COUNCIL FOR SCIENCE AND TECHNOLOGY

TRANSFORMING THE TRAINING AND EDUCATION OF FUTURE GENERATIONS OF DOCTORS

Text of a letter to the Prime Minister

26 July 2012

Introduction: This letter and its appendix present an analysis of the current state of training and education of future generations of doctors and leaders of the medical profession. There is widespread concern within the UK Departments of Health, the Medical Royal Colleges and the medical profession itself that has led to an independent review of medical postgraduate training and education by Professor David Greenaway. However, CST is concerned that previous recommendations to enhance postgraduate training and education have been largely ignored and considers that there is insufficient urgency and commitment from all parties concerned to carry out reform. We set out the key issues and recommend a greater focus on this topic as part of the reforms following the Health and Social Care Act. Postgraduate education and training of the medical workforce needs radical change to ensure that the workforce is fit for the 21st century.

Background: During the last 25 years postgraduate medical training has swung from a moderately flexible and somewhat anarchic model to one that is highly bureaucratised and inflexible. The reorganisation of the NHS with the introduction of Health Education England and Local Education and Training Boards offers a once in a generation opportunity for a fundamental review and evolution of the training of doctors who will be fit for the changed practices that will be necessary for the first class provision of public health and clinical care in the 21st century.

Postgraduate medical training in the UK differs significantly from equivalent training in other developed countries and is increasingly seen from abroad, and by our own trainees, as anachronistic. Medical practice is in constant evolution and development. There is a series of transforming technologies that demand new approaches to clinical practice. The first of these is the information revolution. Information and computer technology offers the prospect of vast improvement in medical record keeping and sharing of data. This will enable medical records to be shared between health practitioners and patients. This in turn will facilitate integrated care between different practitioners working in different environments eg primary and secondary care.

Expert systems can and must enhance the quality of care. At a population level, care can be monitored and audited better than ever, helping to iron out inappropriate differences in practice and outcome, and detecting adverse effects of interventions or non-interventions at an earlier stage than is now possible. ICT will also enable dramatic improvements in the fashion in which professionals communicate amongst themselves

and with patients – smart phones and other mobile devices have the capacity to deliver m-Health in ways that are only at the threshold of exploitation. Patients will increasingly demand a different style of care, and communication with their doctor, themselves becoming 'experts' through the revolution in access to medical information through the web.

Genomic medicine will provide enhanced diagnostic, prognostic and therapeutic information. This is already starting to revolutionise clinical practice in cancer and neurodevelopmental diseases. It is on the threshold of transforming the management of infectious disease at an individual and public health level.

The development of new diagnostic devices will make remote diagnostics possible outside conventional health care settings, and robotic assistance which has the capacity to transform surgical intervention. Remote monitoring will become the norm, coupled with expert systems to optimise the management of chronic and degenerative diseases.

Medical practice will also have to deal with the major demographic transition of an ageing population. There will need to be an increased focus on strategies to delay or prevent chronic non-communicable diseases and maintaining an elderly population in community settings for as long as is possible.

It is certain that we must provide excellent training and education for future generations of medical practitioners who will be working with quite different tools and technologies from their predecessors.

What has gone wrong with postgraduate medical education and training: As part of the prelude to this paper, a meeting was held at the Royal Society of Medicine, co-hosted by the Chief Medical Officer, Dame Sally Davies, the Nuffield Trust and the Wellcome Trust. This brought together a range of stakeholders ranging from trainees to leaders of the medical profession. Some of the major issues that arose at the discussion were:

The pendulum of medical training has swung from a 'laissez-faire', rather unstructured and unsupervised mode to a rigid, time-constrained and time-defined training structure. Training has become over-bureaucratized. Trainee doctors spend much time and energy developing voluminous portfolios. Application forms for posts have become stylised and there is little recognition of academic and clinical excellence in selection processes.

Junior doctors are typically shuffled between short-term posts in rotations over which they may have no control. Equally serious because of the nature of 'shift working', they have lost the vital experience of continuity of care, so that frequently they do not see and participate in the total journey of their patients through the care system. Because of these changes in working practice they have lost continuity of mentorship and rarely have the opportunity to develop strong relationships with their trainers. Finally, the system has become somewhat inhumane, with little sympathy for the personal circumstances of doctors in training, which, for example, makes it difficult for those who may have perfectly legitimate geographic constraints.

