

## COVID-19, the Ubiquitous National Security Threat: Lessons Learned Around the Globe

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Today is October 1, 2020. In this moment, over 34 million bodies—that we know of—have hosted a deadly virus and more than one million of those bodies have succumbed to the strain of their unwelcome, malignant guest.<sup>2</sup> Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)—genetically related to, yet different from the coronavirus responsible for the 2003 SARS outbreak—is the virus that causes coronavirus disease 2019 (COVID-19).<sup>3</sup> The virus first materialized in Wuhan, Hubei province, China as early as November 17, 2019,<sup>4</sup> and quickly escalated from a small cluster of cases of what appeared to be pneumonia to a global pandemic by March 11, 2020.<sup>5</sup>

COVID-19 suddenly brought nations around the world to their knees, leaving some world leaders scrambling to respond and others launching existing national strategies. Global pandemics are unlike any other national security concern in that pandemics present a threat to everyone, requiring decision-making and strategizing at all levels of government. As the anniversary of the disease’s first reported case nears, statistics tell a story of victory for some and great tragedy for others. Through extensive examination of the various responses around the globe to COVID-19, a contagious virus that rapidly spreads from person to person, there appears to be only three governmental approaches that effectively combat the pandemic—a cyber-intrusive approach, a liberty-intrusive approach, or some combination of the two. The most practical of the three options depends wholly upon the nation’s societal culture. Those that chose to implement neither approach—or any approach for that matter—in the name of “herd immunity” or for other reasons have felt the grave ramifications of such decisions and have been backpedaling ever since.

In this article, I examine the timelines of countries that exemplified one of the above listed approaches. The cyber-intrusive approach has been embodied by Taiwan and South Korea, while the liberty-intrusive approach has been typified by New Zealand and Germany, with a combination of the two approaches illustrated by Saudi Arabia. Additionally, there has been the presence of a fourth notable yet ineffective approach that some have labeled the “herd immunity” approach which was embraced by the United Kingdom and Sweden.

### CYBER-INTRUSIVE APPROACH

A “Cyber-Intrusive Approach” is simply a term I coined to describe COVID-19 responses that involve a government using cyber technology to “intrude” on its citizens’ digital privacy. The intrusion of digital privacy

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<sup>2</sup> WORLDOMETER, <https://www.worldometers.info/coronavirus/> (last visited Dec. 20, 2020).

<sup>3</sup> Naming the Coronavirus Disease (COVID-19) and the Virus that Causes it, *Coronavirus Disease (COVID-19), Technical Guidance*, WORLD HEALTH ORGANIZATION (Feb. 11, 2020), [https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-that-causes-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it).

<sup>4</sup> Josephine Ma, *Coronavirus: China’s first confirmed Covid-19 case traced back to November 17*, SOUTH CHINA MORNING POST (Mar. 13, 2020, 9:00 AM), <https://www.scmp.com/news/china/society/article/3074991/coronavirus-chinas-first-confirmed-covid-19-case-traced-back>.

<sup>5</sup> Archived: WHO Timeline – COVID-19, *News*, WORLD HEALTH ORGANIZATION (Apr. 27, 2020), <https://www.who.int/news/item/27-04-2020-who-timeline—covid-19>.

can come in many forms such as, cellular location tracking, government access to digitized medical records and travel history, and mandated use of data-sharing mobile applications. These approaches are notable due to the fact that they have allowed countries to navigate this pandemic without ever imposing lockdowns on its citizens, however, these approaches can only truly be accomplished in countries that lack significant concerns over data privacy. This approach has proven to be very effective as evidenced by the results seen in Taiwan and South Korea.

## TAIWAN

The island nation, Taiwan, is situated less than 100 miles from China and with more than one million Taiwanese citizens working and commuting between Taiwan and China, the nation was at an extremely high risk of exposure to COVID-19.<sup>6</sup> Nonetheless, it managed to avoid disaster when COVID-19 struck the island. Taiwan's success in combatting COVID-19 can be attributed to various factors such as the nation's culture and more importantly, its systematic use of its digital health infrastructure. What makes the nation's success even more noteworthy is the fact that Taiwan is one of two countries in the world that is not a member of the World Health Organization (WHO).<sup>7</sup>

In the early months of 2003, Taiwan was faced with an outbreak of SARS which carried a fatality rate of 21.1%.<sup>8</sup> This outbreak originated in China and has greatly contributed to the generation of a culture in Taiwan that takes China-borne viruses very seriously. Additionally, the people of the island took no issue with mask mandates as Taiwan's society has demonstrated a strong face mask culture for many decades. Since as early as the 1950s, the people of Taiwan have worn face masks for a host of cultural and environmental reasons.<sup>9</sup>

Following the passage of the National Health Insurance Act in 1994, Taiwan formed the National Health Insurance (NHI) model.<sup>10</sup> This model has continuously progressed alongside the development of new technology, evolving it into the framework that exists today. Under the NHI, every citizen in Taiwan possesses a health card with a unique ID through which all doctors and hospitals can access online medical records. All medical data is documented on the card, giving the Ministry of Health continuous, real-time data on physician and hospital visits and other specific medical services.<sup>11</sup>

Taiwan began implementing preventative measures weeks before its first reported case of COVID-19. In response to reports of an unidentified outbreak, on December 31, 2019, the Taiwan Centers for Disease Control (CDC) imposed inspection measures for all flights arriving from Wuhan, China.<sup>12</sup> By January 5, 2020, the Taiwan CDC began monitoring all persons who had visited Wuhan within the past two weeks. Those who exhibited a fever or symptoms of upper respiratory tract infections were screened for 26 known pathogens, including SARS, and if they tested positive, they were quarantined.<sup>13</sup> On January 20, the government activated a level three Central Epidemic Command Center (CECC). Each of the three levels of the CECC require certain conditions be met in order to be activated. Level three CECC could be established if there was a serious epidemic abroad with a risk of domestic spread, level two could be established if there was an imported case, and level one could be established if there were local confirmed cases. Director of the Department of Disease Control of the Ministry of Health and Welfare, Zhou

<sup>6</sup> Lauren Gardner, *Update January 31: Modeling the Spreading Risk of 2019-nCoV*, JOHN HOPKINS WHITING SCHOOL OF ENGINEERING (Jan. 31, 2020), <https://systems.jhu.edu/research/public-health/ncov-model-2/>.

<sup>7</sup> WORLD HEALTH ORGANIZATION, <https://www.who.int/countries/> (last visited Dec. 2, 2020).

<sup>8</sup> Zhuo Guanqi Lai Zhenyuan, *Ten Years Ago, 346 People Were Infected with 73 Deaths in SARS Epidemic*, PUBLIC TELEVISION SERVICE FOUNDATION (Mar. 25, 2013, 1:59 AM), <https://news.pts.org.tw/article/238707>.

<sup>9</sup> Ralph Jennings *Not Just Coronavirus Asians Have Worn Face Masks for Decades*, VOA NEWS (Mar. 11, 2020, 7:44 AM), <https://www.voanews.com/science-health/coronavirus-outbreak/not-just-coronavirus-asians-have-worn-face-masks-decades>.

<sup>10</sup> Han Cheung, *Taiwan in Time: Saying No to Universal Healthcare*, TAIPEI TIMES (Jul. 14, 2020), <http://www.taipetimes.com/News/feat/archives/2019/07/14/2003718621>.

<sup>11</sup> Ezekiel J. Emanuel, Cathy Zhang & Aaron Glickman, *Learning from Taiwan About Responding to Covid-19—and Using Electronic Health Records*, STAT NEWS (Jun. 30, 2020), <https://www.statnews.com/2020/06/30/taiwan-lessons-fighting-covid-19-using-electronic-health-records/>.

<sup>12</sup> *CDC Implements Extra Inspection Measures for Wuhan Flights*, TAIWAN TODAY (Jan. 2, 2020), <https://taiwantoday.tw/news.php?unit=2,6,10,15,18&post=168773>.

<sup>13</sup> C. Jason Wang, Chun Y. Ng & Robert H. Brook, *Response to COVID-19 in Taiwan: Big Data Analytics, New Technology, and Proactive Testing*, 323(14) JAMA 1341, 1342 (2020).

