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Curbing 'Brain Drain': Keeping Research Talent at Home

CURBING 'BRAIN DRAIN': KEEPING RESEARCH TALENT AT HOME

Improving public health in the developing world depends on a number of factors, such as adequate financing, strong governmental and private support, and stable local infrastructures that include hospital, laboratories, and health professional. While funds allocated to tackle global diseases have risen in recent years, local infrastructures have been neglected. What are the global implications of an imbalanced distributions of first-rate medicine and how can the local talent pool of health workers be cultivated to help the world's poorer populations. A noble partnership between Yale University and University of Ghana shows us one way.

You are listening to ReachMD, The Channel for Medical Professionals. Welcome to a special segment, Focus on Global Medicine. I am your host Dr. Jennifer Shu, Practicing General Pediatrician and author. Our guest is Dr. Michael Cappello, Professor of Pediatrics, Microbial Pathogenesis, and Epidemiology and Public Health at the Yale School of Medicine and Director of the Yale World Fellows Program.

DR. JENNIFER SHU:

Welcome, Dr. Cappello.

DR. MICHAEL CAPPELLO:

Thank you Jennifer. I am happy to be here.

DR. JENNIFER SHU:

Great, well why we don't we start with a little overview of your program.

DR. MICHAEL CAPPELLO:

Well this program, which is really a partnership in global infectious disease research between Yale University and the University of Ghana, was established in 2006 following my first visit to the countrywide met with a remarkable group of investigators based at The Noguchi Memorial Institute for Medical Research, which is a semiautonomous research facility that is affiliated with the University of Ghana and I traveled there with my colleague in infectious diseases here at Yale, Dr. Elijah Painstil, who is graduate at the University of Ghana and we were interested in developing an international collaborative effort that would allow us to engage in our research, but also build capacity in Africa for research efforts in infectious diseases. So, the basic components of this program, which is now entering its

third year, include faculty-level collaborations and these involve laboratory, translational, and field-based research again focused on globally important infectious diseases. We have established a series of pilot projects focused on everything from hookworm epidemiology, molecular diagnostics, which is my area of interest to cellular metabolism of antiretroviral agents. We have a project on the role of malaria in mother to child transmission of HIV, epidemiology of vector-borne disease. The second major component of this program is a bidirectional exchange of students, trainees, and faculty between The Noguchi Institute and Yale. We now are planning our third 8-week summer exchange of students and trainees between the 2 institutions where they receive close mentoring and an independent research project. And lastly, we have a series of visiting professorships where we send faculty from Yale to The Noguchi Institute for up to a week to give a series of public lectures and research seminars to our colleagues there and likewise we brought faculty from Noguchi here to Yale for similar experiences, so that they can get to know people at Yale and get a sense of what is going on here in terms of research.

DR. JENNIFER SHU:

Now, one of your goals is to create viable career opportunity for African, but also American scientists in Ghana with also the goal of integrating the scientists into the international scientific community, but what are some of the reasons that these scientists leave in the first place. We know there might be better money or prestige or opportunities elsewhere, but are there reasons that we haven't thought of.

DR. MICHAEL CAPPELLO:

I think it is important to recognize in the case of scientific research or biomedical research that people who choose to go into that line of work, they need to see a viable career path ahead of them, and I think that part of the isolation of Africa from the global scientific community has really left many of the young people coming up through the system there who might have an interest in conducting research in global health, it leaves them with a sense that they can't have a viable career path if they stay. There is no shortage of very bright hardworking capable people in countries like Ghana and many other parts of Africa and many of them recognize early on that they don't have a prospect for a successful career staying in their home country and that encourages them to leave. I think one of the things that we are trying to accomplish with this program is by building partnerships and developing relationships between young scientists early in their careers between institutions like Yale and The Noguchi Institute that we can actually create a partnership that gives people very clear sense of how they can be successful without necessarily needing to permanently relocate in other countries. On the flip side, I think what is happening for our Yale students and trainees is that they are beginning to recognize that opportunities for research in global health really exist in partnership with our African colleagues and so we hope on the one hand to inspire more students from Yale and from other institutions in the US and the West to consider careers focused on improving the health in places like Africa through research while providing our African colleagues the very real sense that they can be successful through such a partnership.

DR. JENNIFER SHU:

Let us talk specifically about your partnership. Does this program receive any government support, where else does the money come from to fund this initiative?

