

# COVID CATASTROPHE

CONSEQUENCES OF  
SOCIETAL SHUTDOWNS



**MAINE POLICY**  
I N S T I T U T E

MAINE POLICY INSTITUTE

# COVID CATASTROPHE:

## *CONSEQUENCES OF SOCIETAL SHUTDOWNS*

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"The curious task of economics is to demonstrate to men how little they really know about what they imagine they can design."

Friedrich A. Hayek, *The Fatal Conceit*

## Introduction

In late December 2019, scientists in Wuhan, a city of 11 million people in central China, discovered a novel coronavirus, dubbed SARS-CoV-2, due to its similarity to the Southeast Asia Respiratory Virus (SARS). “SARS 1” captured the world’s attention in 2003, infecting over 8,000 people and killing 741, mostly in Asia. Only eight people in the U.S. were confirmed to have contracted SARS during that time. In February 2020, as more and more cases of SARS-CoV-2 were being discovered in China, scientists named the disease caused by this new coronavirus, COVID-19.<sup>1</sup> As of late July, over 16.5 million people worldwide are recorded to have contracted COVID-19, resulting in over 655,000 deaths.

Very little was known about this new virus in early 2020, as the world tried to secure accurate data from the opaque and corrupt Chinese Communist Party.<sup>2</sup> Despite limits on credible information, science had determined a few crucial elements, which were informed by the surveys of passengers on quarantined cruise ships like the Diamond Princess. We began to see that a surprisingly large portion of those exposed do not contract the new virus, and a substantial number of those infected do not experience symptoms serious enough to seek medical care. We learned that the elderly and those with preexisting conditions or a compromised immune system were at the highest risk.

In Maine today, the spread of COVID-19 is largely under control. Indicators of disease spread, like infection rate, testing positivity rate, and  $R_0$  value, or “R-naught,” (the rate at which each infection leads to other successive infections) and indicators of outbreak severity, like case hospitalization rate and case fatality rate (CFR), have been on the decline since peaking in April and May. Although Governor Janet Mills has maintained the Civil State of Emergency originally declared in March, a review of current data shows that Maine is no longer in an emergency.

Every public policy decision is a trade-off. Maine people should be asking themselves what aspects of their lives and livelihoods they had to trade in order to “flatten the curve.” How many businesses in remote Piscataquis or Aroostook county were forced to shut their doors, merely on the governor’s edict, despite relatively little risk to the vast majority of their rural residents? How many workers were unnecessarily pushed onto the unemployment rolls, imposing never before seen stress on the state’s unemployment insurance system? How many millions of dollars were forgone in donations to local charities because of widespread closures and event cancellations?

The broader question becomes, could Maine people have avoided the immense economic hardship inflicted by government-mandated shutdowns and “stay-at-home” orders, while maintaining control of the spread of this new virus and protecting the truly vulnerable?

This report attempts to analyze state actions, reviewing the science available at the time, measuring state response based on that information, and envisioning the ideal policy response in order to avoid future massive economic and societal shocks during the next outbreak.

## Early Viral Spread Models Were Misleading

In February and March, the World Health Organization (WHO), using limited data from early coronavirus hotspots like Wuhan and northern Italy, issued a report estimating the overall infection fatality rate (IFR) at 3.4%.<sup>3</sup> This statement had revised that number up from around 2%. Dr. Anthony Fauci, director of the US National Institute of Allergy and Infectious Diseases, stated this ratio would likely drop as more cases are discovered, due to “another whole cohort that is either asymptomatic or minimally symptomatic.”

In late May, the US Centers for Disease Control and Prevention (CDC) published a report with five varying scenarios of how the virus could spread and affect the nation’s hospital capacity.<sup>4</sup> Even the worst-case scenario of this CDC report pegged the case hospitalization ratio, the rate at which people with positive COVID-19 cases wind up in the hospital, at 4.1% and the IFR at 1%. In the scenario instilled with the highest level of confidence, the CDC estimated the case hospitalization rate to be 3.4% and the IFR at 0.4%.

These predictions were much, much lower than the models published by University of Washington’s Institute for Health Metrics and Evaluation (IHME) and Imperial College of London in early 2020.<sup>5</sup> In this scenario, CDC assumed the  $R_0$  or “basic reproduction number” at 2.5. They also assumed that asymptomatic carriers were just as likely to spread the virus as symptomatic carriers, a facet understood nowadays to be an overestimation.