Zhihao was made commander of the CECC. As commander of the CECC, Zhihao has been able to coordinate and supervise all epidemic prevention actions across various ministries immediately without the need for official documents or overhead to slow epidemic prevention.<sup>14</sup>

On January 21, the Taiwan CDC reported its first confirmed case of COVID-19. On that same day, the government issued an alert recommending against all non-essential travel to Wuhan.<sup>15</sup> Just a few days later, Taiwan became the first country to suspend all travel to and from China, requiring all who arrived from China to quarantine.<sup>16</sup> On January 27, in just one day Taiwan's National Health Insurance Administration (NHIA) and National Immigration Agency integrated all patients' recent travel history with their NHI identification card data. This allowed the government to determine and track individuals who presented a high risk of carrying the virus. In early February, the CECC ordered the mobilization of the Taiwanese Armed Forces in order to help contain the virus. On February 14, the government launched the Entry Quarantine System, allowing travelers to complete their health declaration forms online prior to leaving or entering the country. Soon after, Taiwan announced that all hospitals, clinics, and pharmacies throughout the country would be given access to all patients' travel histories.<sup>17</sup> The first COVID-19 death in Taiwan was reported on February 16.<sup>18</sup>

Within the first month of Taiwan's battle against COVID-19, the nation took several key steps that helped quash the virus much sooner than other countries. Between January 20 and February 24, the government continuously escalated travel restrictions, began using government-issued cellphones to monitor quarantined persons, enforced 14-day quarantines with threat of hefty fines if disobeyed, and designated military camps and other government facilities for quarantine.<sup>19</sup> However, none of these measures would have been nearly as effective without Taiwan's rigorous contact-tracing process. On average, this process links 20 to 30 contacts to each and every confirmed case. All who test positive for the virus or are identified as a contact to a confirmed case were required to undergo a 14-day quarantine.<sup>20</sup> As of November 2020, about 340,000 people had been placed under home quarantine. In a recent interview, Chen Chien-jen, Taiwan's former vice president and epidemiologist, noted "we sacrificed 14 days of 340,000 people in exchange for normal lives for 23 million people."<sup>21</sup>

As a result of its steadfast efforts, Taiwan has had zero reported locally transmitted cases since April 12, allowing the nation to return to normal everyday life well before other countries.<sup>22</sup> As of December 2020, Taiwan has been ranked as the country least affected by COVID-19, averaging at 0.03 deaths per 100,000 with only 736 confirmed cases and 7 deaths.<sup>23</sup>

<sup>14</sup> Chen Weiting *Taiwan Sets up a Three-Level Epidemic Command Center to Prevent and Prepare for Wuhan Pneumonia*, CENTRAL NEWS AGENCY (Jan. 1, 2020, 4:26 PM), <https://www.cna.com.tw/news/firstnews/202001205004.aspx>.

<sup>15</sup> Press Release, Taiwan Centers for Disease Control, Taiwan Timely Identifies First Imported Case of 2019 Novel Coronavirus Infection Returning from Wuhan, China Through Onboard Quarantine; CECC Raises Travel Notice Level for Wuhan, China to Level 3: Warning (Jan. 21, 2020) (on file with author). ([https://www.cdc.gov.tw/En/Bulletin/Detail/pVg\\_jRVvtHhp94C6GShRkQ?typeid=158](https://www.cdc.gov.tw/En/Bulletin/Detail/pVg_jRVvtHhp94C6GShRkQ?typeid=158)).

<sup>16</sup> Isaac Scher, *Taiwan has Only 77 Coronavirus Cases. Its Response to the Crisis Shows that Swift Action and Widespread Healthcare Can Prevent and Outbreak*, BUSINESS INSIDER (Mar. 17, 2020, 1:07 PM), <https://www.businessinsider.com/coronavirus-taiwan-case-study-rapid-response-containment-2020-3>.

<sup>17</sup> C. Jason Wang, Chun Y. Ng & Robert H. Brook, *supra*.

<sup>18</sup> *Taiwan Reports First Death from Coronavirus Infection (Update)*, FOCUS TAIWAN (Feb. 16, 2020, 9:07 PM), <https://focus.taiwan.tw/society/202002160012>.

<sup>19</sup> C. Jason Wang, Chun Y. Ng & Robert H. Brook, *supra*.

<sup>20</sup> Cindy Wang & Samson Ellis, *How Taiwan's COVID Response Became the World's Envy*, FORTUNE (Oct. 31, 2020, 4:00 AM), <https://fortune.com/2020/10/31/taiwan-best-covid-response/>.

<sup>21</sup> Webcast, *Inside Taiwan's Response to COVID-19*, JOHN HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH (Apr. 24, 2020), <https://www.jhsph.edu/covid-19/news-and-events/events/april-24.html>.

<sup>22</sup> Joshua Berlinger, *Taiwan Just Went 200 Days Without a Locally Transmitted Covid-19 Case. Here's How They Did it*, CNN (Oct. 30, 2020, 3:51 AM), <https://www.cnn.com/2020/10/29/asia/taiwan-covid-19-intl-hnk/index.html>.

<sup>23</sup> *Mortality Analyses*, JOHNS HOPKINS UNIVERSITY OF MEDICINE, <https://coronavirus.jhu.edu/data/mortality> (last visited Dec. 10, 2020).

## SOUTH KOREA

South Korea's epidemic preparedness is credited in part to the lessons it learned from combatting the 2015 Middle East Respiratory Syndrome (MERS) outbreak, which resulted in 186 confirmed cases and 36 deaths.<sup>24</sup> Following this outbreak, the nation announced a series of countermeasures aimed at preventing future influx of infectious disease, early detection, and spread prevention. Part of the nation's preparation included a \$32.5 million project, namely the government-wide Research and Development Fund Project for Infectious Diseases (GFID) that launched in March of 2018.<sup>25</sup> South Korea also made a partial amendment to the Act on Prevention and Management of Infectious Diseases which updated the nation's communicable disease reporting system from categories based upon disease characteristics to those based upon infectious disease severity, spreading power, isolation requirements, and reporting timeline.<sup>26</sup> Although the 2015 MERS outbreak presented the nation with difficult times, it proved to be a blessing in disguise that better prepared South Korea to respond to COVID-19.

On January 20, 2020, South Korea became one of the first countries to report a COVID-19 outbreak after China, with its first case imported from Wuhan, China.<sup>27</sup> An emergency response committee was established by the government just days later. By late February, South Korea was reporting a sharp increase in COVID-19 cases alongside many other countries, however, while the number of cases in most other countries continued to escalate, Korea's numbers began leveling off as the nation managed to contain the spread of the virus early on.

South Korea's success is due in large part to its aggressive approach to contact tracing early on in the outbreak. The nation's Epidemic Intelligence Service (EIS), working under the command of the Korean Centers for Disease Control and Prevention (KCDC), implemented a four-step process which included (1) investigation, (2) risk assessment, (3) contact classification, and (4) contact management. In the investigation stage, an EIS officer obtains information about the patient through a series of interviews. Generally, officers will interview the patient, their family, and their primary physician. In the risk assessment stage, EIS is tasked with collecting objective information about the patient in which they gather additional particulars, verify results from their interviews, and perform an evaluation for the classification of their contacts. If needed, officers are permitted under the law to draw upon four major types of information:

- Medical records;
- Cellular GPS data;
- Credit card transaction logs; and
- Closed-circuit television (CCTV) Recordings

During the contact classification stage, EIS officers determine whether an individual was a close or a casual contact with someone that had tested positive for COVID-19. From there, officers would progress to the final stage, contact management. Anyone that was identified as having had contact with a confirmed or suspected case was required to self-quarantine at home or a designated facility for 14 days. Those ordered to quarantine were required to download an application that would alert local officials if a patient moved outside the perimeter of their quarantine; violations of quarantine orders carried the threat of fines.<sup>28</sup>

The first thirty cases discovered in Korea were steadily handled in a diligent manner, but everything changed with the appearance of Patient 31.<sup>29</sup> It all started in Daegu, when a woman arrived at the hospital with a fever. She tested positive for COVID-19 and thereafter was known as Patient 31. The Korean Centers for Disease Control and

<sup>24</sup> JaHyun Kang, Yun Young Jang, JinHwa Kim, Si-Hyeon Han, Ki Rog Lee, Mukju Kim & Joong Sik Eom, *South Korea's Responses to Stop the COVID-19 Pandemic*, 48 AJIC 1080, 1081 (2020).

