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George A. Gellert MD, MPH, MPA
San Antonio Texas, USA, ggellert33@gmail.com

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Ethical Imperatives Critical to Effective Disease Control in the Coronavirus Pandemic: Recognition of Global Health Interdependence as a Driver of Health and Social Equity

George A. Gellert MD, MPH, MPA

We Should Have Been Ready: The Ethics of Government Failure

Despite our substantial understanding of the microbial world, and its power, we are still unable to avoid its most violent species. With the coronavirus pandemic, and escalating numbers of people infected and dying worldwide, we can all share some sense of relief that SARS-Cov-2 is not far deadlier, as other emerging pathogens have been in recent decades. While highly communicable, SARS-Cov-2 is not nearly as deadly as it could be. Yet the pandemic compels an intimate understanding of what devastation - human, social and economic - can result from other, more lethal pathogens. COVID-19 has a lethality of 2-4% of those infected, a fatality rate that may fall as more people with mild or no symptoms are tested, and that is far below other recent emerging viral infections such as Ebola (25-90%) or avian H5N1 influenza (50-60%).

Institutionally, the U.S. should have been ready to respond effectively and rapidly to the coronavirus outbreak because this is hardly the first, and likely not the last, emerging infection humanity shall encounter. Outbreaks of other deadly contagious coronaviruses, SARS-Cov-1 and MERS, preceded this one in 2002-03 and 2012, respectively (1-3), as did other emerging pathogens in prior decades, including but not limited to Ebola and HIV, the cause of the AIDS pandemic. Currently, at least seven coronavirus species are known to cause diseases in humans. The Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH) have been investigating and responding to outbreaks, and publishing and advocating for resources to combat emerging infections for over 30 years (4). State and county or municipal health departments have been aware of and supposedly prepared to respond to such outbreaks for decades (5).

Experts around the world, and in China, predicted a potentially deadly coronavirus outbreak as far back as 2017 (6). That the nation has been caught so ill prepared, and has been so incompetent in engaging effective disease control measures, at all levels, will be the subject of years of post-pandemic investigations, analyses and evidence-based recommendations to better prepare for future outbreaks. These will hopefully be de-politicized in order to ensure their value and actual impact.

The failure of the federal government to not only be prepared, but to attend to and act immediately upon multiple domestic and international agency warnings once the outbreak gained momentum in China, represents an ethical breach of government fidelity to the welfare of its citizens of the highest order. Given the likelihood of future emerging pathogens with pandemic risk, and the potential scale of lives lost and harmed, our societal response to this ethical breach of governmental behavior cannot be relegated to a resolution via the next election, or through a congressional investigation with resulting censure/condemnation, or even impeachment.

The behavior and actions of key governmental officials, including the president as well as governors, mayors, agency heads and others, need to be examined in the context of their potential illegality and/or breach of their oath of office. The courts should determine if certain acts and public statements which repressed or distorted accurate information dissemination about the early emergence of the coronavirus pandemic were unlawful. This should include advocacy for the use of certain therapeutics before their clinical effectiveness and safety are evaluated, failure and resistance to mobilizing governmental resources for aggressive outbreak response, and other actions which resulted in preventable infections and deaths.

These acts of omission or commission may represent negligent manslaughter committed at a massive or populational scale. In addition, coronavirus survivors and the families of those killed by the virus should explore civil litigation to hold public officials and/or their agencies responsible for their unethical and immoral acts of commission or omission during the outbreak, and in order to force negligent officials and/or agencies to compensate victims financially for their injuries, and to compensate families for the death of their parents, spouse, siblings, children and other loved ones.

Ethics and Effectiveness of Social Distancing Undermined by Entrenched Racial, Healthcare and Economic Inequities

Once public health and disease control measures break the back of this outbreak through mass isolation/social distancing and, eventually, therapeutics and a vaccine, humanity will have a much better understanding of our many pandemic vulnerabilities, and so be able to prepare aggressively for the next killer microbe, or the next cycle of this coronavirus. We fail to exploit this opportunity to learn at humanity's peril, and we should all be grateful for the opportunity to prepare for subsequent deadly - and possibly far deadlier - pandemics.

This learning is not, cannot be optional. Humanity needs to - quite literally - stop in its tracks for a sufficient period of time so that all infected individuals across the globe can complete the course of their illness without infecting others, so-called social distancing or home sheltering. That means a potentially protracted period of time, weeks not days, when all unnecessary human social contact is minimized, while a massive joint civilian and military effort is deployed to keep critical food, medical and other materials supply chains and services up and operating.

