CONVOCATION PRESENTATION

Graduate School of Public Health
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Good afternoon. I am deeply honored to be your speaker today. Congratulations to you - and to your families. You have worked hard to merit your degree, and you have done so with the support of your loved ones whom I know are close to you today, at least in spirit - and with the support of your amazing faculty

A convocation speech is supposed to be upbeat. Tell a few jokes. Mix together the 3Fs, fact, fun and philosophy, and send you charging out into the world under the banners of Pitt and of Public Health. But this is not the time for upbeat. The challenges are far too serious, and your role in addressing these challenges is far too important. If you, or your families, ever wondered about whether a career in public health had a future – wonder no more

Dean James originally asked me to speak about global climate change, I will do that. And I will end my talk by telling you why you are different from other graduates in other Pitt Schools – unfortunately it is not because you are going to make more money.

But a public health convocation speaker in this lost Springtime of the year 2020, also must speak of the tragedy of COVID-19. And one cannot speak of climate change, and of emerging infections, without considering how they both are multipliers of health inequity, of social and racial injustice -

My talk will use an old fashioned pedagogic tool, one familiar to you since grade school. Think back to all of the essay assignments or exam questions which began "Compare and Contrast". I'll try to do that for COVID 19 and Global Climate Change.

They obviously differ in their cause – but let's go beyond that. First, they are dreadfully similar in lost opportunities for prevention. I was in charge of science at EPA when we received our first funding for what was then called global warming – that was 35 yrs ago. Since then the inexorable changes in climate have been as predicted, or worse – and we are only finally recognizing the public health impacts which are accelerating. Also expected was a global emerging infection hitting Pittsburgh, as was its linkage to the broader environmental issue of the increasing interaction of humans with wild animals Some of you may remember the slides I would show at the beginning of my general lectures on environmental health describing how overfishing off the West Coast of Africa caused an increase in price of fish in the market thereby leading to more bush meat hunting, interaction with primates and risk of emerging infections. In 2004 our GSPH was the site of a workshop of the United Nations Environmental Program on the role of the environment in emerging infections. And Dean Burke, who is a world leader in the field is convinced that major emerging infections will become even more frequent.

Climate change and emerging infections are also similar in the role played by increased population. Global population has more than doubled from the first earth day in 1970. About half the forcing function for climate change is population growth which also contributes to our overloading nature with our wastes. And COVID-19 has certainly spread more quickly than it would have otherwise.

Both COVID 19 and climate change are also similar in the role played by loss of resilience, loss of buffering power. In the 1800s almost all the trees from Pittsburgh west to Illinois were cut down with little impact on global climate. Doing the same now in the Amazon will have substantial global climate consequences due to the loss in the planet's buffering capacity. Deaths due to COVID-19 also reflect a loss of resilience – in this case of individual humans. Us old folks just don't make antibodies like we used to; and our lung reserve decreases with normal aging as does the reserve of other of our organs. Also affecting our lung reserve and

our resilience in the face of the novel coronavirus are the many years in which we have breathed polluted air.

Of course a difference between the two threats is that humans are reproducible:

– our planet is not

My original notes for this talk focused on the fiftieth anniversary of Earth Day. I've narrowed the anecdotes from that period down to just a few, which I believe have lessons for today

What I remember most about teaching at the first Earth Day are the four attendees who walked out in disgust. They wanted to abolish the chemical industry and use just natural products. I had responded by saying that when I went camping with my family I would bring pharmaceuticals and other industry products to protect them.

That argument is still with us. Too many of us believe that synthetic chemicals are inherently evil, and natural chemicals are all good –. Is that a problem? As just one example, what difference does it make that food grown from genetically modified seeds is, if anything, safer than food grown from seeds developed through standard practices. Perhaps it means nothing - if your society is rich enough not to need cheaper food; Perhaps nothing if global climate change and the economic impact of emerging infections and other unforeseen issues does not lead to hunger and malnutrition, particularly in poorer countries. And perhaps nothing if the same pressures that cause new microbes to affect humans do not lead to mutations that affect food sources. So how can we advocate throwing away a very valuable tool like genetic modification - for reasons that have almost as little scientific justification as climate denial, or refusing vaccination. Our loss of planetary resilience means that mistakes are less affordable

