision for time out of the specialist training programme to undertake research with the agreement of the postgraduate dean³. Specialist registrars keep their NTNs during this period. The deanery fills the clinical gap and enables the specialist registrar to return to the clinical training programme after the research period is completed.

³ The 1988 Department of Health Guide to Specialist Training states in point 8 on page 125 in chapter 10: "With the agreement of their Postgraduate Dean in the appropriate supporting body, normally an academic department, these doctors will be able to take time out from clinical training, of generally between one and three years for research. For some individuals a longer period of research will be necessary, usually associated with university lectureships and MRC or AMRC fellowships. These doctors will retain their NTN/VTNs during the period of research so that they will be able to re-enter clinical training when their research is completed."

- 14 Specialist registrars wishing to take time out of their specialty training programme to undertake research training should discuss their plans with the relevant committee/postgraduate dean and many deaneries suggest that they continue to attend annual assessments. Problems should not arise for periods of research lasting up to three years but if specialist registrars wish to remain out of programme for longer they should negotiate this in advance with their postgraduate dean. This would not be a problem for someone who is appointed as a clinician scientist because, by definition, it would require joint *ad personam* planning of the further research and clinical training.

Awarding the NTN(A)

- 15 It has been agreed that all potential clinician scientists will have to meet the national entry criteria for the relevant specialty. Clinician scientists appointed under the terms of the scheme will, however, be awarded an 'academic national training number' or NTN(A) in place of the normal NTN.
- 16 It is envisaged that the procedures for awarding NTN(A)s will be as follows:
- the potential clinician scientist should obtain an NTN via national open competition
 - on appointment as a clinician scientist and after approval by the National Clinician Scientist Monitoring Committee, that NTN would be designated NTN(A). This will be actioned by the lead post graduate dean for academic matters (currently Dr Michael Tunbridge)
 - the deanery whence came the clinician scientist would then be permitted to issue another number in open competition in the same specialty
 - the NTN (A) would be held by the clinician scientist until a CCST is obtained
 - once the CCST is obtained, the NTN(A) would then be deleted because the deanery whence the holder came would have already received a replacement NTN.
- 17 The Clinician Scientist Monitoring Committee provides a common pathway whereby clinician scientists who have already been appointed and who hold an NTN will be identified so that the suffix 'A' can be issued via the lead postgraduate dean for academic matters.
- 18 In the case of people who fulfil the scientific criteria for clinician scientist appointment but who do not yet hold an NTN, information will be supplied by the Clinician Scientist Monitoring Committee to the lead postgraduate dean for academic matters. The dean will inform the deanery where they work that they would be entitled the suffix 'A' once they have won an NTN in open competition. Such information could be passed to any deanery where the clinician scientist applies for an NTN.
- 19 These procedures should protect both the interests of those wishing to be clinician scientists and doctors wishing to obtain a normal NTN. They will also not lock an NTN(A) into a particular specialty or deanery once the training is completed and will enable the next clinician scientist to be awarded an NTN(A) in what ever specialty and from whatever deanery they come.

MB/PhD graduates

- 20 The Committee considers that the only potential clinician scientists who might have difficulty with these arrangements would be those who obtained a PhD via an MB/PhD programme. These have been established in several medical schools. Research undertaken before graduation cannot count towards specialist training. There will also be a long gap between the PhD and further research training and experience.
- 21 There appear to be two career routes for these doctors. The first and probably more desirable option is for MB/PhD graduates to complete their PRHO year and SHO programme in three years and enter specialist training as a clinician scientist. They are eligible to do this as they already hold a doctorate. On satisfactory completion of combined specialist and research training, they will be eligible to apply for a CCST and enter the specialist register in the usual way.

- 22 The second option would be appropriate only if these clinician scientists wish to remain predominantly in research without completing the full specialist training programme. To enter the specialist register, they would have to apply via the *ad personam* academic route⁴ which would require the recommendation of the appropriate Specialist Advisory Committee and the Specialist Training Authority. This would not, however, normally be the route chosen by a clinician scientist holding an NTN(A).

Clinician scientist mentoring scheme

- 23 The Academy of Medical Sciences has set up a mentoring system for clinician scientists (see Section 4 for more details) to be overseen by its Clinical Academic Training Committee. Clinician scientists will meet regularly with their mentors and have the opportunity to present their work and meet mentors, colleagues and supervisors at the Academy.

Clinical lectureships

- 24 As part of its work on implementing the clinician scientist scheme, the Academy's Clinical Academic Training Committee has noted with concern the severe decline in the number of clinical lectureships throughout the country. The Committee believes that this has arisen as a result of pressure of the Research Assessment Exercise and acceptance by most medical school deans that many of their clinical lecturers are not research-active. For this reason, many universities have converted a number of these positions to non-clinical lectureships to improve their research ratings. It is hoped that the clinician scientist scheme will go some way to redressing this academic balance.
- 25 The Committee recognises that throughout the UK clinical lecturers have very different roles. Few clinical lecturers are appointed at post-doctoral level and have sufficient dedicated research time to pursue independent research. The majority are heavily involved in treating patients, teaching undergraduate medical students and administering the teaching programme.
- 26 The Committee recommends that job descriptions are established for clinical lecturer posts that clearly differentiate these posts from specialist registrar posts. It is important that they have protected time for academic activities. Some clinical lecturer posts should be directed towards those who undertake undergraduate teaching and clinical duties with the aim of developing into clinical academics who will lead the development of clinical teaching in the future.
- 27 A further way forward would be for the job description of some clinical lectureships to be converted to clinician scientist appointments, so providing true post-doctoral research training for clinical academics. To assist this, the Committee recommends that clinical lecturer posts should normally be awarded to candidates who have research degrees.

⁴ Specialist Training Authority. Information sheet. Academic and Research Medicine Route for entry to the GMC specialist register. Revised May 2001.

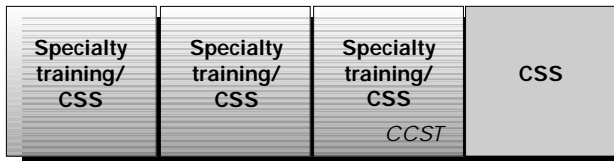
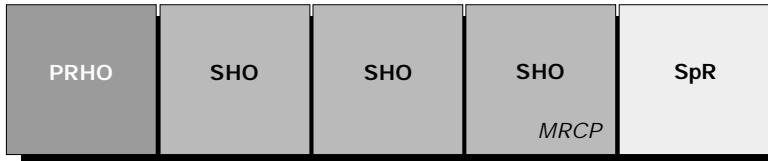
3. Implementing the clinician scientist scheme by specialty

- 28 This section sets out the Committee's findings on how the clinician scientist scheme can be introduced into the specialties. It considers that this scheme could be introduced in all the specialties and become part of academic research training leading to well-trained clinician scientists who will become the next generation of leaders of academic medicine in the UK.
- 29 In many specialties a year of research may count toward specialist training. This is at the discretion of the relevant Specialty Advisory Committee (SAC). The question of how much of a clinician scientist's time needs to be spent in clinical work to complete specialty training will depend partly on how much clinical experience was gained before being appointed. The amount of time should be tailored towards the individual's training needs and the proportion of time spent in clinical training may vary throughout the five-year tenure.
- 30 The Committee discussed the timing of the initial period of research training leading to a PhD. There is pressure on junior doctors to undertake this at the end of the SHO grade before applying for a specialist registrar programme. While the Committee recognised that this may be convenient in the context of clinical training programmes, it had two major concerns. First, the acquisition of a PhD should not become a requirement for entry to a specialist registrar (SpR) training programme. Second, this may not be an ideal time from an academic point of view because of the ensuing break from research between the PhD and a subsequent clinician scientist appointment.
- 31 Details of how the clinician scientist scheme can be accommodated in most of the major hospital specialties and general practice are provided in the following order:
- Internal medicine and its specialties (*paras 33 - 37*)
 - Paediatrics (*paras 38 - 40*)
 - Surgery - nine CCST defined specialties (*paras 41 - 46*)
 - Obstetrics and gynaecology (*paras 47 - 48*)
 - Ophthalmology (*paras 49 - 50*)
 - Psychiatry (*paras 51 - 53*)
 - General practice (*paras 54 - 57*)
 - Pathology (*paras 58 - 61*)
 - Diagnostic radiology (*para 62*)
 - Anaesthesia (*para 63*)
 - Intensive care medicine (*paras 64 - 69*)
 - Dentistry (*paras 70 - 74*).
- 32 It should be noted that the diagrams in this report are provided only as examples of how the clinician scientist scheme could fit into specialist training. They are not intended as prescriptions that everyone must follow. The abbreviations that appear in the diagrams are explained below:

CCST	<i>Certificate of Completion of Specialist Training</i>
CSS	<i>Clinician Scientist Scheme</i>
FRCA	<i>Fellowship of the Royal College of Anaesthetists</i>
FRCR	<i>Fellowship of the Royal College of Radiologists</i>
MFDS	<i>Membership of the Faculty of Dental Surgery</i>
MRCP	<i>Membership of the Royal College of Physicians (UK)</i>
MRCS	<i>Membership of the Royal College of Surgeons (England, Edinburgh or Ireland)</i>
PRHO	<i>Pre-registration House Officer</i>
SHO	<i>Senior House Officer</i>
SpR	<i>Specialist Registrar</i>

Internal medicine and its specialties

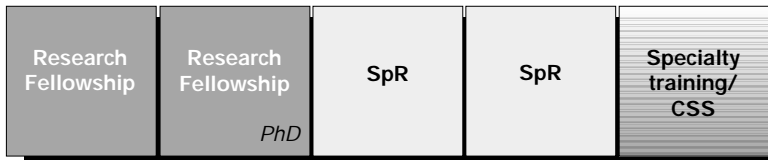
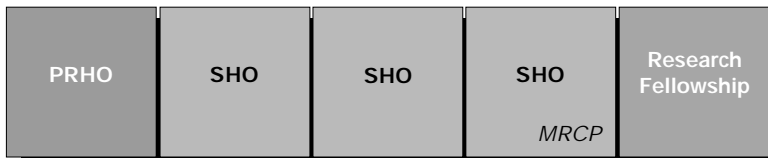
- 33 In internal medicine and its specialties, following a year as a pre-registration house officer, the doctor in training normally undertakes two or three years of senior house officer posts, during which time a pass in the MRCP examination needs to be obtained. Current practice is mostly for two years as an SHO in medicine but the trend is towards three years (as shown in the diagram). This is currently under review.
- 34 For most internal medicine specialties, five years of specialist training are required, two years of which are general and the remainder devoted to the sub-specialty. Like in all the specialties, one year of a PhD programme may be counted towards specialist training. For certain sub-specialties additional training may be required before the CCST is awarded.
- 35 During the five years' clinician scientist appointment half of the time can be counted towards specialist training as it is considered that, during this period, 50 per cent of this time would be devoted to research and 50 per cent to clinical training. This might not occur at the same time and can be either in consecutive periods, split weeks, months, or a mixture of any of these.
- 36 After the SHO period, doctors who wish to pursue an academic career in internal medicine can enter the general part of their specialist training by obtaining an NTN and an SpR position (Diagram: Internal medicine and its specialties 1). They spend one or two years in the SpR grade before embarking on a PhD following which they would compete for a clinician scientist appointment. At this point they would be given an NTN (A). On gaining this, they would spend five years as a clinician scientist. Alternatively they can obtain a research fellowship leading to a PhD immediately following their SHO programme (Diagram: Internal medicine and its specialties 2).
- 37 The entire training period post-qualification in internal medicine would therefore either be 13 or 14 years depending on the length of time as an SHO. This may seem to be a long training period. However it must be remembered that individuals who have embarked on this route in the past, once they have obtained a senior position at either senior lecturer or a senior clinical research fellow grade, have usually become a full professor very rapidly. This is usually attained in their early 40s.



Internal medicine and its specialties: 1

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.



