

How do we Encourage Clinician Scientists in Singapore?

Manuel Salto-Tellez,¹MD, FRCPath, Vernon M S Oh,²MD, FRCP, FAMS, Eng Hin Lee,³MD, FRCS (C), FAMS

Singapore can be proud of its many achievements in the last few decades. Amongst these is the very high standard of healthcare enjoyed by its population.¹ In fact, its reputation for medical excellence has attracted many international patients and the numbers are growing. This achievement can be attributed to the hard work, dedication and commitment of those who developed healthcare delivery and training systems which have produced world class doctors and provided state-of-the-art facilities for medical practice.² Previous generations of doctors in Singapore deserve a significant amount of the credit: although overworked and short-staffed, they have developed clinical, surgical and diagnostic departments with a level of quality healthcare second to none in the world. Even those who decided to take the path of medical research have done well in an environment that was not conducive to research. We all know examples of those in the Singaporean medical fraternity who have dedicated a part of their time to research and who have achieved international recognition.

However, we need to continually improve if we want to maintain our leadership position in healthcare delivery and make Singapore a true medical hub. The arrival of the Academic Medical Centres, which will combine the practice of medicine with high quality medical education and training, as well as research, is an important new development. The involvement of clinicians in translational research is of paramount importance in developing new technologies and treatments for patients. There is a need to train clinician scientists who can provide the bridge between basic scientists and clinicians to facilitate translational research.³

The Ministry of Health has just announced the launch of a new initiative to encourage doctors under specialty training to pursue a higher degree in research (either a 3-to-4 year PhD or a 1-year MSc). Individuals taking this programme (so-called clinician scientists) will finish their training 1 to 4 years behind their regular peers, but will be equipped with a degree qualification that would allow them to develop translational research parallel to their clinical careers in the long term. This is one of many efforts, in tune

with the overall government drive to bring biomedical science development to the hospitals, fostering translational research and, thus, making the most of the generous investment in healthcare research in previous and current years.

It is hoped that this visionary programme will have many takers. However, when the plan was discussed with leaders of our clinical/surgical/diagnostic specialist community, some relevant questions were raised over and over again, including:

1. What is the incentive for our young graduates to follow this programme?
2. Will they be disadvantaged when their peers take positions of responsibility earlier, develop their clinical skills faster and better, and have access to jobs in the private sector more readily?
3. What is the attraction in the long term?

These questions are fair. However, we believe that the questions arise from an established misunderstanding and a fatalistic attitude, which we would like to highlight to the reader:

- Misunderstanding: “*Clinician scientists are worse clinicians than conventional clinicians*”. The experience in other countries tells us that this is not the case. The clinical training of clinician scientists is not significantly less than that of conventional clinicians. There is nothing in their training time, experience or training schedule to indicate or determine that they are “second rate clinicians”. Even in systems where clinical undergraduate training is condensed to the benefit of research, the majority of doctors end up acting as pure (and successful) clinicians in the long term, with little (or no) involvement in research. Thus, combining specialty training with research is not necessarily detrimental to the quality of the clinical skills of those who travel that avenue. One disadvantage could be the longer training required if the individual pursues a PhD in addition to specialist training. However, measures are being implemented to address this issue in Singapore.

¹ Department of Pathology

² Department of Medicine

³ Department of Orthopaedic Surgery

Yong Loo Lin School of Medicine, National University of Singapore, National University Hospital, Singapore

Address for Correspondence: Dr Manuel Salto-Tellez, Associate Professor, Department of Pathology, Yong Loo Lin School of Medicine, National University of Singapore, National University Hospital, Singapore 119074. Email: patmst@nus.edu.sg

- Fatalism, or a *fait accompli* attitude: “*Clinician Scientists do not have a long-term career development path in Singapore*”. This belief comes from the realisation that most doctors in positions of responsibility in the public healthcare sector are excellent clinicians with little or no research background. This is probably true, but should it be the case? Let us look to those medical doctors leading clinical departments in the best hospitals in the world, in Harvard, Cambridge, Oxford, Johns Hopkins, Karolinska, even in Hong Kong. What is their typical profile? They are the doctors who write textbooks, have a strong presence in journals of their chosen medical specialty, run successful clinical trials and in many instances run their own research laboratories.

In other words, these clinical leaders in tertiary hospitals worldwide are clinician scientists in their own right, people who are capable of combining the best possible clinical care (or diagnostic skills, or surgical skills) with a significant presence in academia and science. This is, in our opinion, the best possible argument against the misunderstanding stated above.

We consider that this leadership role should be the central idea of medical professional development in public institutions. In tertiary hospitals in Singapore, physicians in positions of responsibility should understand well both clinical work and research or academic endeavours. The typical profile of heads of departments in tertiary hospitals abroad should be the profile in Singapore as well. We do not expect this to happen overnight, but it may be a good model to realise in the near future. We should make clear that this path of professional development is open to clinician scientists and, furthermore, that the medical community expects them to show that they can assume leadership.

At the end of the day, it all boils down to *reward and recognition*. As we move forward, a system must be put in place to ensure that academic pursuits such as teaching and research are adequately recognised and rewarded. This will involve a change in mindset of the paymasters. The added value of a clinician scientist may not be immediately evident. However, an institution that is known for its development of new technologies and treatments attracts

patients. Hospital administrators understand this fact. Many clinicians are attracted to institutional practice because of the opportunity to carry out research. Having a good recognition and reward system will retain these good and enquiring clinicians.

Another important mindset requiring change is that of measuring success by the ability to generate large incomes. There is more to life than that. However, a clinician scientist will not want to lose out on promotion prospects and should receive a comfortable income. Of course the criteria for reward will have to be heavily weighted for scientific output.

What do we wish to accomplish finally? A system in which medical doctors in training will not feel obliged to spend a significant part of their training abroad, because some of the best possible training will be offered at home. A system in which medical doctors, seeking an enriching research experience, will remain in Singapore for the bulk of their training. Institutions whose staff appraisal systems will recognise and reward individuals according to their global ability, and will recognise research as an equal and important component of a clinician’s reward. A healthcare system that is not simply reactive to developments abroad (importing medical knowledge and medical technology), but which plays its part in creating that knowledge and developing that technology.

A system, in essence, that will bring Singapore from a good healthcare provider to a medical leader in the 21st century. Let us, therefore, allow our best clinician scientists to also be the healthcare leaders of the future.

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