Professor Victor Joseph Dzau

Doctor of Science, *honoris causa* Citation



Medical researchers work across an extraordinary range of different levels – from the subcellular to massive population studies – because discoveries anywhere across that range may have profound implications for human health. The resulting interventions themselves extend across that same, vast, landscape – they could be genetic manipulations or individually tailored biochemical therapies for diseases, common or rare, or an increased tax on sugary drinks – and the better we connect those dots and enrich that landscape the more compelling the work becomes.

Yet however detailed our maps of science, there is a further dimension that the maps cannot capture, but that nonetheless determines whether all that cumulated knowledge delivers its real potential. We are fortunate that some scientists see that bigger picture and have the skills – diplomacy, advocacy, an awareness of the nuances of politics and society – to bring it to life for the world outside their research labs: they connect key ideas to key people and weave discovery into daily living. They are the communicators who shape our future for the better.

Professor Victor Dzau, whom we are delighted to have with us today, elected to work on cardiovascular disease – the world's single greatest cause of mortality – and has become one of the world's pre-eminent scientist-clinicians in that field. He also illustrates the kind of scope and breadth that I have just outlined. At the molecular and genetic level, he isolated the proteins and subsequently cloned the genes that cause hypertension, coronary

artery disease, and congestive heart failure. That work laid the foundation for the development of some of the lifesaving drugs now used to treat them, most notably including the ACE inhibitors which are now used globally to help millions to lead longer and better lives. He also pioneered gene therapy for vascular disease, and was the first to introduce DNA decoy molecules in humans *in vivo*, among many other breakthroughs.

Such contributions would be remarkable enough on their own. But alongside them he has, for decades, taken on important leadership roles within and beyond his specialist field, both nationally and internationally. In the 1990s, he chaired two pre-eminent university departments of medicine, first at Stanford and then at Harvard's Brigham and Women's Hospital. Within his own specialty, but with a broader reach, he also chaired the National Institutes of Health Cardiovascular Disease Advisory Committee. In 2004 he became Chancellor for Health Affairs at Duke University, and President and CEO of the Duke University Medical Center. Over the next decade he built it into one of the world's leading health systems while also radically extending its global influence by establishing the Duke Global Health Institute and Duke-NUS Medical School in Singapore. Outside academia, he co-founded, in 2011, the non-governmental organisation Innovations in Healthcare, in partnership with the World Economic Forum and McKinsey & Company, while his advice has been increasingly sought after by governments, in the United States and around the world, on health and medical strategies and risks.

Professor Dzau has a tireless resolve to help build a better, healthier world, so you will not be surprised to hear that stepping down from his administrative leadership at Duke in 2014 was far from the end of his extraordinary career. In that year, he was elected president of the US Institute of Medicine, reconstituted as the National Academy of Medicine (NAM) in 2015. He led its restructuring within the National Academies of Sciences, Engineering, and Medicine, and developed its current strategy for "innovation, action and equity", and global perspective. He uses this platform to further his conviction that health and science leaders can contribute significantly to solutions for broader social challenges, under the model of "bench to bedside to population to society" that he promotes and exemplifies. This is reflected in the

many initiatives NAM has launched under his leadership, such as the Commission on a Global Health Risk Framework; the International Human Gene Editing Initiative; the Committee on Emerging Science, Technology, and Innovation in Health and Medicine; and on women's health.

As a leader on global health, he serves on the Global Preparedness Monitoring Board, co-convened by the WHO and World Bank; co-chaired the Global Health Summit Scientific Expert Panel established by the G20 and European Commission; and been a member of the Board of Health Governors of the World Economic Forum, chairing its Global Agenda Council on Personalised and Precision Medicine. Currently, he co-chairs the Science and Technology Expert Group of the International Pandemic Preparedness Secretariat, initiated by the G7 in the wake of COVID-19 health catastrophe, as part of the "100 Days Mission" to stem future pandemics, at speed – the monkeypox virus that has broken out in Africa firmly in his sights. Retirement is clearly not an option.

Meanwhile, Professor Dzau and NAM have set the US health sector the grand challenge of addressing climate change. This involves it needing to acknowledge and reduce its own carbon footprint (estimated to amount to as much as 8.5 per cent of the US total carbon emissions), and be well-prepared for the medical consequences of us living in a hotter world, amid increasingly violent weather events.

This is all a long way from the one-room home in Hong Kong in which his family lived after moving from Shanghai when Professor Dzau was five years old. He had been born in 1945, and his father had owned a chemical manufacturing company, but the move to Hong Kong meant leaving all their material prosperity behind. Life was hard in the aftermath of the ravages of World War II and civil war in China. That early hardship and the sacrifice his parents made to rebuild their lives and give the young Victor and his two sisters a good education in Hong Kong helped shape his belief that out of adversity could come opportunity to move forward – and his resolve to train as a medical doctor. Unable to do the latter in Hong Kong, he successfully applied to McGill University in Montreal, Canada, where he completed a BSc in Biology, and then began his medical training. It was not a smooth passage. Facing multiple stresses, he even dropped out of a training programme, but managed to land at Harvard's Brigham and Women's

Hospital. A fellowship at Massachusetts General Hospital and Harvard University followed, from which he built the multi-stranded career that I have already outlined. But Hong Kong had nonetheless left its own mark.

Professor Dzau remains proud of his Chinese heritage and his upbringing in Hong Kong, and has never forgotten his childhood friends. Among them is Dr Edgar Cheng Wai-kin, CUHK's former council chairman. With Dr Cheng's encouragement and support, in 2018 Professor Dzau launched NAM's first-ever International Health Policy Fellowship Program that enables early to mid-career CUHK scholars to gain experience in the academy's policy-shaping operations.

Moreover, the poverty he witnessed in his childhood, and the social values he developed in Hong Kong, also helped shape his deep concern to tackle the inequities experienced by poorer communities, women, and minorities, which is reflected in his many national and global health missions. This is a quest he shares with his wife, Ruth, whom he met at McGill and is a community leader, including as past president of Second Step, a charity that provides housing and support for the victims of domestic violence. With two daughters, Jacqueline and Merissa, and now grandchildren, family has been central to their lives.

One mark of global impact is global recognition. In recognising Professor Dzau today, we are in very good, and highly international, company! His many awards – far too many to be able to list here today – have been bestowed by distinguished institutions that currently span three continents. But beyond this, I wish to highlight the fact that he is not only a recipient. He is also a donor, in yet another domain. His determination to focus the best minds on global health challenges led him, in 2017, to establish the Victor J. Dzau Global Health Lecture Fund, which supports annual distinguished lectures at Duke, Harvard and McGill universities. He also has a distinguished lecture in cardiovascular medicine in his name at Stanford, and a professorship of medicine at Harvard.

Professor Dzau is exemplary for the breadth of his vision and tireless accomplishments, in revolutionising the understanding and treatment of cardiovascular diseases,

providing vital leadership for scientists to address wider health and social challenges, and informing global health policy around the world. Mr Chairman, it is my great honour to present to you Professor Victor Joseph Dzau for the degree of Doctor of Science, *honoris causa*.

Citation is presented by Professor Nick Rawlins, Pro-Vice-Chancellor / Vice-President (Student Experience) and Master of Morningside College