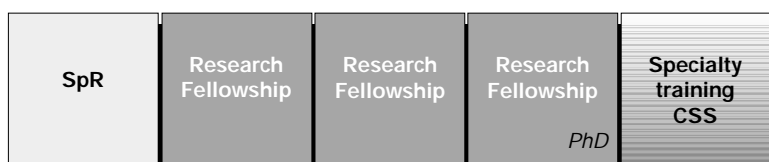
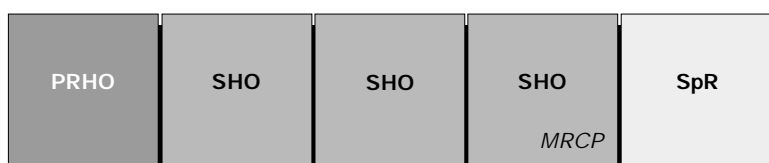
Internal medicine and its specialties: 2

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

Paediatrics

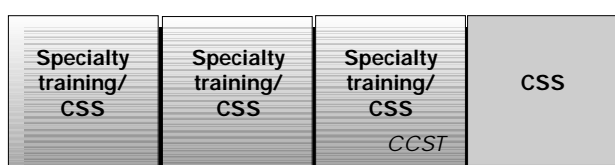
- 38 The way in which the clinician scientist scheme fits into training in paediatrics is shown in the diagram below. Academic paediatrics is in a less favourable position than academic internal medicine and not many candidates are coming through the various training programmes at present. There needs to be further encouragement to support the development of academic paediatrics and the clinician scientist scheme will be a great benefit in this regard. In essence, paediatrics would adopt the same training route as general internal medicine.
- 39 The Academic Panel of the Royal College of Paediatrics and Child Health (RCPCH) has addressed the difficulties of recruitment to, and retention in, academic paediatrics by:
- Maintaining a national structure of academic regional advisers in paediatrics and child health (currently 24 in number)
 - Maintaining a database of research fellows and lecturers in training
 - Creating new opportunities for research fellowships
 - Providing advice to the College about who should be nominated to the STA for inclusion on the specialist register by the academic route.
- 40 Furthermore the panel has highlighted the serious misuse of the clinical lecturer post in the past and is discouraging the practice of the clinical lecturer's position being predominantly concerned with teaching and providing the clinical service.



Paediatrics

One year of the research fellowship may count towards the specialty requirements.

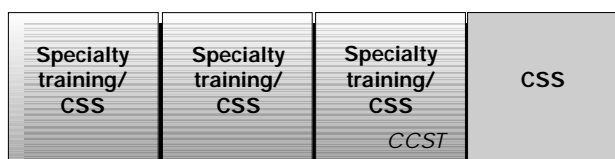
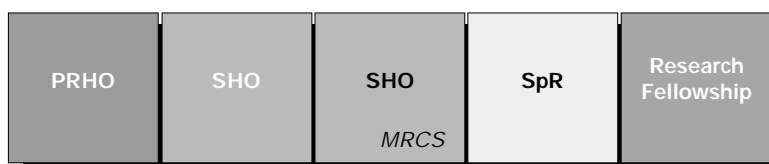
The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.



Surgery

- 41 The Committee has shown that the clinician scientist scheme can be accommodated in the training requirements for surgery. Surgery has particular problems as not only do clinician scientists have to acquire advanced research skills and to maintain these over the long training period, but they also have to acquire and maintain surgical skills. This requires continual clinical work, including exposure to night and weekend emergency work, which places additional demands on the trainee's research time.
- 42 A typical pathway is shown in the diagram that follows. In putting this forward as the most advisable for someone wishing to undertake an academic career in surgery, it is recognised that it is not ideal from an academic point of view because of the break from research between the research fellowship leading to a higher degree and the clinician scientist appointment. The Committee recommends that a research affiliation be maintained during this time.

- 43 Although there will be variations, in general, one year as a pre-registration house officer will be followed by two years as an SHO following which the MRCS will be acquired, thereby gaining the minimum entry requirement for specialist training. This will be replaced by the certificate of completion of basic surgical training [CCBST] in 2003. Typically trainees would then spend one year as a clinical SpR in a standard programme once an NTN has been obtained through open competition. This SpR year would allow assessment of a candidate's aptitude for the craft and allow for planning their research fellowship leading to a higher degree, which would follow. Clinical experience gained during the SpR year would continue with one weekend on-call per month during the first two years of the research fellowship.
- 44 Once the higher degree has been obtained a further period of SpR training would follow to allow the trainee to reach the required standard of competence. At present this period would normally be two years, but in future it is hoped that competence measures will be applied other than time-served. During this period of clinical work, university departments should ensure that academic momentum is maintained by provision of appropriate resources and time allocated for attendance at international meetings, etc. Eligibility for the Specialty Fellowship would follow the end of this period, typically 10 years from the time of qualification, i.e. at the age of about 33 or 34 years. This is currently the age of many conventional SpRs in surgery.
- 45 Appointment to the clinician scientist scheme would normally be sought after the higher degree has been obtained and the intercollegiate specialty examination is passed. If appointed, an NTN(A) would then be granted. Five years of the clinician scientist scheme would then start with half of the first four years being devoted to completion of surgical training with the award of the CCST. This four-year period (three for oral and maxillofacial surgery) would allow scope for the honing of sub-specialty clinical expertise as well as pursuit of research. It is emphasised that all CSS appointees will need a personalised programme to finish their training. During the CSS the clinical and academic programmes would be integrated; at certain phases one would predominate over the other although clinical skills need to be maintained throughout.
- 46 It would be anticipated that an honorary consultant contract with appropriate remuneration would be awarded at the end of these four years (after the award of the CCST and entry to the specialist register) allowing a flexible fifth year at senior academic level. This scheme allows academic surgeons to become eligible for senior academic and clinical status at the age of about 37, if they qualified at the age of 23, which is not too dissimilar from conventional (non-academic) trainees. This length of training and the potential rewards of entering consultant practice after specialist training via the normal non-academic route are a severe disincentive to an academic career.



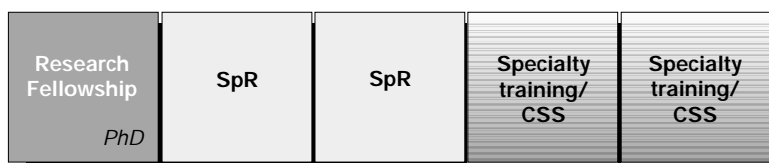
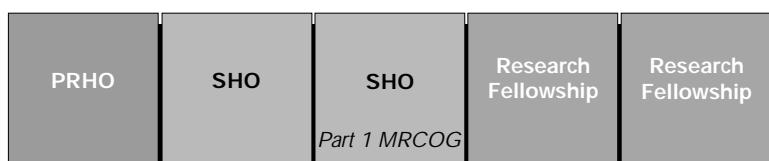
Surgery and nine CCST defined specialties

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

Obstetrics and gynaecology

- 47 The ideal time to obtain a research fellowship leading to a PhD is considered to be before specialist training, thus avoiding the potentially disastrous scenario of clinical training being confined to being on-call in the evenings and at weekends (see diagram). However, flexibility is important and some may wish to experience one year of SpR training to confirm their commitment to the specialty. In this case the three-year research fellowship would be followed by one year of clinical SpR training. Part I MRCOG is required before entry into the SpR grade and Part II is usually obtained within the next two or three years and is essential before the final year of training.
- 48 In this specialty it is very important to maintain clinical skills throughout the clinician scientist appointment. The requirement for specialist training in this specialty is five years, rather than the six required for general surgery and its sub-specialties. A further year is required for sub-specialty training in O&G.



Obstetrics and gynaecology

One year of the research fellowship may count towards the specialty requirements.

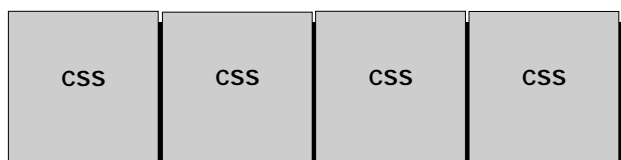
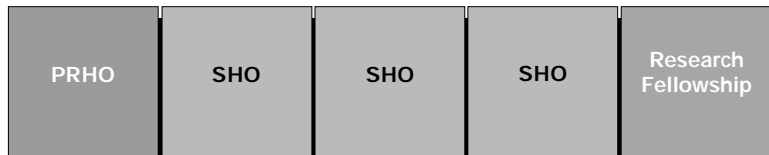
The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

Ophthalmology

- 49 A non-academic ophthalmologist requires a minimum of two years' basic specialist training (in practice three to three and a half years) plus the MRCOphth before acquiring the certificate of eligibility to enter higher specialist training (CEEHST). The higher specialty training programme is four and a half years minimum to five years maximum leading to the CCST along with the FRCOphth or equivalent.
- 50 A clinician scientist may conceivably be able to enter a PhD programme after two years of basic specialist training thereby shortening some of the clinical exposure but will still require the four and a half years of HST pro-rata throughout the clinician scientist scheme.

Psychiatry

- 51 There are six CCST recognised specialties within psychiatry (adult, old age, child and adolescent, forensic, psychotherapy, learning disability) and several options for dual training. The period of specialist training is three years for CCSTs in single psychiatric specialities. Dual specialty training extends the requirement to four or five years depending on the combination chosen. There is provision for a year of research to count as one of the three-year minimum requirement and to pursue the whole of specialist training on the basis of four core clinical sessions per week per year, with the total minimum duration extended to four years.
- 52 It is important to foster academics in all psychiatric specialties, not just general adult psychiatry. Recruitment and retention of young academics to psychiatry is reasonably healthy in general psychiatry but less so in sub-specialities such as forensic and child psychiatry where the shortage of consultants is acute. There are opportunities for many basic psychiatric level trainees to obtain a Master's level degree during SHO training. This may be a useful first step on the academic ladder. Some Master's courses are linked to training for the specialist examination in psychiatry, the MRCPsych which is the entry requirement for specialty training.
- 53 The best time for obtaining a research fellowship leading to higher degree is likely to be after the SHO period (see diagram). An alternative model would be for a psychiatrist in training to obtain the CCST in general psychiatry after three years as an SpR immediately following the SHO years, then to obtain a research fellowship and then train in one psychiatric sub-specialities, possibly as a clinician scientist.



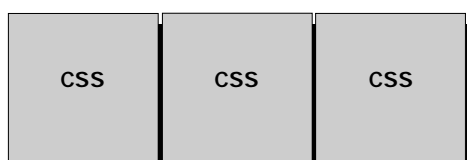
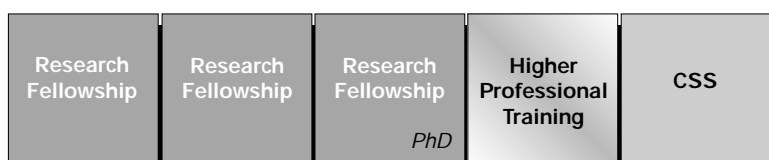
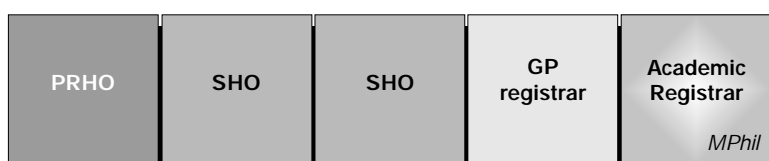
Psychiatry

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

General practice

- 54 Clinical academic training in general practice must integrate the acquisition of research skills with craft skills, which include the practice of acute, chronic and preventative medicine for both individuals and populations. This requires continuing availability to patients over time which makes participating in intensive research programmes difficult. Routes into academic general practice are still needed at all levels of experience, but the clinician scientist scheme could be seen as the gold standard for the young academic general practitioner.
- 55 After medical training up to second year SHO, as outlined for general internal medicine, an emerging pathway into clinical and academic careers in general practice is to undertake an extended (additional fourth year) vocational training period leading to accreditation and eligibility for Principal status. The fourth year, paid at registrar level, can encompass further clinical, academic or management training. The fourth year on the academic track is devoted to an MPhil, MSc or other research awareness/academic access programme and leads to a funded PhD training fellowship. This one plus three year approach with the first year being devoted to a taught MSc with a strong research component is becoming an increasingly popular option for those entering the academic track without previous research training. Following the PhD, a subsequent year of clinical and research consolidation (higher professional training at lectureship level) is often appropriate to develop the proposed research programme and establish relationships with a suitable practice. This would be followed by the four to five year clinician scientist scheme, allowing the necessary integration of research and practice to support clinical academic leadership.
- 56 The clinician scientist scheme is welcomed by clinical academic general practitioners, offering high quality training research with stability, assured clinical and professional development and promise of a tenure track. There is now sufficient, established academic capacity in general practice to support these posts well, with opportunities for joint supervision between generalist and specialist groups.
- 57 The lack of an NTN requirement in general practice allows for greater flexibility, but it is acknowledged that there are still relatively few academic recruits to the discipline, and that joint action from the Association of University Departments of General Practice, the Committee of GP Education Directors (COGPED), the university sector and the Royal College of General Practitioners is needed in terms of both funding and structures, and to increase awareness of academic careers in general practice and their attractiveness to the coming generation. Further guidance about academic general practice is given in Annex 4.