In early June, a CDC official admitted that “truly asymptomatic” cases of spreading the virus are “very rare.” Of course, the term “asymptomatic” is complex, because we are learning that many cases, as much as 35% by the CDC’s estimate, experience little to no symptoms. In the past, those would have all been under the umbrella of “asymptomatic,” even though those patients may have experienced mild symptoms unworthy of a trip to the doctor, or even enough to spur a COVID-19 serology (antibody) test.

IHME estimated there would be over 80 daily new infections in Maine on June 1; in reality, there were just 24 on June 1. Daily confirmed infections never surpassed 6 per 100,000 people, or just under 80 in absolute terms. This was the model that federal and state officials followed from the outset, but with regard to Maine, it missed the mark by a factor of about four.

Risk-averse politicians, wary of their public stature in the face of a new threat, quickly called for drastic measures like “stay-at-home” orders. Many governors declared states of emergency. This was all done in order to protect crucial healthcare resources and avoid strain on hospitals and medical staff.

In those days, public awareness of the new virus was focused on “flattening the curve,” referencing a bell curve of possible case numbers and the goal to stretch out that curve to the point where its apex did not breach the limit of health care capacity. If only this simplistic view could have predicted a novel disease outbreak on a global scale. What we saw in the months following those initial reports was anything but simple.

## Judging Severity from Early Surveys

A review of epidemiological studies from around the world shows a broad estimate of the range of asymptomatic COVID-19 cases. It is important to note that since many studies were not conducted across a broad range of time, they may have left out the accounts of subjects who eventually experienced symptoms outside the scope of a particular study. This variability is reflected in the breadth of the studies' 95% confidence interval. Framing our understanding of this new virus in this way helps to put the official timeline in perspective.

A WHO review of four related studies from Brunei, China, Taiwan, and South Korea found that "between 0% and 2.2% of people with asymptomatic infection infected anyone else, compared to 0.8%-15.4% of people with symptoms." It is generally understood that transmission from people who are not showing symptoms is rare. Whether those individuals are experiencing a truly asymptomatic case or some period before they exhibit symptoms, has been very difficult to study. A report from China, published in a July 9 WHO brief which noted it as ascribing "clearly and appropriately defined asymptomatic infections," showed that 23% of those infected never showed symptoms.<sup>6</sup>

A study of the travelers on the Diamond Princess cruise ship, which was quarantined off the coast of Yokohama, Japan between February 5 and 20, showed that only 19% of the more than 3,700 guests and crew aboard became infected.<sup>7</sup> Of those infected, over 50% showed no symptoms. Three-quarters of the infected were over the age of 60. A second study published on March 9, comparing the cruise ship data to that from mainland China, estimated the case fatality rate (CFR) at 1.1%. Of course, it should be noted that the 95% confidence interval spans a wide margin, between 0.3 and 2.4%.<sup>8</sup>

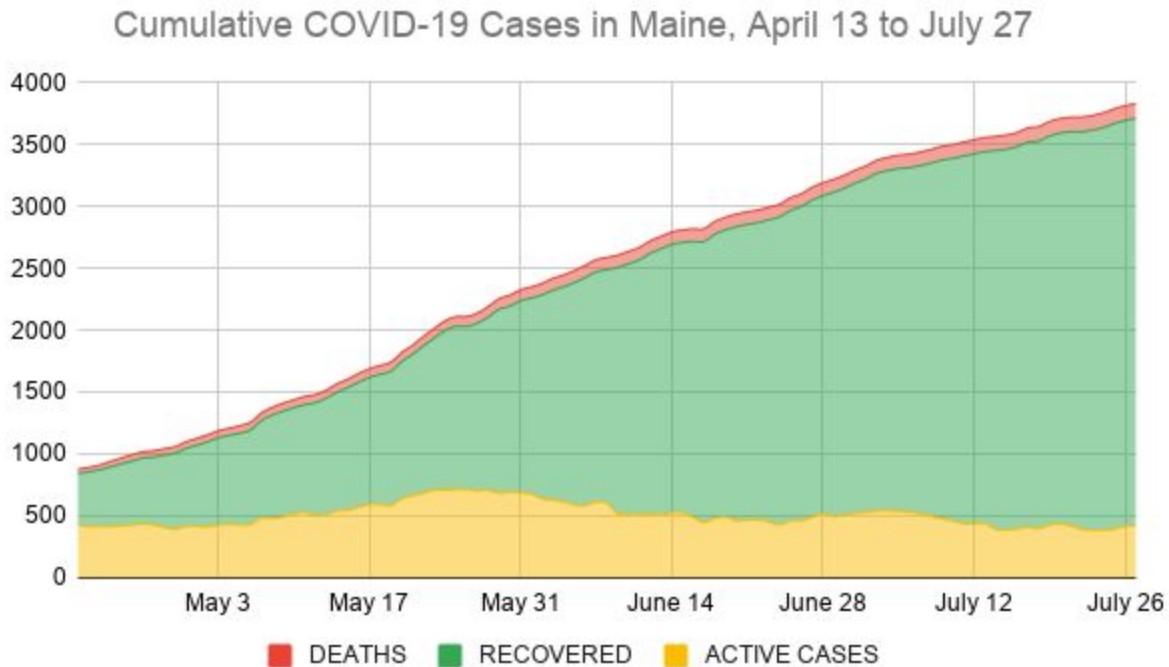
The Diamond Princess example presents an interesting case study, since the closed, contained nature of a cruise ship can simulate the population density of a city. Also, a ship on open water with a diverse array of individuals from Asia and North America helps to smooth out the potential geographic and cultural differences that in-country studies might present.

