Journal of Health Ethics

Volume 17 | Issue 1 Article 4

12-2021

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Recommended Citation

Gellert, G. A., & Gellert, G. L. (2021). An Ethical Comparison of the COVID-19 National Disease Control Performance of China, Canada and the U.S. in the First Year of the Pandemic. *Journal of Health Ethics, 17*(1). http://dx.doi.org/10.18785/jhe.1701.04

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Comparatively Benchmarking Government Pandemic Response Effectiveness and Ethics

Since SARS-CoV-2 first emerged in December 2019 in Wuhan, China, COVID-19 has become a global pandemic that continues to challenge and undermine the economies and health care systems of many nations. While clinical experience and research with other coronaviruses are extensive, the SARS-CoV-2 attack on humanity has been characterized by vulnerabilities that have origins within, or have been severely exacerbated by, political polarization and underlying ethical issues including racial/ethnic, socioeconomic and public health inequities (Gellert, 2020; Burki, 2020; Thomson & Ip, 2020; Haug et al., 2020; Harris & Holm, 1995). Given global spread of the virus and its continuing mutation into more transmissible variants, eradication of SARS-CoV-2 is imperative but could be hobbled by these issues.

The ethical and political roots of COVID-19 disease control challenges warrant evaluation, and can be illustrated by comparing the first year (calendar 2000) pandemic control performance of the governments and public health systems of China, Canada and the U.S. In comparing and contrasting the course of governmental public health policies and practices across these nations, other critical historical, socioeconomic, and cultural considerations are reviewed with an eye towards understanding how each has impacted community viral transmission, resultant morbidity and mortality, and both curative and preventive health care delivery.

In particular, we will focus on the impact of racial, socioeconomic and health care inequities, general level of societal political polarization and fragmentation, mounting government distrust among the public, denigration, denial and distrust of science, politicization of the pandemic and of disease control and mitigation strategies, and level of governmental leadership, active engagement and direction of a national pandemic control strategy and associated tactics.

China's First Year Pandemic Response: Emulated Archetype of Disease Control Rooted in Authoritarian Power, Government, and Health Ethics

China's government rapidly implemented an effective and authoritarian program of disease control measures involving severe restrictions on movement and public social distancing/isolation that would have been difficult to replicate in democratic nations. Wuhan and Hubei province went on a strict lockdown lasting 76 days. Public transport was suspended and population movements severely restricted; only one member per household could leave home to collect necessary supplies (Burki, 2020). Across China, 14,000 health checkpoints were established at public transport hubs and school re-openings suspended, among other measures (Burki, 2020; Thomson & Ip, 2020).

China's first year pandemic response was effective in interrupting community transmission of the virus, achieving among the largest, most rapid reductions in disease incidence in the world. By October 2020, China had 90,604 cases of COVID-19 and 4739 deaths, while the U.S. had 7,382,194 cases and 209,382 deaths (Burki, 2020). However, the public health ethics of China's effective disease control efforts were based in and empowered by prevailing fear of its authoritarian form of coercive governance, policing and political culture (although historically Chinese culture/ethos emphasize collective good over the individualism characteristic of American culture).

While many nations may envy China's pandemic performance success, few among the liberal democracies would admit to emulating its public health ethics and suppression of civil liberties in curtailing viral spread. Further, China's authoritarian information control and politics may have impeded

an early provincial response to COVID-19, which could have mitigated spread of the virus globally (Thomson & Ip, 2020).

Nonetheless, democratic states also deployed extraordinary governmental powers to reduce SARS-CoV-2 transmission within their borders, including Australia and South Korea, which were also among the most successful of nations in preventing extensive national outbreaks of COVID-19. Thomson and Ip argue that many nations (including liberal democracies) pursued disease control objectives by engaging authoritarian values. This included policies overriding and eroding human rights and civil liberties, including restrictions on freedom of movement and freedom from government surveillance, governmental and administrative overreach, adoption of excessive and disproportionate emergency measures, failure to engage deliberative and transparent decision-making, and suspension of effective democratic control (Thomson & Ip, 2020).