General Practice

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

Pathology

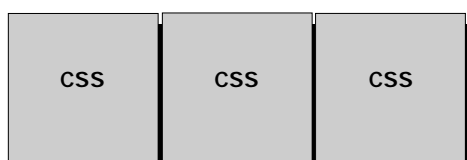
- 58 The recent data from a survey undertaken by the Council of Heads of Medical Schools (see Annex 2) illustrate the overall decline in the total number of academic posts, particularly in pathology. The two worst affected disciplines are histopathology and microbiology, followed by chemical pathology. The number of recruits to haematology has not declined to the same level.
- 59 It should also be noted that many clinical academics in the pathological specialties need to acquire both diagnostic laboratory experience and clinical experience of patient care. This is especially the case with haematology and immunology, and, increasingly, for those who wish to train jointly in microbiology and infectious diseases. These doctors commonly have to obtain both the Royal College of Physicians' and the Royal College of Pathologists' examinations to practise their specialty, which represents a further hurdle towards obtaining recognition as an academic specialist within the discipline. In all these disciplines the timing of the research fellowship leading to a PhD can either immediately follow the SHO training period or an initial period of specialist training as in internal medicine and its specialties.
- 60 The current training requirements for histopathology are one year as an SHO and 4.5 years in specialty training. The CCST is normally awarded in Year 6 and up to one year in full time research can be counted. Any further period of full time research would extend the CCST accordingly. The other pathology specialties vary somewhat with haematology now sharing many of its requirements with internal medicine. Histopathologists, however, in general, favour the doctoral work being done early because of fears about losing essential diagnostic skills (see diagram).
- 61 Microbiology presents particular challenges. Joint training with infectious diseases is becoming more common and in the view of the Academy, is likely to become the norm⁵. Under the current scheme, doctors acquire full CCSTs in both microbiology and in infectious diseases, and in order to fulfil the requirements there is a highly structured six year programme. One year of full time research can be counted against this training. Since the great majority of trainees in this discipline will probably undertake a PhD, the current period in the SpR grade from the commencement of HST to award of a CCST will typically be seven years. A trainee who had completed two years full time SpR work and then completed a PhD (the most likely scenario for entering the CSS) would thus still have the equivalent of three years clinical training to complete - i.e. six years of 50 per cent activity while a clinician scientist. A total of 11 years of specialist training before becoming eligible for a substantive appointment is certainly daunting. The Academy has recently reviewed academic medical microbiology and among its recommendations was the suggestion that the structure of the joint training programme be kept under review in an attempt to shorten the total period in training⁵.



Histopathology

One year of the research fellowship may count towards the specialty requirements.

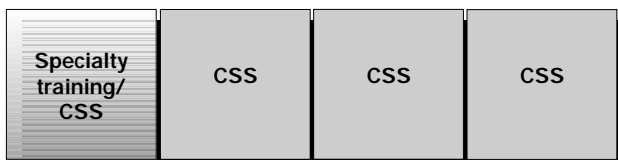
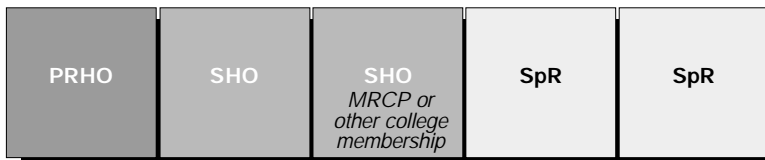
The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.



⁵ Academy of Medical Sciences. *Academic Medical Bacteriology in the 21st Century*. July 2001.

Diagnostic radiology

62 The specialist training period in diagnostic radiology is five years. There is no designated SHO training although the entry requirements call for two years 'appropriate clinical experience', one year of which must be post-registration. Most candidates have more experience than this and hold the membership of one of the Royal Colleges. The most appropriate time for specialists in training to take a higher degree is after they have obtained the FRCR Part 1. The examination structure is being revised but this is likely to be at the end of Year 3. Specialists in training could then take three years in a research fellowship to obtain a PhD, one year of which will count towards their specialist training. Appointment to the clinician scientist scheme would follow obtaining a PhD.



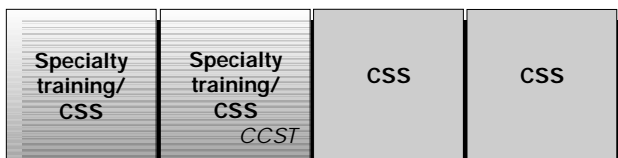
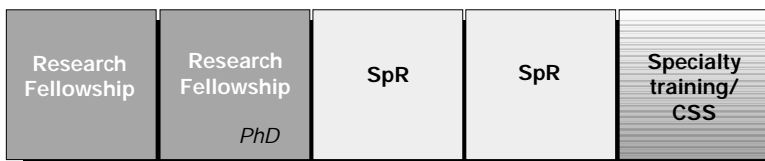
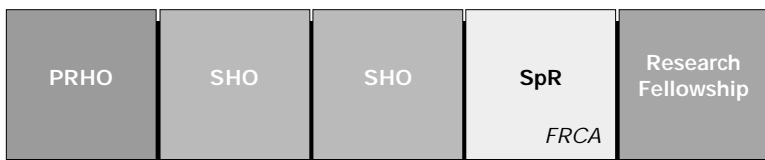
Diagnostic radiology

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

Anaesthesia

63 The diagram shows how the clinician scientist scheme can fit into the training requirements in anaesthesia. Very few trainees in anaesthesia/intensive care medicine obtain a higher degree prior to entering the SpR grade. The priority for doctors in training after the SHO period is to take up an SpR post to gain the experience necessary to obtain the fellowship of the Royal College of Anaesthetists (FRCA). This is regarded as an essential step for both a clinical and an academic career. However, to take part in the clinician scientist scheme it would be advantageous to obtain a PhD prior to entering specialist training. The same would apply to trainees in intensive care medicine who have to undertake 18 months in that specialty as part of, or in addition to, training in their parent specialty (A&E, anaesthesia, medicine or surgery).



Anaesthesia

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

Intensive care medicine

- 64 The proposed combined CCST in intensive care medicine⁶ and a parent specialty (A&E, anaesthesia, internal medicine or surgery) requires three months' intensive care training as an SHO and 18 months as an SpR. In addition, all doctors in intensive care medicine training must have spent six months in anaesthesia and six months in internal medicine.
- 65 While these requirements are likely to remain, the medical royal colleges and their faculties may, at some point, adjust the specialist training programmes to allow some of the time spent in intensive care medicine to count towards the parent specialty training. This is already the case in anaesthesia training where six months can be in intensive care medicine. Thus, the total length of training for the dual CCST may become shorter, a development that the Academy would strongly welcome.
- 66 For those training in accident and emergency medicine, the additional CCST in intensive care medicine would require an SHO year in general internal medicine and anaesthesia, prior to, or after, obtaining a PhD. After two years of specialist training, academic doctors in training would start the clinician scientist scheme, and during Years 3-4 would take up posts in intensive care medicine. They would complete their dual CCST by the fourth or fifth year of the clinician scientist scheme.
- 67 For those training in anaesthesia, obtaining a CCST in intensive care medicine would require six months medicine as an SHO. Candidates would complete their FRCA examination during their first SpR year, then spend the next three years studying for their PhD degree. After another two years as an SpR, they could obtain a clinician scientist appointment, then spend six months in intensive care medicine as part for their CCST in anaesthesia, followed by a one-year intensive care fellowship. The dual CCST would be obtained after 13 years.
- 68 For those training in surgery, an extra year as SHO will be needed. This will have to be spent in anaesthesia (six months) and internal medicine (six months). During the SpR training, 18 months of intensive care medicine training will delay obtaining a dual CCST by up to 18 months.
- 69 For trainees in internal medicine, a CCST in intensive care medicine will require six months' anaesthesia and three months' intensive care medicine as an SHO. During the SpR years, 18 months of intensive care medicine training will be required. Obtaining the dual CCST may take up to 18 months longer than CCST in internal medicine.

6 Intensive care medicine programmes are currently under discussion between the Chair of the Intensive Care Medicine Board and the Specialist Training Authority.

Dentistry

70 British dental schools have lost more than one hundred clinical academic posts over the past decade through closure, merger of departments and the pressures of the Research Assessment Exercise, which has resulted in many positions being converted to non-clinical academic posts. The shortage of suitably qualified dentists for professorial posts is especially acute in paediatric dentistry, oral surgery, oral medicine, oral pathology, conservative dental surgery and prosthetic dentistry.

71 Disincentives to an academic career path in dentistry include:

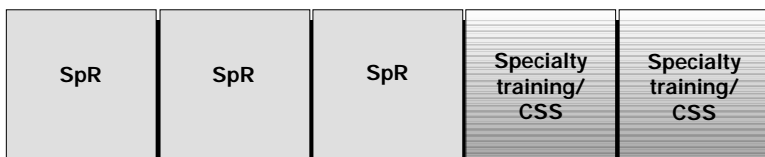
- the lack of a clear career structure combining research with clinical skills
- insufficient flexibility in combining clinical and research training
- rigid SpR training programmes which downgrade research training
- the length of academic career paths
- the prolonged insecurity of clinical academic training.

72 Dental graduates are registered on qualification, unlike their medical colleagues. Not all dental graduates do house jobs and SHO posts are very scarce. However, it is now mandatory that dental graduates spend two years in general professional training (GPT) before embarking on specialist training. These two years can include one year in hospital (e.g. a 12-month house job) or an approved programme in the community dental service and one year in vocational training. At the end of this time they must pass the MFDS exam as an entry into specialist training. The 'standard' dental scheme would therefore be a year shorter than the medical scheme.

73 Dentistry, like medicine, is made up of a series of specialties. Examples of dental specialties include:

- Restorative dentistry and the monospecialities (prosthodontics, periodontics and endodontics)
- Orthodontics and paediatric dentistry
- Oral and maxillofacial surgery
- The 'additional dental specialties' (oral medicine, oral pathology, oral radiology and oral microbiology).

74 The general scheme for dentistry would be appropriate for the restorative disciplines and for orthodontics. The scheme outlined for pathology would be appropriate for oral pathology and oral microbiology. However, both oral and maxillofacial surgery and oral medicine now require a medical degree in addition to dental degree and for academic clinicians in these fields the undergraduate degrees will need to be completed before or after embarking on GPT.



Dentistry

One year of the research fellowship may count towards the specialty requirements.

The diagram is provided as an example of how the CSS could fit into specialist training. It is not intended as a prescription for everyone to follow.

4. A mentoring scheme for clinician scientists

- 75 The Academy of Medical Sciences' Clinical Academic Training Committee has set up a mentoring service for all clinician scientists. It is important to make clear that this scheme does not supersede good supervisory processes by research supervisors, grant giving bodies and the deanery concerned with the clinical programme.
- 76 There are many different models of mentoring. This one has been developed taking account of best practice as identified by other mentoring schemes for doctors and scientists, including that of the Royal Society for Dorothy Hodgkin fellows and the SCOPME 1998 report *Supporting doctors and dentists at work: an enquiry into mentoring*.⁷
- 77 The purpose of mentoring is to provide the best opportunities for clinician scientists to realise their full potential and thus to make valuable contributions to quality health care and research in the UK.

What does this mentoring scheme aim to achieve?

- 78 Success in academic medical and dental disciplines depends not only on strong research and clinical track records but also on making the right career choices. Having made the right choice, moving upward through the profession often involves career 'step changes'. These require new personal skills, as well as professional expertise, to cope effectively with greater professional autonomy and responsibility. This mentoring scheme aims to assist the clinician scientists (or 'mentees') with their personal and professional development. This will be achieved by enabling them to benefit from the experience of more senior people in allied areas of research (mentors) but who are independent of the clinician scientists' place of work and of their supervisor/ line manager.
- 79 Academy mentors will maintain contact with their mentees throughout the tenure of the mentees' appointment as a clinician scientist but the level of support is expected to vary according to circumstances. In general, mentees require most support during periods of transition and/or stress (whether the causes are personal or professional).
- 80 Areas where this mentoring scheme is intended to provide some guidance include:
- how to achieve an appropriate balance between research, clinical commitment and obtaining specialist status
 - career planning/job applications
 - personal development through acquisition of skills such as leadership, negotiation etc.
 - setting up effective networks and collaborations with other scientists/clinicians
 - effective management of students and staff
 - applying for research funds/grant writing.

What is a mentor's role?

- 81 Different models of mentoring vary considerably regarding the roles of a mentor. The Academy model specifically excludes the roles of manager, supervisor and appraiser/assessor, as clinician scientists will also have research supervisors in their places of work to monitor and report on their progress. However, clinician scientists will normally be matched with mentors from the same specialty area.
- 82 Mentoring is a relationship, not just an activity. The mentoring relationship is based on mutual respect, trust and confidentiality. Mentors will provide support and encouragement and share their own experiences (including how they overcame difficulties) along the path to success without being judgmental or directive. Mentors offer insights into different courses of action and assist mentees in making informed and appropriate choices and decisions.

⁷ Standing Committee on Postgraduate Medical and Dental Education (SCOPME). *Supporting doctors and dentists at work: an enquiry into mentoring*. 1998.