Although we cannot be sure of the true infection and fatality rates of this new disease, these case studies provide a ballpark within which to determine potential risk to the population. They show us that there are a substantial number of people who, although exposed to the virus, did not become infected, and of those, a substantial number did not experience symptoms indicative of serious illness. This information was available in early March.

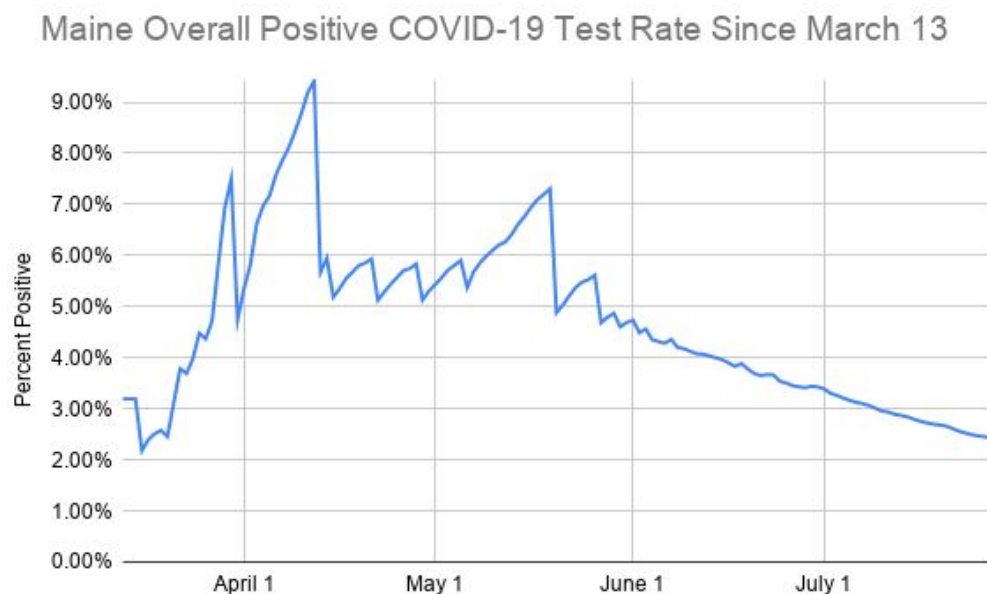
If U.S. policymakers had heeded these early analyses, they may have held off on recommending wholesale lockdowns in the name of protecting a small segment of the population who would be truly endangered. A better plan, instead of trying to direct all of society, would have focused limited resources on protecting vulnerable populations first.

## Where Maine Stands Today

Today, Maine's active case number hovers around 400, the lowest since early May. Sadly, more than 120 Mainers have succumbed to the virus, although current data show a positive trend given the recent dramatic increase in tests administered since late May. Upon a cursory observation of daily media reports on state CDC briefings, the average observer would not see this as a measure of progress. The public is much more likely to hear total, cumulative case numbers more prominently stated, without mention of the progress of active cases, hospitalizations, or testing rate, leaving the layman to believe that the virus is still spreading rapidly throughout the state.