<sup>25</sup> Daetongryung ryung gugga yeongu gaebal peulojgteu gwanlie gwanhan gyujeong-ui [Presidential Decree of the Regulations on the Management of National Research and Development Projects], Presidential Decree No. 28210, Jul. 26, 2017 (S. Kor.).

<sup>26</sup> Press Release, South Korea Agency for Disease Control and Prevention, In Order to Respond More Quickly to the Infectious Disease Crisis, We Will Change the Infectious Disease System for Next Year (Dec. 26, 2019) (on file with author).

<sup>27</sup> *Emerging COVID-19 Success Story: South Korea Learned the Lessons of MERS*, OUR WORLD IN DATA (Jun. 30, 2020), <https://ourworldindata.org/covid-exemplar-south-korea>.

<sup>28</sup> Max Fisher & Choe Sang-Hun, *How South Korea Flattened the Curve*, THE NEW YORK TIMES (Mar. 23, 2020), <https://www.nytimes.com/2020/03/23/world/asia/coronavirus-south-korea-flatten-curve.html>.

<sup>29</sup> Sean Fleming, *South Korea's Foreign Minister Explains How the Country Contained COVID-19*, WORLD ECONOMIC FORUM (Mar. 31, 2020), <https://www.weforum.org/agenda/2020/03/south-korea-covid-19-containment-testing/>.

Prevention (KCDC) began the process of contact-tracing, during which it discovered that while sick, Patient 31 had attended a megachurch service at the Shincheonji Church of Jesus where she sat amongst a congregation of hundreds for over an hour. After tracing the movements of Patient 31, the KCDC identified those she had come in contact with and tested them as well. However, the KCDC found that many members of the megachurch were uncooperative because Shincheonji taught that illness is sin.<sup>30</sup> Those who were cooperative and tested positive were quickly isolated and treated at home or at a center. By the end of March, there were over 8,000 confirmed cases, 62.8% of which the KCDC announced were linked to the megachurch.<sup>31</sup>

Public facilities and retreat centers owned by private corporations such as Samsung and LG, were transformed into temporary isolation wards by the Korean government. Doing so allowed for COVID-19 patients to receive treatment while preventing transmission within households. This practice was applied to all who tested positive for COVID-19 regardless of their need for inpatient care. Health care workers regularly monitored each patient and patients would report their symptoms regularly through a smartphone application. Those who required a higher level of care were transferred to nearby hospitals.

While there was never a full lockdown in South Korea as supermarkets and many retail stores remained open for business, some closures were ordered soon after the outbreak, such as schools, universities, and gyms. As a result of the nation's contact tracing and enforced quarantine, Korea's numbers began to improve exponentially. By April 18, the number of new daily cases had fallen into the single digits. Due to the nation's rapid progress, officials felt comfortable allowing pre-season baseball to start up as scheduled on April 20 and South Korea's professional soccer league to resume play.<sup>32</sup>

As the nation's numbers continued to drop, so did its restrictions. By October, the government had reduced all restrictions to their lowest and began distributing discount travel coupons in an effort to spur consumption. However, South Korea saw a sharp spike in cases in the Seoul and the surrounding areas soon after. Kim Woo-joo, an Infectious Disease professor at Korea University Guro Hospital recently explained that "people lowered their guard too early as the government hastily relaxed antivirus measures in the name of the economy and people's fatigue." He also noted that "the government failed to heighten distancing levels in time as new cases spiked over the past several weeks."<sup>33</sup>

While many countries attempted to flatten the ever-expanding curve by implementing nationwide lockdowns and/or stay-at-home orders, South Korea managed to successfully mitigate its outbreaks without ever locking down any regions. Although, South Korea is now facing a spike in their cases as a result of relaxing its antivirus response too soon, it has still managed to come out as one of the countries least affected by the virus. As of December 2020, the nation has reported 50,591 cases of the virus, of which only 698 have resulted in death. Additionally, South Korea is averaging at 1.35 deaths per 100,000 people, a number far smaller than most other nations throughout the world.<sup>34</sup>

## LIBERTY-INTRUSIVE APPROACH

A "Liberty Intrusive Approach" is meant to describe COVID-19 responses that involve government imposition of restrictions or mandates that "intrude" upon its citizens' liberties. In this case, "liberties" refers to a person's freedom to do as they please, free from restraint and arbitrary or despotic control. This approach often involves government enforcement of nationwide lockdown procedures and/or stay-at-home orders. When applied properly and consistently, this approach has proven to be effective in combatting COVID-19 and is often times used in countries where citizens are more concerned with maintaining data privacy from their government. This approach has been effectively employed in countries such as New Zealand and Germany.

<sup>30</sup> S. Nathan Park, *Cults and Conservatives Spread Coronavirus in South Korea*, FOREIGN POLICY, (Feb. 27, 2020, 10:45 AM), <https://foreignpolicy.com/2020/02/27/coronavirus-south-korea-cults-conservatives-china/>.

<sup>31</sup> *Seoul City Seeks Murder Charges Against Sect Founder Over Virus*, YAHOO FINANCE (Mar. 1, 2020), <https://finance.yahoo.com/news/seoul-city-seeks-murder-charges-against-sect-founder-025259454.html>.

<sup>32</sup> *South Korea's K-League to Begin New Season with Restrictions on Talking*, BBC SPORT (May 7, 2020) <https://www.bbc.com/sport/football/52495329>.

<sup>33</sup> *South Korea Weighs Tougher Covid-19 Restrictions to Stem Third Wave*, FINANCIAL TIMES (Nov. 13, 2020), <https://www.ft.com/content/2841f59b-15a9-4598-8f0e-305639bc4dba>.

<sup>34</sup> <https://coronavirus.jhu.edu/data/mortality>

## NEW ZEALAND

New Zealand is a modern island nation, but despite its geographical isolation, officials believed that the introduction of COVID-19 presented an imminent threat. This belief was due in part to the fact that each year New Zealand is flooded with tourists and students, predominately traveling from Europe and mainland China. The peak of tourism occurs during New Zealand's summer months—December through March.<sup>35</sup> The island nation grew anxious as disease models predicted that the pandemic would spread throughout the entire nation and inundate its health care infrastructure. These were fears that nearly every nation was facing at the dawn of the pandemic, however, disease models presented yet another significant challenge that would be unique to New Zealand—COVID-19 would disproportionately affect indigenous Maori and Pacific peoples. This came to be of grave concern to New Zealand as Maori and Pacific peoples make up nearly 25% of the nation's population.<sup>36</sup>

The New Zealand Ministry of Health quickly sprang into action, setting up the National Health Coordination Centre (NHCC) on January 28, 2020—nearly a month before the country would even see its first case of COVID-19.<sup>37</sup> By February 3, the government had barred entry to foreign travelers leaving China, only allowing the return of New Zealand citizens and family.<sup>38</sup> New Zealand reported its first confirmed case of COVID-19 on February 26. The nation's travel restrictions were expanded just days later to include travelers coming from Iran, as Iran had become the latest COVID-19 hotspot.<sup>39</sup> The number of cases began and continued to rise significantly throughout the month of March, reaching a total of 647 confirmed cases by the end of the month.<sup>40</sup> On March 21, New Zealand Prime Minister Jacinda Ardern addressed the nation, announcing the introduction of a nationwide alert level system. The system consisted of four levels, with Alert Level 1 presenting the lowest risk of infection and Alert Level 4 presenting the highest. At the time of the announcement, New Zealand was at Alert Level 2.<sup>41</sup> The nation was moved to Alert Level 4 just five days later.<sup>42</sup> With this upward shift came a stringent nationwide lockdown. March 29, 2020 marked the island nation's first COVID-19 death.<sup>43</sup>

New Zealand entered into an entire nationwide shutdown well before many European countries. The lockdown called for a nationwide stay-at-home order and the closure of all but essential services such as supermarkets, pharmacies, clinics, and gas stations. While announcing the lockdown, Ardern stated “these measures will place the most significant restrictions on New Zealanders' movements in modern history, this is not a decision taken lightly but it is our best chance to slow the virus and save lives.”<sup>44</sup> The lockdown was enforced by police officers and the military. Meanwhile, the government urged citizens not to take vigilante policing measures into their own hands. Five weeks into the lockdown, the nation's number of new cases experienced a significant drop, thus prompting

<sup>35</sup> Michael G. Baker, Nick Wilson & Andrew Anglemyer, *Successful Elimination of Covid-19 Transmission in New Zealand*, 383 NEJM 56 (2020).