- 83 Where appropriate, mentors will provide opportunities for their mentees to establish networks and collaboration with others working in the same field. They will not be expected to collaborate closely on research or apply jointly for grant funding. Mentors may not become involved in matters relating to status, promotion or remuneration of the mentee and would not normally provide references relating to a mentee's employment.
- 84 Mentoring is often misunderstood, confused with management, counselling or taken as a sign of the mentee's weakness and inability to cope. By making participation automatic (unlike in some schemes where participation is voluntary), it is hoped to promote a positive view of mentoring for the successful career progression of clinician scientists.
- 85 Having a mentor appointed through the Academy will not preclude the clinician scientist from entering into other mentoring relationships, for example with colleagues at the same career stage or a former research supervisor.

What is the Academy's role?

- 86 A mentoring scheme project manager has been appointed by the Academy. A pool of mentors across the specialty areas will be created from the Fellows of the Academy who have volunteered their services. They will be offered coaching to develop their understanding of their role and their mentoring skills. Clinician scientists will be invited to nominate a mentor from the pool of Academy Fellows and the final appointment will be confirmed by the Academy.
- 87 The project manager will be available to facilitate the mentoring relationship and to help with difficulties should this be needed. The project manager will also monitor the mentoring scheme to assess the quality and nature of the mentoring being provided and the level of satisfaction of clinician scientists. Based on this feedback, a best practice guide for mentoring clinician scientists will be developed and made available.
- 88 The Academy will foster good relationships between the mentors, clinician scientists and representatives from the organisations who fund them by organising an annual meeting. This will bring together the mentors, clinician scientists and their research supervisors from all the UK schemes to develop life-time contacts and collaborations.

What qualities are needed in a good mentor?

- 89 Mentors for the Academy's scheme will need to be medical scientists of high standing and command the respect of the mentees and supervisors. They will need to be authoritative in their field but not authoritarian in their approach to mentoring. They will normally have experience of gaining research grants from various funding bodies and of managing research teams and clinical staff effectively. They should understand how the UK academic system works and be part of a good network of contacts and collaborators in their research field. Ideally, they will still be active in research.
- 90 Mentors must be altruistic and be prepared to make a commitment to the mentoring relationship, including devoting enough time to the mentee, particularly in times of transition and crisis. The main qualities needed to be a good mentor include:
- integrity
 - being a good listener
 - being approachable
 - having good interpersonal and communication skills.
- 91 Mentors should be open to sharing their own experiences along their career paths, including discussing how they might, with hindsight, have handled matters differently or more effectively. They should be enthusiastic and encouraging but should not be directive or judgmental.

The mentoring 'contract'

- 92 Once the mentor appointment has been confirmed by the Academy, the mentor and clinician scientist should meet, ideally within two months and agree a form of 'contract' between them. The minimum requirement would be that both parties agree to maintain confidentiality regarding the matters that they discuss and any ideas, research results or other information or opinions they exchange. They should also negotiate the boundaries of the relationship, for example whether it will include discussion of domestic or personal health matters.
- 93 Both parties must make a commitment to meet regularly but the mentee should be proactive in seeking meetings and arranging the time and venue. Mentees and mentors are likely to find meetings most effective if they have agreed in advance the issues they wish to discuss. The mentee should keep a record of any action to be taken arising from the meeting and follow it up. The meetings themselves should be informal. The number of meetings should be left up to the individuals concerned but the Academy expects these to occur at least twice in the first year and annually thereafter as a minimum. The frequency of other communication by e-mail or telephone will be up to the individuals concerned but the clinician scientist should not expect instantaneous access to the mentor's time.
- 94 Mentees may ask their mentors to undertake problem solving on their behalf where difficulties (or even disputes) arise with the clinician scientist's supervisor or other colleagues. Normally, mentors should provide the support and advice that enables mentees to resolve the matter effectively for themselves.

Evaluation and development of the mentoring scheme

- 95 The Academy will evaluate the mentoring scheme. Modifications to the scheme will be made, where necessary. A best practice guide will be developed and revised at intervals.

5. Implementing the research access training scheme; earmarking fellowships; enhancing flexibility

96 This section outlines the progress so far with Recommendations 3, 4 and 5 in the Savill report.

The research access training scheme

97 Recommendation 3 of the Savill report stated that there should be 'development of a research training access scheme to provide annually about 50 research training access posts for outstanding senior house officers.' At the time the Savill report was written the issue of earmarked national training numbers for academics (NTN[A]s) had not yet been resolved. The Committee still believes that the research access training scheme is an excellent idea and needs exploring, but in a much wider context. In view of the fact that academic medicine is in crisis in all specialties and not just in the craft specialties and pathology, it believes that now is the time to attempt to put in place a scheme that encourages some young doctors to enter academic medicine as a life-long career.

98 The Committee considers that there are two distinct groups of SHOs who have different needs in terms of research training. The small group of SHOs who will later pursue an academic career would benefit from a period of dedicated research. The Committee recommends that, say five per cent of all SHO programmes should allow between six and 12 months purely for research training and for the preparation of a research proposal. This should take place under an established academic supervisor. Ideally it should be possible to create programmes around individuals.

99 In support of this, the Committee points out that candidates applying for their first fellowship with the MRC, the Wellcome Trust or the AMRC funded schemes have a significant advantage at interview if they have already been exposed to research and were involved intimately in writing the proposal. Candidates for research fellowships placed immediately after the SHO period would be particularly advantaged and this would benefit the craft specialties but not necessarily so the rest. The Savill report expressed the hope that the period of research training would be registered retrospectively against future requirements for the CCST. Although the Committee realises that this will not be allowed, it still believes it would facilitate doctors entering academic medicine and getting their research fellowships.

100 The Committee's second proposal relates to the large majority of SHOs who will continue their careers working for the NHS. The Committee believes that this large group of SHOs will benefit from exposure to research methods and culture as this will provide them with a firm foundation for the practice of evidence-based medicine. The Committee recognises that there are already different approaches to this research need in the different specialties but considers that further opportunities for basic research training will be very beneficial. The Committee recommends that universities make available half-day per week courses that over a two-year period could lead to an MSc in clinical science. The Committee fully recognises the central role that SHOs have in caring for patients and the extra difficulties that the European Working Time Directive will create for staffing the NHS. Nevertheless the Committee recommends that SHOs should be given the necessary time away from their clinical duties to participate in these research training courses. Sources of funding will need to be explored and agreed.

101 General practice has been at the forefront of experimental developments in the area of research access, recognising the gap between budding academic curiosity in the early years of medical training and the commitment required for successful application for national training fellowships. The lack of requirements for NTN in general practice, and its distinct funding streams and culture, offer particular opportunities and challenges. The focus in general practice is on building critical mass and ensuring the next generation of academic leaders in a young discipline.

102 While there is current potential provision for a six-month extension to vocational training, a serious access scheme needs to be a two-year scheme if a subsequent move into a training fellowship is a major aim. More details about developments in academic training for general practice are given in Annex 4.

Earmarking fellowships

103 Recommendation 4 of the Savill report stated that there should be 'limited earmarking of fellowships, links with strong centres and academic access schemes in order to promote research training in some disciplines.'

104 The Committee considers that limited ear-marking of fellowships, links with strong centres and academic access schemes are all worth considering. The Committee suggests that an exemplar subject should be chosen; say one of the craft specialties. Obstetrics and gynaecology or general practice could be considered as there are academic centres throughout the country but not many recruits entering that specialty to undertake academic research. It is certainly possible that a charity might fund such a scheme.

Enhancing flexibility

105 Recommendation 5 of the Savill report stated 'The Academy recommends that there should be as much flexibility as possible in the development of training programmes to allow the conjoint development of research and clinical careers.'

106 The Committee considers that it is essential that this recommendation is implemented and has emphasised this throughout this report. It has pointed out that candidates for clinician scientist appointments may obtain their higher degrees at three different points in their careers:

- during undergraduate education as part of an MB/PhD programme
- at the conclusion of the SHO programme, prior to specialist training
- after one or two years of specialist training.

107 Although the Committee has set out some specimen pathways for training for each major specialty, these are not meant to be prescriptive. Once the clinician scientist has been appointed a high degree of flexibility must be maintained, allowing the appointee to mix clinical training and research on an *ad personam* basis. Once the clinician scientist has achieved entry into the specialist register, this flexibility must continue.

108 The Committee considers that women academics need particular attention if they also wish to have children. In general practice there is an increasing focus on portfolio careers for all, and an established commitment to enabling women and men to pursue family and professional life in balance. The conjoint development of research and clinical careers is vital for recruitment and retention.

**THE TENURE-TRACK
CLINICIAN SCIENTIST:
A NEW CAREER PATHWAY TO
PROMOTE RECRUITMENT INTO
CLINICAL ACADEMIC MEDICINE**

*First edition: published on the Academy's web site
www.acmedsci.ac.uk*

4th March 2000

1. Executive Summary

1.1 Fully trained *clinical academics* are doctors qualified as specialists or general practitioners and employed by universities to undertake *research* into the prevention, diagnosis and treatment of disease, *teaching* of undergraduate medical students, and *clinical practice* which includes direct responsibility for patient care and training young doctors. Consequently, clinical academics play a crucial role in shaping both the present and the future of the National Health Service.

Recruitment to clinical academic medicine is at a crossroads. Not only is there persistent difficulty in recruiting clinical professors but there is also worrying evidence that pressures related to the research assessment exercise have contributed to a reduction in the stock of clinical lectureships, the traditional seedcorn of the discipline. Recently qualified doctors still show strong interest in obtaining externally-funded research training fellowships, the ideal start to a clinical academic career. However, there is a shortage of opportunities for protected postdoctoral research, and strong disincentives operating after completion of the first research fellowship in both generalist and specialist settings have been exacerbated recently by inadvertently rigid implementation of the specialist registrar (SpR) grade for higher training in hospital specialties.

1.2 Three key 'generic' disincentives against an academic career have been identified in hospital-based specialties and general practice:

- (i) *a clear career structure is lacking* in academic medicine compared to a career in the NHS;
- (ii) *insufficient flexibility* for combination of post doctoral research training and clinical training is offered by current opportunities in the SpR and clinical lecturer grades; and
- (iii) *prolonged insecurity* results from the need for all clinical academics to undertake about five years of doctoral and postdoctoral research training and, in the case of specialists, up to five years of SpR training before a secure senior post is obtained.

1.3 Three further practical difficulties impede the development of academic careers in particular clinical disciplines:

- (iv) *pressure to seek research training upon completion of general professional training* because of difficulties in some specialties in entering a 'blocked' SpR grade;
- (v) *limited research training opportunities or environments* in some disciplines; and
- (vi) *particular limitations on flexibility for certain groups of trainees*, especially those in disciplines requiring persistent patient contact or the development and maintenance of practical skills; those with domestic commitments; and those seeking to change clinical activity.

1.4 The Academy's proposals to address these disincentives and practical difficulties are as follows:

Recommendation 1

The normal entry to a clinical academic career will be a 'doctoral phase' of training, which would nevertheless allow a smooth return to a NHS career if this were desired. The key element of this phase would be a three-year period of research training, typically obtained by competitive application for entry to a training fellowship scheme. In hospital specialties the optimal time for entry to such a programme is from a secure clinical training base as a specialist registrar of one to two years' standing. However, some trainees will choose to undertake research earlier in their clinical training, or as part of a MB/PhD programme at medical school. To enable continuity in both research and clinical training in such circumstances, outstanding individuals in these latter two groups should have direct access to the second phase programmes proposed below, once general professional training has been completed.

Recommendation 2

The Academy's key recommendation is the immediate introduction of **50 clinician scientist posts** per year, additional to existing SpR and

clinical lecturer posts, through which to nurture a cadre of research-led clinical academics in both specialist and generalist medicine by providing opportunities for the equivalent of at least two years of protected postdoctoral research. These posts would offer an attractive, clear, flexible and secure second phase of training for doctors who have demonstrated outstanding potential for research during their first, doctoral period of research training.

This competitively-entered scheme would be open to specialists and generalists alike and would have three key features:

- (a) prospective planning of academic and clinical training needs, on a flexible *ad personam* basis, through a national clinical academic training co-ordination committee;
- (b) dedicated clinician scientist national training numbers for those in hospital specialties to allow postgraduate deans to construct flexible clinical training supernumerary to existing SpR rotations that would usually lead to award of a conventional broad-based certificate of completion of specialist training (CCST); and
- (c) 'tenure track' status in the host medical school, with the security of mutual expectation that there would normally be smooth transition to a senior academic post after about five years, or about seven years for the small number of intending specialists entering directly upon completion of general professional training.

Funding for about 25 posts per year is already available from external sources and a further about 25 posts per year could be readily achieved through redeployment of existing university and NHS budgets, although new funds would greatly strengthen the initiative.

Recommendation 3

The Academy recommends the development of a **research training access scheme**: this would provide annually about 50 **research training access posts** for outstanding senior house officers (SHOs). These would offer doctors qualified for SpR training in 'blocked' specialties up to two years' specialist training registrable against future

requirements (i.e. comparable to existing NHS-funded locum appointments for training [LATs]). The incorporation of up to 20% of time for preparation of research training fellowship applications under the sponsorship of an academic unit (which need not be in the chosen clinical specialty) would also address the additional disincentive of lack of research training environments in some disciplines.

