HOMELAND SECURITY POLICY PAPER #7

Lessons Learned: Why the United States Needs a Counter-Pandemic Border Strategy

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Executive Summary

Although the COVID-19 pandemic is far from over, one thing is already clear: most nations, including the United States, have struggled to effectively contain the spread of this deadly new virus. Countries have adopted a wide range of unilateral measures to counter the pandemic with highly varying degrees of success; some have nearly contained the virus and have reduced the mortality rate, while others have continued to experience mounting loss of life and severe economic damage. The reasons for these varied outcomes are complex and include factors that cannot be controlled by governments battling the pandemic (e.g. the size and heterogeneity of the country) but other factors are squarely within a government's power to control.

One striking difference between several of the governments that have been most successful against COVID-19 and those that have not is the effective use of border screening to slow down and contain the spread of the virus. Countries that implemented border screening measures up front, including New Zealand and Japan, have seen dramatically lower COVID-19 death rates[1] and less immediate damage to their economies. While life in these countries has resumed some semblance of normalcy eight months into the pandemic, the United States continues to face staggering human and economic costs, including an unemployment rate more than twice what it was before the pandemic,‡ an ongoing recession, and, at the time of writing, 200,000 Americans who have lost their lives.

Although no nation has developed a truly comprehensive border strategy for countering a global pandemic, the results from countries that acted swiftly in this regard are promising, and what we know about the spread of COVID-19 supports the idea that early mitigation at the border is critical. As seen in New Zealand, border screening of all arrivals coupled with aggressive contact tracing can prove highly effective when implemented in the early stages of a pandemic, before large-scale community spread occurs, and the United States should be prepared to take similar steps.

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‡   According to the Congressional Budget Office, the U.S. unemployment rate skyrocketed from just 3.5 percent in February 2020 to 14.7 percent in April 2020. Although the unemployment rate fell to just above 10 percent by August 2020, this remained on par with the worst months of the Great Recession.

While the window for mounting a defense against COVID-19 at the U.S. border closed months ago, global pandemics are inevitable in our increasingly interconnected world, and scientists who study infectious diseases and disaster planning have warned about such events for years. Despite such warnings, the U.S. government and many others were not prepared to respond to the threat presented by COVID-19, and it is critical that policymakers learn quickly and act decisively—including through the development and deployment of mitigation measures at our border *before* the next pandemic hits.

Because there is an important role for improved, robust border screening against pandemics, we propose a Counter-Pandemic Border Strategy (CPBS) that draws on successful strategies put in place at foreign and U.S. ports of entry in the wake of 9/11, the last time the U.S. government reacted to a truly devastating threat at its borders. Although no single measure can eliminate threats such as terrorism or a pandemic, there are many countermeasures that can be taken, and given what is at stake, there is every reason to put the eight core elements of the CPBS in place. Based on the behavior of COVID-19, as well as new viral threats that are most likely to generate future pandemics, a robust border strategy can play a key role in "flattening the curve": reducing both lives lost and damage to the U.S. and global economies. Once the United States adopts the CPBS, it should be internationalized through a multinational "SAFE Framework to Counter Pandemics."

Background

Lessons from Los Angeles

On March 8, 2020, Asiana Airlines Flight No. 202 touched down at Los Angeles International Airport (LAX) with 154 passengers aboard. One of the passengers—we will call her Ms. X—had been running a fever several days before she boarded in Seoul, South Korea, and by the time she landed at LAX her condition had deteriorated even further.[2]

Although Ms. X had to clear U.S. Customs and Border Protection (CBP) checks in Seoul prior to boarding, the CBP officers (CBPOs) there had no role in checking the health of outbound passengers; their primary focus was on potential terrorists and whether a passenger had a proper visa or was otherwise legally entitled to enter the United States. When she passed through the CBP-run Federal Inspection Area at LAX ten hours later, it appears that once again no U.S. officials screened her for health concerns. While the U.S. Centers for Disease Control and Prevention (CDC) recognized SARS-CoV-2 as a serious threat in January 2020 and the World Health Organization (WHO) officially declared a global pandemic on March 12, 2020, just four days after Ms. X's flight, she was not asked questions about her risk for carrying the deadly new virus, and no one took her temperature, observed whether she displayed associated symptoms, or considered her for testing or quarantine once she landed in the United States. Critically, it also appears that no one gave Ms. X or her fellow passengers on the Asiana flight instructions regarding how to contact the CDC if they later developed a fever, cough, or other known symptoms so they could be tested and contact tracing could be performed.

