Speaking for Ourselves

Fifth Dr Ida S. Scudder Humanitarian Oration*

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To be here amidst you this evening, in the hallowed precincts of your great institution, is truly a moment of immense pleasure and pride. I am overwhelmed by the honour of being invited to deliver the Dr Ida Scudder Lecture, and am overawed by the eminence of those who have delivered this lecture before me. Nevertheless, I will draw courage and inspiration from the life and grace of Dr Ida Scudder as I set out to speak about the expansive mandate of medicine in the 21st century. While saluting all health professionals who have rendered selfless service through the care of the sick, I would like you to look at health beyond healthcare and place human health at the heart of sustainable global development. This is a perspective I gained as I transitioned from being a clinical care-provider to a public health advocate over the course of my professional career. Please permit me to share that perspective with you today. I have been advised by the organizers to weave personal experiences into my talk. So I will reluctantly shed my natural hesitancy to speak of myself in a public lecture.

Why did I choose to become a doctor in the first place? The mission and message that radiate from the life and legacy of Dr Ida Scudder have illuminated the world and inspired many generations of health professionals. My mother too was among them. While it was my father's lawyerly presentation of why the medical profession was the one assured way of my remaining useful to society lifelong that clinched my decision, my mother was the role model who embodied the nobility of that profession. She was an obstetrician and gynaecologist who served as an Honorary Consultant in a large government hospital that served the poor and was an unsalaried Honorary Professor of Obstetrics and Gynaecology at Osmania Medical College, Hyderabad. In her evening clinic, she would never charge poor patients and on many an occasion gave them money for travel back home. At the hospital, she was one of the few doctors who chose to operate on many cases of vesicovaginal fistula, with skill and patience, empathizing with the unfortunate women who were abandoned by families and were ridden by self-loathing as they dribbled urine from their genital passage. She said the least she could do was to restore their dignity to them.

That empathy for fellow human beings, on an even grander scale, was the hallmark of Dr Scudder's professional life. She empathized with people of a different culture in a faraway land and devoted her life to their service. What a noble reminder of the indivisible nature of the human family, at this troubled time when sectarian, hyper-nationalistic and xenophobic madness parades in different parts of the world, spreading hatred and not love for fellow human beings.

My father was a voracious reader, with an insatiable appetite for reading across many disciplines. Our house was full of books that included the biographies of doctors who, like Dr Scudder, travelled far to devote their lives to the service of people in other countries—Albert Schweitzer, Norman Bethune, Sharad Kotnis—to name a few. They were among my schoolboy heroes. As a medical student and later as a young doctor, my pantheon of heroes grew larger, with Rudolph Virchow, Bernard Lown and several others joining the list. Today, I will add words from some of those heroes to mine, as I speak of the road that medicine must take to serve society even better.

It was well said several centuries ago that the duty of a physician is to '*cure some, relieve most and comfort all*'. That call for empathy clearly signals that the hallmark of a physician is not merely clinical competence, but also a combination of care, concern, courtesy, compassion, commitment and considerate communication. As Albert Schweitzer said: '*It is our duty to remember at all times and anew that medicine is not only a science but also the art of letting our own individuality interact with the individuality of the patient.*'

Indeed, compassion and commitment are the defining attributes of nobility in a profession that humanity has placed on a pedestal for thousands of years. However, are compassion and commitment meant only to define our desirable attitudes towards individuals whom we label as patients or must we also extend those virtues to our relationship with the larger society we reside in? Do we empathize and identify with all of humanity, all life forms or even the whole planet that we call home? I would like to posit that our current understanding of health and medicine calls on the medical profession to radiate compassion and commitment across the wide spectrum that extends from the well-being of an individual to the welfare of the whole globe—from pulse to planet as it were. It is that cordless extension which connects clinical medicine to public health and public health to sustainable development. Recognition of that connectivity also underlies my own journey as a health professional.