Funding for this scheme could be made available through LAT opportunities arising from SpRs taking 'time out' for research, but redeployment of NHS salaries freed due to 'lost NTN's' would strengthen the scheme. Moreover, given the importance of research-active doctors (whether employed by the NHS or universities) to the R&D function of the NHS, we suggest that the NHS R&D programme may also wish to contribute funds.

Recommendation 4

The Academy recommends **limited earmarking of fellowships, links with strong centres and academic access schemes** in order to promote research training in some disciplines. These measures would enable the development of research capacity in disciplines that are currently in difficulties because of lack of academic critical mass, such as some of the surgical disciplines, obstetrics and gynaecology, and primary care. We suggest that disciplines lacking in research training environments should encourage their growth by 'lending' research trainees to strong centres before nurturing their further development in their discipline/medical school base. The research funding agencies might collaborate with the proposed national clinical academic training co-ordination committee to offer a pro-active '*placement advice service*' to promote such mobility.

Recommendation 5

The Academy recommends that there should be **as much flexibility as possible in the development of training programmes** to allow the conjoint development of research and clinical careers. This should apply particularly in those disciplines which require persistent patient contact and/or the development and maintenance of practical skills as an essential component of clinical training.

The Academy believes that there are three areas that require a flexible approach to allow the development of clinical academic careers. The first is the flexibility for clinician scientists to mix training in research and clinical medicine on an *ad personam* basis. The second is to enable trainees with domestic commitments to continue training during periods of heavy domestic commitments; many of whom will later change back to full time working. The third is to develop schemes to allow changes in clinical work patterns after entry to the specialist register.

Recommendation 6

The Academy recommends that **clinical lectureships must be retained**. The Academy views the proposed clinician scientist scheme as an attractive addition to the range of career opportunities available to academically-minded young doctors and a means by which to foster future leaders in clinical research. However, we emphasise that existing clinical lectureships recognised for honorary SpR training offer an important career opportunity and should be retained; wholesale conversion of clinical lectureships to clinician scientist posts is not our intention.

However, clinical lectureships in hospital specialties are of little value to academic medicine if the job plan is essentially that of a specialist registrar. During its enquiry the Academy has come across encouraging examples of close collaboration between universities and postgraduate deaneries to construct SpR rotations that ensure periods of protected academic time for clinical lecturers with honorary SpR status.

Recommendation 7

The Academy recommends **the need for improved clinical academic career track data**. The Academy strongly supports current efforts to improve data on the clinical academic workforce through implementation of comprehensive databases, such as those being developed by the Medical Research Council, the Wellcome Trust and the Department of Health (through AGMETS). However, the Academy stresses that remedial action to improve recruitment into academic medicine must not be delayed until such databases are in place and well validated.

- 1.5 The Academy concludes that clinical academic medicine can be made a more attractive career choice through relatively simple changes in the clarity, flexibility and security of training programmes.

Annex 2: Clinician Scientist Monitoring Committee

Terms of Reference

The Clinician Scientist Monitoring Committee will bring together the stakeholders to co-ordinate and manage the National Clinician Scientist Scheme. They will do so on behalf of, and will be accountable to, the AGMETS A&R sub-group (or its successor). This will include the following functions:

1. Agree a **National Standard** for selection, which all stakeholders would agree to deliver.
2. Agree that candidates appointed by all sources meet the **National Standard**; and arrange the allocation of an 'A' suffix to any appropriate NTN for those individuals;
3. Advise and assist trainees and postgraduate deans on the composition of *ad personam* programmes.
4. Liaise closely with the relevant Specialist Advisory Committee (SAC) and the Specialist Training Authority (STA) or its successor to ensure that *ad personam* programmes meet the specialty's requirements and that the trainee continues to undergo assessments which will allow the STA to award a CCST in due course;
5. Ensure the appropriate mentoring is available and cultivate a sense of belonging for doctors on the scheme.
6. Conduct formal monitoring procedures of the scheme to include the number of award holders, their research and specialty interests and their progress throughout their involvement in the scheme;
7. Monitor the impact of the scheme on recruitment and retention to clinical academic medicine.
8. Provide regular reports to AGMETS A&R to include:
 - numbers, research and specialty interests of doctors on the scheme;
 - progress of the doctors and dentists on the scheme; and
 - overall progress and experience of the scheme
 - and quality assure the clinician scientist programmes
9. Ensure adequate publicity for the scheme.

Please note:

The Clinician Scientist Monitoring Committee can be contacted at the Department of Health via Alison.Gray@doh.gsi.gov.uk

Doctors wishing to apply for the clinician scientist scheme should first check with their fellowship funding organisation that their fellowship conforms to the national standard.

Annex 3: Data from the CHMS survey, 2001

The Academy of Medical Sciences' Academic Training Committee drew on data from a draft report to the Council of Heads of Medical Schools that was subsequently published as *A survey of clinical academic staffing levels in UK medical and dental schools: a report by T Smith and P Sime to the Council of Heads of Medical Schools and Deans of UK Faculties of Medicine, November 2001*. The following extracts were considered particularly relevant to its work.

From executive summary and commentary by CHMS

(para 6):

In consultation with the Department of Health's Advisory Group on Medical Education, Training and Staffing (AGMETS), the Council of Heads of Medical Schools (CHMS) agreed to undertake a comprehensive survey of clinical academic staff employed by universities in medical and dental schools and to develop proposals for a permanent database. With financial support from the Department and from medical schools the survey was launched in autumn 2000. Institutions were asked to provide data on the source of funding, clinical specialty group, and academic grade for all FTE clinical academic staff employed in medical and dental schools as at 1 October 2000. All UK medical and dental schools in membership of CHMS and the Council of Deans of Dental Schools (CDDS) responded.

(para 7):

The results show that there is substantial diversity between medical schools in terms of funding profiles and staffing levels in different specialities, often as a result of local developments in the partnership between institutions and the NHS. They also indicate that medicine and dentistry have significantly different characteristics in relation to funding sources, reflecting distinctive academic and service relationships.

(para 8):

The position on vacancies in individual institutions is complex. In many universities a vacancy does not exist until a post has been reconfirmed and funding has been assured, taking account of the institution's academic plan and financial forecast. The figures on vacancies almost certainly, therefore, underestimate significantly the true situation. Furthermore, information is not available on clinical academic posts that have been discontinued for financial or academic reasons.

Table 9 - Funding sources for professorial FTEs

Institution	FC	FC %	NHS	NHS %	Other	Other %	Total
Aberdeen	21.96	66.99%	6.16	18.79%	4.66	14.22%	32.78
Birmingham	16.10	47.45%	11.60	34.19%	6.23	18.36%	33.93
Bristol	18.00	64.29%	8.00	28.57%	2.00	7.14%	28.00
Cambridge	17.50	42.68%	16.50	40.24%	7.00	17.07%	41.00
Dundee	21.69	76.48%	5.00	17.63%	1.67	5.89%	28.36
Edinburgh	31.20	69.33%	9.50	21.11%	4.30	9.56%	45.00
Glasgow	25.08	67.06%	4.45	11.90%	7.87	21.04%	37.40
Imperial College London	53.41	58.98%	25.89	28.59%	11.25	12.42%	90.55
King's College London	43.46	45.62%	35.45	37.21%	16.36	17.17%	95.27
Leeds	11.71	45.04%	12.69	48.81%	1.60	6.15%	26.00
Leicester Warwick	17.19	39.98%	23.81	55.37%	2.00	4.65%	43.00
Liverpool	31.27	74.45%	9.73	23.17%	1.00	2.38%	42.00
London School of Hygiene and Tropical Medicine	7.50	68.18%	1.00	9.09%	2.50	22.73%	11.00
Manchester	29.29	67.16%	8.80	20.18%	5.52	12.66%	43.61
Newcastle	18.40	45.68%	8.92	22.14%	12.96	32.17%	40.28
Nottingham	24.46	58.94%	17.04	41.06%	0.00	0.00%	41.50
Oxford	22.00	81.48%	3.00	11.11%	2.00	7.41%	27.00
Queen Mary London	31.19	63.89%	12.27	25.13%	5.36	10.98%	48.82
Queen's University of Belfast	10.00	45.45%	12.00	54.55%	0.00	0.00%	22.00
Sheffield	29.00	63.04%	13.00	28.26%	4.00	8.70%	46.00
Southampton	13.73	52.81%	3.27	12.58%	9.00	34.62%	26.00
St. George's Hospital Medical School	24.59	64.25%	10.09	26.37%	3.59	9.38%	38.27
University College London	69.00	57.98%	13.24	11.13%	36.76	30.89%	119.00
Wales, College of Medicine	23.14	65.91%	7.85	22.36%	4.12	11.73%	35.11
Total	610.87	58.63%	279.26	26.80%	151.75	14.57%	1041.88

Table 13 - Funding sources for Reader/Senior Lecturer FTEs

Institution	FC	FC %	NHS	NHS %	Other	Other %	Total
Aberdeen	20.63	53.32%	16.06	41.51%	2.00	5.17%	38.69
Birmingham	16.98	27.08%	41.81	66.68%	3.91	6.24%	62.70
Bristol	26.50	41.73%	26.00	40.94%	11.00	17.32%	63.50
Cambridge	14.15	28.30%	33.85	67.70%	2.00	4.00%	50.00
Dundee	16.00	61.12%	8.18	31.25%	2.00	7.64%	26.18
Edinburgh	21.40	34.19%	33.10	52.88%	8.10	12.94%	62.60
Glasgow	36.63	55.52%	20.42	30.95%	8.93	13.53%	65.98
Imperial College London	53.24	34.68%	77.46	50.46%	22.80	14.85%	153.50
King's College London	57.63	43.85%	61.05	46.45%	12.76	9.71%	131.44
Leeds	13.88	33.87%	19.96	48.72%	7.13	17.41%	40.97
Leicester Warwick	9.70	19.74%	37.44	76.19%	2.00	4.07%	49.14
Liverpool	20.95	43.40%	26.37	54.63%	0.95	1.97%	48.27
London School of Hygiene and Tropical Medicine	10.40	91.23%	0.50	4.39%	0.50	4.39%	11.40
Manchester	27.97	35.93%	45.08	57.91%	4.79	6.15%	77.84
Newcastle	18.16	21.91%	48.68	58.73%	16.05	19.36%	82.89
Nottingham	12.83	30.25%	28.09	66.22%	1.50	3.54%	42.42
Oxford	43.29	57.20%	26.39	34.87%	6.00	7.93%	75.68
Queen Mary London	29.53	37.38%	36.11	45.70%	13.37	16.92%	79.01
Queen's University of Belfast	21.00	50.00%	21.00	50.00%	0.00	0.00%	42.00
Sheffield	32.26	52.96%	22.65	37.19%	6.00	9.85%	60.91
Southampton	22.60	41.19%	8.37	15.25%	23.90	43.56%	54.87
St. George's Hospital Medical School	22.28	35.00%	33.36	52.40%	8.02	12.60%	63.66
University College London	86.00	47.41%	31.41	17.32%	63.97	35.27%	181.38
Wales, College of Medicine	35.96	36.72%	34.71	35.44%	27.27	27.84%	97.94
Total	669.97	40.29%	738.05	44.38%	254.95	15.33%	1662.97