After arriving at LAX, Ms. X went to stay at a relative's house in the Los Angeles area. She entered cardiac arrest the morning after she landed and died on March 10th, the first confirmed COVID-19 death in Los Angeles County. Even then, no one alerted the CDC so that contact tracing could be done, including contacting the passengers seated in proximity to Mrs. X on the 10-hour flight from Seoul. Although passenger seating charts are provided by airlines to CBP's National Targeting Center

(NTC),[§] CBP was not contacted nor was it even in the loop. As a result, passengers who had been seated in the vicinity of Ms. X during the flight were not notified of their risk of exposure. When another passenger died of COVID-19 three weeks later, his family only made the connection when they read about Ms. X's story in the news. "It was a mystery where he got it," the man's daughter told the *Los Angeles Times*. "If we were informed . . . maybe we could have done something differently."[3]

Too Little, Too Late

Although we write with the benefit of hindsight, and with much more knowledge now of how the COVID-19 virus behaves and how it spreads, it is clear that many opportunities were missed in the case of Ms. X—and likely thousands of other passengers arriving at U.S. international airports during the first few months of the pandemic. As time is of the essence during a biological event, and even mere days can have a huge impact on trajectory, it is vital that U.S. policymakers evaluate these gaps in border processing and implement a strategy that can help close them before the next pandemic becomes a reality. Such a strategy would help avoid more draconian measures that have disrupted lives and wreaked havoc on the economy—such as stay at home orders, the closure of non-essential businesses, and outright bans on cross-border travel—or at the very least make these options of last, not first, resort and more limited duration.

When Flight 202 touched down at LAX, U.S. officials had been aware of the COVID-19 virus for two months. In December 2019, Chinese officials noted a severe pneumonia-like illness spreading in the city of Wuhan in China's Hubei province, and by the end of December, word of the new virus had already begun to spread in the international community. Senior U.S. officials were made aware of the virus during the first week of the new year; Robert Redfield, the head of the CDC, informed Secretary of Health and Human Services Alex Azar of the emerging threat on January 3, 2020.[4]

In the wake of this news, the CDC proceeded to form an Incident Management Structure to address the outbreak on January 7th,[5] began screening[¶] most passengers arriving from Wuhan on January 17th,[6] and implemented a ban on foreign travelers arriving from China, which went into effect on February 2nd. It did not and could not, however, apply the travel ban to U.S. citizens or lawful permanent residents (LPRs) who had traveled to Wuhan. The CDC also deployed approximately 100 personnel to LAX, JFK, and SFO, the three airports that receive the most traffic from Wuhan, though the number was hardly sufficient to screen the huge numbers of arriving passengers, including around 40,000 U.S. citizens and LPRs returning from China in February and March 2020.[7]

Additionally, as CBP began funneling international passengers to a somewhat smaller number of U.S. airports, the U.S. Department of Homeland Security (DHS) Chief Medical Officer began working with the CDC and the U.S. Department of Transportation to improve contact tracing for arriving passengers later determined to have COVID-19. CBP also exercised its formidable Title 42 authority to prohibit the entry of persons in the interest of public health; however, the use of Title

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§   U.S. law requires that airlines operating flights to, from, or through the United States provide the Department of Homeland Security (DHS)/CBP with certain passenger reservation information, called Passenger Name Record (PNR) data, primarily for purposes of preventing, detecting, investigating, and prosecuting terrorist offenses and related crimes and certain other crimes that are transnational in nature. This includes seating information. U.S. Customs and Border Protection, *U.S. Customs and Border Protection Passenger Name Record (PNR) Privacy Policy*, June 21, 2013.

