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of MGH, MIT and Harvard

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Graduation Speech of Bruce D. Walker, MD

University KwaZulu-Natal College of Health Science
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Thank you for that kind introduction. Chancellor Dr Ginwala, Vice Chancellor Professor Makgoba, DVC Professor Uys and other DVCs, Chair of Council, Mr Mia, Dean Sturm and other deans, members of the faculty, distinguished guests, graduands, family members, friends and colleagues.

It is truly an honour to be asked to share some words with the 2009 graduating class, with whom I now proudly share the distinction of having a degree from this remarkable medical school, named after the most admired person of our time, Nelson Mandela.

First I would like to express my congratulations.

- Congratulations to the families and friends of those graduating today- the sacrifices and support you have provided have been key in bringing these students to the threshold of their careers.

- Congratulations to the faculty of the university whose mentorship and commitment to education have helped build the skills we come together to commemorate in these graduating students.

- And most importantly, congratulations to those of you receiving your degrees today, you have accomplished something truly worthy of celebration--you will have a positive impact on the lives of thousands and thousands of people over the course of your careers.

On this occasion, I thought it might be helpful to share some of my own experiences as a physician, which I hope will offer some perspective as you make your own career choices.

For me, working in medicine has been exhilarating, but not without its ups and downs. However it has been anchored by a privilege unique to this field, namely that we are allowed to be involved in the most intimate way at the most critical moments in the lives of others: moments that are both sad and joyous. It is a profession that is in constant evolution, driven by new discoveries and new challenges. And one that offers huge opportunities for helping to make the world a better place.

When I attended my own graduation ceremony, I never imagined the path my career was to take—one richer, more meaningful and more varied than I ever envisioned. And I know the same can be true for you, and I encourage you to take advantage of those pivotal opportunities when they arise. As I graduated, I imagined I had been well prepared by my medical school education. With my freshly minted degree, I began specialty training at Massachusetts General Hospital, a Harvard teaching hospital in Boston. It was a place where I thought my mentors knew everything, and then something very strange happened.

I was working in the emergency ward, and a young man came in as ill as any one I had ever encountered. The most experienced doctors at Harvard had no idea what this person had, and eventually concluded that it was an inexplicable illness, most likely never to be seen again—where the immune system had somehow completely shut

down. But within weeks similar cases were being seen at MGH and other hospitals. This was an entirely new illness, apparently lethal to all, the cause of which was unknown. As physicians we felt helpless.

Years later, we finally understood what this was-- AIDS, caused by the human immunodeficiency virus, HIV, had made its debut. I realized then that what we had learned in medical school was going to be insufficient. Moreover, by caring for patients, we would be the ones to alert the world when something not in textbooks was emerging. And we had an obligation not only to take care of our patients, but to study their illnesses, and discover the knowledge necessary to benefit them.

At MGH, where patient care and research exist next to each other, some faculty members saw patients in the mornings and also worked to understand their illnesses in the laboratory in the afternoons. Like them, I became a physician-scientist, specialized in infectious diseases, and began to study how the AIDS virus did its damage.

It took approximately 15 years for people in the health sciences profession to produce drug combinations to treat HIV effectively. When it finally happened, it was the most stunning transformation of an illness I had ever seen. Patients for whom there appeared to be nothing we could do, were started on these drugs, and within weeks went from their death beds to recovery. Most of these patients are still alive today.

However, as we all know these HIV medications are expensive and require lifelong treatment. I have come to believe that the only real long term solution to the HIV epidemic is the development of an effective AIDS vaccine. I also know how difficult the path to an effective vaccine is, and how far we are from stemming the tide of the AIDS epidemic.

As I focused my work toward an AIDS vaccine, a seemingly chance opportunity surfaced that changed my life, introducing me to the University of KwaZulu Natal, its faculty and students. It began with a scientific question 10 years ago: Why do babies do so much worse than adults when they become HIV infected, and could understanding this give us clues to help conquer HIV? Philip Goulder, a postdoctoral fellow working with me, came to Durban with the goal of obtaining blood samples from children infected with HIV and then doing what was then standard- bringing the samples back to the US for us to study. But we were unprepared for what we found when we got here.

The extent of the HIV epidemic was staggering: since life extending ARVs were not widely available, HIV infections were mostly untreatable, with catastrophic consequences and heartbreaking loss of life. On the other hand, the quality of the science being conducted in Durban was remarkable, led by world class scientists, including Professors Jerry Coovadia, Salim and Quarraisha Abdool Karim, and William Makgoba, among many others. And the desire among the students to get involved was inspiring. Although it seemed this place was short on resources to tackle this medical crisis, it was long on the opportunities and dedication to create knowledge and find solutions.