Replication of China's approach, involving authoritarianization of measures exceeding that demanded for effective disease control, occurred in many nations, including Bosnia and Herzegovina, Cambodia, France, Germany, Hong Kong, Hungary, India, Kosovo, the Philippines, Scotland, Serbia, Slovenia, South Korea, the United Kingdom and Wales (Thompson & Ip, 2020). Thompson and Ip suggest that a "transnational constitutional pandemic" may be evident, in which a COVID-19 control at any cost ethos, driven in part by public health authorities, became an agent or catalyst for authoritarianization in democratic states as well as fundamental breaches in public health and health care ethics (Thomson & Ip, 2020).

However, in contrast to the above, Haug et al. found that disease control measures that the public may have viewed as excessive or coercive were in fact highly effective in containing the community spread of SARS-CoV-2 (Haug et al., 2020). Furthermore, it has been argued that pandemics require the application of collective ethics, where there exists a moral obligation not to infect other individuals (Harris & Holm, 1995). Collective ethics recognizes that the bioethical principle of individual autonomy and choice must be informed by the human rights of beneficence and non-maleficence, codified in the Helsinki Declaration, which in pandemic control translates into an understanding that individual civil liberties do not include a liberty or right to infect others.

While this tension has been evident in many nations around the issue of vaccine mandates and/or wearing of masks to reduce viral spread, it is most notable in the United States where amidst abundant vaccine supply, some 30% of the eligible population resists vaccination. As will be discussed, this polarization in the American public's views on reasonable, appropriate and ethical disease control measures has been exacerbated by key trends, including distrust of science and of government that has been building for decades but has been greatly exacerbated during the last presidential administration.

The U.S. government's embrace of authoritarianism during the presidency of Donald Trump predated the pandemic. Mr. Trump upended most historical norms of American presidential governance, continually conveyed disinformation and falsehoods to the public about many issues, including the pandemic, and sought to expand his personal power through autocratic tactics that continued through his re-election bid and beyond. However, Mr. Trump's pursuit of authoritarian power in the first year of the pandemic, unlike that in other nations, sought to delimit and undermine, rather than ensure, effective pandemic disease control in the U.S.

Unlike most other national leaders, Mr. Trump leveraged the power and platform of his leadership office to question the disease control value of essential COVID-19 prevention strategies such masking, social distancing, and suspension of non-essential public activities to inhibit viral transmission. While Mr. Trump aspired for authoritarian power exercised by autocratic regimes such as China, his approach to managing the pandemic was to consistently evade and abrogate federal and presidential responsibility to coordinate pandemic response across the states and among his own governmental agencies.

Mr. Trump failed to lead an essential national effort to coordinate and deliver a coherent, effective effort to interrupt community transmission of the virus, ensure supply of essential materials to prevent and treat infection, and plan for eventual vaccine distribution. Unlike nations where authoritarian power and tactics were deployed (and rationalized) to ostensibly improve pandemic performance, Mr. Trump used presidential power to disrupt and undermine institutions/individuals seeking to improve disease control. This included his own White House Coronavirus Taskforce, his advisors from the U.S. Centers for Disease Control and Prevention (CDC) and National Institutes of Health, and state governors endeavoring to compensate for the failure of the federal government to effectively engage its critical leadership role in pandemic response.

U.S. failures in the first year of the national pandemic control effort were not only based on Mr. Trump's aversion to leading the response, but also rooted in other characteristics of U.S. national ethos, culture and society which can be best elucidated through comparison to its neighbor and largest trade partner, Canada.

ETHICAL BASIS OF CANADA'S SUPERIOR FIRST YEAR PANDEMIC CONTROL PERFORMANCE VERSUS THE U.S.

Prior to the pandemic the U.S., with its technologically advanced hospital and public health resources and infrastructure, including the CDC, would be expected to perform better than most of the world's nations. However, by virtually any metric, the first year pandemic control performance of the U.S. (before vaccines were available) was dismal. Canada, for example, has had less cases, hospitalizations and deaths per capita than the U.S. Canada's total deaths as a percentage of population (0.06%) is less than half that of the U.S. (0.16%) (World Health Organization, 2021). There are multiple contributors to these divergent national disease control performances and outcomes.