While clinical competence can be instilled by training, the life spring of compassion and commitment is a sense of connectivity that becomes an integral part of the psyche. Only when we connect with our patient, in an empathetic bond, will we display compassion and commitment. That ennobling spirit of connectivity must now extend beyond individuals to embrace the wider world. I believe that it is imperative for the medical profession to develop such broadband connectivity if it has to faithfully fulfil its mission of promoting, protecting and preserving human health. Otherwise medicine would remain incomplete in its precept and inadequate in its practice. This is not mere spouting of utopian idealism. Such connectivity arises not only from the moral moorings of essential human values but also from sound contemporary scientific

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knowledge which reveals how human health is built across many links that extend from the microcosmos of the microbiome that exists within our bodies to the macrocosmos of the planetary ecosystem that surrounds and nurtures us. The prescription for human survival and well-being, and also the role that medicine plays as an enabler, are defined by the need for human beings—both as individuals and as a collective—to live in harmony with our internal and external environments.

Let us begin to explore these connections by examining what defines the biology of an individual. We now recognize, with great surprise and some humility, that only 10% of the cells that make up our body are really human—the rest 90% are made of microbes that cohabit in and on our body and regularly participate in our physiology and may occasionally contribute to our pathology. They collectively constitute the microbiome. Our 21 000 genes are complemented by the 4.4 million genes of our body's microbiome, to form the supergenome that drives our body's functions across life. The microbiome is an ally which helps to keep us healthy, by supporting nutrition and aiding immunity. Changes in the microbiome, brought about by what we consume, as foods, toxins and antibiotics, are now known to influence our health and disease patterns—from childhood malnutrition to adult obesity and from inflammatory bowel disease to diabetes. Now, even disorders like autism are being linked to changes in the microbiome. Knowledge of the microbiome leads us to redefine our identity and reconsider our self-image as autonomous individuals proudly standing aloft and aloof at the top of the evolutionary pyramid. As the Guru of microbiome research Professor Jeffrey Gordon says: '*This perception of the microbial side of ourselves is giving us a new view of our individuality. A new sense of our connection to the microbial world. A sense of the legacy of our personal interactions with our family and environment early in life. It is causing us to pause and consider that there might be another dimension to our human evolution.*'

Our health is also determined by the society around us. It is now well recognized that many of the determinants of health lie beyond the immediate biology, beliefs and behaviour of the individual and are greatly conditioned by social circumstances, ranging from water and sanitation to food systems and trade policies. Let me cite the story of one of my great heroes Rudolph Virchow, who is regarded as the father of social medicine. This great German pathologist, anthropologist and statesman of the 19th century was sent by the Emperor of Prussia to investigate an outbreak of Typhus in Upper Silesia. Virchow came back—not with a medical prescription but with a damning indictment of the prevailing social conditions. He called for reduction in poverty, abolition of feudal privileges and greater democracy. On being criticized by the royal court, he declared his belief that 'physicians are the natural attorneys of the poor'. To quote Virchow on the causes of disease: '*Do we not always find the diseases of the populace traceable to defects in society? If disease is an expression of individual life under unfavorable circumstances, then epidemics must be indicative of mass disturbances.*' He said many epidemics result from artificial disturbances of mass culture.

What Virchow said of Typhus and social causes then is now true of mass marketing of tobacco or transnational trade in unhealthy food products. The domain of public health has to include all factors which influence health at the population level and ultimately impact on the health of individuals. So, even road safety and gun control become legitimate areas for public health advocacy and action. From health promotion and disease prevention at the community level, to disease and risk factor surveillance, assurance of access to essential drugs, and organization and evaluation of health services, the mandate of public health has grown in expanse and impact from the days of the sanitarian movement.