¶   CBP's "enhanced screening" includes asking passengers about their medical history, current condition, and contact information for local health authorities, as well as giving passengers information about COVID-19.

42 would remain focused almost exclusively on the land borders with Mexico and Canada,[8] a far less significant source of COVID-19 viral spread than international flights arriving from emerging hotspots in Asia and Europe.**

A Shifting Target

Throughout the spring and early summer of 2020, U.S. officials continued to take incremental steps to stem the tide of the pandemic, including increased interagency cooperation, more screening and contact tracing, and a series of travel bans targeting a growing list of "high-risk" countries. However, as policymakers would later learn, they had been dealing with a much shorter temporal window to stop the virus than initially realized, as well as a much greater number of source countries and positive cases. Though it would not become known for some time, the first travelers with COVID-19 had already landed in the United States by January 2020,[9] and soon it would be travelers arriving from Europe—not China—who would drive the spread of the virus in new U.S. epicenters such as New York City.

It is now clear that there was never a Patient Zero in the United States. Instead, there were many such patients. Between the first confirmed positive cases in January 2020 and Ms. X's arrival in March, it is likely that thousands of COVID-19 positive travelers landed at U.S. airports from abroad, and that subsequent travel bans that focused on evolving hot spots in Iran, Italy, Britain and Ireland, and finally the entire European Union, went into effect well after much of the damage had already been done.[10] Additionally, U.S. citizens and LPRs returning from abroad, including cruise ship passengers with probable exposure to the virus, were repatriated through international airports and subsequently allowed to enter the United States without adequate testing, quarantine, or contact tracing measures.

As the CDC noted in a report on May 1, 2020, "Continued introductions of SARS-CoV-2 from outside the United States contributed to the initiation and acceleration of domestic COVID-19 cases in March. After . . . U.S. restrictions on non-U.S. travelers from China were issued on January 31st (effective February 2nd), air passenger journeys from China decreased. However, during February, 139,305 travelers arrived from Italy and 1.74 million from all Schengen countries, where the outbreak was spreading widely and rapidly."[11] The CDC's report also noted that examination of COVID-19 strains collected from northern California as well as the New York metropolitan area indicated multiple introductions resulting from international travel from multiple countries. By this time, however, community transmission of COVID-19 had already become widespread across multiple U.S. states, and many state governments implemented stay-at-home orders and ordered all but essential businesses closed.[12] Other countries around the world also began to implement their own travel bans, this time to prevent the entry of travelers from the United States.[13]

Analysis

Global pandemics[††] are an urgent matter of border security—perhaps the most critical of our time. However, when it comes to pandemics and border management, there is a dearth of policy thinking. While a few nations were early adopters of border controls, and this has helped curb the spread of COVID-19, it appears that no nation has created a truly comprehensive strategy for the use of border screening to counter pandemics and most such efforts have been incremental.

** The vast majority of those expelled under Title 42 have been undocumented migrants at the Southwest Border, most of whom originate from Central America and Mexico.

†† Every pandemic since World War II, from the 1957 Asian Flu to the 2009 H1N1 pandemic, has originated outside the United States.

Among those that adopted strict border controls early on, however, case numbers and mortality rates have been notably low. Early adopters of border controls such as New Zealand, as well as several Asian countries in proximity to the initial outbreak in China, including Japan[14] and Thailand,[15] quickly implemented measures including restricting entry, mandatory quarantine for arrivals, and screening and testing at the border. These measures were generally deployed alongside contract tracing in order to contain the spread of the virus, and were

Country	Covid-19 Cases (per 100K)	Covid-19 Deaths (per 100K)
USA	2033.40	60.21
Japan	61.37	1.18
New Zealand	36.79	0.51
Thailand	5.02	0.08

Source: Johns Hopkins Coronavirus Resource Center, The World Bank, and authors' analysis (September 18, 2020).

rolled out much more decisively than the patchwork of measures taken by many other countries as the pandemic progressed. New Zealand, which deployed some of the strictest border controls in the world alongside social distancing and a mere four-week shutdown of non-essential businesses—and credits border control measures for much of its success—managed to virtually eliminate COVID-19 by June 2020.[16]

While we are not arguing for complete travel bans and lengthy quarantines for all arrivals, at least not as a first step, the border control measures taken by the United States were largely implemented on an *ad hoc* basis, were under-resourced, and unfortunately left most of CBP's extensive resources and authorities at the ports of entry untapped—something we cannot afford in the future. The stakes are enormous, and if we are to avoid the horrendous consequences of a COVID-19 redux, it is imperative that we create and implement a robust counter-pandemic strategy in the form of the CPBS well before the next pandemic strikes—one that can slow the spread of disease and blunt its impact on people and the economy.