For local and global social distancing to have its greatest potential impact in terms of enabling infected individuals to complete their course of disease in either an institutionally or naturally isolated setting, the period of distancing should be as simultaneous as possible within local jurisdictions, at a national level, and worldwide. Any vehicle for virus transmission should be interrupted on the same days, allowing for a period of rolling, rapid adoption across the planet as all countries are engaged in mass social isolation, either proactively or de facto passively.

In the next pandemic, it will be more ethical and epidemiologically effective in terms of disease spread - and less socially and economically disruptive - if the world engages a coordinated in place global distancing action, rather than each nation in effect forcing all its citizens to come home while forcing individuals from all other nations to exit. The latter is

actually a recipe for increasing disease exposure and transmission substantially, not to mention the grotesquely unethical practice of potentially leaving individuals isolated abroad and away from their homes and families without the resources or ability to engage and sustain social distancing or sheltering.

The global and national response to the coronavirus pandemic appealed to, reinforced and leveraged the high level of nationalist sentiment and resentment politics existing in many nations in recent years. Pandemic disease control measures are weakened, not strengthened, by such simplistic isolationism and selfish nationalism, because if nations and communities are unable to cooperate and collaborate in extinguishing a newly emerged pathogen everywhere, a focus and reservoir of endemic infection in certain nations or regions will continue to threaten all of humanity with a potential re-emergence of the pathogen. This is particularly true of pathogens that are highly contagious, such as the current coronavirus, SARS-Cov-2.

Global distancing on a local, state, national or planetary scale is not without real hardship and risk, but it is the only way, short of a vaccine or treatment, to stop a deadly virus which, like this coronavirus, if unrestrained could afflict as many people as the 1918 pandemic, when one-third of humanity was infected and 50+ million people died (7). While global sheltering is destabilizing, it can be a controlled social and economic disruption towards a positive public health outcome, as opposed to the alternative - random destabilization with only downside. The present coronavirus, if it does not mutate to become more lethal, will not affect humanity at anything close to an existential level, like an Ebola or SARS-Cov-1 outbreak of this magnitude might, since a majority of people infected by this coronavirus get only mildly ill, if symptomatic. Pandemic apocalypse this is not.

That doesn't mean the virus could not become a persistent plague that tragically kills many more vulnerable individuals. It is already becoming quite clear that while the virus does not recognize race or socioeconomic status as a biological risk per se, social and economic determinants such as healthcare access, income level and sustainability, occupation type, and housing density/crowding combined with poverty are impacting the rate of new infections within certain underserved communities. Along with disproportionately high rates of endemic chronic diseases like hypertension and asthma that predispose to a bad COVID-19 outcome, these social and economic factors are driving a disproportionate incidence of infected black and brown victims in a severe progression of the disease to ventilator dependence and death as clinical outcomes.

Coordinated social distancing on a global basis is a collective disease control challenge that requires unprecedented international and individual engagement and cooperation. At its core effective distancing demands an ethic of social cohesion - locally, nationally and internationally. Effective social cohesion cannot occur amidst large socioeconomic, racial, and health inequities; inequities and social cohesion are mutually exclusive and antithetical. Our world, and the U.S. as one of its' purported leaders, are rife with high levels of national and international division, distrust and political, cultural and economic polarization and inequity.

In the last century civil society, government, industry and the military sectors worked together with the communities they served across the nation, and across the planet, within an ethos of social cohesion to accomplish immense global feats, including the defeat of Nazism and Japanese imperialism, or the eradication of smallpox. Inequities existing in that period, while significant, were not as debilitating as they have become today. When the next microbe emerges with a lethality potentially scales of magnitude greater than this coronavirus, the critical question will be whether we can once again marshal sufficient mutual trust and collaborative will to effectively manage a massive acute healthcare and social mobilization to interrupt disease spread, with minimal sustained destabilization of national and international order.