Poverty and ill-health have a bidirectional relationship in individuals. Similarly, per capita gross national income as well as interpersonal income inequality have a bidirectional relationship with health indicators at the population level. The Millennium Preston Curve shows that life expectancy of populations rises as per capita gross domestic product (GDP) rises to around US$ 5000 and then plateaus off. However, at any level of per capita GDP, countries with higher levels of income and social inequality fare worse than those with lower levels of inequality. Indeed this is not only true of the poor but also of the rich in these countries. As Richard Wilkinson and Kate Pickett document in their book, *The spirit level*, the rich who live in countries with high levels of inequality fare worse on several health indicators, including life expectancy, than their rich counterparts in more equal societies, even at the same level of per capita income. The rich in skyscrapers cannot escape the effects of poor sanitation in their neighbourhood slums nor can they evade the violence that desperate poverty breeds. Even as we celebrate India's accelerated economic development, we must be mindful of growing inequality and be wary of its adverse effects on the health of all sections of our society.

We also recognize that apart from family income, factors like education, nutrition, social status and gender play a great role in conditioning health across the life course. Merely talking about 'equality of opportunity' in adult life is meaningless if multiple disadvantages have been heaped on in earlier life. In the words of early 20th century English economist and theologian Tawney, the phrase 'equality of opportunity' is merely 'decorous drapery', when used to camouflage social injustice. Tawney calls for 'an equal start, not merely an open road'. We now know that malnutrition in the womb leads not only to poor health and loss of cognitive potential in childhood but also susceptibility to a host of adult diseases. So social circumstances do shape individual health, through many pathways ranging from epigenetic influences on gene expression to deprived access to healthcare. It is the task of the medical profession to link the biological aberrations of disease with the contributory social causes.

In the contemporary world, factors such as urbanization, trade, transnational transport of humans, animals and goods, voluntary or forced migration and conflict play a major role in shaping the human health condition. At the community level, protection of public places and indoor workplaces from tobacco smoke, provision of safe pedestrian pathways and designated cycling lanes as well as green community spaces and safeguards against air pollution are essential public health measures. Enlightened policy which promotes public health is, therefore, an essential and critical ally of personal health. Even at the more intimate personal level, participation in social networks or social isolation influence both physical and mental health. The old adage 'no man is an island' is especially true of human health.

The connectivity extends beyond the human society. In studying our connection to the animal and plant world, we have only now begun to recognize the profound effects of animal–human interaction on zoonotic infections and the devastating impact of deforestation and climate change on health and nutrition. It is not accidental that the vast majority of infectious disease outbreaks in the past 50 years have been zoonotic, crossing from different animal species to humans. This is not because animals have

suddenly become malevolent towards human beings but because we have set up conveyor belts for transmission of microbes from wild life to captive veterinary populations and from them on to human habitat. This we do through extensive deforestation that releases hitherto confined viruses and vectors into our communities, through industrial scale factory farming of animals for our food and rapid mass transportation of humans across the world. This permits viruses to multiply and mutate, with the recurrent threat of dangerous pandemics. At the same time, profligate use of antibiotics is creating many forms of antimicrobial resistance on a global scale. Our connectivity with the external world grows in complexity as our ill-considered actions recoil on the internal world of bodily health.

As the Scottish born American naturalist John Muir aptly remarked '*when you tug at anything, you will find it tied to everything else in the universe*'. Climate change too has a profound impact on health. Apart from global warming which leads to a surge in summer heat-related deaths, we have natural disasters like floods and droughts to contend with. As humans wilt in the warm weather, mosquitoes multiply and become athletic—climbing to higher altitudes. Agriculture will suffer, with South Asia and Africa expected to have a 10% reduction in crop yields for every one degree further rise in temperature. Both staples and non-staples will have diminished nutritional quality and water will be in short supply for agriculture as well as human consumption. Acidification of oceans threatens marine life and fish will become less available for our diet. Even as we belatedly acknowledge that planetary health and human health are intricately and inexorably interconnected, our actions are imperilling the planet through anthropogenic climate change. It is clear that health and nutrition must be centrally placed in the integrated framework of sustainable development, if we have to survive and thrive as a species. Climate change and health must become a part of health professional education and advocacy.