Philip and I made a decision, instead of taking samples back to Boston, to become engaged in a partnership with local scientific leaders to do the work here. We hired UKZN graduates, terrifically talented and committed people, to work in a small research laboratory provided by Dr. Coovadia. Within weeks were turning out data to help explain the way the immune system fights HIV- results that we could not have generated anywhere else. We were on our way.

Working with clinicians like Krista Dong, Janet Giddy and Doug Wilson, community outreach workers like Zinhle Tabethe, nurses such as Sister Krista Mary, and leaders at the Nelson Mandela School of Medicine and other area hospitals including McCord and St Mary's, we saw how broadening the research opportunities had a positive impact.

Partnering with the university leadership, we approached the Doris Duke Charitable Foundation, to create an environment to place patient care and research laboratories near to one another, and were able to obtain funding to build the first dedicated biomedical research institute ever built at an African university, the Doris Duke Medical Research Institute (DDMRI).

The DDMRI here at the Nelson Mandela School of Medicine, has become a world renowned research institute, and the work that has come out of UKZN, performed by UKZN students, postdoctoral fellows and faculty, in collaboration with clinicians at local hospitals and clinics, has been published in the top international medical and

scientific journals, and has had a huge impact on advancing our understanding of what will be needed for an effective AIDS vaccine, showing once again that linking research to clinical care fuels biomedical research advances.

Leadership from individuals like Thumbi Ndung'u, the scientific director of the HIV Pathogenesis Programme (HPP) at the DDMRI, is fostering the development of a new cadre of African health sciences leaders in this field.

CAPRISA, based out of the DDMRI and led by Dr. Salim Abdool Karim, has become a world-renowned centre of clinical research excellence.

Recent medical school graduates like Drs. Wendy Mphatswe, Koleka Mlisana and Fusdiswe Chonco are now making their own contributions to understanding challenges such as how best to treat newborn HIV-infected babies or diagnose and treat acute HIV infection, and are publishing important papers in international journals and presenting their findings at international congresses. They did not imagine doing this as they sat at their medical school graduation, as you sit today, but when the circumstances arose, they took on the challenges, to find answers to some of the most pressing medical issues in the world.

And as our HIV work has continued, new threats have emerged. Through the work of the medical school dean Wim Sturm and his colleagues, an outbreak of extensively drug resistant TB was documented in Tugela Ferry. With this new development, KZN is unfortunately at an epicentre of dual epidemics of TB and HIV. And consequently, new questions have arisen. How do we, in a part of the world now seemingly ravaged not only by HIV but also tuberculosis, help to bring about the necessary changes to reverse and resolve these dual epidemics?

With Drs. Sturm and Karim, and other fellow UKZN faculty members, and together with Bill Jacobs from Albert Einstein College of Medicine in the US, we decided to try to create a centre of global excellence to integrate research on TB and HIV, to be a resource to advance the work of scientists in Africa engaged in related research.

Just one month ago, Howard Hughes Medical Institute, one of the premier foundations funding biomedical research in the US, announced a commitment of $60M, almost 600 million rand, over the next decade to this university, to establish the KwaZulu Natal Research Center for TB and HIV, or K-RITH. This institute at UKZN will become a premier global destination for researchers studying HIV and TB, and an epicentre for the creation of the next generation of African health scientists.

As these endeavours progress, there are many opportunities for you to get involved in this journey, or in others of your choosing. There is a need for future leadership to tackle TB, HIV and other problems that are plaguing this continent, and the rest of the world, and increasing resources right here to make a substantial difference.

Whatever you choose as your focus, you begin your careers today, learning from patients as you compassionately care for them, and helping to create knowledge. Some of you will be caring for patients, and may have the first opportunity to see emerging diseases, and focus the global medical community on new threats. Some of you will be involved in making health policy that will impact how people access care effectively. And I hope that some of you will take advantage of these incredible opportunities to study the diseases of your patients and be the link between what we don't know and what we need to know to serve those in need.

In closing, let me say that I am optimistic. I believe that an AIDS vaccine can be developed, and I believe that the Nelson R. Mandela School of Medicine will play a big part in this. I believe that medical science can overcome the challenge of TB. And I believe that you students graduating today have the ability to rise to the occasion and provide the leadership that will be necessary to achieve these goals.

Thank you for your kind attention, and congratulations on receiving your medical degrees today. I wish you all the very best as you embark on this exciting journey, and urge you to take advantage of the opportunities offered to you. You will have the privilege of being part of some of the most important moments in people's lives, and the ability to effect change through a profession that can do so much for so many people.