**Modernising Scientific Careers: The Next Steps Consultation**

The vision of the Modernising of Scientific Careers (MSC) as described in Chapter 3 of the Next Steps consultation paper of a "world class workforce integral to multi-professional teams delivering high quality, innovative patient care in a range of settings" is a laudable goal. The further description of "delivering safe and effective diagnostic tests" is particularly relevant to the Society of Cardiological Science and Technology (SCST) as all the tests performed by Cardiac Physiologists involve direct patient contact at some point in the process. We were pleased to see reference to "knowledge creation, innovation and service improvement" and leading "research and development and the management of evidence, continually evaluating clinical and practice and care delivery models" as this is seen as a key component of modern service delivery by the Cardiac Physiologist profession with the ever increasing need for evidence based practice. A nationally accepted post-graduate pathway has not previously existed for Cardiac Physiologists yet the complexity of cardiac investigations continues to increase exponentially and there is a national shortage of appropriately qualified staff. The introduction of a structured training pathway that addresses the provision of training and assessment, raises the profile of the profession and shows clear career progression will help to recruit and retain the staff needed to meet service delivery requirements.

Clearly the MSC proposal is significantly different from previous models of training for all the professions and hence it will have a marked impact on the healthcare sciences involved. The introduction of a vocational Clinical Physiology (Cardiology) degree was a major step forward in the training of fit-for-purpose Cardiac Physiologists in terms of service delivery and patient safety. The MSC proposal lacks some significant detail making it difficult to understand how the current training programme for Cardiac Physiologists fits into the new pathway. It is important at this juncture to ensure that the proven and effective training programme that has continued to develop in line with service needs for cardiac patients is not lost within the changes but rather enhanced. SCST have concerns about some of the concepts of the proposal that are not sufficiently clear in terms of the "how to" achieve the aims of the proposal.

1. There is, naturally, significant variety in the work undertaken by 51 different professions and the justification for having all healthcare scientific and technical training subsumed into a single model is not convincing.

    i. One reason given for the proposed change is that current training pathways are complex and non-uniform. There is a well-established BSc (Hons) degree programme in Clinical Physiology (Cardiology) that is accredited by the professional body with <u>nationally</u> agreed standards of competency and assessment. This has proven very successful in terms of service delivery and as "the proposed Modernising Scientific Careers training and career pathway will build on existing good practice" (pg 13); the MSC pathway should therefore incorporate successful programmes into the new pathway.

    ii. A significant proportion of healthcare science is laboratory based and "more patient facing roles in clinical care" are stated as a reason for the need to change the education system. Cardiac Physiologists already work in close contact with patients undertaking cardiac investigations and interventions but this is not recognised within the document.

    iii. There are frequent references to "value for money" and yet the "impact assessment does not consider monetised costs" – surely the assumptions in the document should be supported in a scientific manner with some form of evidence or at least a breakdown of current costs and the likely savings of such a drastically different education pathway?

2. The document makes reference to the importance of regulation and then, incomprehensibly, declares that current aspirant groups will have to wait – this is completely unacceptable to SCST.

There are also a number of more specific issues that SCST have with the proposed pathway:

1. The proposed format for the Scientific Training Programme (STP) is to be the equivalent of Master of Science (MSc) level requiring two years of rotational training in various modalities and one year of discipline specific training that would effectively provide 18 months in the specialist discipline. The perceived aim being the provision of a broader base for the Healthcare Scientist (HCS).

    i. Currently, a BSc graduate in Clinical Physiology (Cardiology) has two full years of work based experience in addition to associated cardiology specific academic modules and study of relevant topics including physiology and pharmacology. This may appear excessive to other professions but the course has been designed around the production of a competent professional. As the breadth of cardiology is so expansive surely rotation through other specialities is not appropriate as the depth of knowledge required is much more important for a competent practitioner working at this level than a basic knowledge of other specialties. Furthermore, MSC clearly recognises the "greater and more complex" demand on the Healthcare Science staff, hence the need for increased specialisation not less. An absolutely key component of the knowledge requirement for a Healthcare Scientist in cardiology is that they must be able to evaluate the more complex aspects of cardiac investigations. Therefore it does not make sense to have significantly less specialist training experience at MSc level compared to that currently provided at BSc level.