Table 21 - Summary of academic grades and funding sources by Clinical Speciality

Type of Post	Specialty	FC	FC %	NHS	NHS %	Other	Other %	Total
1. Professor		610.87	58.63%	279.26	26.80%	151.75	14.57%	1041.88
	Anaesthetics	8.22	35.58%	13.28	57.49%	1.60	6.93%	23.10
	General Practice	19.96	61.49%	7.10	21.87%	5.40	16.64%	32.46
	Obstetrics and Gynaecology	35.42	72.01%	11.41	23.20%	2.36	4.80%	49.19
	Occupational Medicine	2.30	60.53%	0.00	0.00%	1.50	39.47%	3.80
	Ophthalmology	6.67	47.64%	6.00	42.86%	1.33	9.50%	14.00
	Paediatrics and Child Health	40.59	59.15%	16.23	23.65%	11.80	17.20%	68.62
	Pathology	60.80	64.34%	24.12	25.52%	9.58	10.14%	94.50
	Physicians/Medicine	195.24	57.78%	86.20	25.51%	56.45	16.71%	337.89
	Psychiatry	53.13	53.06%	38.50	38.45%	8.46	8.45%	100.13
	Public Health Medicine	40.54	70.02%	9.90	17.10%	7.46	12.88%	57.90
	Radiology	9.89	39.54%	10.12	40.46%	5.00	19.99%	25.01
	Surgery	63.69	67.76%	23.51	25.01%	6.80	7.23%	94.00
	Others	74.38	52.65%	32.89	23.28%	34.01	24.07%	141.28
2. Reader/Senior Lecturer		669.97	40.29%	738.05	44.38%	254.95	15.33%	1662.97
	Anaesthetics	16.65	30.71%	35.56	65.60%	2.00	3.69%	54.21
	General Practice	37.36	46.56%	32.98	41.10%	9.90	12.34%	80.24
	Obstetrics and Gynaecology	47.83	54.01%	30.97	34.97%	9.75	11.01%	88.55
	Occupational Medicine	3.29	42.51%	4.45	57.49%	0.00	0.00%	7.74
	Ophthalmology	6.51	58.18%	4.68	41.82%	0.00	0.00%	11.19
	Paediatrics and Child Health	45.11	40.31%	58.01	51.83%	8.80	7.86%	111.92
	Pathology	80.06	37.41%	102.06	47.68%	31.91	14.91%	214.03
	Physicians/Medicine	179.03	40.08%	184.48	41.30%	83.21	18.63%	446.72
	Psychiatry	57.63	32.26%	104.78	58.66%	16.21	9.08%	178.62
	Public Health Medicine	49.70	52.49%	31.18	32.93%	13.80	14.58%	94.68
	Radiology	8.96	32.42%	14.53	52.57%	4.15	15.01%	27.64
	Surgery	65.33	46.58%	66.66	47.53%	8.27	5.90%	140.26
	Others	72.51	35.00%	67.71	32.68%	66.95	32.32%	207.17
3. Lecturer		270.87	32.08%	330.41	39.14%	242.96	28.78%	844.24
	Anaesthetics	7.75	33.70%	12.75	55.43%	2.50	10.87%	23.00
	General Practice	14.75	36.74%	16.64	41.44%	8.76	21.82%	40.15
	Obstetrics and Gynaecology	23.25	60.23%	9.35	24.22%	6.00	15.54%	38.60
	Occupational Medicine	1.30	40.63%	0.70	21.88%	1.20	37.50%	3.20
	Ophthalmology	4.50	30.00%	5.50	36.67%	5.00	33.33%	15.00
	Paediatrics and Child Health	23.60	35.98%	25.00	38.11%	17.00	25.91%	65.60
	Pathology	30.88	48.25%	23.44	36.63%	9.68	15.13%	64.00
	Physicians/Medicine	56.97	30.31%	75.73	40.29%	55.25	29.40%	187.95
	Psychiatry	24.46	21.44%	60.50	53.02%	29.14	25.54%	114.10
	Public Health Medicine	11.28	18.13%	28.94	46.51%	22.00	35.36%	62.22
	Radiology	1.95	26.00%	5.55	74.00%	0.00	0.00%	7.50
	Surgery	44.28	45.35%	37.50	38.41%	15.85	16.23%	97.63
	Others	25.90	20.67%	28.81	22.99%	70.58	6.33%	125.29

(para 15):

In medical schools there were 73 unfilled professorial vacancies out of 1042 FTEs (7.0%), 118 reader/ senior lecturer vacancies out of 1663 FTEs (7.1%), and 136 lecturer vacancies out of 844 FTEs (16.1%). However, ... the data on vacancies does not reflect accurately the number of posts that institutions are planning to fill. At the professorial level the true figures are probably at least double the numbers quoted in the table below:

Table 28 - Summary of vacancies in UK Medical Schools

Type of Post	Unfilled	Advertised	Unfilled over 6 months	In course of being filled	Vacant to save costs	Hon contract not agreed	Lack of suitable candidates	other
1. Professor	73	32	36	45	10	0	13	11
2. Reader/Senior Lecturer	118	31	64	63	17	2	14	22
3. Lecturer	136	33	75	72	8	5	19	45
4. Total	327	96	175	180	35	7	46	78

(para 16):

Taking account of the fact that the vacancy figures returned by institutions almost certainly underestimate significantly the true vacancy rate, it seems likely that between 10% and 15% of professorial and senior lecturer posts, and some 20% of lecturer posts are vacant. The percentage of posts that are vacant is a cause for concern, particularly in the context of the rapid expansion of medical education. Independent advice obtained by CHMS suggests that an acceptable level of staff turnover is of the order of 5% to 7.5%. A rate of over 10% indicates a serious retention and recruitment problem:

(para 17):

Although the survey did not ask for data on the numbers of applications for each advertised post, medical schools reported that the field of applicants was worryingly small for some professorial appointments. One institution said that in the last two years only a single candidate has been available for each of seven professorial appointments within the Medical School, and added: "It is unhealthy for the academic strength of British medicine to rely on single-candidate shortlists for advertised appointments. This illustrates the dearth of suitable candidates for senior academic clinical positions:"

Vacancies by Specialty

In a later section looking at vacancies in the different specialties (page 48), the CHMS report states:

The tables below look at vacancies within main specialties, at each academic grade in turn, beginning with professorial posts. There are some clinical specialties that appear to be under particular strains from current vacancy levels. For example, there are difficulties in recruiting within Pathology, Psychiatry and Surgery.

A number of vacancies are reported under 'other'. These include specialties that have not been assigned as CCST specialties and most likely relate to new specialties, such as Genomics.

Table 32 - Professorial vacancies across Clinical Specialties

Specialty	Unfilled	Advertised	Unfilled over 6 months	In course of being filled	Vacant to save costs	Honorary clinical contract not agreed	Lack of suitable candidates	Other
Anaesthetics	3	0	3	2	0	0	0	2
General Practice	3	3	2	3	0	0	1	0
Obstetrics and Gynaecology	5	2	1	2	2	0	0	0
Occupational Medicine	1	0	0	0	1	0	0	0
Ophthalmology	1	0	0	1	0	0	0	0
Others	8	3	5	4	2	0	0	2
Paediatrics and Child Health	5	1	2	3	1	0	1	0
Pathology	9	5	2	9	0	0	0	2
Physicians/Medicine	18	10	10	14	0	0	6	3
Psychiatry	6	4	4	3	0	0	2	1
Public Health Medicine	5	1	1	1	0	0	1	1
Radiology	3	1	2	1	2	0	0	0
Surgery	6	2	4	2	2	0	2	0

Table 33 - Reader/Senior Lecturer vacancies across Clinical Specialties

Specialty	Unfilled	Advertised	Unfilled over 6 months	In course of being filled	Vacant to save costs	Honorary clinical contract not agreed	Lack of suitable candidates	Other
Anaesthetics	7	3	3	2	1	0	2	1
General Practice	3	1	1	4	0	0	0	0
Obstetrics and Gynaecology	5	0	1	3	1	0	0	1
Occupational Medicine	0	0	0	0	0	0	0	0
Ophthalmology	6	2	4	1	3	0	1	1
Others	20	6	14	13	1	0	0	6
Paediatrics and Child Health	2	0	0	2	0	0	0	0
Pathology	12	2	7	6	3	0	1	2
Physicians/Medicine	33	7	16	21	1	1	4	7
Psychiatry	6	2	3	4	0	1	0	2
Public Health Medicine	2	0	0	2	0	0	0	0
Radiology	0	0	0	0	0	0	1	0
Surgery	22	8	15	5	7	0	5	2

Annex 4: Criteria for specialist registrar training (SpR) as published by the relevant College/Faculty

(Please note: this information was correct as of September 2001, but applicants **should check** current requirements which may well change. Please also see the specific College/Faculty notes at the end of this table where contact details can be found. Many of the abbreviations refer to College examinations and more details are available on the College websites. GPT = *general professional training*.)

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Accident & emergency medicine	5 (may be reduced by up to 12 months if essential secondments undertaken at SHO level)	Applicants must have completed a minimum of two years general professional training (GPT). During this time they should obtain a wide range of experience at SHO level in a variety of specialties, of which a minimum of six months must be spent in A&E medicine. At least half of the two-year period should include responsibility for the management of patients admitted to hospitals as emergencies. Applicants must have MRCP (UK) or (I), AFRCSEd (A&E Medicine or Surgery in General), AFRCSEd (Surgery in General), MRCS (Surgery in General, not the Conjoint Board qualification), FRCS part 2 (Surgery in General), FRCA (or Part 2 of the three-part FRCA examination, now superseded), FFARCSI. MRCP (paediatrics) and MRCPC will allow doctors to enter training in paediatric A&E medicine or in general A&E medicine, if their experience of the care of adult patients prior to HST is acceptable to the appointments committee. Candidates from overseas wishing to enter HST in A&E medicine on the strength of overseas higher qualifications must apply to the SAC for recognition of these qualifications.	
Allergy	5 6 with immunology or another specialty e.g. respiratory medicine		D
Anaesthetics	5 (from 1/8/99)	Applicants must have spent at least two years in training as an SHO in anaesthesia of which one year must have been in a recognised post in the UK. They must have been formally assessed and classed as satisfactory. They must have passed either the first or second parts of the College's current examination or the new Primary FRCA. Alternatively passes in examinations taken overseas, which the College recognises as having equivalent status, will be accepted.	

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Audiological medicine	5	Applicants must have obtained MRCP (UK) or (I) or FRCS in Otolaryngology and MRCS (ENT). Experience in audiological medicine is not essential but experience at the SHO grade in paediatrics, neurology, otolaryngology or geriatrics would be valuable.	D
Cardiology	6 with either G(I)M or a subspecialty	A period of experience in cardiovascular medicine at the SHO grade is considered desirable but not essential.	D
Cardiothoracic surgery	6	Applicants should have completed two years of Basic Surgical Training incorporating six months general surgery and six months minimum (12 months desirable) in Cardiothoracic Surgery and four to six months ICU and have passed the MRCS by examination	F
Chemical pathology	5 (including a minimum of 4.5 in HST)	<p>Candidates applying from SHO posts in chemical pathology or chemical pathology/medicine rotations should have worked in such posts for at least 12 months and have completed the first year of the core training in chemical pathology. It is recommended that all applicants should have some post-registration training in general medicine including experience in endocrinology, diabetes and metabolic diseases.</p> <p>For candidates who have worked as SHOs in general medicine but who have no laboratory experience, a minimum of two years should have been spent in this grade. Ideally such candidates should have experience of endocrinology, diabetes or metabolic disease and should have the MRCP or MRCPaed.</p>	C
Child & adolescent psychiatry	3 5 with forensic psychiatry 5 with psychiatry of learning disability		E
Clinical cytogenetics and molecular genetics	5 (including a minimum of 4.5 in HST)		C

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Clinical genetics	4	Applicants should have completed rather more than the minimum of two years GPT or to have undertaken research in clinical or laboratory genetics. GPT should preferably provide experience both in adult general medicine and in paediatrics. Applicants should have obtained the MRCP (UK), (I), or MRCPCH. Alternatively applicants should have MRCOG, MRCPATH, FRCS or FRCSI provided that at least 18 months of their two years GPT entailed the management of acute admissions. MRCGP will only be accepted if the applicant has substantial experience of clinical or research work in medical genetics and has gained a higher degree e.g. MD or PhD.	D
Clinical neuro-physiology	4 6.5 with neurology	Experience in adult and/or paediatric neurology at the SHO grade is considered desirable but not essential.	D
Clinical oncology	5	Applicants for the SpR grade should have at least three years (one year pre-registration and two years post-registration) of clinical experience after qualification (the approval of other experience is subject to individual consideration). General medical experience in other specialties is an essential pre-requisite before entering training. This can only be achieved by a minimum of two years' post-registration work. A number of clinical specialties other than general medicine can provide useful GPT clinical experience including various branches of surgery, gynaecology and psychiatry. The attainment of the MRCP, or another higher qualification, is a necessary component of this training programme.	
Clinical pharmacology & therapeutics	4 5 with G(I)M	Experience in clinical pharmacology and therapeutics at the SHO grade is considered desirable but not essential.	D
Clinical radiology	5	Trainees entering a radiology training programme are required to have a minimum of two years of appropriate clinical experience. In the UK this would comprise one year of pre-registration and one year of post-registration clinical experience. Many also have higher medical or surgical qualifications.	
Dental public health	4		A

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Dermatology	4	Dermatology experience is not essential but some exposure to dermatology is considered desirable, although no more than six months will be allowable towards GPT.	D
Endocrinology & diabetes mellitus	4 5 with G(I)M	Experience in endocrinology or diabetes mellitus at the SHO grade is considered desirable but not essential.	D
Endodontics	3		A
Forensic psychiatry	3 5 with psychotherapy		E
Gastro-enterology	4 5 with G(I)M	A period of experience in gastroenterology at the SHO grade is considered desirable but not essential.	D
General adult psychiatry	3 4 with old age psychiatry 4 with psychiatry of learning disability		E
General internal medicine	3	Applicants must have completed a minimum of two years general professional training in approved posts and obtained the MRCP.	D
General surgery	6	Satisfactory completion of 24 months of SHO training in a rotation of surgical specialties (at least three) and a pass in the MRCS examination	F
Genito-urinary medicine	4	Applicants must have obtained either MRCP (UK) or MRCOG. MRCP holders must obtain gynaecological experience at some stage of their training, ideally six months in a gynaecology or obstetrics or gynaecology post during their GPT. MRCOG holders must spend a minimum of one year post-registration in posts approved for GPT in G(I)M with an on-call commitment for emergency medicine.	D
Geriatric medicine	4 5 with G(I)M	Applicants must have completed a minimum of two years GPT in approved posts and obtained the MRCP. Experience in geriatric medicine at the SHO grade is considered desirable but not essential.	D
Haematology	5	Experience in clinical haematology or oncology is desirable but not essential. Entrants must hold the MRCP (UK) or (I) or alternatively the MRCPCH allied to paediatric GPT experience will be acceptable.	D