<sup>36</sup> *New Zealand's Population Reflects Growing Diversity*, STATS NEW ZEALAND (Sep. 22, 2019, 5:00 PM), <https://www.stats.govt.nz/news/new-zealands-population-reflects-growing-diversity#:~:text=Ethnicity%20as%20a%20proportion%20of%20the%20population&text=The%20next%20largest%20ethnic%20group,from%2014.9%20percent%20in%202013>.

<sup>37</sup> JOHNS HOPKINS UNIVERSITY & MEDICINE, *supra*.

<sup>38</sup> *NZ to Close Doors on Foreign Travelers from China*, RADIO NEW ZEALAND, (Feb. 2, 2020, 8:07 PM), <https://www.rnz.co.nz/news/national/408675/nz-to-close-doors-on-foreign-travellers-from-china>.

<sup>39</sup> *Coronavirus: New Travel Restrictions for Iran Announced*, RADIO NEW ZEALAND, (Feb. 28, 2020, 3:49 PM), <https://www.rnz.co.nz/news/national/410613/coronavirus-new-travel-restrictions-for-iran-announced>.

<sup>40</sup> *Covid-19: 74 People Now Recovered in NZ – Health Ministry*, RADIO NEW ZEALAND (Mar. 31, 2020, 3:49 AM), <https://www.rnz.co.nz/news/national/413028/covid-19-74-people-now-recovered-in-nz-health-ministry>.

<sup>41</sup> Hannah Kronast & Tova O'Brien, *Jacinda Ardern Announces Alert System for COVID-19*, NEWS HUB (Mar. 21, 2020), <https://www.newshub.co.nz/home/new-zealand/2020/03/jacinda-ardern-announces-alert-system-for-covid-19.html>.

<sup>42</sup> Brittney Deguara, *Live: Coronavirus – Airport Arrivals Whisked Straight to Auckland Hotel*, STUFF (Mar. 26, 2020, 10:50 AM), <https://www.stuff.co.nz/national/health/coronavirus/120495548/live-pm-jacinda-ardern-to-give-update-on-coronavirus-alert-level>.

<sup>43</sup> Dan Satherley, Mark Quinlivan, Lana Andelane & Shannon Redstall, *Coronavirus: First New Zealand Death Recorded*, NEWS HUB (Mar. 29, 2020), <https://www.newshub.co.nz/home/new-zealand/2020/03/coronavirus-first-new-zealand-death-recorded.html>.

<sup>44</sup> Eleanor Ainge Roy, *'Kiwis – Go Home': New Zealand to Go into Month-Long Lockdown to Fight Coronavirus*, THE GUARDIAN (Mar. 22, 2020, 10:29 PM), <https://www.theguardian.com/world/2020/mar/23/kiwis-go-home-new-zealand-to-go-into-month-long-lockdown-to-fight-coronavirus>.

the government to move the nation to Alert Level 3 for an additional two weeks, during which time the country remained on lockdown. On May 13, New Zealand moved to Alert Level 2 which resulted in lifting the lockdown restrictions while maintaining physical distancing in all public settings and private gatherings of more than ten people. During this phase, businesses were allowed to reopen, and recreational activities could commence so long as physical distancing and proper hygiene methods were enforced and there were no more than 100 people at any given gathering.<sup>45</sup>

New Zealand moved into Alert Level 1 on June 9, following the report that the country's last remaining active case of COVID-19 had recovered. This phase involved the removal of all restrictions on daily life, business activities, mass gatherings, and public transport. However, New Zealand's borders remained closed to most international travel.<sup>46</sup> The limited international travel that was permitted at this time was overseen by New Zealand's Defense Force's Assistant Chief Defense Air commodore Darryn Webb. Webb was responsible for monitoring the nation's border and all quarantine facilities. The government worked with Air New Zealand and Singapore Airlines to help manage the booking of international flights to New Zealand in order to ensure that quarantine facilities were not overwhelmed by the volume of travelers. All travelers entering the country were required to undergo a government managed 14-day quarantine in one of its quarantine facilities.<sup>47</sup>

On August 9, the New Zealand Ministry of Health confirmed that the country had gone 100 days with no known community spread of COVID-19.<sup>48</sup> Throughout the months of August and September, parts of the nation fluctuated between Alert Levels 2 and 3 in response to any reports of communal spread. The entire nation returned to Alert Level 1 on October 5, once again eliminating all social gathering restrictions and making the wearing of masks on public transport voluntary. New Zealand has managed to remain at an Alert Level 1 ever since.

Within approximately 100 days, New Zealand was able to eliminate community transmission of COVID-19, only having to contain a few small, sporadic outbreaks since. As of December 2020, New Zealand has only experienced 0.51 deaths per 100,000, with a total of 2,096 cases and 25 deaths.<sup>49</sup> The island nation has set themselves apart as one of the most successful countries in their battle against COVID-19. Through its early implementation of strict and enforceable nationwide lockdowns, New Zealand saved the lives of many and has been able to almost completely restore its everyday life back to its pre-COVID-19 state.

## GERMANY

Germany is a nation comprised of sixteen federal states. The local health authorities within each of these states are responsible for outbreak investigation and management efforts, with support from Germany's national institute of public health. According to the nation's national pandemic plan, Germany's disease and epidemic control functions under the advisement of the Robert Koch Institute (RKI). Germany has proven to have a strong enabling environment, as seen through the nation's successful local public and health care system and its expert scientific institutions.

Throughout this pandemic, Germany has consulted its National Pandemic Plan every step of the way. The plan spells out the responsibilities and measures of actors in the health care system in the face of an epidemic, specifically providing guidance on the execution of epidemic control which is performed both by federal authorities such as the RKI and by the individual German states. The plan consists of three stages: containment, protection, and mitigation.

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<sup>45</sup> Derek Cheng, *Covid-19 Coronavirus: Level 2 Unveiled – Cafes Open from Thursday, Schools from Monday, Bars in 10 Days*, NEW ZEALAND HERALD (May 11, 2020, 5:24 PM), [https://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=12330988](https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12330988).

<sup>46</sup> *Prime Minister Jacinda Ardern Reveals Move to Level 1 from Midnight*, RADIO NEW ZEALAND (Dec. 22, 2020), <https://www.rnz.co.nz/news/political/418524/prime-minister-jacinda-ardern-reveals-move-to-level-1-from-midnight>.

<sup>47</sup> Henry Cooke & Luke Malpass, *Quarantine Fee of \$3,100 to Hit Temporary Visitors or Those Leaving Country After New Rules Come into Effect*, STUFF (Jul. 29, 2020, 3:32 PM), <https://www.stuff.co.nz/national/politics/300068658/quarantine-fee-of-3100-to-hit-temporary-visitors-or-those-leaving-country-after-new-rules-come-into-effect>.

<sup>48</sup> Nick Perry, *New Zealand Marks 100 Days of Virus Elimination*, AP NEWS (Aug. 8, 2020), <https://apnews.com/article/international-news-asia-pacific-virus-outbreak-new-zealand-97f42beb18130cc61198bb90ffa7089b>.

<sup>49</sup> JOHNS HOPKINS UNIVERSITY & MEDICINE, *supra*.