Source: Maine Policy Institute Analysis of Maine CDC Data

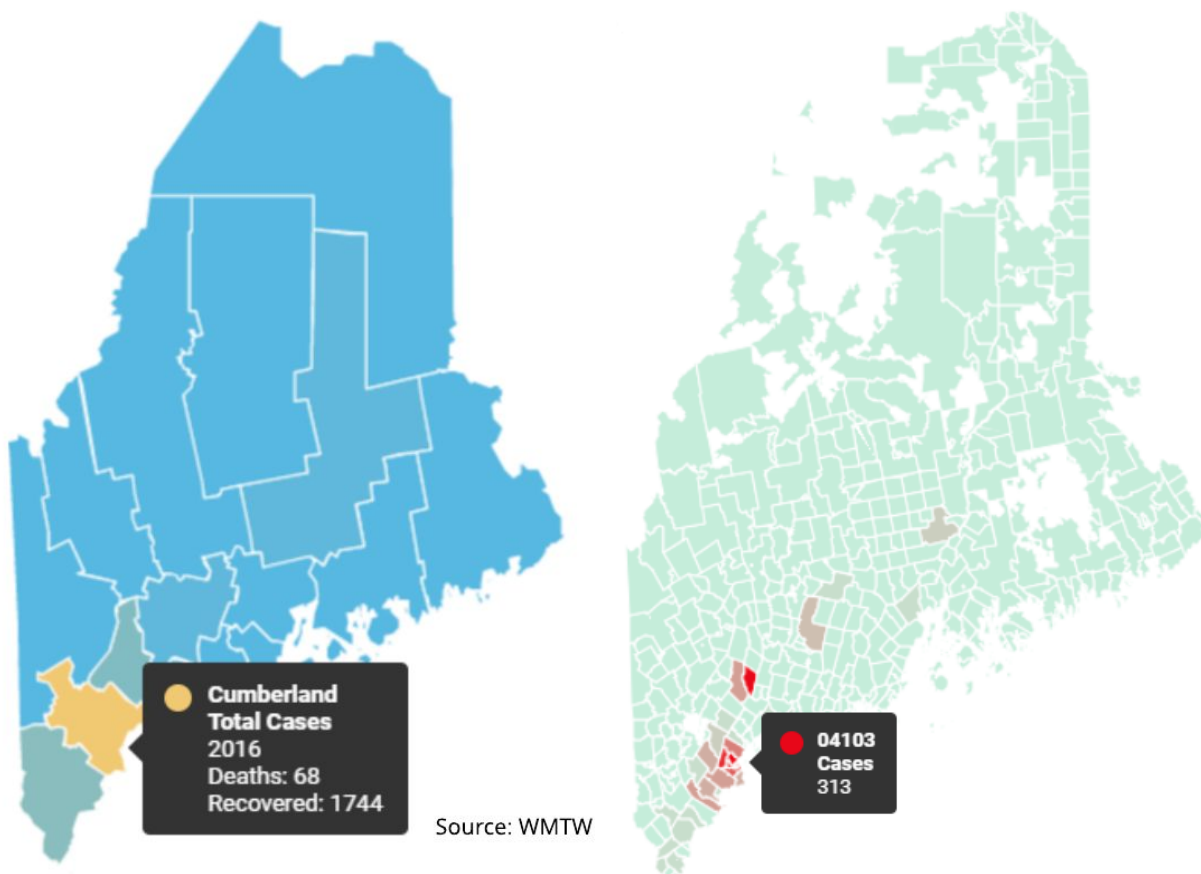


Source: Maine Policy Institute Analysis of Maine CDC Data

Current case data show that the virus is under control in Maine. The rolling 7-day average of positive coronavirus tests has dropped below 1%, the overall testing positivity rate is below 3%, hospitalizations have declined to about a dozen, and our fatality rate (CFR) is just above 3%.<sup>9</sup> This is still significantly higher than studies conducted worldwide that estimate between 0.5-1% CFR. This could be attributed to Maine's demographic composition, the still-inadequate level of testing needed to find all active cases, the tendency of those with mild symptoms to forgo testing, as well as the unresolved scientific accuracy of active virus tests and antibody tests.

Maine's  $R_0$  for COVID-19 is now below one.<sup>10</sup> This means that fewer than one person will become infected for every currently infected person, signifying a slowing spread of an outbreak. The  $R_0$  has fluctuated between 1 and 1.2 for the vast majority of the spring, since state CDC testing data were comprehensive enough to provide a reasonably accurate representation of case distribution. This has led to significant decreases in numbers of new cases, hospitalizations, and the state testing positivity rate, a key metric that Dr. Nirav Shah, director of the Maine CDC, consistently referenced as an indication of the degree of danger to Maine people from the outbreak.

COVID-19 Cases in Maine by County (left) and by ZIP Code (right)



The two figures of Maine above, one by county and one by ZIP code, demonstrate the overall distribution of confirmed and probable cases of COVID-19 across the state as of July 21. Early on in the pandemic, observers and public health officials noticed that population density played a large role in determining how quickly the virus could spread. This was part of the rationale behind

“stay-at-home” orders and limiting “non-essential” travel and commerce: to decrease the amount of close interactions among the population.