The evidence thus far from this pandemic is not promising in this regard. Coronavirus has demonstrated that our individual interest and interdependence are not only tied to the collective welfare of humanity on a national and planetary basis, but also tied intimately to the local communities where we all live. Social distancing or sheltering has numerous ethical implications and nuances. Because it relies centrally on individual choice and action (or specific inaction), each individual must bear the responsibility of conforming to social isolation imperatives versus defying them. Early in the U.S. outbreak, a breakdown in this dynamic appeared most clearly in an emerging intergenerational divide, where younger people at lower risk of severe complications of infection or death, refused to shelter and engage social distancing in order to mitigate transmission risk to the more elderly population segment at elevated risk.

The potential effectiveness of social distancing as a public health measure to interrupt community transmission of a pandemic virus is informed fundamentally by inequities that, after decades or centuries of indifference or injustice, are emblematic of the profound failures of U.S. policies and national ethics. These include the issues of:

- failure to provide healthcare and health insurance to all individuals, or to provide sick leave for all workers;
- failure to address increasing financial and income polarization within U.S. society, with increasing levels of people living in poverty or near poverty, or from paycheck to paycheck;
- failure to provide income support for workers who cannot work from home during an extended period of social sheltering;
- failure to deal with the homeless problem – one cannot shelter at home if they have no home;
- failure to include undocumented migrants in health and social welfare policy and programs and who remain fearful or suspicious of any governmental contact or outreach, including public health/disease control outreach;
- failure to deal with excessive numbers of individuals (and disproportionately minorities) incarcerated for non-violent crimes and resultant prison crowding that can facilitate rapid disease spread; and
- entrenched institutional racism within governmental and health agencies, domestic and international, among others issues.

Effective social distancing is simply not feasible when poverty demands that people live in highly dense, crowded housing, or be employed in service or factory jobs where working from home is not possible and not working means no income.

As noted earlier, the disease control impact of these inequities is already declaring itself in the United States with the elevated incidence of both coronavirus infection and death among people who are black and brown. This is not new, of course, as many of the leading causes of disease and death among Americans, such as cardiovascular disease and diabetes, disproportionately impact black and brown communities, and these, along with asthma are underlying conditions that complicate the treatment of COVID-19.

The same has been true since the onset of the era of emerging infections with HIV/AIDS in the 1980s. There is no epidemiological approach, no sustainable, achievable disease control or coronavirus eradication strategy that is not vulnerable to being undermined by the basic inequities of American society. Even if geographic isolation in more segregated communities conveys an immediate sense of lesser risk of infection to the more affluent, our moral bankruptcy in such an approach will still result in financial bankruptcy as the U.S. service economy grinds to and remains in a slow crawl.

Each of these factors merits consideration in assessing our potential inability to control future - perhaps more deadly - infectious disease epidemics and pandemics. Each should be the focus for development of socially transformative policies to address both the underlying ethical inequities and the risks for disease control ineffectiveness. Individuals with no means of surviving a disruptive economic slowdown, with no sick leave, no healthcare access or insurance, no financial reserves and no homes will bear the worst impact of global distancing - and will be the least vested in its success.

These existing realities in America are equally true when we look to mobilize against a pandemic through international cooperation and collaboration. Inadequate nutrition, poor sanitation and healthcare, and poverty immunologically weaken large swathes of humanity, conveying to any killer pathogen a potential foothold among those least able to resist infection, and contributing to high pandemic communicability, morbidity and lethality. In an era of emerging infections, we are truly only as resistant collectively - and individually - as the weakest among us, whether in the U.S. or in South Asia or Sub-Saharan Africa.

At an economic level, many of us have gained a real, daily sense of how interconnected we are with the rest of humanity in the delicate fabric of the modern world order. Pandemics demonstrate that improving economic and health status equity in the United States, and around the globe, across all levels of society, is not only an ethical and moral obligation, but a collective health security and survival imperative for us all. We will never achieve pandemic health security if decades hence the terms “underserved” and “disenfranchised” remain descriptive of large populations and communities in the U.S. and elsewhere.

Global Health Interdependence: Unequivocal Proof of Concept Provided by the Coronavirus Pandemic

In 1990, now almost 30 years ago, I wrote about emerging global health interdependence in the Journal of the American Medical Association (8):

“The virulence of the human immunodeficiency virus pandemic has demonstrated the extent to which a distinction between domestic and international health is antiquated and even obsolete . . . Increases in population, migration, and international travel will facilitate the mobility of disease, infectious and non-communicable, epidemic and endemic. Many of the health effects of environmental deterioration have not yet become measurably manifest. These forces may overlap in the creation of ecologic refugees. In sum, the global village concept has never more aptly described the highly interdependent status of world health.”