The first outbreak of the virus took place in Bavaria in late January 2020 and was met with rapid control measures such as, testing, contact tracing, isolation, and quarantine. On February 1, the government mandated that all health care providers report suspected cases of COVID-19 to local public health authorities within 24 hours. Soon after, authorities began spotting additional outbreaks stemming from other various sources. These outbreaks were first managed in what was referred to as the containment stage. On February 28, Germany's COVID-19 response team, led by the ministries of health and interior, began requiring passengers traveling from hot spots to report their health status. The first death was reported on March 9 and new clusters were introduced the following week as Germany allowed arrivals from China, Iran, and Italy until March 18.<sup>50</sup> On March 13, the RKI moved the nation into the second stage, the protection stage. This shift involved the closures of all schools, the prohibition of visits to nursing homes in an effort to protect the elderly, and border closures.

The nationwide lockdown began on March 22, Germany announced strict social distancing guidelines, banning public gatherings of more than two people, except for families that live together. The government also closed all non-essential businesses. While the federal government did not order a nationwide stay-at-home order, several states did.<sup>51</sup> Over time, these strict measures began resulting in an initial flattening of the curve. In an address to the nation on April 15, Chancellor Angela Merkel explained that a "fragile intermediate success" had been achieved. Over time, the German states and the federal government began easing restrictions, but the nation's attempt to return to normality was briefly disrupted by several new local outbreaks.

Germany started to consider digital location tracking and contact tracing methods such as those used by countries like South Korea and Taiwan. In late March, the German government tried to test the waters by passing an amendment to its Protection Against Infection law which contained a clause on location tracking. However, the proposition was met with great opposition and public backlash due to Germany's strict data privacy legislation and culture, forcing the government to drop the amendment altogether. After weeks of debates with the government about data protection, on July 13, the nation became the first Western country to launch a voluntary contact-tracing mobile application. Only 41% of Germans had downloaded it, however, experts stated that at least 60% of the population would have to download and use the application in order for it to be effective.<sup>52</sup>

In response to the second wave of the pandemic, the nation tightened restrictions back up, relying almost entirely on its lockdown measures to overcome the spike in cases. Compared to its neighboring countries, Germany has proven to be among the most successful in combatting the virus. As of December 2020, the nation had more than 1.5 million confirmed cases and 26,400 deaths, with an average of 31.38 deaths per 100,000 people. These figures are far better than Germany's neighboring countries such as Belgium with an average of 163.07 deaths per 100,000, France at 90.56 deaths per 100,000, Poland at 66.87 deaths per 100,000, and Switzerland at 77.75 deaths per 100,000. Germany set itself apart from its neighbors through its strict lockdown measures and its ability to adapt to the needs and limitations of its society.

## COMBINED APPROACH

The "Combined Approach" is exactly that—the combination of a cyber-intrusive and a liberty-intrusive approach. In some countries, this involves a gradual shift from one approach to the other, while in other countries this looks more like the consistent use of principles from each of the two approaches. The application of a combined approach is no small feat as it requires a societal culture that is willing to endure both intrusions on its liberties and its digital privacy. When implemented properly and consistently, this approach appears to render superior results, as seen in the Kingdom of Saudi Arabia.

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<sup>50</sup> *Coronavirus: More and More Infections in Germany*, HAMBURGER ABENDBLATT (Mar. 11, 2020), <https://www.abendblatt.de/vermischtes/article228637475/Coronavirus-Corona-News-Live-Ticker-Covid-19-Zahl-Infektionen-Deutschland-631-Tote-Italien.html>.

<sup>51</sup> *Coronavirus: What are the Lockdown Measures Across Europe?*, DW (Apr. 14, 2020), <https://www.dw.com/en/coronavirus-what-are-the-lockdown-measures-across-europe/a-52905137>.

<sup>52</sup> Bojan Pancevski & Sam Schechner, *Coronavirus Contact-Tracing Apps Launch Across Europe Amid Hopes for Broad Adoption*, THE WALL STREET JOURNAL (Jun. 16, 2020, 3:10 PM), <https://www.wsj.com/articles/coronavirus-contact-tracing-apps-launch-across-europe-amid-hopes-for-broad-adoption-11592319612?mod=searchresults&page=1&pos=12>.



## SAUDI ARABIA

In the face of COVID-19, Saudi Arabia arguably has been dealt one of the most challenging environments to combat the virus. Not only is Saudi Arabia the most populated nation in the Arabian Gulf, but its population is also largely made up of expatriates from all around the world who now live and work in the Kingdom. Such a challenge has forced the nation to create a response framework that takes into account both Saudi nationals and this diverse demographic. Additionally, Saudi Arabia, the birthplace of Islam, has had to navigate this pandemic through major religious holidays while being home to the two Holy Cities of Makkah and Madinah.

Saudi Arabia's success can be credited in part to its quick and decisive actions, as the Kingdom was among the first countries to enact early and unprecedented measures to both prevent the spread of COVID-19 and mitigate its impact upon arrival. Several of these measures were implemented well before the first report of a confirmed case in the country. In early January, Saudi Arabia formed a national committee made up of government ministers for Health, Education, Interior and more, in order to track the virus and prepare for its inevitable spread. By February 6, under the advisement of the committee, the Saudi government halted all travel between Saudi Arabia and China.<sup>53</sup> On February 27, authorities closed the Kingdom's borders to foreign Umrah pilgrims, suspending all tourist visas. The very next day, the government banned inbound travel from all COVID-19 affected countries. The first confirmed case of the virus was reported on March 2. In response, authorities completely suspended Umrah and ordered the closure and disinfection of two holy mosques in Makkah and Madinah.

By March 8, Saudi Arabia required all schools and universities to switch over to remote learning and instated a travel ban on all affected countries, enforcing a mandatory quarantine on those who had already arrived from such countries. The nation's measures escalated even further within a matter of days as the Saudi government suspended all international and domestic flights, sporting events, and workplaces—except for those working in the health sector. For the first time in the history of the Kingdom, Muslims were banned from performing their five daily prayers in mosques and instead were instructed to pray in their homes, an unprecedented decision for a country whose laws are heavily based upon Islamic law. Despite the nation's precautionary actions, by the end of March, there were about 500 cases reported in Saudi Arabia and the first reported death from COVID-19. This led the government to impose a nationwide curfew on March 22, punishable by law. King Salman bin Abdulaziz Al Saud initially ordered a 21-day nationwide curfew from 7 p.m. to 6 a.m., but just three days later, the curfew was extended to begin at 3 p.m. The Saudi government closely monitored the number of cases throughout the nation and on April 6, it ordered a 24-hour curfew (i.e., a full lockdown) on the cities where the number of cases were growing.<sup>54</sup>

It soon became clear that these lockdowns were temporary measures implemented in part to buy the government time to better manage the crisis. During this period of lockdowns and strict curfews, the Saudi government was rapidly working behind the scenes to reconfigure their health care system's digital tools. Minister of Health Dr. Al-Rabiah explained that the adaptation of this technology would “enable innovative, equitable access to health services, data sharing, and improved coordination.” In a remarkably short span of time, Saudi Arabia's National Health Command Center (NHCC) was adapted to allow ministry staff to track any and all developments in the nation's battle against COVID-19, essentially serving as an early warning system. Following this development, Saudi Arabia was able to gradually end lockdowns and ease restrictions across the nation. From then on, all of the government's decisions were made by feeding into the information provided by the NHCC and a steady stream of data that was harvested through a series of apps and other digital systems—some of which already existed and others that were quickly developed in response to COVID-19.<sup>55</sup>

In 2018, the Saudi Ministry of Health launched a national central health care appoint-booking system through a mobile application called Mawid, which translates to “Appointment.”<sup>56</sup> The following year, the Sehhaty (“My Health”) application was launched for the purpose of promoting health campaigns through games

<sup>53</sup> Abdullah A. Algaissi, Naif Khalaf Allharbi, Mazen Hassanain & Anwar M. Hashem, *Preparedness and Response to COVID-19 in Saudi Arabia: Building on MERS Experience*, 13(6) JIPH 834, 836 (2020).

<sup>54</sup> Jonathan Gornall, *The Kingdom vs. COVID-19*, Arab News (August 20, 2020), <https://www.arabnews.com/TheKingdomVsCOVID19>.

<sup>55</sup> Marwah Hassounah, Hasfa Raheel & Mohammed Alhefzi, *Digital Response During COVID-19 Pandemic in Saudi Arabia*, 22(9) JMIR 19338 (2020).