Better Aligned Single Payer Provincial Health Care Systems Enabling More Coherent National Pandemic Response

Unlike the U.S., Canadian pandemic control efforts may have benefited from having a single payer health care system across its 13 provinces and territories. Even though each Canadian province determined its pandemic containment and mitigation strategy, Canada's public health and care delivery systems are less fractured and more integrated than the mixed governmental-private industry-based health system across 56 U.S. states, districts and territories, each of which effectively comprises its own commercial health care market. A single payer system in Canada (and other nations) enabled rapid, uniform provincial implementation of disease control directives and actions, and better management of critical supply chains of personal protective equipment, ventilators and other essential materials in early governmental pandemic response (Detsky & Bogoch, 2020).

In the U.S., complexities of the interplay between local, state and federal authority and disease control policies/processes have been described in past outbreak response performance of a novel pathogen (Gellert, 1994), whereas in Canada there was strong cooperation between federal and provincial officials and politicians, with little acrimony or conflicting messaging between levels of government (Detsky & Bogoch, 2020). Along with the intense current polarization of U.S. political parties at the state and federal levels, these factors may have complicated rapid, pan-national adoption of uniform COVID-19 infection prevention strategies in the U.S. compared with either Canada or China.

Other nations with single payer health care systems also performed far better than the U.S. in pandemic disease control, including Australia, New Zealand, South Korea and Taiwan (World Health Organization, 2021). Establishment of a single payer health care system demonstrates unified national political will, faith in government competence, and social values that can help enable greater social cohesion and operational coherence in pandemic response. The U.S. is the sole economically advanced nation without a single payer health care system, and continues to have large segments of its population

uninsured or under-insured, positioning it among the affluent nations of the world as an outlier in public health ethics, and predisposing it to early difficulty rapidly mobilizing a uniform, truly national pandemic response.

More Pervasive U.S. Socioeconomic, Racial and Health Care/Public Health Inequity

The health care and public health marginalization of lower income groups and underserved minorities in the U.S., who often lack health insurance, has fostered poor health outcomes and general distrust of government. This may have contributed to less willingness to engage COVID-19 preventive measures when government advised.

Canada, while still having significant inequities affecting the health of Native/Indigenous Canadians and its homeless population, is considerably less racially, politically and socioeconomically polarized than the U.S. For three years before the pandemic, the Trump administration further exacerbated longstanding political and racial/ethnic polarization and fears in U.S. society, adding to longstanding American social, economic, health care and public health inequities that may have contributed to disproportionate rates of infection, hospitalization, and deaths among American minority racial and ethnic groups.

American minorities also disproportionately populated lower paying service industry jobs during the pandemic that bore greater risk of infection and have no work from home option. The impact of these realities is evidenced by lower COVID-19 vaccine uptake among Black and Latinx Americans, their disproportionate COVID-19 mortality rates, and declines in life expectancy (Barbieri, 2021). Since 2020, Latinx American life expectancy has declined 3.9 years, and for Black Americans life expectancy declined 3.2 years, versus 1.4 years among whites (Barbieri, 2021).

U.S. Political Polarization, Anti-Government Distrust and Politicization of the Pandemic

Superior societal levels of public trust of government may have given Canada an advantage over the U.S. during the first-year pandemic response. Canada has less underlying political polarization than the U.S., and as a result, the pandemic was not politicized in Canada to the extent it was in the U.S. (Detsky & Bogoch, 2020). While some Canadians harbor anti-government sentiments, under the Trump administration, a substantial part of the U.S. population reached a peak in government distrust which began in the Vietnam conflict and the Watergate crisis, and was institutionalized when President Ronald Reagan stated, "government is not the solution to our problem, government is the problem" (Greider, 2018).

Anti-government sentiment in the U.S. over the last 40 years has been elevated essentially as a political belief system, and as a core value, identity and influence largely within members of the Republican Party (Greider, 2018). This anti-government sentiment contributed to a sustained multi-decade decrease in support and investment in the U.S. public health system, the capabilities of which have eroded since 1980, hindering public health mobilization in the early U.S. pandemic response.