DR. MICHAEL CAPPELLO:

We are very fortunate to have a number of partners in this effort actually in both countries. First and foremost, this would not have happened without the enthusiastic endorsement of the University of Ghana and the Noguchi Institute. I think the leadership of the Noguchi Institute, in particular Dr. Alex Nyarko who is the director, and Dr. Michael Wilson, the deputy director who has been our primary point person on this collaboration. You know, they recognized very early on the value in this kind of equal partnership focused on building research capacity and so they deserve a tremendous amount of credit for their vision. In the past 6 months, we have also

received tremendous vote of support from President Kufuor of Ghana. He also recognizes the value of partnerships like this and in fact has designated funds from his office specifically to support the Yale-Noguchi exchange. Yale University likewise has been extremely supportive, in particular, the Departments of Pediatrics and Pharmacology as well as Yale's Office of International Affairs. I think this program in many ways demonstrates or highlights Yale's commitment to training leaders and in this case leaders in biomedical and global health research. We have even been fortunate to develop a relationship with the US Navy Medical Research Unit, NAMRU-3 which is based in Cairo, has a permanent posting at the Noguchi Institute and so members of the NAMRU team have served as mentors for Yale students and for Noguchi students working there as part of our exchange. So, I think we are very fortunate in that the partners that we have developed in this effort have been very supportive; they are very much interested in seeing this multinational effort succeed.

DR. JENNIFER SHU:

When strengthening academic infrastructures, it is often helpful to focus on students at an early age, such as the elementary school level. Are there any thoughts to extend this program to include younger ages and do you have any plans to may be incorporate this entire training process in Ghana rather than have them come to Yale.

DR. MICHAEL CAPPELLO:

To get your first question. I think for us in a medical school like Yale, which has a tremendous existing research infrastructure and is really focused on higher education both at the undergraduate and in the graduate medical school level. You know we clearly focused on the area where we ourselves had the most expertise. There are many programs globally focused on K through XII education, but surprisingly few focused on research training at the undergraduate and then graduate level, so we have really, I think, identified an area where we felt we could do the most good, where we could provide the most benefit, and that really is at the level of higher education. With regard to your second question, in fact, remember this program really is the learning goes on in both institutions and I think it is important to recognize that Yale students who are based at Noguchi for their research experience, it is their capacity as well that is being enhanced. So, in other words, what Noguchi is providing us is very much what we are trying to provide them, which is an opportunity to engage in research that increases their capacity, their ability to ask important questions, to design and execute important scientific experiments, so we see this really very much as a partnership that elevates both sides if you will and enhances each of our capacity to conduct research.

DR. JENNIFER SHU:

Now that you focused on Ghana, do you think this model might be successful for expanding to other parts of Africa to try to reverse this continental brain drain that is being seen in the scientific community?

DR. MICHAEL CAPPELLO:

I do not think there is any question that this is a model that could be scaled and introduced into other places. In fact, I just returned from 5 days with my colleague's <____> and one of the things that we have discussed is actually expanding this effort to essentially create an international center for global infectious disease research that is focused on training. I think it is an area that has been somewhat neglected in the broad kind of global health and global philanthropy world. There is a lot of interest in providing medicines, lot of interest in providing doctors from the west to provide care or to engage in medical education, but there are relatively few opportunities and resources available to help train investigators in countries like Ghana to be able to address those issues themselves and to address them through research. I think that the sustainable or lasting benefits are likely to come from people who first do the work to figure out what works and does not work, and so we are very interested again taking advantage of Yale's fairly substantial research infrastructure in biomedicine and health. We are very interested in sharing that with our colleagues and trying to train a generation of scientists

focused on global health who can ultimately address the challenges that they face in their countries, so I would very much like to see this international training center become really a hub for training researchers from across the spectrum not just in Ghana, but in West Africa, and possibly on the continent as a whole.

DR. JENNIFER SHU:

I was wondering if you could share with us what you believe to be the most important element that would keep leadership and scientific talent in their home countries. What would that one element be?

DR. MICHAEL CAPPELLO:

I would say the most important thing or the most effective thing we can do is really provide people with the hope that they can pursue their passion with a realistic expectation of success and personal satisfaction. You know we are seeing in Ghana not just through this program, but in another spheres as well that people now are beginning to recognize viable career opportunities available to them without leaving the country. Our goal certainly is to provide the kind of partnerships that allow for intellectual and personal growth to our colleagues who want to stay in Ghana and find ways to improve their country. So, I would say that it is really about hope more than anything else. When people recognize or feel confident that they can be successful in their home country, I think that our Ghana experience has demonstrated that they have a tremendous interest in improving conditions there. We just need to do the best we can do to make it easier for people to see that they can be successful by staying.

DR. JENNIFER SHU:

I would like to thank our guest, Dr. Michael Cappello.

We have been discussing Yale's partnership to train researchers in Africa.

I am Dr. Jennifer Shu. You have been listening to a special segment, Focus on Global Medicine on ReachMD, The Channel for Medical Professionals. Please visit our web site at www.reachmd.com which features on-demand pod casts of our entire library, thank you for listening.