<sup>56</sup> *E-Services: (Mawid Service)*, MINISTRY OF HEALTH OF SAUDI ARABIA, <https://www.moh.gov.sa/en/eServices/Pages/casystem.aspx> (last visited Nov. 22, 2020).

and community-based challenges. However, both of these applications were adapted to respond to COVID-19 by implementing COVID-19 self-assessment tools and providing users with the ability to make appointments at clinics and drive-through mass testing locations throughout the country.<sup>57</sup> The Health Electronic Surveillance Network (HESN) launched in 2012 as a communicable disease surveillance platform and now serves as a reliable source of data for all COVID-19 tests throughout the Kingdom. The digital platform Taqasi (“The Patient Tracing Unit”) was implemented in March 2020 in response to the pandemic and serves to enhance and manage contact tracing around the Kingdom based on the test results generated through the HESN. Soon after, the National Health Emergency Operation Centre launched the smartphone app, Tetamman, which translates to “Rest Assured.” In May 2020, the Ministry of Health announced that all citizens returning from abroad and all those who have been ordered to isolate in their homes would be provided with smart bracelets linked to the Tetamman app, through which the MOH could communicate with them daily and ensure that they comply with their mandated quarantine.<sup>58</sup>

With the introduction of these digital tools, came a gradual shift from a more liberty-intrusive approach to a more cyber-intrusive approach. The successful launches of these various apps and digital platforms were soon accompanied by the easements of lockdown and curfew restrictions. Starting on April 26, when Saudi Arabia announced relaxed daytime restrictions ahead of the start of Ramadan. These small gradual easements continued into June. On June 17, the number of daily cases peaked in the Kingdom, but it forged ahead as it was and watched as the number of cases continuously dropped for a month straight. During this time, the Kingdom was faced with a predicament of vital importance to Muslims everywhere, whether the nation would proceed in July with Hajj. 2.5 million pilgrims gathered in the Holy city of Makkah for Hajj in 2019 and nearly three quarters of those pilgrims had traveled there from overseas, 60% of which came from Asian countries. In the end, Saudi Arabia came to a historic compromise. The Kingdom announced that it would proceed with Hajj in 2020, but only 1,000 representative pilgrims could attend, all of which had to be selected from a pool of nationals and foreigners already residing in the country. The rituals of Hajj successfully took place without a single case of COVID-19. The tremendous feat was credited to the Kingdom’s use of its digital tools which Minister of Health Dr. Al-Rabiah later explained at the Riyadh Global Digital Health Summit in August. Dr. Al-Rabiah said “pilgrims arriving in the holy cities were electronically tagged with bracelets to monitor and record their health status and track individuals quarantined upon their return home.”

Following the plunge in the number of cases, on July 21, Assistant Minister of Health Dr. Al-Abdulaali announced what he described as a “cautious return to normality.” By September 15, the number of daily cases in Saudi Arabia had reached a five month all time low. The COVID-19 mortality rate was approximately 0.9%, which was considerably lower than the global rate which fluctuated between 4% and 5%.<sup>59</sup> With this news came an announcement, raising the prospect of a full return to normality in the new year.

Saudi Arabia suffered the loss of lives and was certainly not immune to the tragedies wreaked by COVID-19, but through its quick and decisive actions, incorporating both digital tracking and mandated lockdowns, many more lives were saved. As of December 2020, the Kingdom has only experienced 17.95 deaths per 100,000, compared to its neighboring countries such as Jordan with 33.8 deaths per 100,000, Iraq with 32.73 deaths per 100,000, and Iran with 63.81 deaths per 100,000. Without the nation’s purposeful governance, the price paid by the citizens of Saudi Arabia could have been much higher.

## “HERD IMMUNITY” APPROACH

### UNITED KINGDOM

Prior to COVID-19, the United Kingdom’s most recent brush with a pandemic occurred about a decade ago with the spread of the 2009 H1N1 pandemic, also known as the 2009 Swine Flu pandemic. At the close of the 2009

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<sup>57</sup> *Al-Rabiah Highlights Updates of Transformation Programs and Initiatives*, MINISTRY OF HEALTH OF SAUDI ARABIA, <https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/News-2019-09-10-003.aspx> (Sep. 10, 2019).

<sup>58</sup> *MOH: (Tetamman) Smart Bracelet a Must for Citizens Returning from Abroad*, MINISTRY OF HEALTH OF SAUDI ARABIA, <https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/News-2020-05-22-002.aspx> (May 22, 2020).

<sup>59</sup> *Prompt Action Defines Saudi Arabia’s Success Story in Emerging from COVID-19*, OMNIA HEALTH (Sep. 6, 2020), <https://insights.omnia-health.com/hospital-management/prompt-action-defines-saudi-arabias-success-story-emerging-covid-19>.

pandemic, the U.K. was pleasantly surprised to see that it sustained far less harm from the virus than anticipated. Soon after, the U.K. released the 2011 Influenza Preparedness Strategy, replacing the former framework established in 2007. The updated strategy directed the country to shift its focus in pandemic preparedness, specifically ordering it to “[p]ut in place plans to ensure a response that is proportionate to meet the differing demands of pandemic influenza viruses . . . rather than just focusing on the “worst case” planning assumptions.”<sup>60</sup> Such instruction appears to call for the most proportionate response as opposed to the strongest or most effective response. To this day, the 2011 Influenza Preparedness Strategy continues to be the guiding standard for the U.K. and provides an inside look into why the country approached COVID-19 the way it did.

The first two cases of COVID-19 in the United Kingdom were confirmed on January 31, 2020.<sup>61</sup> Yet, U.K. Prime Minister Boris Johnson failed to attend the first five meetings organized by the government’s emergency committee the Civil Contingencies Committee (more commonly known as “Cobra”) on COVID-19. In fact, Johnson didn’t even chair his first COVID-19 meeting until March 2, by which time Britain had recorded 39 cases of COVID-19.<sup>62</sup> That lost month was just the first of several factors that would send the United Kingdom into a desperate, never-ending game of catch-up.

During that month, on February 18, the Scientific Advisory Group for Emergencies (SAGE) concluded that Public Health England only had the capacity to carry out contact tracing for no more than 50 new cases a week and just two days later, on the 20, SAGE approved Public Health England’s decision to discontinue contact tracing once COVID-19 cases in the U.K. could no longer be directly linked to infection abroad.<sup>63</sup> These decisions were contrary to the WHO’s guidance at the time, which urged all nations to focus on “track and trace” efforts that involved identifying and isolating every case and tracking and quarantining anyone exposed.<sup>64</sup> Nevertheless, England’s Deputy Chief Medical Officer Dr. Jenny Harries argued in favor of its decision stating that “the clue with WHO is in its title—it’s a *World Health Organization* and it is addressing all countries across the world, with entirely different infrastructures,”<sup>65</sup> as if to purport that COVID-19 would respond differently in the United Kingdom.

By early March, several of the U.K.’s neighboring countries had already taken action, enforcing full lockdowns, yet the U.K. decided to follow a path of its own. On March 11, SAGE publicly rejected the idea of a lockdown altogether, expressing its belief that the population would not accept such restrictions. Instead, officials decided to implement an approach that would suppress the virus through gradual restrictions, as opposed to attempting to stamp it out entirely. This strategy was promoted and described by U.K.’s chief scientific adviser Sir Patrick Vallance as an attempt to build “herd immunity,” arguing in a televised interview that such strategy would allow “enough of us who are going to get mild illness to become immune.”

A pivotal moment in the United Kingdom’s COVID-19 response took place the next day on March 12, when the government announced that it would be moving from the containment phase in its strategy to the delay phase. This shift meant that contact tracing would be abandoned altogether, and testing would be restricted only to persons in hospitals with symptoms. At a press conference that same day, Johnson warned that the “worst public health crisis for a generation” was about to hit the country and that “many more families are going to lose loved ones before their time.” Despite this grave warning, Johnson still failed to announce any measures indicative of a lockdown. Instead, the nation was merely encouraged to wash their hands and stay home for seven days, only if they had symptoms—a measure that was in no way enforced. Schools, restaurants, and bars remained open, and flights continued to arrive from mainland China. Massive public gatherings were still permitted as rugby matches continued attracting crowds

<sup>60</sup> Department of Health, Social Services and Public Safety, UK Influenza Pandemic Preparedness Strategy 2011 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/213717/dh\\_131040.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf).