For many years there has been a conflict of interests between the training needs of junior doctors and the service needs of the NHS. This has had perverse effects, the most extreme resulting in doctors providing service for which they are ill-trained in a poor training environment. The opposite, sometimes described as, the 'infantilisation' of trainees, may prevent them from taking appropriate responsibilities for decisions and procedures for which they are competent, working in an appropriately supervised and mentored environment.

The introduction of rotations had the good intent of broadening the experience of trainees by exposing them to clinical practice and training in diverse clinical environments. However, an important, unanticipated consequence has been to reduce the length of contact of trainees with senior doctors who traditionally played a key role on mentoring the careers of trainees. To put it bluntly, senior doctors no longer get to know and therefore develop a long term mentoring relationship with their trainees.

There is a plethora of medical specialties that in 2012 remain to a substantial extent fossilised within the specialty definitions that developed in the 1950s. Some of the 'boundaries' between the Medical Royal Colleges have added to the inflexibility (a point we expand in the Appendix).

Action points for the review and evolution of postgraduate education and training:

Strategic vision: Form should follow function and not the other way round! So any system of training and education must follow a clear vision of the role of future generations of doctors. Features that will be key include a flexible workforce that demands lifelong career education, training and development.

Recommendations from CST: A substantial overhaul is needed to develop education and training pathways that will deliver tomorrow's doctors. Given the importance of the NHS and the Pharmaceutical and Biotechnology Sector to the health and wealth of the UK, CST thinks that this is an important issue to bring to the attention of the Prime Minister.

We welcome the review of postgraduate medical education led by Professor Greenaway which is due to report in June 2013. CST notes however that many of the issues set out in this letter and its appendix were identified as part of the review led by Sir John Tooke in "Aspiring to Excellence" in 2008. Action was not taken after that report and CST is concerned to avoid the repetition of history. We believe that there needs to be a much greater sense of urgency in tackling these issues, maintaining the *status quo* is not acceptable. Whilst another review is probably necessary, many of these issues could have been sorted out a long time ago. This must now happen.

CST therefore recommends that a clear strategic vision is developed of the roles of future generations of doctors. This should underpin the Greenaway Review which must be encouraged and empowered to undertake a comprehensive review of postgraduate medical education and training.

Secondly, there must be a clear commitment by the Department of Health and the NHS to implement the critical changes that are needed to create the future generations of doctors essential to deliver health and wealth to the UK for the 21st Century. Leadership within the Department of Health and NHS must be held accountable for the execution and delivery of the radical reforms that will be necessary.

Medical practitioners represent only one of the health professions that provide health advice and health care to the population. Similar reviews of the training of other health professional staff are similarly overdue. CST recommends that the Department of Health and the NHS should consider setting up parallel reviews to the Greenaway review to examine other professional postgraduate education and training pathways.

Conclusion: There are profound changes in the economic and social context of health provision. Demographic change coupled with disruptive advances in technology will transform the provision of preventive medicine and health care. The NHS is a world leading health care system – and the workforce is the most important component of the NHS. There is a golden opportunity to improve and evolve the training of the medical workforce and the opportunity to achieve major improvements must not be squandered.

The Appendix to this letter sets out detailed questions that will need examination as part of a comprehensive review of postgraduate medical education and training.

I am copying this letter to the Deputy Prime Minister, Andrew Lansley, Vince Cable, David Willetts, and Sir Jeremy Heywood.

Signed:

Sir John Beddington

Professor Dame Nancy Rothwell

CST co-chairs

APPENDIX

Detailed questions that will need examination as part of a comprehensive review of postgraduate medical education and training.

Reviewing the skills mix: Specific questions that need re-examination relating to the skills mix of future medical practitioners are:

i) Is the existing specialty mix fit for purpose now and in the future? Can this be enabled to evolve (priority areas for examination include: psychiatry and neurology (clinical neuroscience); infectious diseases and microbiology; and public health – particularly the role of subspecialisation and the practice of population health skills within clinical specialties)?
ii) Should training be divided into two phases – a more generalist phase that allows 'independent' clinical practice, followed by modular higher specialist training programmes that enable the acquisition of additional specialist and subspecialist skills as recommended in the Tooke report of January 2008?
iii) Should it be made easier for individuals to move across traditional specialty boundaries throughout their career, for example to enter public health at a later stage, or to transition between secondary and primary care?
iv) Several specific questions have arisen with respect to the length of training: a) should Foundation programmes be reduced from 2 years to 1 year? and b) should training in general practice be increased from 3 to 4, or even 5 years?
v) The introduction of a clearer career pathway for clinical academic staff has generally been viewed to be positive – is there a need for similar pathways for those interested in careers in medical education, quality improvement/implementation science, medical management – can the structure of academic clinical fellowship and clinical lectureship programmes be flexed to accommodate other dual career pathways?
vi) Is it still right that the vast majority of doctors who start postgraduate speciality training will end up as unsupervised consultants or GPs? Should the career structure be changed?
vii) Issues relating to the boundaries between medical specialties, for instance: the role of the infectious diseases specialist in secondary care; whether training in psychiatry and neurology should be integrated more closely; and the opportunities to evolve public health training to allow a much greater degree of subspecialisation during training than is currently possible, how public health can be integrated into specialties such as cardiology or infectious diseases and how modern science, including genomics, is integrated in every curriculum.