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Histopathology	5 (including a minimum of 4.5 in HST)	Applicants for Higher Specialist Training (HST) must have completed a minimum of one year as an SHO in histopathology. This ideally should immediately precede entry to the SpR grade. In addition it is desirable to have spent periods of not less than one year training in other specialties, preferably those most closely relevant to a career in histopathology, e.g. general medicine, general surgery, oncology, gynaecology, radiology or any one of the other laboratory disciplines.	C
Immunology	5 6 with allergy	Applicants must have completed a minimum of two years GPT in approved posts and obtained the MRCP.	D
Infectious diseases	4 5 with G(I)M 5 with tropical medicine 6 with G(I)M & tropical medicine 6 with medical microbiology and virology	A period of experience in infection at the SHO grade is considered desirable but not essential. Applicants should have obtained the MRCP (UK) or (I) or MRCPH.	D
Intensive care medicine			D
Medical microbiology & virology	5 (including a minimum of 4.5 in HST)	<p>Trainees may enter the SpR grade after having gained experience in microbiology/virology as an SHO or acquiring suitable training in general medicine. SHOs should have a minimum of one year's experience in microbiology, during which time they should have acquired an introduction to clinical liaison, infection control and IT. During this period trainees should also have acquired practical bench experience in medical microbiology/virology. Such a period may include six months training in infectious diseases.</p> <p>Alternatively those who have undergone training in general medicine without experience in medical microbiology should normally have obtained the MRCP(UK). During this period of training it would be expected that not less than six months experience would be gained in one or more of the following - infectious diseases, genitourinary medicine (including HIV), paediatrics, oncology, transplantation medicine, chest medicine.</p>	C
Medical oncology	4	Applicants must have completed a minimum of two years GPT in approved posts and obtained the MRCP. Experience in medical oncology at the SHO grade is considered desirable but not essential.	D

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Medical Ophthalmology	5	<p>Trainees entering the specialty of medical ophthalmology will do so from one of two backgrounds - medical or ophthalmological.</p> <p>Those entering from a medical background will have completed a minimum of two years' GPT in approved SHO posts and will have obtained the MRCP. The first two years of Higher Specialist Training will then be spent obtaining basic surgical training in ophthalmology in approved posts at SHO level. At the end of this period the trainee will then be required to take the Diploma of the Royal College of Ophthalmologists (DRCOphth).</p> <p>Those entering from a ophthalmological background will have completed two years of surgical training as a Senior House Officer in the specialty in approved posts, and will have passed the MRCOphth examination. The first two years of Higher Specialist Training will be spent in an approved medical SHO training programme.</p>	
Neurology	5 6.5 with clinical neurophysiology	Not more than six months of the two year GPT period may be spent in the neurosciences. Experience in neurology at the SHO grade is considered desirable but not essential. Other valuable experience at the SHO grade would be in psychiatry, neurosurgery or ophthalmology.	D
Neurosurgery	6	Satisfactory completion of 24 months of SHO training in a rotation of surgical specialties (at least three) and a pass in the MRCS examination.	F
Nuclear medicine	4 6 with radiology and G(I)M	Applicants must hold the appropriate certificate from Health Ministers to administer radioactive substances and have obtained the MRCP (UK), (I) or FRCR (or MRCPaed).	D
Obstetrics & gynaecology	5	Applicants must have completed two years of basic specialist training including a minimum of at least one year in clinical obstetrics and gynaecology. They must also have passed Part 1 MRCOG.	
Occupational medicine	5		
Old age psychiatry	3 4 with psychiatry of learning disability		E

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Ophthalmology	5	Basic Specialist Training (BST) is intended to provide a programme of learning which facilitates the acquisition of knowledge, understanding, skills and attitudes to a level appropriate to an ophthalmic trainee who has been fully prepared to begin his/her Higher Specialist Training (HST) as a Specialist Registrar (SpR) in Ophthalmology. Evidence of such attainment after at least two years in training placements recognised by the Training Committee of the Royal College of Ophthalmologists and by possession (after examination) of the Diploma of Membership of either the Royal College of Ophthalmologists or the Royal College of Surgeons of Edinburgh will result in the award of a Certificate of Eligibility to Enter Higher Specialist Training (CEEHST). SHOs are also required to maintain an adequate standard of logbook documenting their experience and demonstrating a culture of personal audit.	
Oral & maxillo-facial surgery	5	Must be qualified in dentistry and medicine and have either: completed the requirements for the Clinical Surgery in General examination AFRCS or MRCS and have obtained a dental fellowship, or have obtained the Clinical Surgery in General examination AFRCS or MRCS and completed the requirements for the dental fellowship. They are required to have both fellowships within two years of being appointed. From 2003 trainees must have registerable basic medical and dental qualifications and possession of the MRCS/AFRCS by examination. Trainees will be expected to acquire the MFDS during the continuum. Possession of the MRCS will exempt trainees from sitting parts A and B of the MFDS.	F
Oral surgery	4		A
Orthodontics	3		A
Otolaryngology	6	Satisfactory completion of 24 months of SHO training in a rotation of surgical specialties (at least three) and a pass in the MRCS examination	F
Paediatric cardiology	5	GPT must also include paediatrics or cardiology and would therefore normally extend beyond the minimum two years. Applicants should have obtained the MRCP (UK) or (I) or MRCPC.	D

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Paediatric dentistry	3		A
Paediatric surgery	6	Satisfactory completion of 24 months of SHO training in a rotation of surgical specialties (at least three) and a pass in the MRCS examination An additional one year of experience in post MRCS/AFRCS general surgery (or equivalent) and six months in neonatal medicine is desirable.	F
Paediatrics	5	Currently, the College accepts as equivalent American Academy of Paediatrics Board Examination, Fellow of the College of Paediatricians of South Africa, Fellow of the Royal Australasian College of Physicians, Fellow of the Royal College of Physicians of Canada, MD (Colombo), MMed (Singapore), MRCP (Ireland). The list is not exhaustive an applicants may offer other qualifications for consideration.	B
Palliative medicine	4	Applicants must have completed a minimum of two years GPT leading to MRCP(UK) or (I), FRCR (Clinical Oncology), FRCA(UK) or (I) or in a General Practitioner Vocational Training Scheme (GPVTS) leading to MRCGP (UK) or (I). For applicants who followed a GPVTS, 12 months concerned with the assessment of acute emergencies in the community under the supervision of an approved trainer may replace six months of acute medical intake but may not replace the requirement for six months of acute unselected medical intake.	D
Periodontics	3		A
Plastic surgery	6	Satisfactory completion of 24 months of SHO training in a rotation of surgical specialties (at least three) and a pass in the MRCS examination. If a trainee does not obtain an SpR post immediately on passing the MRCS then they are advised to gain experience in a plastic surgery post while applying.	F
Prosthodontics	3		A
Psychiatry of learning disability	3		E
Psychotherapy	3		E
Public health medicine	5	The minimum entry requirements are two years post-registration training (GPT) of which at least 12 months and preferably 24 months must be in specialties involving direct patient care. Mature entrants with a longer period of postgraduate experience are welcome.	

Specialty	Min. length of SpR training (years)	Criteria for entry	Futher notes
Rehabilitation medicine	4 5 with rheumatology or geriatric medicine 6 with neurology	A sound knowledge of experience of the wide variety of disorders encountered is required together with skills to co-ordinate a range of medical and paramedical expertise, social agencies and personal support services. Applicants must have obtained MRCP(UK) or (I), FRCS, AFRCS or MRCS. A period of experience in neurology, rheumatology, geriatric medicine or rehabilitation medicine is considered desirable but not essential.	D
Renal medicine	4 5 with G(I)M	Applicants must have completed a minimum of two years GPT in approved posts and obtained the MRCP. Experience in nephrology at the SHO grade is considered desirable but not essential.	D
Respiratory medicine	4 5 with G(I)M	Applicants must have completed a minimum of two years GPT in approved posts and obtained the MRCP. A period of experience in respiratory medicine at the SHO grade is considered desirable but not essential. A certificate confirming satisfactory performance at an Advanced Life Support course should be obtained before entry.	D
Restorative dentistry	5		A
Rheumatology	4 5 with G(I)M	Applicants must have completed a minimum of two years GPT in approved posts and obtained the MRCP. A period of experience in rheumatology at the SHO grade is considered desirable but not essential.	D
Surgical dentistry	3		A
Trauma & orthopaedic surgery	6	Satisfactory completion of 24 months of SHO training in a rotation of surgical specialties (at least three) and a pass in the MRCS examination. Applicants will be expected to have undertaken at least six months in the specialty at SHO level.	F
Tropical medicine	4 5 with infectious diseases 6 with infectious diseases and G(I)M	Experience in infection at the SHO grade is considered desirable but not essential.	D
Urology	6	Satisfactory completion of 24 months of SHO training in a rotation of surgical specialties (at least three) and a pass in the MRCS examination. Applicants will be expected to have undertaken at least six months in the specialty at SHO level.	F

Further details of College requirements

Note A

ENTRY CRITERIA FOR SPECIALIST REGISTRAR TRAINING AS SPECIFIED BY THE FACULTY OF DENTAL SURGERY

Further information from:

The Faculty of Dental Surgery

The Royal College of Surgeons of England

35-43 Lincoln's Inn Fields, London WC2A 3PE

Tel: 020 7869 6810, Fax: 020 7869 6816, Email: fds@rcseng.ac.uk, Web-site: www.rcseng.ac.uk/dental/fds

Minimum entry requirements for all specialties:-

Entry to specialist training should follow a period of at least two years of general professional training and should be competitive. The MFDS or equivalent will normally be the minimum entry qualification. For the first few years after the grade commissioning dates, the FDS of one of the Royal Surgical Colleges will also be an acceptable entry qualification to specialist training.

Note B

ENTRY CRITERIA FOR SPECIALIST REGISTRAR TRAINING AS SPECIFIED BY THE ROYAL COLLEGE OF PAEDIATRICS AND CHILD HEALTH

Further information from:

Royal College of Paediatrics and Child Health

50 Hallam Street, London W1W 6DE

Tel: 020 7307 5600, Fax: 020 7307 5601, Email: enquiries@rcpch.ac.uk, Web-site: www.rcpch.ac.uk

Minimum entry requirements: -

The minimum requirement for entry to the Specialist Registrar (SpR) grade is two years of General Professional Training (GPT) to include 12 months' experience in paediatrics of which at least six months must be in a general paediatric SHO post (approved by the RCPCH) and six months in a neonatal post. The latter will usually be in a large tertiary unit capable of carrying out intensive care. Staying in a post which has six months educational approval for more than that period will not necessarily enhance the applicant's curriculum vitae. In practice the majority of doctors who want to become paediatricians will need to spend at least two years in paediatric SHO posts (medical, surgical, neonatal or community).

Doctors who have taken less orthodox pathways are welcomed in paediatrics but they will have to convince the SpR appointments panel that they are as clinically competent as other applicants. For example, trainees may choose to spend six months doing related jobs such as obstetrics, A&E (provided that there is a large paediatric workload) or psychiatry.

The MRCP (UK) or equivalent is the required qualification.

Note C

ENTRY CRITERIA FOR SPECIALIST REGISTRAR TRAINING AS SPECIFIED BY THE ROYAL COLLEGE OF PATHOLOGISTS

Further information from:

Royal College of Pathologists

2 Carlton House Terrace, London SW1Y 5AF

Tel: 020 7451 6700, Fax: 020 7321 0523, Email: info@rcpath.org, Web-site: www.rcpath.org

Minimum entry requirements for all specialties:-

After registration there will be a period of General Specialist training (GST) before entering Higher Specialist Training (HST) of not less than one year and not more than three years: of this a maximum of twelve months should be in the specialty in which the trainee wishes to undertake HST or other specialties relevant to this.

