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Adventures in the Unknown

Convocation Address-- SUNY Downstate Medical Center

May 28 ~~June 8~~, 2008

1633 words, 16 minutes.

You do me a great honor in asking me to participate today in your Commencement Program. And, it is a special pleasure to have the opportunity to address the first public health graduates from your newly inaugurated School of Public Health. It is fitting that these exercises involve the new realities in which public health, medicine and the other scientific disciplines work ever more closely together. You are graduating from a remarkable institution in a city unique in the world and from a prestigious University that is pressing ahead in addressing the increasing challenges of the health of communities – locally, nationally and internationally.

Public health and medicine have been my life for the past half century. My adventures have been diverse. Indeed, in perusing my employment record, one might well conclude that this is the c.v. of a person who hasn't been very successful in holding a job for very long. Not all the changes were by choice – as for example -- 1977. I had just completed 11 years as Director of the World Health Organization's Smallpox Eradication Program. I had become an acknowledged international expert in smallpox. The only problem was that there was no smallpox. Stranded – and without marketable skills, I became a Dean. But there is a lesson here for all of you – choose your specialty with care!

It was some 54 years ago that I was seated as you, about to receive a diploma. Most of us at that time had two thoughts running through our minds – one, speculation on what a still uncertain future might bring and the second, how soon a commencement speaker might conclude his remarks so that we could get on with the serious business of the awarding of degrees. I promise to be brief.

In our wildest imagination, we could not possibly have imagined in 1954 what the year 2008 might bring. What can one say about the next 50 years? It is sobering to look back to 1954 and to reflect briefly on the state of the world. Dwight Eisenhower was President and George Bush was not 10 years old. There was only hope that there would be a polio vaccine; all children had to be vaccinated against smallpox before school entry. It was, after all, only 5 years since the last indigenous smallpox cases in the U.S. No Medicaid; no Medicare; no internet, not even Fax; no organ transplants, no kidney dialysis. I need not go on.

The future through which your careers will pass promises greater change than this – with elements of threat and challenge and opportunity. There is an enormous potential for creativity and, as never before, a potential for each of you – in public health, in medicine, in the basic and social sciences – to have a positive impact on the lives of thousands – perhaps even millions.

Public health and medicine are in the process of increasingly rapid evolution. There are no fields or specialties that will or can be static or routine. It is clear the very boundaries of what we once

identified as the provenance of medicine and those we considered to be the responsibility of public health are merging steadily. We are all increasingly concerned about the health of the community as a whole. Changes are in the offing for the basic funding of medical care, for medical record systems, for methods of communication and governance, for international relationships. Biotechnology and the basic sciences are pioneering whole new fields of knowledge related to health and disease. And – as never before – it is apparent that what happens in Europe or Africa, or Asia, or Latin America can have a major impact on our own and on the world's well-being – and the effects can be rapid and potentially catastrophic. Lest we forget, the first cases of what we call HIV-AIDS were detected little more than 20 years ago. Today, this is the fourth leading cause of death in the world.

I have been fortunate during my career to have been involved in a diverse but exciting series of adventures in medicine and public health. In these adventure, it has become increasingly difficult to know where public health stops and medicine and social policy begins. Early on in my career, while I was at CDC, I became involved with smallpox –concerned about our response should the disease be brought in the U.S. and about our vaccination policy. It seemed far more sensible to us to invest in eradicating the disease where it was a problem rather than trying build ever higher walls and to invest in ever more stringent and expensive barriers to keep it out. An effective Homeland Security program limited to the screening of international travelers and the vaccination of 15 million Americans every year seemed myopic indeed.

To help decrease the risk of imported smallpox, we proposed a program to assist 20 West African countries in eradicating smallpox. Their population was more than 100 million and they inhabited an area about the size of the United States. Most were among the poorest and most highly infected. Surprisingly, the proposal was accepted by then President Johnson and I was designated Director. We were programmed to have just 54 American staff. In screening for candidates, we put a primary emphasis on motivation, intelligence and youth. Most recruits were in their 20s and 30s; only two were over 40. One of the most difficult countries was Mali but we were successful in recruiting a young physician just completing his public health training – Dr. Pat Imperato, now Dean of your new school. He was – as I – relatively inexperienced but optimistic and probably more hopeful than we had a right to be.

The program turned out to be a dramatic success and provided a major impetus to a global effort. It stopped smallpox transmission ahead of schedule, under budget and was widely acclaimed for demonstrating the potential for immunization programs. Having scarcely launched this program, I was asked to join WHO to direct a new global smallpox eradication program. We had a 10 year goal but we missed it by just 9 months and 26 days. In the course of doing so, we served to establish a global program for immunization using 6 vaccines and this, in turn, birthed the campaign for polio eradication. It was a revolutionary change in public health practice.

It was during the 1990s that we became increasingly concerned about two particular problems for which we, as a nation, were ill-prepared. The first was that of the new and emerging infections and the question of whether we might encounter a new organism with the characteristics of HIV (a long incubation period) and the potential for rapid transmissibility as does influenza. In brief, a fatal, new organism that spread rapidly and infected many before we were even aware of its existence. The conclusion was that this was unlikely but not totally impossible. Bottom line – we needed to be more aware of disease throughout the world and with resources prepared to do the research and to respond. About this same time, it became known that the Soviet Union had been conducting a massive program to develop biological weapons – a program equivalent in size to their nuclear weapons program.

Thus, I became involved in endeavoring to persuade academia and government alike that we needed programs that could deal with both of these threats. My reward, after 9/11 was to be drafted as an Assistant Secretary to develop a new Office in the Department of Health and Human Services. We named it the Office Public Health Emergency Preparedness. I was warned that this was not a very sexy name – that it should be called something like War against Bioterrorists or Soldiers against Bugs or some such. We argued that there many potential health disasters for which we needed to be better prepared – whether biological agents of hurricanes or tornados or whatever. The argument was reinforced by the Katrina debacle, the anthrax attacks and the threat of pandemic influenza. And, in the course of this, a bipartisan Congressional coalition formed and began to provide support for plans and organizations that

bring together the best efforts of medicine, public health, social organizations and the public services. This is still a work in progress.

Why do I take a few moments to sketch this out? To make the point that there are now tremendous opportunities for needed creative change; that, as we have found, tradition and government inertia are not cast in concrete; that there are grand challenges from the local level through the international in which individuals can and must make a real difference.

The Nobel Prizes deservedly honor great achievements in pioneering work in the biological sciences and there are many who rightly dream of being one of those who can go where none have gone before in conceptualization of new ideas. The laboratory is what is generally conceived to be the ultimate venue for challenge.

I disagree. In reflecting on my own experiences, I can only say that the challenge and excitement in developing a community, a national or an international program affecting hundreds to millions of individuals can be as exhilarating as is any journey to a destination where there are no maps that clearly define the territory nor exact rules prescribing exactly what can and cannot be done.

Best of luck to all of you in embarking on an exciting journey at the most challenging and demanding time in human history. Your City needs the courage, conviction and dedication of a new generation; the country needs it no less; and the world as well –to break out of the straight jacket of conventional solutions and to bring creativity and optimism in designing a better, more equitable world.