Enhancing the quality of postgraduate education and training: There is evidence that the system of 'values' amongst health care professionals, including the medical profession has changed gradually over many years from a 'vocational' approach to a much more 'contractual' relationship, with a focus on measurement of contribution through hours and paperwork. There is very considerable dissatisfaction from both trainers and trainees with the present training structure for junior doctors – issues that need examination are:

i) Does the present system of trainees providing NHS services, a system not replicated in other successful countries, work?

ii) Are the frequent rotations between posts of junior doctors optimal – and can the lifelong mentoring relationship between trainers and trainees be re-established and improved?

iii) How can we improve the geographic flexibility in allocation of training posts? There are many different requirements: some people may be geographically constrained by family and other domestic reasons; others may need to move around extensively to acquire specialist experience – clinical, research or other.

iv) How can we improve flexibility for trainees who wish to pursue flexible careers? Academic trainees frequently encounter a lack of sympathy for their need for 'out of programme' experience - indeed the very concept that training in research, global health, education, management, leadership etc are 'out of programme' sends an inflexible signal. A definitive solution to this programme demands that there is much greater clarity in sorting out the relationship between training and service provision (see (vi) below).

v) How can we re-empower trainees to take responsibility and accountability for clinical decision making and undertaking practical procedures? Many of those entering medical education are now graduates from non-medical backgrounds and become disillusioned when they compare their treatment and the responsibilities that they are given with their contemporaries in other walks of life. A key characteristic of those pursuing professions is their exercise of 'judgement' and we must empower trainees to start to use this crucial skill.

vi) Can we improve the processes of appointment and assessment of training and educational progression? The relationship between 'form and function' appears to have been lost in these processes. There must be a move back to recognising the academic and other attainments of trainees – rather than a focus on stereotyped questions on performance in particular situations – similarly an assessment of competence cannot be achieved by a thick portfolio of paperwork. As one participant put it: "Work-based assessments have failed, are nor respected by trainees or trainers, do not identify either the best or the worst, and have fallen into 'tick-box', we do it because we have to and not because it has any meaning."

vii) How do we ensure that funding for training follows quality of training and that service requirements do not place trainees in suboptimal educational and training environments?

viii) Is the current operation of the Postgraduate Deans optimal? Specific questions include: a) do they have the correct accountabilities and are they held to account? b) are they correctly positioned between the clinical service and higher education institutions? c) do they have the best skills, background and linkages for their key functions? The introduction of HEE and LETBs will force consideration of these questions.

ix) How can we leverage the increasingly strong partnerships that are forming as a result of NIHR funding between HEIs and NHS Trusts and the development of AHSCs? NHS innovation policy will build Academic Health Science Networks and similar partnerships between academic and service as hubs for innovation and diffusion of best clinical practice amongst their networks of partner health providers. This model provides a basis for similar partnerships in postgraduate education and training.

x) The pace of change and new developments will require a reinvigoration of research awareness amongst the medical workforce, if they are to assess the relevance and applicability of new approaches. In 'Aspiring to Excellence' a binary divide was identified that has emerged between the small percentage of doctors who are conducting research as a key part of their career and the

vast majority who now have little or no research experience. How can a broader research awareness be provided for all of the workforce?

Financial issues: The current economic environment and pressures on the funding of the health service force some difficult decisions and questions:

i) What will be the impact of debt from medical school training on trainees' career decisions? Will this put junior doctors off academic careers? How will it impact on specialty entry?
ii) Will the move to an increased entry of graduates into medical training be affected?
iii) What are the implications of European work-force rules for the costs of postgraduate medical education and training?
iv) How do doctors move to recognising that professional study is a predominantly "out of hours" matter.