<sup>61</sup> James Gallagher, *Coronavirus: Two Cases Confirmed in UK*, BBC NEWS (Jan. 31, 2020), <https://www.bbc.com/news/health-51325192>.

<sup>62</sup> Toby McTague, *How the Pandemic Revealed Britain’s National Illness*, THE ATLANTIC (Aug. 12, 2020), <https://www.theatlantic.com/international/archive/2020/08/why-britain-failed-coronavirus-pandemic/615166/>.

<sup>63</sup> Robert Peston, *Why did the UK’s Coronavirus Response Go So Wrong?*, THE SPECTATOR (Jul. 17, 2020, 6:18 AM), <https://www.spectator.co.uk/article/why-did-the-uk-s-coronavirus-response-go-so-wrong->

<sup>64</sup> Sarah Boseley, *WHO Urges Countries to ‘Track and Trace’ Every Covid-19 Case*, THE GUARDIAN (Mar. 13, 2020, 2:13 PM), <https://www.theguardian.com/world/2020/mar/13/who-urges-countries-to-track-and-trace-every-covid-19-case>.

<sup>65</sup> Gavin Yamey & Clare Wenham, *The U.S. and U.K. Were the Two Best Prepared Nations to Tackle a Pandemic—What Went Wrong?*, TIME (Jul. 1, 2020, 6:00 AM), <https://time.com/5861697/us-uk-failed-coronavirus-response/>.

of 80,000 or more from all over. Additionally, the Cheltenham Festival, a three-day horse-racing festival that began on March 10 and drew in over 250,000 racegoers, was allowed to proceed as usual.<sup>66</sup>

On March 16, the government appeared to abruptly change gears when it held a press conference announcing new instructions regarding COVID-19. The public was ordered to avoid pubs, clubs, theatres, and other social venues, as well as nonessential travel, however, this advice was not enforceable. Additionally, people were told that they should work from home if possible, but also stated that was largely up to employer discretion, thus, once again, unenforceable. This series of ambiguous, non-binding suggestions were the result of new scientific findings, namely, a research publication from the Imperial College London warning that taking a light-handed approach to COVID-19 would cause upwards of 250,000 deaths—dashing all hopes that the virus could be defeated through herd immunity.<sup>67</sup> Despite the gruesome projection, the U.K. still refused to put the nation into lockdown and continued to do so until March 23.<sup>68</sup>

By the time the government formally announced a lockdown, nearly two months of potential prevention and protection had been squandered, a delay that would cost the nation thousands of human lives.<sup>69</sup> Had the risks of COVID-19 not been so high, herd immunity may have been a possibility, however, the evidence clearly showed that such an approach was simply not feasible in the face of the virus. Herd immunity was the United Kingdom's downfall as Azra Ghani, an infectious disease researcher at Imperial College London explained at a press briefing on March 16, stating “we were expecting herd immunity to build.... but we now realize it's not possible to cope with that.”<sup>70</sup>

The United Kingdom has since encountered a second wave of COVID-19 and as of December 2020, has recorded 1,854,490 confirmed cases and 64,267 deaths, with 97 deaths per 100,000 people. The nation's decisions and actions, or lack thereof, have cost the lives of many and has led to its ranking among the ten countries most affected by COVID-19.<sup>71</sup>

## SWEDEN

Throughout the COVID-19 pandemic, the Swedish government has endeavored to focus its efforts on encouraging proper behavior and creating social norms as opposed to enforcing mandatory restrictions. This is due largely in part to the nation's laws and constitution. Measures such as nationwide lockdowns and curfews are prohibited by the Swedish Constitution as such measures are considered to be a violation of the freedom of movement. Furthermore, the Swedish laws on communicable diseases greatly limit the government's ability to impose quarantine measures.

Although some representatives of the Swedish government have repeatedly denied that herd immunity is a part of the nation's strategy to combat COVID-19, state epidemiologist and architect of the Swedish COVID-19 strategy, Anders Tegnell, has expressed that avoiding lockdowns altogether would make Sweden better prepared for winter, arguing that the country's population would develop a natural level of herd immunity.<sup>72</sup>

<sup>66</sup> Toby Helm, Emma Graham-Harrison & Robin McKie, *How did Britain Get its Coronavirus Response so Wrong?*, THE GUARDIAN (Apr. 19, 2020, 9:51 AM), <https://www.theguardian.com/world/2020/apr/18/how-did-britain-get-its-response-to-coronavirus-so-wrong>.

<sup>67</sup> NEIL M. FERGUSON ET AL., IMPERIAL COLLEGE LONDON, REPORT 9: IMPACT OF NON-PHARMACEUTICAL INTERVENTIONS (NPIs) TO REDUCE COVID-19 MORTALITY AND HEALTHCARE DEMAND (2020).

<sup>68</sup> Bevan Shields, *'Biggest Failure in a Generation': Where did Britain go Wrong?*, THE SYDNEY MORNING HERALD (May 3, 2020), <https://www.smh.com.au/world/europe/biggest-failure-in-a-generation-where-did-britain-go-wrong-20200428-p54o2d.html>.

<sup>69</sup> Gabriel Scally, Bobbie Jacobson & Kamran Abbasi, Editorial, *The UK's Public Health Response to Covid-19*, 2020 BMJ 1932 (2020).

<sup>70</sup> Cathleen O'Grady, *The U.K. Backed off on Herd Immunity. To Beat COVID-19, We'll Ultimately Need it*, NATIONAL GEOGRAPHIC (Mar. 20, 2020), <https://www.nationalgeographic.com/science/2020/03/uk-backed-off-on-herd-immunity-to-beat-coronavirus-we-need-it/#close>.

<sup>71</sup> JOHNS HOPKINS UNIVERSITY & MEDICINE, *supra*.

<sup>72</sup> *Covid 19 Coronavirus: Sweden Running out of Intensive Care Beds as Cases Soar*, NZ HERALD, (Dec. 12, 2020, 11:55 AM), <https://www.nzherald.co.nz/world/covid-19-coronavirus-sweden-running-out-of-intensive-care-beds-as-cases-soar/NV27IJI3G7RSG5XDC2OQROZVKM/>.

On January 31, 2020, the first case of COVID-19 was confirmed in Sweden. The case remained an isolated instance until February 26, when a second case was confirmed. The number of cases took a drastic leap following a four-week period from February to March, during which time spring breaks took place throughout the different areas of Sweden. While Sweden's neighboring countries were in the process of shutting down their borders at the time, an estimated one million Swedes—about one tenth of Sweden's total population—had been travelling abroad.<sup>73</sup> As Sweden's Public Health Agency began to see spikes in local transmission of the virus in the Stockholm and Västra Götaland areas, it adjusted the community spread risk assessment on March 10, raising the risk level from moderate to very high—the highest level.<sup>74</sup> Yet still, no policies or guidelines had been enforced in Sweden. The first COVID-19 death in Sweden was reported the very next day on March 11, and on that same day, the government passed a new law banning all gatherings larger than 500 people, with threat of fines and imprisonment.<sup>75</sup> By the 13, the virus had reached all 21 regions of Sweden.<sup>76</sup>

On March 16, the Public Health Agency issued various recommendations to the public, none of which were enforceable in any way. The agency encouraged persons over the age of 70 to limit their close contact with others and avoid crowded areas. It also urged employers to recommend their employees work from home, however, statistics taken one month later indicated that only roughly half of the Swedish workforce was actually working from home.<sup>77</sup> Additionally, the agency suggested distance education for secondary schools and universities but did not extend this suggestion to elementary schools.<sup>78</sup> Then on March 18, the agency advised against traveling within the country, calling on the public to “reconsider” any planned holiday travel during the upcoming Easter weekend.<sup>79</sup> By March 27, the government announced that the ban on public gatherings would be lowered to include all gatherings of more than 50 people.<sup>80</sup>

On April 9, the Public Health Agency believed that 5–10% of the population in the nation's most populous county—Stockholm County—was carrying the virus. By mid-April reports approximated that over 1,300 people had died of COVID-19 in Sweden, as Sweden was then experiencing about 60 deaths per day.<sup>81</sup> Despite these concerning figures, which were far worse than any of the nation's neighboring countries, authorities began to announce easements on travel restrictions. Starting on May 13, with allowances for domestic travel within one to two hours from home, and continuously digressing until June 13, with the elimination of all domestic travel restrictions.<sup>82</sup> With the lessening of the already lenient and mostly unenforceable restrictions came a massive spike in Sweden's daily COVID-19 deaths per million which increased by 1,200% between August 1, 2020 and December 1, 2020.<sup>83</sup>

<sup>73</sup> Johan Carlsson, *The Infection Came in from Countries that Went Under our Radar*, DAGENS NYHETER (Jun. 10, 2020), <https://www.dn.se/nyheter/sverige/johan-carlsson-smittan-kom-in-fran-lander-som-gick-under-var-radar/>.