Mr. Reagan's condemnation of the use of governmental power as a problem, rather than a solution, and of government institutions as inept, which Republican leaders embraced - Newt Gingrich in the 1990s and Mr. Trump more recently - fostered chronic under-funding of the American public health system. It enabled and powered a self-fulfilling prophecy of government incapacity and ineptitude in first year U.S. pandemic response, and contributed to a slow U.S. disease control mobilization. These factors contributed to the disproportionately high American death toll during the first year of the pandemic relative to other nations. A pandemic of this complexity cannot be controlled within a political environment where the national leadership and policy-making systems have grown increasingly dysfunctional due to extraordinary political polarization, pervasive anti-government sentiment, and unwillingness to invest funds to meet public needs within of one of the two major political parties.

Mr. Trump exploited and expanded public distrust of government to mitigate any threat he perceived to his incompetent, disinterested governance (or to his re-election), including his inability to lead a science-based, coherent and effective national pandemic response. As a result, his public statements constantly attacked evidence-based science and medical orthodoxy and questioned the validity of epidemiological projections of COVID-19 incidence and severity. He undermined the policies and actions of his own public health leadership team, including efforts to promote preventive practices whereby the public could reduce community transmission of SARS-CoV-2.

Further, it appears Mr. Trump had information before the pandemic emerged in the U.S. about how highly contagious and deadly SARS-CoV-2 could be (Woodward, 2020). Given Mr. Trump's advance knowledge of the imminent harm of the pandemic in his own nation, his continual denial of the pandemic's lethal potential, and his undermining of federal and state government public health agencies and leaders, evidences an historically unprecedented breach of public health ethics and intentional public health malfeasance (Gellert, 2021).

Mr. Trump also articulated unscientific views and misinformation on infection risk, disease outcomes and specific therapies without evidence, such as the potentially lethal inhalation of highly toxic bleach as a means to clear the lungs of the virus, and he personally modeled non-compliant behaviors around social congregation and distancing in the White House (resulting in an outbreak of SARS-CoV-2 transmission among White House guests and staff). These behaviors undermined the American public's trust and confidence in their government, in science and public health at precisely the moment it was most needed to mitigate expansion of the U.S. epidemic.

This contrasts dramatically with the behavior, actions and policies of Prime Minister Justin Trudeau and the provincial premiers of Canada, who lent strong support to evidence- and science-based disease control policies and practices, and empowered government agencies with resources and direction. Instead of embracing and advocating on behalf of government-based medical and public health science in his pandemic response like Canadian leaders, Mr. Trump continually questioned and politicized the integrity and accuracy of the emerging scientific consensus within his own governmental scientific agencies on how to prevent SARS-CoV-2 infection, and publicly criticized and bickered about the pandemic response of state governors (particularly if from the Democratic and not his own Republican political party). In contrast, while by no means entirely conflict free, in Canada the federal and provincial governments cooperated with one another despite differences in political party affiliation (Detsky & Bogoch, 2020). Mr. Trump's consistent efforts to deconstruct and nullify a science-based, effective pandemic response represent further breaches of public health ethics and one of the greatest betrayals of the American public's trust in U.S. history.

More Engaged, Effective National and Regional Pandemic Control Leadership

As noted, early in the pandemic Canada's national and provincial governments understood and embraced their role in leading a national pandemic response. This was seen in Canada, and in most other nations, as a public health - and an ethical - imperative to lead responsibly and protect the public from harm. In contrast, Mr. Trump and aligned Republican congressional representatives and governors effectively abandoned the essential and critical governmental role of leading a U.S. national response strategy, and left the individual U.S. states and counties to fend for themselves for critical pandemic response resources, including essential personal protective equipment, ventilators and COVID-19 testing supplies. As the virus spread, Mr. Trump continued for months to deny that a national epidemic was emerging as cases and deaths mounted and, without evidence, provided false reassurances to the public that the pandemic would end spontaneously on its own without public health intervention and national leadership.

