EDITORIAL

Academic Medicine in Singapore

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Academic medicine is currently grappling with the problem of whether the triple-threat academician is a species threatened with extinction in the 21st century, given the extraordinary growth of knowledge during the past decades.[1-3] Academicians, by this definition, were expected to be original and productive investigators, inspiring teachers and outstanding physicians.

One of the prevailing complaints of physicians in academia today is the information overload. The world of biomedical sciences has changed dramatically in the 1990s, with rapid advances in molecular biology resulting in the development of techniques for gene isolation and characterization, gene transfection, development of gene knock-out animals, to name a few. All of these not only contribute immensely to the understanding of basic disease processes, but may also be applicable in the development of new forms of therapy. Hence the academic physician is faced with an explosion of knowledge, not only in his / her subspecialty, but he / she will have to be conversant with the new technologies, in order to be at the forefront in any area of medical research. In addition, over the past few years, a whole realm of clinical investigation has developed, including outcomes research, decision sciences, clinical epidemiology, and quality improvement methods, adding to the demands on the academic faculty.

This decade has also seen new developments in managed health-care. The academic centres in America have not been spared the sweeping changes in the clinical enterprise, such as reimbursements determined by managed care systems.[4] There is a trend towards shorter hospital stays, greater utilization of outpatient or day-facilities, and ambulatory care. In today's clinical practice climate, patient awareness of the quality of medical care is heightened, including a demand for direct care by attending physicians rather than junior doctors. With this higher level of patient expectation, the number of medical litigations has also increased. In Singapore, health care reform is also ongoing with the proposed introduction of hospital fundings based on case-mix and disease-related groupings, and more efficient utilization of the hospital facilities. The physician is not insulated from these reforms, and will have to change his / her practice pattern to accommodate all the new changes.

The third function of the academic physician is teaching. The traditional curriculum of basic science being taught in the pre-clinical years, with clinical medicine taught in the clinical years, has not been spared the reformative process. Our medical school is currently undergoing a major curriculum review with the new curriculum of integrated teaching being implemented with the first year cohort in 1999. Moreover, the use of information technology (IT) in teaching has revolutionized medical education worldwide, with many leading universities developing problem-based IT courseware. This emphasis for use of IT in teaching places another major responsibility on our academic physicians, that is, to learn and apply IT in their teaching modules.

How does the academic physician in Singapore cope with this onslaught on all fronts–clinical, teaching and research? The physician in academia in Singapore has to struggle with the question of whether to aspire towards the triple-threat ideal, or to consider this concept archaic. In today's world it may be unrealistic to expect the medical academician to excel in all three areas of research, teaching and clinical service. Instead, excellence in one area can be combined with a good, solid performance in the other areas. Promotion criteria should reflect this shift, not just recognizing those individuals who are productive investigators, but also those who are excellent in the clinical or didactic arena.

The focus for medical research funding in Singapore has been on clinical-type research. For Singapore to advance into the next millenium and be a major player in medical science research, niche areas should be identified, with promotion of both basic science and clinical-type research. Should these researchers be pure scientists or should they be medical graduates who have received the appropriate laboratory training, and perhaps with a research degree? There is a perception that the new technologies in science are beyond the scope of the clinician, hence the argument that research in medical science should best be left to the basic scientist, while the clinician-scientist deals with clinical

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research, specialty practice and teaching. However, without the clinician asking the important research questions, there is a real possibility that basic science research may become so esoteric with little relevance to potential clinical applicability. Hence in this era of "team science", development of programmes with participation by clinician-teachers, clinical researchers, clinician-scientists and basic scientists will result in larger critical mass and expertise in the identified "niche" areas.

In conclusion, intellectual research pursuits must be deemed important for academic physicians. Perhaps we should not allow the triple-threat physician to become a completely extinct species! This species will need adequate time for reading, reflection and personal growth. Hence protected time, sabbatical leave and financial support to attend professional conferences and to initiate research protocols are all essential ingredients for faculty development. In addition, development of programmes for the training of clinician-scientists is also important, and this should include MBBS-PhD programmes whereby the brightest of our medical undergraduates should be encouraged to consider a research track in academic medicine. We should ensure that the rewards for a career in academic medicine is as at least as attractive as those for practicing clinicians.

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