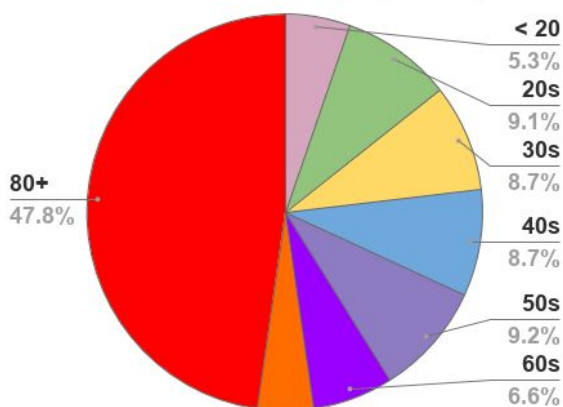
As New England states go, Maine is exceptionally well-suited to weather a new outbreak if the priorities of state officials are fine-tuned. The sparse population, combined with vast geographical distribution of at least two-thirds of the state’s land mass, contributed to significantly limited spread of the virus. For instance, Cumberland County, with the largest share of cases by far and over 50% of the state’s total COVID-19 deaths, contains 330 people per square mile. The City of Portland, at over 3,000 people per square mile, has recorded over 800 cases within its three ZIP codes, almost 40% of the total caseload in the county.

By contrast, Aroostook County contains under 11 people per square mile, and in Piscataquis County, just 4.4 people per square mile. Regional differences across the state vary significantly, yet for over two months, Maine state government treated the entire state as an emergency zone, neglecting to balance these differences with the potential devastation of Mainers’ livelihoods. Only near the end of May did the administration attempt to parse out these differences with its “Rural Reopening” plan.

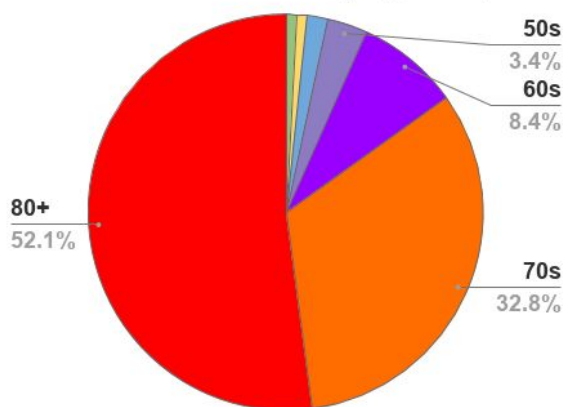
## Current Distribution of COVID-19 Cases

In Maine, and New England broadly, deaths and hospitalizations due to COVID-19 are stabilizing. The fact that we are seeing a more even distribution of cases by age may be an encouraging sign because we are beginning to understand the breadth of different experiences people have when encountering this new virus. It further highlights the fact that those most at risk of death are the elderly. Although slightly more than half of cases are Mainers aged 70 and older, they have made up nearly 85% of fatalities.

Maine COVID-19 Cases by Age Group



Maine COVID-19 Deaths by Age Group



Source: Maine Policy Institute Analysis of Maine CDC Data

Rising COVID-19 case numbers in Maine and across the United States during the recent summer months, now added to the case totals, are showing a broader age distribution. That is to say, more people between the ages of 20 and 50 are being confirmed to have contracted the coronavirus. Beforehand, the vast majority of cases were from those over 65, a group much more likely to



experience severe symptoms, seek care, and be hospitalized. The effect that this sort of selection bias would have on the currently available data is just beginning to be realized.

It is possible that institutions from the CDC, WHO, and Maine state government miscalculated the date at which the new coronavirus reached U.S. shores, and therefore how many Americans could have been infected or even exposed to the virus this year. Recent reports showing outlier “influenza-like symptoms” at Maine hospitals as early as mid-January suggest that the coronavirus may have been in Maine many weeks before the state shut down economic activity in an attempt to stem the spread.<sup>11</sup>

On July 21, the CDC released a report estimating that 10-13 times as many Americans as current figures suggest could have the coronavirus.<sup>12</sup> The authors attributed this estimation to the possibility that many people who had mild or no illness, did not seek medical attention, yet still carried the virus, “may have contributed to ongoing virus transmission in the population.” Considering that surveys across the globe show that mild or asymptomatic cases of COVID-19 exist in anywhere between 20-35% of those infected, these reports likely get us closer to understanding the true spread of the disease among the population.