In Canada, neither Mr. Trudeau nor any provincial leader publicly doubted the seriousness of the threat and challenges that the pandemic posed, or the need to aggressively mobilize to contain it (Detsky

& Bogoch, 2020). Canadian political and public health leadership was effective in engaging public adherence to preventive measures (Detsky & Bogoch, 2020). The lack of U.S. national pandemic control leadership, and the crucial time lost as the virus was transmitted geometrically across the nation, crippled the critical first year U.S. pandemic response, and enabled the virus to spread widely within the American population. It contributed directly to the fact that absolute and per capita preventable COVID-19 mortality in the U.S. was among the highest in the world. In contrast to Mr. Trump, Prime Minister Trudeau and provincial leaders seized the mandatory governmental leadership role in deploying all of the scientific and public health resources and capabilities of Canadian government to combat the pandemic. Understanding the powerful symbolism and educational value of his role as a national leader, unlike Mr. Trump, Prime Minister Trudeau modeled personal infection preventive measures.

Science Denial and Denigration

From early in the pandemic, while Prime Minister Trudeau and Canada's provincial leaders embraced, invested in and supported Canada's public health science leadership and professionals, Mr. Trump downplayed evidence indicating the actual/potential severity of the pandemic, consistently denied evidence-based scientific realities around viral transmission, minimized the individual risk and potential severity of infection, and ignored his own pandemic response leadership team. This was a profound and unprecedented breach of public health ethics by Mr. Trump, particularly given his admission of advance knowledge of the potential destruction of the pandemic (Woodward, 2020).

Compared to the U.S., there is considerably less public distrust of science and medical science authorities in Canada (Detsky & Bogoch, 2020). Mr. Trudeau and Canadian provincial leaders strongly supported scientific, evidence-based pandemic control policies and practices, such as masking and social distancing, which Mr. Trump dismissed, ignored or denigrated. Mr. Trump's personal efforts to deny, delegitimize and dismiss medical science and COVID-19 preventive measures influenced large segments of U.S. society. Across socioeconomic strata, individuals in Mr. Trump's political base absorbed and echoed his denial/delegitimization of science and his stigmatization of COVID-19 personal preventive measures. In a remarkable display of disinformation, measures to prevent disease spread were characterized as governmental abuses of power and coercion to deprive U.S. citizens of their civil and legal rights. This great public disservice continues to enable higher community transmission of the virus in Trump aligned jurisdictions despite vaccine availability.

Even after departing the presidency, the cumulative toxic impact of Mr. Trump's anti-science views and anti-government rhetoric is evidenced in lower vaccination rates among his followers in Republican-leaning states, where vaccination efforts are viewed as government forcibly coercing universal vaccination, despite no such policy articulation by any U.S. public health jurisdiction. A nationwide survey showed stark differences between Republicans and Democrats in vaccine uptake: 86% of Democrats have received one dose of vaccine versus only 45% of Republicans (Balz & Guskin, 2021). While only 6% of Democrats stated they are unlikely to get vaccinated, 47% of Republicans did (and 38% state they will definitely not ever) (Balz and Guskin, 2021). At a recent Republican political conference, Mr. Trump took credit for decades of vaccine research and development, claiming to have saved 100 million lives, but made no call for people to get vaccinated (Collinson, 2021). This breach of public health ethics by Mr. Trump and Republican leaders could have a devastating lethal impact if more infectious variants such as Delta become dominant in the U.S. and as low vaccination rates enable deadly surges in Republican states in the coming winter.

MOVING FORWARD: RESISTING PANDEMIC NATIONALISM AND ISOLATIONISM

A massive global effort is needed to supply vaccines, personal protective equipment, treatments and technology to low- and middle-income nations where high incidence of viral infection can serve as a breeding ground for SARS-CoV-2 variants (Trevisani, 2021). While this moral imperative is driven by

public health ethics and humanitarian need, it is clearly also a matter of every nation's public health security and self-interest given global health interdependence (Gellert, 2020). Pandemics by their nature demand shared, collective public health security.