    This is of particular significance when considering the lack of descriptors for the type of degree required for entry into the STP. Hence the trainee Healthcare Scientist may have little or no relevant discipline specific knowledge and thus must be trained from scratch. It appears odd that an MSc model less rigorous in terms of discipline specific competency than the current BSc model has been put forward as an improvement. This one-size-fits-all approach appears to produce a less experienced member of staff than the current training process.

    ii. As a "Scientific" training programme the complete lack of detail in reference to research and evidence based practice as core elements of the STP is a glaring omission, particularly in light of the reference to "ensuring that research, translational science and innovation are part of healthcare science education and training" on page 12. Furthermore, in Chapter 5: The Proposed Training and Career Pathways, there is no reference to necessary generic healthcare skills that could be taught to all the groups such as Health and Safety, Patient Confidentiality issues and Healthcare Policy that form an essential part of the healthcare scientist's knowledge base.

    iii. In terms of the Healthcare Scientist training, the proposed rotational training programme will be unworkable. Many more Cardiac Physiologists than either Respiratory Physiologists or Perfusionists leading to an imbalance in terms of numbers that could be accommodated for rotational training purposes. Consequently there would not be the capacity in the smaller disciplines to sustain the requirements of cardiac physiology training.

iv. Cardiac Physiology is a very broad discipline with numerous sub-specialties such as echocardiography, pacing, electrophysiology and percutaneous coronary intervention. Current training arrangements produce staff, fit for purpose, with a solid grounding in general cardiac physiology techniques that are capable of then specialising in specific areas as required by service. It would be much more logical to rotate the scientific training programme within cardiology without wasting valuable time and resources training in other areas of healthcare science.

2. The overall MSC pathway is being promoted as flexible and providing "improved equity of access to training pathways and funding" for the HCS workforce (Impact analysis, pg2). However, the only pathway from the Healthcare Science Practitioner level of practice to the Healthcare Scientist level of practice is through the Rotational STP. This pathway effectively introduces a glass ceiling for the practitioner as it restricts the ability of departments to continue to seamlessly train staff at stage 6 up to stage 7. The rotational element would take the staff out of the department for 18 months and busy departments cannot afford to lose productive members of staff for this extended period of time. MSC, as it is written, would be less flexible and less equitable to staff in post or entering the profession at the practitioner level.
3. There is a constant reference to generic workers. This could make sense at the Healthcare Science Assistant level. However, as the level of specialist skills required in order to meet "greater and more complex demands" increase so the proposed rotational element and its associated time requirement to acquire the appropriate level of expertise become irreconcilable.

**Summary**

Overall, SCST consider the concept of modernising scientific careers an important step forward. The importance of the right experience on placement and the contribution of trainers and assessors recognised within the consultation document are fully appreciated by the professional body.

However, in terms of "ensuring that the delivery and quality of analytical and interpretative outcomes are robust and valid" (p2) there are serious questions concerning the outcomes of the suggested format of the training pathways within MSC, particularly the STP.

There is a failure to recognise that to deliver the "best possible education and training" (p6) in the face of the "increasing complexity of science" (p11) in "programmes with shorter training lead-in times" (p12) directly contradict "broader based training...across a wider range of disciplines" (p11). As Scientists, SCST fully recognise the complexity of the diagnostic investigations undertaken by Cardiac Physiologists and would strongly advocate that the rotational element of the scientific training programme must be limited to cardiology if there to not to be a drop in the training standards provided by the current BSc in Clinical Physiology (Cardiology).

The delay is regulation of the aspirant groups is completely unacceptable to the SCST. The delay will be a minimum of 6 years and is likely to be more. In a document that highlights patient quality and safety particularly in "patient-facing roles in clinical care" (p9) **any** delay makes absolutely no sense other that than of administrative convenience.