Overall, this data should give Americans hope that we are getting closer to meeting the threshold of natural or “herd” immunity. Herd immunity is the idea that once a substantial portion of a society has accumulated antibodies from being exposed to a new virus, spread of the virus slows and the vulnerable and immunocompromised are protected from infection. While the adequate level of exposure to trigger herd immunity is currently unknown,<sup>13</sup> this might be our quickest way out of this crisis, considering new vaccine development is a lengthy endeavor.

It is extremely rare for a vaccine to be quickly developed and available for treatment, even within five years. The shortest time in history that a new vaccine has moved from the research lab to market was the mumps vaccine in the 1960s, which took almost four years.<sup>14</sup> Hoping for a fast-tracked process that usually takes several years could prove a costly and reckless endeavor. As more data come out and we are graced with the benefit of increased hindsight to this crisis, pursuing herd immunity could be our most advantageous strategy.

## **Heavy-handed Policy Brings Unintended Consequences**

Maine recorded its first case of COVID-19 on March 12. During the week of March 15, Governor Mills declared a Civil State of Emergency, recommending that schools close, gatherings of more than 50 people be cancelled or postponed, restaurants and bars close for two weeks, and elective medical procedures be delayed. This early order also designated which businesses would be considered “essential” and which would be considered “non-essential” by the state.<sup>15</sup> This delineation would prove to be the greatest hurdle for many businesses, merely to attempt to make ends meet under the governor’s new rules.

By the end of March, Governor Mills had ordered all non-essential businesses to close any public-facing operations and issued the “Stay Healthy At Home” order, banning all non-essential travel. The few public spaces deemed integral to public health, like grocery stores, pharmacies, repair shops, etc., were ordered to comply with state rules requiring physical separation and

frequent sanitation of spaces. Restaurants could only offer take-out or delivery service, for example. Shortly after, state officials released the phased “Restarting Maine’s Economy” plan, outlining how and when certain industries could expect to reopen.<sup>16</sup> Heather Johnson, the Commissioner of Economic and Community Development, issued checklists for each sector to follow in order to reopen within the phased plan.<sup>17</sup>

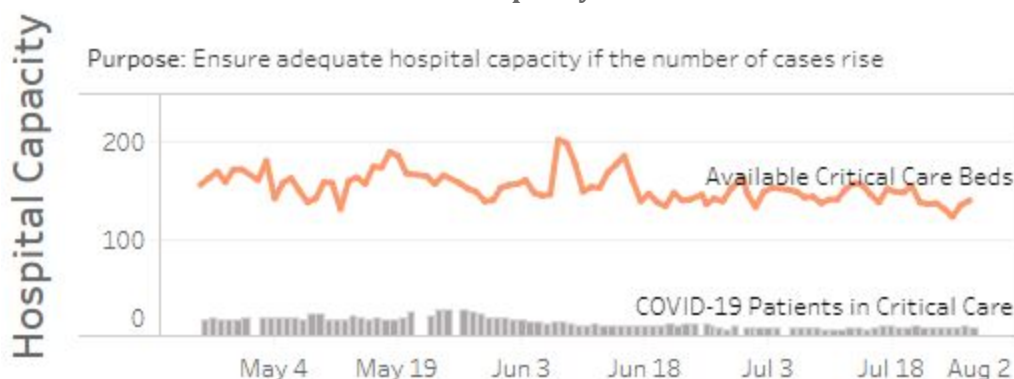
Two days before the governor announced her plan, Maine Policy Institute published and presented a proposal to guide the administration’s decisions, stressing the need for flexibility, balance, and trust in people to make smart decisions for the health of their communities.<sup>18</sup> Over 5,500 Mainers signed on to Maine Policy’s recommendations. Despite the resounding message from industry leaders, workers, and families across the state, the Mills administration released its phased-in reopening plan that, from the outset, arbitrarily picked winners and losers in the economy.

Unfortunately, the phased reopening left many businesses out of the loop and unable to attempt to serve customers and pay employees while operating at a limited capacity. The Mills administration could have issued health and safety guidance for businesses to that end, but instead mandated all but those deemed “essential” to close. To date, Maine Policy has compiled an unofficial list of the businesses that have reported permanent closure, through local broadcast media or social media, due to the state response to the coronavirus.<sup>19</sup> At time of publication, that list exceeds 75 businesses across Maine, not including the numerous cancelled fairs and festivals on which many towns and local businesses rely for tourism-related revenue.