Note D

ENTRY CRITERIA FOR SPECIALIST REGISTRAR TRAINING AS SPECIFIED BY THE ROYAL COLLEGE OF PHYSICIANS

Further information from:

Joint Committee on Higher Medical Training

c/o Royal College of Physicians, 5 St Andrew's Place, Regent's Park, London NW1 4LB

Tel: 020 7935 1174, Fax: 020 7486 4160, Email: hmt@rcplondon.ac.uk, Web-site: www.rcplondon.ac.uk/jchmt

Minimum entry requirements for all specialties:-

All trainees must undertake a minimum of two years in General Professional Training (GPT) - sometimes referred to as basic specialist training - in approved posts. GPT is part of 'specialist training' and its satisfactory completion is therefore a requirement for the award of a CCST. It should provide a wide range of experience at Senior House Officer (SHO) level in a variety of specialties. Within the minimum two years, not more than 12 months should be spent in posts restricted solely to acute general medicine; nor should more than six months be spent in a single specialty such as neurology or dermatology. At least 18 months of the two years' GPT must be spent in posts providing experience in admission and early follow-up of acute emergencies and six months of these 18 months must be spent on a service or services on which the emergency take is 'unselected'.

'Unselected take' is defined as acute medical intake encompassing the broad generality of medicine i.e. not restricted to any single or small group of specialties. If any major component of acute medicine (e.g. cerebrovascular accidents, myocardial infarctions) is excluded from the take, this experience must be obtained in other posts. During the period on 'unselected take' trainees should have an on-call commitment which averages no less than 4 takes per month.

Those planning clinical as opposed to laboratory-based careers must spend at least two years in approved posts involving direct contact with patients. GPT may, of course, be extended for trainees wishing to broaden their experience at SHO level and to sample additional specialties, perhaps including a spell in general practice, before a specialty programme is finally selected.

In addition to completion of GPT trainees must acquire a relevant postgraduate qualification. In most cases this will be the MRCP (UK) or (I) but some specialty programmes can be entered on the basis of alternative qualifications as stated below. Applicants without the MRCP (UK) or (I) or alternative qualification must provide evidence of appropriate knowledge, training and experience, particularly in the care of acute medical conditions.

Overseas qualifications currently recognised as being equivalent to the MRCP (UK) are FRACP Part 1, FRCP Canada, MD Columbo, MHKPS Hong Kong, M.Med Malaysia, FCPS Pakistan, M.Med Singapore, FCP South Africa, US Boards of Internal Medicine.

Note E

ENTRY CRITERIA FOR TYPE 1 SPECIALIST REGISTRAR TRAINING AS SPECIFIED BY THE ROYAL COLLEGE OF PSYCHIATRISTS

Further information from:

Royal College of Psychiatrists Specialist Training Committee

17 Belgrave Square, London SW1X 8PG

Tel: 020 7235 2351, Fax: 020 7245 1231, Email: cpashley@rcpsych.ac.uk, Web-site: www.rcpsych.ac.uk

Minimum entry requirements for all specialties:-

The total duration of specialist training is six years. Trainees will have completed at least three years of basic specialist training prior to entering higher specialist training. This must include a minimum of three years in psychiatry although it is possible for time in other relevant fields to count towards the overall requirement e.g. general medicine, accident and emergency medicine, obstetrics and gynaecology and general practice. From Spring 2000 all new members (by examination) must have completed at least six months wte basic specialist training in either child and adolescent psychiatry, psychiatry of learning disability or a combination of the two. This mandatory requirement does not apply to any other College members or appropriately qualified psychiatrists from overseas.

They will have also passed the MRCPsych examination or a College recognised equivalent qualification from the list below or a specialist medical qualification listed under article 5(2) of Council Directive 93/16/EEC (April 1993)A.

The College recognises the following qualifications as equivalent:-

Section 1 Examination of the Royal Australian and New Zealand College of Psychiatrists

Certification in Psychiatry or Child and Adolescent Psychiatry of the American Board of Psychiatry and Neurology

Certification in Psychiatry of the Royal College of Physicians and Surgeons of Canada

Part II Examination of the Hong Kong College of Psychiatrists

Fellowship of the College of Psychiatrists of South Africa

An applicant may rarely offer a 'Statement of Eligibility' for appointment as a Specialist Registrar issued on headed paper by the College as an alternative to one of the above-named qualifications. This would mean that the applicant had applied unsuccessfully to the College for a recommendation of inclusion on the UK's Specialist Register but had been deemed eligible in terms of training and qualifications for specialist registrar appointment in open competition.

It is important to note that although these qualifications enable inclusion on the UK's Specialist Register there is nothing to prevent specialists with these qualifications from undertaking higher specialist training in the UK.

Note F

ENTRY CRITERIA FOR TYPE 1 SPECIALIST REGISTRAR TRAINING AS SPECIFIED BY THE ROYAL COLLEGES OF SURGEONS

Further information from:

Joint Committee on Higher Surgical Training (JCHST)

35 - 43 Lincoln's Inn Fields, London WC2A 3PE

Tel: 020 7405 3474, Fax: 020 7869 6260, Email: jchst@rcseng.ac.uk, Web-site: www.jchst.org

Minimum entry requirements for all specialties:-

The minimum requirement for appointment to a Type 1 higher surgical training programme is a pass in the FRCS/AFRCS or MRCS examination following the satisfactory completion of 24 months of basic surgical training. There are no equivalents to this requirement at this time. This is to be replaced by the Certificate of Completion of Basic Surgical Training (CCBST) in 2003.

Other contact details

Faculty of Occupational Medicine

6 St Andrew's Place, Regent's Park, London NW1 4LB

Tel: 020 7317 5890, Fax: 020 7317 5899, Email: fom@facocmed.ac.uk, Web-site: www.facocmed.ac.uk

Faculty of Public Health Medicine

4 St Andrew's Place, Regent's Park, London NW1 4LB

Tel: 020 7935 0243, Fax: 020 7224 6973, Email: educ@fphm.org.uk, Web-site: www.fphm.org.uk

Royal College of Anaesthetists

48/49 Russell Square, London WC1B 4JY

Tel: 020 7813 1900, Fax: 020 7813 1875, Email: info@rcoa.ac.uk, Web-site: www.rcoa.ac.uk

Royal College of Obstetricians and Gynaecologists

27 Sussex Place, London NW1 4RG

Tel: 020 7772 6200, Fax: 020 7723 0575, Email: coll.sec@rcog.org.uk, Web-site: www.rcog.org.uk

Royal College of Ophthalmologists

17 Cornwall Terrace, London NW1 4QW

Tel: 020 7935 0702, Fax: 020 7935 9838, Email: training@rcophth.btinternet.com, Web-site: www.rcophth.ac.uk

Royal College of Radiologists

38 Portland Place, London W1N 4JQ

Tel: 020 7636 4432, Fax: 020 7323 3100, Email: enquiries@rcr.ac.uk, Web-site: www.rcr.ac.uk

Annex 5: A primary care view on next steps

Implementation of Recommendations 3, 4, and 5 in The tenure-track clinician scientist: a new career pathway to promote recruitment in clinical academic medicine.

Annex prepared by Ann-Louise Kinmonth, FMedSci, Professor of General Practice, Cambridge with comments from: Roger Jones, FMedSci, Wolfson Professor of General Practice, London; Graham Watt, FMedSci, Professor of General Practice, Glasgow; David Mant, FMedSci, Professor of General Practice, Oxford; George Freeman, Professor of General Practice, London (LATS Scheme); Amanda Howe, Professor of General Practice, East Anglia (Chair RCGP Research Network)

Many of the points made in this annex are relevant to specialist academic careers as well as generalists, but the lack of NTN in general practice, and its distinct funding streams and culture offer particular opportunities and challenges. The focus in general practice is on building critical mass and ensuring the next generation of academic leaders in a young discipline.

Recommendation 3: development of a research training access scheme to provide annually about 50 research training access posts for outstanding senior house officers

General practice has been at the forefront of experimental developments in this area, recognising the gap between budding academic curiosity in the early years of medical training and the commitment required for successful application for national training fellowships. A wealth of experience of these schemes now exists in the academic departments of general practice at both undergraduate and postgraduate level. However, schemes have been funded mainly from 'soft' sources, or from NHS development funds in the case of the London Academic Training Scheme (LATS) and Enterprise award schemes (Eastern Region). The following steps are proposed.

- 1 A report on current effective practice in facilitating research access schemes and their outcomes. This would be valuable as a baseline measure and to inform future developments. It would include tracking of careers of graduates. For example, LATS experience suggests at least 50 per cent of students end the year genuinely interested in an academic career. Many of the remainder want teaching only (or mainly) academic involvement.
- 2 Development of a national access scheme available not only to SHOs on specialist career paths, but also to vocationally trained general practitioners beginning year 4 of their training (where Year 0 = pre-registration House Officer, Years 1, 2 are SHO and Year 3 is their registrar year.)

While there is current potential provision for a six month extension to vocational training, a serious access scheme needs to be a two-year scheme if subsequent move into training fellowships is a major aim. In Year 1 it would be possible to pursue either an access scheme or an MSc with a strong research component, leading to a training fellowship application early in Year 2 for take up the following year. This would be six years from registration, and fits with the current developments of the SHO/vocational GP training grade.

- 3 Academic access schemes for general practice should be directed by university departments in collaboration with postgraduate deaneries, to ensure that clinical consolidation occurs alongside the academic access.

- 4 The first year of the scheme should be mainly academic and the second year more clinical, to ensure both a substantive development of research skills and a progression in service skills. The second year would be spent on aspects of research such as drawing up new applications and MD/PhD proposals, plus publishing and disseminating work from Year 1.
- 5 Funding would appropriately come from additional funds to the postgraduate deans' budget from the new consortia, for the advanced clinical training component, and from NHS R&D for the research access component. The time is also right for relevant discussions with consortia and Department of Health and with primary care trusts and workforce confederations as research and educational systems are reorganised and reviewed with a view to recruitment and retention.

Recommendation 4: limited earmarking of fellowships, links with strong centres and academic access schemes in order to promote research training in some disciplines

We strongly support this recommendation for primary care. Academic general practice is currently beginning to benefit from a range of earmarked academic schemes including the MRC Primary Care Call, MRC HSR Studentships and Training Fellowships, and Wellcome HSR and Epidemiology Training Fellowships as well as the important NHSE primary care training fellowship schemes. The numbers involved are as yet too few either to secure capacity or assess success.

Draft results of a follow-up survey to the Mackenzie Census of the state of academic general practice demonstrate limited development of research training environments over the last few years, and the current RAE will provide more information. Preliminary results suggest that there has been little or no expansion in clinical academic staff numbers in the last three years and that many units lack critical mass, so there is little room for complacency.

The following steps are proposed:

- 1 Continue the current contribution of primary care academics to the current reviews of these schemes.
- 2 Pay particular attention to monitoring of recruitment rates, in the face of outside pressures on primary care practice, research training, quality, and career destination.
- 3 We believe there is a strong case to be made to continue the National Primary Care Award scheme at all three levels (researcher development awards, post doctoral fellowships and career scientist) and as a general scheme for primary care - strategically we have too few applicants to limit the schemes to specified content areas (data available).
- 4 We strongly support plans in progress by the MRC to support and quality assure the work of researchers in the Primary Care Call.
- 5 The Chair and Vice Chair of the Wellcome HSR and Epidemiology advisory board have made representations to support continuing the earmarking of fellowships in these areas, but the outcome is uncertain.

- 6 In line with the Savill Report, we support the idea of linking training fellowships to access schemes and strong generalist and specialist units. Thus we support integrated training with both primary and secondary care components. We believe however that a primary care academic centre should always be involved for disciplinary perspective.
- 6.1 We support placing the schemes within centres of research excellence and leaving the recruiting to the centres as MRC does in its studentship schemes. Department bidding rounds could be held and those demonstrating individual strengths or appropriate links with relevant specialist centres would be favoured.
- 6.2 We recommend adding to the existing NHS training schemes for primary care in specific priority areas, e.g. cancer, mental health, diabetes, by seeking joint funding of primary care academic training fellowships with disease specific charities, e.g. Diabetes UK, CRC, BHF, etc.
- 6.3 We recommend a spread of '1 + 3' years linked access and doctoral schemes and '2 + 3' year schemes, to meet the needs of those who are not fully committed at the beginning of the research access/MSc year, as well as those (few) fully committed to an academic track from early in their career.
- 6.4 We are unclear how a 'placement advice' service might work in general practice but would be interested to explore this. It may be that individuals on access schemes would particularly benefit from such advice for placing their training fellowships.

Recommendation 5: there should be as much flexibility as possible in the development of training programmes to allow the conjoint development of research and clinical careers

We strongly endorse this recommendation. In a discipline with an increasing focus on portfolio careers for all, and an established commitment to enabling women and men to pursue family and professional life in balance, the conjoint development of research and clinical careers is vital for recruitment and retention.

Particular issues for consideration in primary care include the need for defining a range of routes into academic practice, as some GPs will become research active after years in full time service. This can be costly, but consideration should be given to transfer schemes via masters fellowships for example, with shared funding by PCTs, Department of Health and other funding bodies.

September 2001



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