Recommendations

The United States is fully capable of implementing the below recommendations with a reasonable outlay of resources, though it will require political will, alignment of missions, and increased interagency coordination of a type not seen since the period after the 9/11 terrorist attacks, along with additional funding from Congress. However, the cost of implementing the CPBS pales in comparison to the enormous cost of a pandemic and the harsh measures employed to counter it, including the damage to the U.S. and world economies and the expenditure of government resources needed to suppress the virus—to say nothing of the human toll far greater than any terrorist attack to date.

The CPBS is not designed to reduce spread of novel viruses to zero, for that would be an impossible goal. Instead, it represents a layered approach across the entire travel continuum that can be scaled up or down to respond to a new pandemic, including an entirely new virus with unknown or evolving characteristics. If the CPBS is activated early on, there is every reason to believe that it can suppress the curve, and the more rapidly and extensively it is adopted the better. The following are core elements of the Counter-Pandemic Border Strategy (CPBS):

Recommendation 1: The U.S. government must make countering pandemics at the border a priority.

CBP is the single, unified agency that is responsible for managing and securing U.S. borders, including all the nation's ports of entry. In order to have an effective CPBS, CBP must be given and must embrace a new priority mission: When a pandemic is declared or such a threat appears reasonably imminent, CBP's priority must be nothing less than preventing people infected

with the virus from entering the United States. Following 9/11, CBP made the prevention of terrorists boarding airplanes to the United States a priority mission. Similarly, preventing a passenger with a pandemic virus from boarding an aircraft to the United States or entering the country without additional safety measures must become a CBP priority mission when the CDC issues a pandemic alert.

This means that CBP must unambiguously act, and be recognized as, the executive agent for the CDC at the border or any foreign airports where CBP personnel are stationed and travelers are beginning their journey to the United States. This is not a new role for CBP, as pursuant to the one agency at the border mandate of the Homeland Security reorganization, CBP acts as the executive agent for 44 different U.S. agencies and departments, administering and enforcing over 400 laws on their behalf.

Although CBP is the border agency for the United States and has over 21,000 CBPOs at our nation's ports of entry, it currently has not been charged with this critical border mission during a pandemic. Because pandemics are episodic, CDC is unlikely to ever have the number of personnel at ports of entry to perform this initial health screening process when they are needed, but a partnership between CBP and the CDC would serve as a huge force multiplier.

Recommendation 2: The U.S. government must establish clear lines of effort as it relates to the CPBS.

As policymakers review lessons learned from COVID-19, it is clear that the CPBS must be in place *before* it is needed so it can be flipped on as soon as a pandemic alert is declared by the CDC, rather than rolled out on the fly as a pandemic unfolds. In order to do this, agency roles and interactions must be clearly delineated, and the chain of command that kicks in when the CDC declares a pandemic must be determined in advance.

Unlike hurricanes and other natural disasters, which are usually handled primarily by impacted state governments, pandemics require a nationally coordinated response. A key part of this response under the CPBS is implementing necessary operational activity by federal agencies, principally CBP and the CDC, without delay, as well as coordination by, and impetus from, the National Security Council apparatus. At the federal level, in addition to coordinating any operational activities needed by CBP in support of the CDC, it also requires engaging state government authorities, and marshalling virus testing, quarantine capacity, and contact tracing on a national level, pursuant to federal mandates.

Recommendation 3: DHS must create a cadre of CBP Health (Counter-Pandemic) Specialists.