In mid-April, Maine experienced its highest number of daily COVID-19 deaths. Thirty-two Mainers succumbed to the virus between April 13 and April 27, one quarter of the state’s total deaths as of late July. The state began to include “possible cases” as part of the totals during that time, counting not only confirmed positive tests, but also close contacts of individuals who tested positive, as well as those with a positive antibody test and some symptoms. At the bottom of its COVID-19 data dashboard webpage, the Maine CDC outlines the specific factors it considers when determining possible cases.<sup>20</sup>

Since the beginning of the outbreak, Maine state officials largely followed the advice and guidance of the federal CDC. Maine state officials and the White House used the University of Washington IHME model to try to anticipate the spread of the new virus. In mid-March, just before Governor Mills declared the state of emergency, the U.S. Surgeon General called on states to delay elective medical procedures to attempt to conserve personal protective equipment (PPE) and hospital capacity in the event of exponential growth in serious coronavirus cases.<sup>21</sup> In the early weeks of this pandemic, state and federal officials focused on the risk of an overburdened healthcare system, as many had seen in reports from Italy the month before, encouraging the public to do as much as possible to “flatten the curve.”

### Critical Care Capacity in Maine



Source: Maine CDC

Later in the spring, we would hear about hospital systems across the country,<sup>22</sup> including in Maine,<sup>23</sup> that had to furlough, lay off, or cut hours of nurses, practitioners, and other hospital employees, due to the loss of revenue from postponed procedures.<sup>24</sup> While this sort of unintended consequence appeared relatively early, the true health consequences of delaying procedures unrelated to COVID-19 are likely to be unrealized for many months or years. A report published in the National Institutes of Health (NIH) Public Health Emergency COVID-19 Initiative cites an estimate that 91% of surgeries in the US are considered elective and mentions that, “Delays in surgery have been shown to result in higher rates of surgical site infections, leading to increased costs ranging from \$7,000 to \$17,000 for coronary artery bypass graft and colon and lung resections.” The report further states:

“The medical consequences of surgical delays will likely manifest in increased costs to the health care system via treatment of more advanced disease, often requiring more intense and more costly treatment. For example, disease progression in breast, colorectal, and lung cancer is associated with an annual increase of \$50,000 per case.”<sup>25</sup>

Patients who had to postpone their biopsy or cancer screening delayed a potentially earlier diagnosis crucial to ensuring recovery. We are beginning to see that the effects of government overreaction to the pandemic contributed to worse health care outcomes than what the virus could have reaped on its own.

While some orders and guidance may have exacerbated a potential crisis, many early orders from Governor Mills opened up the healthcare sector and allowed for greater access to care for Mainers. For instance, in late March, a series of executive orders from the governor waived fees and allowed for expedited processing of licenses for doctors, nurses, pharmacists, and other vital medical providers during the pandemic. Governor Mills also waived limitations on out-of-state remote health care (or “telehealth”) providers, enabling vulnerable Mainers in rural areas to gain access to affordable care without visiting a medical office and potentially exposing themselves to others.

Another Mills order allowed the Department of Health and Human Services’ (DHHS) Division of Licensing and Certification to temporarily allow for expedited Certificate of Need (CON) applications.<sup>26</sup> Certificate of Need is a costly, lengthy process that requires hospitals and nursing homes to seek the approval of the state—and their competitors—in order to significantly expand services or capacity.<sup>27</sup> Despite a quicker process during the pandemic, nursing homes still had to

wait for approval from DHHS in order to increase their bed capacity. Hospitals were allowed to merely notify DHHS of their expansions. Once the State of Emergency ends, these facilities are required to file a conventional CON application in order to maintain the capacity requested.<sup>28</sup>

This move was absolutely necessary to remove some regulatory barriers to the expansion of bed capacity at a time when prevailing models predicted nationwide hospital capacity would reach the maximum within 6-12 months.<sup>29</sup> Clearly, many in state government understand the great impediment to a functional health care system that Certificate of Need presents, especially during a public health scare. Lawmakers should permanently do away with this unnecessary regulatory burden when they next convene, as they should retain the medical licensing and telehealth rules suspended during the pandemic as well.

Maine saw the greatest number of serious hospitalizations due to the virus between May 20 and May 28. At the height, 60 people were hospitalized, 26 of whom were in the intensive care unit (ICU); at least 130 ICU beds were still available statewide. Before then, the state saw its highest number of hospitalizations in mid-April when COVID-19 patients numbered in the high 50s.

On May 25, during the week of peak hospitalizations, Governor Mills announced a dramatic change in the phased reopening plan. The “Rural Reopening” was designed to allow the most rural counties a more relaxed regime than the four counties in which “community transmission” had been recorded: York, Cumberland, Androscoggin, and Penobscot.<sup>30</sup> Community transmission refers to evidence of disease spread among a resident population, not merely from travelers coming from outside the area.