We in public health need to better defend our science as a decision tool particularly pertinent to the inevitable trade-offs in choosing among options -few of which are risk free. An example from today. It is fashionable to be against nuclear power. Even the far reaching Green New Deal proposal never mentions nuclear power, despite the fact that nuclear now provides about half of America's carbon-free electricity. A major concern about nuclear power, appropriately, is radioactive waste. Storage in a repository in Nevada was turned down because it might begin

to slowly leak radiation 100 years from now, But this worst case scenario leads to one additional case of cancer in the entire 22nd century. Between now and then, probably millions will die due to the broad ravages of global climate change that could have been prevented by keeping nuclear power going - at least until other carbon free sources can fully take over. We need to think across usual boundaries and to be willing to make tough science-based decisions in which health is central

My last anecdote. Our 1970 Clean Air Act led to increased oil use to replace coal. In 1973 the crisis caused by the Arab oil embargo led the coal industry to argue that replacing American coal with Arab oil was a bad idea. President Nixon's Office of Management and Budget had a meeting on the issue at which I spoke about the health effects of air pollutants. When I said that infants were affected, I was interrupted by a White House economist who asked it was girl infants or boy infants. I am not making this up. He explained that economically, the average American female cost more to raise and support than she contributed to the Gross Domestic Product. So why tell you this? – one hopes we are at least mostly past such flagrant anti-feminism. Because we are not past the underlying assumption of White House economists that our economy is more important than our well-being. And it is not just the debates on COVID-19 reopening, or the costs of preventing climate change. It is about the preventive portions of the Affordable Care Act --, and too many other examples. We have come far in focusing on health metrics such as Years of Potential Life Lost, and Disability Adjusted Life Years – but we still have far to go to provide metrics for human wellbeing and for the natural environment that can compete with a dollar sign.

A contrast between Covid-19 and climate change can be found in residential sprawl which contributes to the outsized US contribution to climate change. Sprawl makes us dependent on automobiles and uses up green space. In contrast - for COVID-19, social distancing is important - sprawl is good. Russellyn and I live in Oakland – which, accept for the UPMC area, is now a ghost town. We see almost no one when we leave to shop or walk, or take out the garbage; But people living in the area of the Bronx that I grew up in are crowded together. They need to share elevators or stairwells to get outside; and are disproportionally being called on to perform risky work in support of essential activities. So it is no surprise that the Bronx has a

very high rate of COVID-19 infections and deaths, and that living in crowded low income housing in disadvantaged neighborhoods is a national magnifier for COVID 19 rates. But in all of the proposals to help affected individuals and communities has anyone heard of using population density as a metric to determine the extent of federal support? Why not?

Let me build on the centrality of focusing on disadvantaged populations in public health to describe another challenge, but not to a disadvantaged community. In public health we pride ourselves on listening to the community, and to credit what they tell us. We have progressed in valuing the inclusion of minority voices, and of women, within the public health work force, including in leadership positions. We still have a long way to go. For example - every single dean of the GSPH has been a white male. But, think about it, which group of Americans are most under-represented in terms of relative number of public health professionals. How about Republicans? Americans who generally are more conservative than the vast majority of the public health workforce. To move forward, we must be willing to listen respectfully, and must be willing to fashion our rationale for needed public health interventions in ways that credit these views which, whether manipulated by demagogues or not, are largely based on a considered interpretation of the US constitution and of this nation's role in the world. To be politically effective, to deal with the staggering amount of misinformation and disinformation, we need to stop talking just to ourselves

Remember, we long ago learned that people opposed to vaccination do not do so because they are stupid, and we also learned that treating them as if they are stupid does not help to change their minds.

We in public health, with our roots in biology, also understand that there are biological and cognitive foundations built into the human brain which often underlay parochial viewpoints - the nationalism and regionalism that makes it so difficult to respond to global threats such as climate change and emerging infections. Would those who wrote our Constitution have left these two global issues to our individual states? Senator Gaylord Nelson, the founder of Earth Day, called for an amendment to incorporate the environment into our constitutional rights. Perhaps health should be there as well.

I promised to end by talking about what differentiates you from other graduates. My talk today has focused on transboundary issues. As part of your receiving a credentialed public health graduate education you are required to have at least an introduction to five very different areas of public health science and practice: behavioral health sciences; biostatistics; environmental health, epidemiology and health management and practice. The core disciplines involved at departmental levels are broader than for any school on this campus except for the faculty of arts and sciences. But there is no need for interaction between the French department and the Physics department. However, no major public health problem can be prevented or solved by any one of our academic disciplines working alone. Thinking and acting across the broad range of academic boxes that describe your public health education, and working with other disciplines as well, is central to solving present and future public health problems

To help you do so, you have been given the breadth to think across disciplines, and the foundation necessary to continue to learn much more.

Please - go out and do it. With the grateful thanks of all of us, and the sure knowledge that you will be making a difference

Bless you all.