Of the approximately 21,000 CBPOs assigned to our nation's ports of entry, about 2,000 to 3,000 should receive special training and certification in basic health and communicable diseases, disease detection, and counter-pandemic issues. Roughly comparable in size to CBP's Agriculture Specialists, who screen arriving passengers, luggage, and cargo for diseases that are potentially injurious to agriculture and the environment, this cadre of Health Specialists would perform the usual duties of a CBPO in ordinary times, but once a pandemic alert is issued, their principal duties would be switched to countering pandemics at the borders. Because they would already be in place at all U.S. international airports, and would significantly outnumber the small number of personnel CDC is able to deploy to the airports, they would serve as an extremely valuable force multiplier on the front lines of an emerging pandemic.

The training of CBPO Health Specialists should be sufficient to question, observe, and determine whether referral for testing or quarantine of passengers arriving in the United States is appropriate. It should also include counter-pandemic health screening for passengers embarking for the United States from abroad, similar in concept to the special training given to CBPOs regarding Counter-Terrorism (CTR) questioning after 9/11. Although these certified CBPOs would report to the CBP Port Director who oversees each port, the CBPO Health Specialists would work under the general authority of a CDC Officer assigned to the ports of entry to advise the Port Director. This arrangement would be similar to the existing partnership between CBP and the Department of Agriculture, where CBP Agriculture Specialists report to the CBP Port Director but work under the guidance of the Department of Agriculture.

Recommendation 4: CBP should screen passengers during the Pre-Board Phase.

The CPBS contemplates layers of defense that start abroad, prior to boarding an aircraft bound for the United States. As discussed earlier, CBP currently has CBPOs stationed abroad at every major foreign airport as part of its Immigration Advisory Program (IAP), a key component of the agency's "layered security strategy," where they work in cooperation with host nation authorities. As part of CPBS, a significant percentage of the CBPOs assigned to overseas IAP teams would also be certified Health Specialists who could be activated following a pandemic alert.

Under the IAP, CBP screens a large percentage of passengers en route to the United States and receives quite a bit of information; even those traveling under the Visa Waiver Program submit certain information to the airlines, who are then required to provide it to CBP. This data is currently analyzed by CBP's NTC, which conducts risk assessment for both potential terrorist issues and eligibility to enter the United States. If a person does not have an appropriate visa or authorization or they pose a potential terrorist threat, they are *no boarded*, i.e. the airline is told that they cannot fly to the United States. U.S. citizens are also required to present a valid passport, and CBP receives information about their travels, as well. While CBP has authority to revoke or condition visas of foreign nationals seeking to travel to the United States, it would need additional authority to delay travel of U.S. citizens likely to be infected with a pandemic virus.

Building on these post-9/11 innovations, pre-board would constitute a first line of defense and the following would be required once a pandemic alert is declared:

a. Passengers booking travel on international air carriers would be required to provide additional information to the airline and CBP before being allowed to board, to include whether they originated from or have traveled to a virus "hot spot."‡‡ The hot spot list could be scaled up at CBP's discretion to keep pace with an evolving threat, and because it would be implemented as part of CBP's risk assessment procedures, it would not need to wait on a decision from political leadership on whether a country warrants an "official" travel ban or a WHO declaration that a pandemic has begun. This is critical, as COVID-19 had already spread widely in many countries by the time the WHO declared it a pandemic on March 12, 2020.

b. Persons who originate from or have traveled to a hot spot would not necessarily be denied travel but would be subject to additional risk assessment and screening. Although all viruses behave differently, in the case of a virus like COVID-19,

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‡‡ This is similar to the current reporting requirements that require a traveler to declare whether he or she has been on a farm or a place with livestock while traveling abroad to prevent the spread of hoof & mouth disease to U.S. livestock, but it would also be required information *prior* to boarding.

passengers could be allowed to proceed provided they are without symptoms or can present a certificate of good health, proof of quarantine, or depending on testing availability, proof of a recent negative test.

c. Working with host nation counterparts, CBP IAP officers, trained as Certified Health Specialists under Recommendation 3, would be allowed to "no board" any traveler displaying symptoms of the novel virus, or those who had traveled through a hot spot, until they could produce a health certificate, proof of quarantine, or negative testing.

d. CBP's NTC would develop rules and rule sets to identify passengers who book travel to the United States who originate from or have traveled to hot spots, as well as those who have travel patterns and other risk factors warranting personal interaction by CBP IAP officers or host nation personnel before being allowed to board. Where this interaction has not been possible prior to departure, it would be mandatory for such passengers on arrival at a U.S. international airport. This enhanced risk-based targeting would be similar to CBP's targeting for other threats, from terrorism, to agricultural violations, to currency and drug smuggling.

