

The International Conference “Is the Physician-Scientist Vanishing?” organized by the Polish Academy of Sciences was held in Warsaw in June. In connection with the event, Academia magazine had a chance to talk to Darrell G. Kirch, President and CEO of the Association of American Medical Colleges (AAMC) and Andrew I. Schafer, Professor of Medicine, Division of Hematology/Medical Oncology Weill Cornell Medical College, about physicians’ waning interest in doing research work and steps that should be taken to counter the trend

We Should Teach Medical Students to Ask Questions and Seek Answers

In the future, medical students will be rewarded for knowing how to access information in real time and find the solution to the problem confronting them. The key role of medical school faculty will be to teach them how to do so – says Darrell G. Kirch

Academia: Can you briefly define the notion of the “vanishing physician-scientist” to our readers? Is this a worldwide problem, or is it more local, for instance due to the specific way science is managed in specific countries?

Darrell G. Kirch: Today, the United States is facing a serious crisis with its physician workforce. Our data show that the US will have a shortage of more than 90,000 physicians by 2020. This number reflects only those physicians needed to provide clinical care. An equally crucial component of the physician workforce, however, consists of physician-scientists – those doctors who use their clinical knowledge in all research disciplines to advance treatments and discover cures.

Data just released by the National Institutes of Health show that the United States has less than 14,000 physician-scientists today – only 1.5 percent of the total physician workforce. Unfortunately, that is 1,000 fewer physician-scientists than a decade ago, thus providing direct evidence of the problem of the “vanishing physician-scientist.” The vanishing physician-scientist is not only a serious concern for the United States, but also is a serious worldwide concern. Globalization has inextricably linked economies and our scientific discoveries internationally. A shortage of physician-scientists seriously impairs the work to solve our most complex human health challenges.

Not only are we losing physician-scientists, but we also are struggling with understanding the causes of the problem. In the United States, it is clear that the stagnant federal budget for research has made the field less appealing. There also are other compounding factors, including decreased clinical reimbursements that require physicians to focus more on clinical effort and lifestyle factors, in-

cluding the balance between professional and personal demands. That being said, there is no evidence showing that any specific policy is causing physician-scientists to choose other paths.

How can physicians contribute to advancing medical research? There are numerous scientists studying biomedical problems at universities and institutes, aren’t they enough?

Physicians are an invaluable part of the research process in improving clinical care. Physician-scientists often approach problems with a clear orientation to how their discoveries might improve the lives of patients. At the Association of American Medical Colleges, we are doing our best to foster a spirit of investigation in every medical student. For example, we recently added more problem-solving components to the Medical College Admission Test (MCAT). While not every physician will become a physician-scientist, it is our hope that every physician will remain curious and inquisitive, and use the principles of research to inform their own clinical practice.

Our understanding of the human body is constantly growing, and we are seeing rapid development in novel therapies and medical technologies. As a consequence, the way the medical students are taught has also changed. How this will evolve?

By 2020, our medical knowledge is expected to double every 90 days. This represents an astounding acceleration from a century ago, when medical knowledge was on pace to double every 150 years. It already is clear that we will not be able to teach medical students everything they will need to know for their careers. Instead, the task is to teach them how to ask the right questions and seek the right answers. It will be more important than ever that we ignite curiosity and reward inquiry among our physician trainees. In the past, medical students were rewarded for knowing the right answer. In the future, medical students will be rewarded for knowing how to access information in real time and find the solution to the problem confronting them. The key role of medical school faculty will be to teach them how to do so.

Interview by Agnieszka Kloch