At present, 50.6% of the global population has received one dose of COVID-19 vaccine, but only 3.5% of the population of low-income nations and only 8.5% of Africa's population have been vaccinated (Our World in Data, 2021; Holder, 2021). Over 5-6 billion people remain at risk and are potential viral hosts for the evolution of new variants. Currently approximately 24 million individuals are vaccinated daily (Our World in Data, 2021), thus we are months and likely years away from achieving global herd immunity under ideal conditions, without considering impediments to reaching the most underserved and rural communities.

A multinational effort is needed to interrupt global viral transmission on a sustained basis through vaccination. The alternative is that all nations, including affluent nations that are progressing toward vaccine-induced herd immunity like the U.S., will play SARS-CoV-2 variant Russian roulette, where each new variant of the virus can potentially erode or evade current vaccines' efficacy, much as the Delta variant has done with respect to (thankfully mostly mild) breakthrough infections of fully vaccinated individuals. There is no a priori way to assess the risk of a future variant reducing the continuing efficacy thus far of the vaccines to prevent severe disease requiring hospitalization or causing death.

Failure to engage an aggressive program to reduce SARS-CoV-2 transmission around the globe will portend a catastrophic failure of public health ethics as well as public health efficacy. Nations achieving a respite from the pandemic due to effective national immunization must avoid public health nationalism and isolationism, and must eschew complacency about a virus that is continually evolving and successfully exploiting human behavioral, social, economic, political and inequity vulnerabilities to propagate itself at the expense of the human species.

LEARNING FROM AN HISTORIC FAILURE IN PRESIDENTIAL ETHICS

Comparative analysis of the relative success of first year pandemic control efforts in China, Canada and the U.S. illustrates the complexity of factors influencing national public health outcomes even within liberal democracies, which unlike China, face the challenge of balancing personal civil liberties and rights against restrictive disease control measures imposed. In the U.S., a convergence of complex political, socioeconomic, inequity and cultural influences created a perfect storm of rapid viral spread, with the U.S. first year pandemic performance and total deaths among the worse on the planet. However, the second year of U.S. national pandemic response illustrates the remarkable recovery power of effective national political leadership to drive success in pandemic control, with the U.S. vaccinating its large population at a rate among the highest in the world.

In coming years, estimates will be generated of how many of the 529,000 first year pandemic deaths from COVID-19 in the U.S. could have been prevented, had Mr. Trump not abandoned his ethical responsibilities to deploy, rather than undermine, American public health and medical science in the national disease control effort. Past presidents were also criticized for slow or indifferent reactions to prior pandemics. By the time Ronald Reagan addressed the HIV/AIDS pandemic in 1987, 283,000 Americans had died from the infection (Gibson, 2015). Over 700,000 have now died from HIV/AIDS in our nation, but as the U.S. climbs toward 800,000 deaths from COVID-19, the magnitude of Mr. Trump's public health negligence and malfeasance becomes clear in considering that while the American HIV/AIDS death toll occurred over 40 years, it has taken COVID-19 less than three years to exceed the number of AIDS deaths.

The mismanagement of the first year COVID-19 pandemic response in the U.S. was a massive governmental and public policy failure as measured by the American death toll, far exceeding what many regard as the greatest failure in presidential leadership of the last century: the nation's 21-year insertion

into the Vietnamese civil war from 1954 to 1975. Even if only 20% of the 529,000 American deaths from COVID-19 in the first year of the pandemic could have been prevented by better presidential and Congressional engagement and leadership, this would still be almost twice the total of American deaths resulting from the entire Vietnam conflict. This unprecedented failure in first year national pandemic leadership was rooted in an abdication of health ethics that are foundational to modern public health practice.

Historians may ponder the irony that if Mr. Trump had not denied that the pandemic was real or a serious threat, had not claimed it would just disappear spontaneously, had instead engaged his presidential pandemic leadership responsibility and utilized, rather than denied the importance and value of public health and medical science, he might have won his 2020 re-election campaign. These retrospective historical analyses should become mandatory reading for all elected leaders who may be called upon to respond to the next emerging pandemic pathogen. Mr. Trump was defeated by SARS-CoV-2 more than by any other factor, but at an immense cost of American life and avoidable suffering.

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