Recommendation 5: The U.S. government should use the In-Flight Phase to enlist air carriers in the screening and contact tracing process.

Although they are generally commercial entities, air carriers spend more time in close proximity to passengers than any government official, and they often play a role in reporting potential security concerns. In the case of a pandemic, international air carriers would be required to:

a. Report to CBP any passenger showing pandemic virus symptoms for required primary screening on arrival.

b. Provide written information to all passengers regarding symptoms, as well as who to notify if they develop symptoms after arrival for purposes of contact tracing and where they can get tested.

c. Notify passengers of the requirement to present themselves for primary counter-pandemic screening by CBP if they have symptoms associated with the novel virus.

The airlines have a strong interest in assuring the health and safety of their passengers, and they have supported programs such as Global Entry and the Electronic System for Travel Authorization (ESTA) as a result. They also have a strong interest in the government being able to adopt measures that do not require a total ban on travel but which permit international air travel to continue, although with additional safeguards. The dual principles of securing international travel while facilitating a safer version of it undergirded CBP's post 9/11 counter-terrorism initiatives and provide a precedent for new pandemic-related efforts.

Recommendation 6: CBP should screen all passengers for key indicators of illness upon arrival in the United States.

This is an essential "front line" defense in the fight against a pandemic, and although it will require reallocation of existing resources as well as dedication of some new ones, it represents a singular opportunity to slow the spread of a pandemic virus. With this in mind, CBP should implement the following measures for arriving passengers:

a.   As applicable to the particular disease, 100 percent of passengers should be screened for temperature on arrival.

b.   CBPOs at primary checkpoints where passengers present for inspection should screen for the presence of additional symptoms, and roving officers throughout pre-primary should also observe passengers. Such observation is already used to screen for a range of other threats, including terrorism and agricultural violations, and it could be implemented with a reasonable amount of additional training.

c.   All passengers who are running a temperature, display symptoms of the virus, have traveled in a pandemic hot spot, who are reported by the airline as displaying symptoms, are identified by the NTC as at high risk, or who self-report to CBP should receive a counter-pandemic primary screening by a CBPO trained and certified as a Health Specialist as described in Recommendation 3.

d.   Those passengers determined to be potentially infected with the pandemic virus should be referred to secondary screening for further evaluation and quarantined pending testing for the virus or the passage of an appropriate amount of time without symptoms (which would vary depending on the virus in question).

e.   International flights from areas likely to carry passengers with travel through hot spots should be funneled to two or three U.S. airports designated to receive such flights and equipped to evaluate and quarantine passengers as necessary. Although the United States used some funneling to address flights arriving from China, and ultimately routed most international traffic to 15 airports, this number should be significantly reduced in order to better focus resources and expertise.

f.   Testing labs should be co-located at the designated U.S. international airports§§ so that testing can be done rapidly and those testing negative can be released without a protracted delay or quarantine.¶¶

g.   Those passengers testing positive for the virus would be required to quarantine for the appropriate time period (in the case of COVID-19 up to two weeks). This would also be the case for a virus where testing was not readily available.

h.   Although some countries (and individual U.S. states) have required arriving passengers to quarantine at their own expense and methods for enforcing this have varied widely, the U.S. government should take necessary measures at the federal level to ensure that orders to quarantine are obeyed. Like New Zealand, CBP should consider securing airport

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§§   Thailand has installed a testing lab at Bangkok International Airport, and arriving passengers wishing to avoid quarantine can be swabbed and tested on the spot. After a brief delay in a customs holding area, those testing negative are cleared to leave the airport and enter Thailand.