<sup>74</sup> *Several Signs of Societal Spread of Covid-19 in Sweden*, FOLKHÄLSOMYNDIGHETEN (Mar. 10, 2020), <https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/mars/flera-tecken-pa-samhallsspridning-av-covid-19-i-sverige/>.

<sup>75</sup> SVT NYHETER (Mar. 11, 2020), <https://www.svt.se/nyheter/snabbkollen/regeringen-stoppa-stora-moten>.

<sup>76</sup> *Number of Cases of COVID-19 in Sweden*, THE SWEDISH PUBLIC HEALTH AGENCY, <https://experience.arcgis.com/experience/09f821667ce64bf7be6f9f87457ed9aa> (Dec. 10, 2020).

<sup>77</sup> *People over 70 Should Limit Social Contacts Until Further Notice*, FOLKHÄLSOMYNDIGHETEN (Mar. 17, 2020), <https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/mars/personer-over-70-bor-begransa-sociala-kontakter-tills-vidare/>.

<sup>78</sup> *Higher Education Institutions and Upper Secondary Schools are Now Encouraged to Conduct Distance Education*, FOLKHÄLSOMYNDIGHETEN (Mar. 17, 2020), <https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/mars/larosaten-och-gymnasieskolor-uppmanas-nu-att-bedriva-distansundervisning/>.

<sup>79</sup> Felicia Nordlund, *Swedish Public Health Agency: Avoid Traveling Within Sweden*, SVT NYHETER (Mar. 19, 2020, 7:45 AM) <https://www.svt.se/nyheter/inrikes/folkhalsomyndigheten-undvik-att-resa-inom-sverige>.

<sup>80</sup> Hannah Frejdeman, *Gatherings of Over 50 People are Prohibited*, SVENSKA DAGBLADET (Mar. 27, 2020), <https://www.svd.se/stefan-lofven-och-rikspolischefen-haller-presstraff>.

<sup>81</sup> Ylva Larsson, *One Third of all Deaths from Nursing Homes in Sweden*, SVT NYHETER (Apr. 16, 2020, 7:25 PM), <https://www.svt.se/nyheter/inrikes/en-tredjedel-av-alla-dodsfall-fran-aldreboenden-i-sverige>.

<sup>82</sup> *Travel Advice Extended – New Advice for Travel Within the Country*, SVERIGES RADIO (May 13, 2020, 3:58 PM), <https://sverigesradio.se/sida/artikel.aspx?artikel=7472677>.

<sup>83</sup> *Daily vs. Total Confirmed COVID-19 Deaths per Million*, OUR WORLD IN DATA, <https://ourworldindata.org/grapher/covid-deaths-daily-vs-total-per-million?tab=chart&stackMode=absolute&time=2020-01-22..latest&country=&region=World> (last visited Dec. 10, 2020).

As it became increasingly apparent that voluntary measures simply were not enough, Sweden slowly began to abandon its approach based almost entirely upon voluntary participation and individual responsibility. Starting on November 16, Sweden's Prime Minister Stefan Lofven took what he called an "unprecedented" step, banning public gatherings of more than eight people and then on November 20, the government took another step prohibiting the sale of alcohol after 10 p.m.<sup>84</sup> These steps culminated in a historic national address on the night of November 22 in which Lofven pled with the public to take the nation's restrictions more seriously.<sup>85</sup>

While Sweden has remained staunchly lockdown-free throughout this pandemic, its neighboring countries have taken the opposite approach and statistics continue to manifest Sweden bearing a death rate considerably higher than any other country in the Nordic region. According to a mortality analyses conducted by the Johns Hopkins Coronavirus Resource Center, Sweden has a case fatality rate of 2.3%—the highest of its neighboring Finland (1.5%), Norway (0.9%), and Denmark (0.9%), even higher than the United States (1.8%). Additionally, Sweden's 73.79 deaths per 100,000 people greatly exceeds those of Finland (8.21 deaths per 100,000), Norway (7.28 deaths per 100,000), and Denmark (16.23 deaths per 100,000).<sup>86</sup> As of December 2020, Sweden has found itself quickly running out of intensive care beds amid soaring cases of COVID-19, with Stockholm hitting 99% capacity. In the midst of the nation's growing panic, Sten Rubertsson, head of Sweden's National Board of Health and Welfare, warns that the nation may have to turn to its neighbor Finland, which had implemented lockdowns, for help.<sup>87</sup>

"We see no signs of immunity in the population that are slowing down the infection right now." Tegnell revealed at a press briefing in late November 2020. Unfortunately for the people of Sweden, this revelation was too little and too late, but now serves as a wake-up call to the nation and as a cautionary tale to the world.

## CONCLUSION

By the time this article was written, and nearly one year following the first confirmed case of COVID-19, a total of 80,575,761 individuals have been infected by the virus globally, with 1,762,942 of those cases resulting in death.<sup>88</sup> The COVID-19 pandemic is unlike any pandemic the world has seen before. Only time will tell the long-term effects that COVID-19 will inflict upon individuals, families, communities, healthcare infrastructures, and governments. All we have now is a year under our collective belt. At the anniversary of the virus's inception, some countries have managed to return to normal everyday life, or what some call a "new normal," while other countries are still battling record-breaking rates of infection and death. Each nation took its own unique approach to combatting COVID-19 and each nation was forced to face the consequences of their decisions, for better or for worse. A careful observation of pandemic responses from around the globe has revealed a pattern of success among countries that have employed one of three approaches—a cyber-intrusive approach, a liberty-intrusive approach, or some combination of the prior two. The most practical of the three options depends wholly upon any given nation's societal culture. Those that have opted for a far more light-handed – or no approach at all – continue to rank amongst the countries most negatively affected by COVID-19.

Global pandemics are among the most challenging national security threats as they have the ability to disrupt and devastate anyone and everything, demanding a national response from governments everywhere. Many predict that COVID-19 will trigger a global emblematic shift, much like that which occurred following the 9/11 attacks, prompting countries everywhere to adapt their existing infectious disease response strategies. Countries that have effectively hindered the spread and impact of COVID-19, such as Taiwan, South Korea, New Zealand, Germany, and Saudi Arabia will go on to serve as examples to other nations for many years to come.

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<sup>84</sup> Kate Duffy, *Sweden, Having Refused to Lock Down, is now Bringing in Tougher COVID-19 Restrictions as Cases and Deaths Soar. 'This is the New Norm,' the Prime Minister Said*, BUSINESS INSIDER (Nov. 17, 2020, 4:30 AM), <https://www.businessinsider.com/sweden-covid19-covid-lockdown-restrictions-rules-deaths-cases-stefan-loftven-2020-11>.

<sup>85</sup> Niclas Rolander & Rafaela Lindeberg, *Swedish PM Makes Covid Plea in Historic National Address*, BLOOMBERG (Nov. 22, 2020, 12:23 PM), <https://www.bloomberg.com/news/articles/2020-11-22/swedish-pm-sends-covid-plea-to-nation-after-careless-response>.

<sup>86</sup> JOHNS HOPKINS UNIVERSITY & MEDICINE, *supra*.

<sup>87</sup> *Covid 19 Coronavirus: Sweden Running out of Intensive Care Beds as Cases Soar*, *supra*.

<sup>88</sup> WORLDOMETER, *supra*.