We, as physicians and defenders of life, cannot remain passive observers when the issue is one of human survival. Our profession calls on us not only to strive for survival of an individual but also of all of humanity. Another hero of mine, Bernard Lown, taught me that lesson. He is a distinguished American cardiologist, still very vibrant at the age of 94. He invented the first ever external cardiac defibrillator for reviving a person from cardiac arrest through an electric shock. That technology has saved so many lives. He also became the founder leader of International Physicians for Prevention of Nuclear War (IPPNW) which won the Nobel Prize for Peace in 1985. In the words of Lown's address to the first IPPNW Congress in March 1981, '*Social systems do not endure for eternity. Only life can lay claim to uninterrupted continuity. This continuity is sacred. We physicians, who shepherd human life from birth to death, are aware of the resiliency, courage, and creativeness that human beings possess. We have an abiding faith in the concept that humanity can control what humanity creates. This perception provides optimistic purpose in reversing the direction of human kind's potential tragic destiny.*' What Lown said then of nuclear annihilation is now also true of extreme climate change. We, as physicians, must add our voice to the call for sanity and advocate effective steps for mitigation, since it is a matter of human survival—a cause we represent every day.

To conclude, the diverse but interconnected determinants of our health, well-being and very survival, extend from molecules to markets and connect us to the physical, chemical and collective biological features of the planet which we transiently inhabit during our individual lives. As we recognize this, our role as doctors gets redefined and extends beyond our duty to provide competent care to ailing individuals. We get a much more holistic appreciation of health as it applies to persons and populations, even as we study science at its most reductionist precision. By recognizing that the spectrum of science is reductionist in content but holistic in context, we learn to act across the whole expanse of human health. Even as we apply ourselves to the care of individuals whose health we strive to preserve or improve, we must respond to the need for public health policies and actions that protect and promote health at the population level. We will not then be inert when tobacco control is debated or stay silent when air pollution is discussed. We will demonstrate social solidarity in demanding universal health coverage and worldwide access to essential drugs, vaccines and life-saving technologies. We will not remain disengaged when collective societal action is required to counter climate change and will call for an end to the scattered wars that waste valuable lives and senseless sectarian violence that is even now killing, maiming and destroying the lives of millions.

Am I asking too much of medicine, by stretching its mission? There is no danger that medicine will abandon or dilute its primary commitment to protect the health of the individual patient by extending its attention to such a broad agenda of action. On the other hand, understanding and acknowledging the many determinants of health will enable us to become better care-providers and counsellors. Recognizing this broad connectivity and respecting its complexity will teach us humility and help us to abandon the paternalistic and physician-centric pattern of clinical care that deifies the doctor and demeans the patient as an object. We will no longer fight across the divisions of narrow subspecialties when we accept the enormity of interdependence that lies within and beyond our bodies. Truly, the lifeline of human health extends from pulse to the planet. When we recognize that, we will work to promote health in all of its dimensions—basic research, clinical medicine, public health practice and public policy. Indeed, compassion and commitment are at their noblest when the beneficiaries of our actions are nameless and faceless, without offering even the immediate emotional gratification that comes to us through personal contact with a patient we directly care for. We will therefore not set limits to our compassion and commitment but will amplify and extend those virtues to all of society—to all those who are alive anywhere and even the future generations to come. As we do that, we will live up to the humanitarian legacy of Dr Ida Scudder, to whose chosen profession we subscribe and whose unrestricted love for humanity we must aspire to emulate—in our own professional and personal lives. That would be medicine at its best!

This thought is not new. Rudolph Virchow expressed it well in the 19th century: '*Should medicine ever fulfil its great ends, it must enter into the larger political and social life of our time; it must indicate the barriers which obstruct the normal completion of the life cycle and remove them. Should this ever come to pass, medicine, whatever it may then be, will become the common good of all.*' That thought remains highly relevant in the 21st century.