Few would argue that the current coronavirus pandemic is not unequivocal proof of the manifest reality of global health interdependence, and of the imperative to approach health security collectively as a planet, rather than as individual nations or multinational blocs based on level of economic development or strategic military/defense alliances. Further:

“Global problems will increasingly interlock the interests, welfare, and destiny of all nations, and this may be particularly apparent in the fields of medicine and public health. Nations will find it impossible to maintain the security of their citizens in a vacuum, as they increasingly recognize that true security extends beyond geopolitical and military considerations . . . Interdependence argues for broadening the scope and definition of security, adding economic, environmental, demographic, and public health factors to the traditional military and geopolitical model.” (8)

Emerging from the coronavirus pandemic one must imagine that political leaders and the public at large will have finally come to understand our collective health interdependence in a very personal and granular way. As a result, it should be possible to drive funding for and investment in - not only emerging infectious disease surveillance, disease control and response capabilities - but in improving the status of the other key social and economic determinants of the ability of people to engage in critical pandemic disease control interventions, whether that be social distancing, vaccinations or therapeutic care.

In affluent nations like the U.S., investment to reduce the inequities informing the success of pandemic control measures can, with appropriate political will, be achieved relatively rapidly. However, for the world as a whole, the coronavirus pandemic can also yield important shifts in international understanding and perceptions. As the world is functionally shrinking as concerns

critical health issues - pandemics but also climate related - awareness must increase that international aid and technical assistance is beneficial to both donors and recipients.

Moving forward from this pandemic it will be essential to decrease emphasis on donor philanthropy as the political-policy basis for international health programs and aid giving, while increasing emphasis on donor nation self-interest in preserving and promoting effective international disease control programs. If the domestic public health of the affluent nations is to be well maintained, a vision of global interdependence – economic, environmental and epidemiological - must become central to these nations' international as well as domestic policies.

Conclusion: The Ethical Imperatives of Collective Planetary Pandemic Security

It seems nature on multiple fronts - not just microbial but climatic - is clearly demonstrating that unless humanity is better able to partner and work together collaboratively, whether at the local, national or international level, life as we have known it may not persist. At least, that is, life in what has been an imperfect, but relatively stable global order where, despite setbacks and severe inequities, much of humanity over the 70 years has progressed in terms of social/economic welfare and well-being. Partnership, collaboration and the needed ubiquity of participation in disease control measures such as social distancing are only possible if incentives and disincentives for broad, fully inclusive public engagement are recognized and leveraged. These, in turn, require a level of achieved (not promised) social and economic equity driven by widely shared ethics and values that are universally, not selectively, beneficial.

Fifty years ago, Lewis Thomas wrote of the Earth as an organism, a cell, one that will react to humanity as if we are the infestation if we continue to undermine fundamental planetary processes and health. While humanity still largely ignores how we are changing the planet, there comes a point at which the cumulative injury causes the most severe of consequences. Pandemics are just one of the planet's reactive forces unleashed. And so far, thankfully, this coronavirus is enabling us to survive as a species and get ready for what could yet come. For the tens or hundreds of thousands who will yet die in this pandemic, let their legacy be our learning and preparation for the next pandemic killer.

But no amount of advanced domestic public health and healthcare system preparation, no amount of international coordination of emerging infection surveillance and disease control measures, no vaccine or therapeutic will allow us, in this new and now real era of deadly pandemics, to live in safety if an underclass exists in the U.S., or globally, who do not benefit directly from these investments and activities. The well-being of the well-off cannot exist independent of, and in isolation from the misery and deprivation of an underclass where viruses can continue to thrive and spread. As we move forward from this pandemic to prepare ourselves and the world for the next one, we do well to remember the powerful, prophetic words of Dr. Martin Luther King, Jr.: "We must learn to live together as brothers or perish as fools."

Author Bio: Dr. Gellert is an epidemiologist and served for over 30 years in local and state public health, with international NGOs, at the United Nations, and within industry; he has managed communicable disease outbreaks as a public health officer, reported the first transmission of HIV to victims of child sexual abuse, and participated in the U.S. response to the emerging infection Hantavirus outbreak.

Corresponding Author:
George A. Gellert MD, MPH, MPA
San Antonio, Texas, USA
703 Sentry Hill, San Antonio, TX 78260
Email: ggellert33@gmail.com

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