¶¶   Delays in testing for COVID-19 are not the product of the tests themselves, which could be done in a matter of hours as early as March 2020. The delays in domestic testing have resulted from large backlogs at FDA-approved labs where those seeking a test are swabbed and must then wait up to a week for results. This would be eliminated by funneling all passengers from hot spots into a few airports which have testing labs co-located with CBP in the Federal Inspection Area.

hotels and other facilities in advance to house all passengers requiring quarantine upon arrival at an international airport, and it should also have authority to impose fines for non-compliance.

i. Upon arrival, CBP should reaffirm instructions given by the airlines during flight and offer an additional copy of simple written instructions for passengers who later develop symptoms of the virus, so that they can arrange to be tested and contact tracing can be implemented promptly. This would not be new, as the U.S. Customs Service has previously provided "tear sheets" to arriving passengers at primary inspection that advised them of what symptoms to look for in the face of other disease outbreaks, along with what to do if they developed symptoms, per the CDC's request.

Recommendation 7: Conduct prompt post-arrival contact tracing.

Although the foregoing protocols will identify and screen out many contagious passengers, it is recognized that some passengers will be pre- or asymptomatic prior to boarding, in flight and on arrival. Some of the biggest challenges surrounding COVID-19 detection concern asymptomatic and pre-symptomatic transmission and such a liability could well exist in the case of future pandemics. Therefore, it is also important to have a post-arrival contact tracing strategy in place to further reduce risk. This will require a robust federal, state, and local program, led by the CDC, that acquires information on arrivals who become symptomatic or later test positive in order to trace their contacts and take appropriate actions, including testing, and if necessary, quarantine. CBP and its NTC should act as the repository for the seating charts for all flights arriving in the United States from abroad, and as the single stop repository, they can provide a national coordinating function which includes names, addresses, and phone numbers of passengers at risk of exposure during a flight. This critical information can then be provided to the CDC, as well as state and local health agencies, in order to perform contact tracing and other relevant follow-up.

Recommendation 8: Expand the CPBS Globally via a SAFE Framework for Pandemics.

It is not enough for the United States alone to adopt the core elements of the CPBS. To be optimally effective, CPBS concepts should be adopted by many nations with reciprocal obligations to protect each other, and thereby the entire global community and economy. It will be important for the United States to help organize the international community to make this happen, but its leadership will only be credible if it has implemented the CPBS itself.

In the aftermath of 9/11, which caused the airline and travel industries to nose-dive much as they have done during the COVID-19 pandemic, there was a collaborative multinational effort to use technology and smart border programs to facilitate the movement of legitimate travelers and trade. It has worked. International organizations, such as the World Customs Organization (WCO) and the International Civil Aviation Organization (ICAO), were instrumental in promoting a more unified multilateral approach that advanced "connected solutions" through sharing of data, mirror-imaged regulations, common standards for screening passengers and cargo, and identifying the small percentage of inbound cross-border travelers who actually pose a risk. The agreements put in place during this time, such as the WCO's SAFE Framework, helped ensure that legitimate cross-border trade and travel could continue despite the changed threat landscape in the 9/11 world—and with the right leadership, similar cooperation is possible when it comes to curtailing pandemics.

It is beyond question that both individual governments and international institutions were woefully unprepared for the current pandemic. And the response, for the most part, has been for each country to unilaterally go its own way, notwithstanding that COVID-19 has impacted one nation after another like so many falling dominos. There is a better way, but it requires governments to act in a coordinated fashion and implement best "counter-pandemic" border practices, including the elements of the CPBS outlined above. Being prepared and having the ability to act cooperatively among nations to quickly identify the relatively small percentage of infected and symptomatic travelers, both inbound and outbound, could well obviate the need for the type of extreme border and domestic shutdowns that have struck a crushing blow to the U.S. and world economies. The United States has a strong interest in implementing the comprehensive strategy outlined here, and once it has done so, it will be in a position to lead other nations to adopt the CPBS model through multi-national reciprocal agreements under a SAFE Framework for countering pandemics.

Endnotes

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