This plan was accompanied by a stricter regime for restaurants and other businesses in those four counties. The initial reopening plan had southern Maine restaurants slated to reopen to indoor dining on June 1, but the Rural Reopening delayed this indefinitely. Restaurants in the other 12 rural counties were allowed to continue on the previously-outlined reopening plan, following state guidelines on physical distancing and contact-tracing. The updated plan also delayed reopenings for nail salons and tattoo parlors statewide, even though similar personal services like barber shops had been open since the beginning of May.

DHHS Commissioner Jeanne Lambrew, in a briefing to legislators that week, responded to a question on how the administration makes its decisions, noting that “until there is a vaccine or treatment, we will aim to keep case counts low.” To many observers, this was alarming to hear, since the overarching message from state leaders until then was to physically distance and limit personal interactions in order to “flatten the curve” and avoid health care shortages.

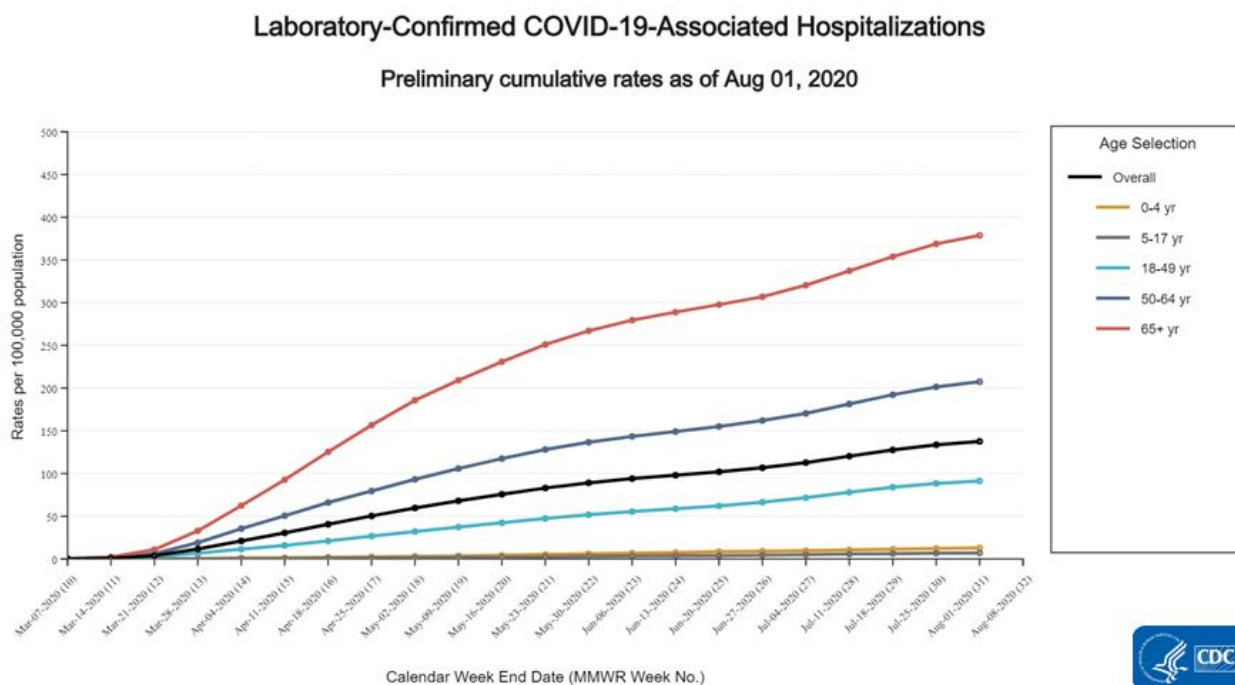
By the second week of June, Governor Mills moved to relax many more aspects of the reopening plan. The governor allowed visitors from New Hampshire and Vermont to enter Maine after a 14-day quarantine or providing proof of a recent negative test. The governor also allowed indoor dining for the counties targeted earlier for community transmission, although the indoor reopening of bars has been delayed until further notice due to rising cases in the southern US.<sup>31</sup> It is important to note that in this same week, New Hampshire lifted similar restrictions, opting for a regime of guidelines to encourage businesses to operate safely. While New Hampshire’s per-capita case numbers are slightly higher than Maine’s, it has also experienced a similar recent downward trend in measures of outbreak severity.

## Choice of Data Lead to Lockdowns

The question remains why the U.S. federal government and many state governors, including Governor Mills, based their early understanding of the coronavirus on models developed by the University of Washington Institute for Health Metrics and Evaluation (IHME) and Imperial College of London (ICL).

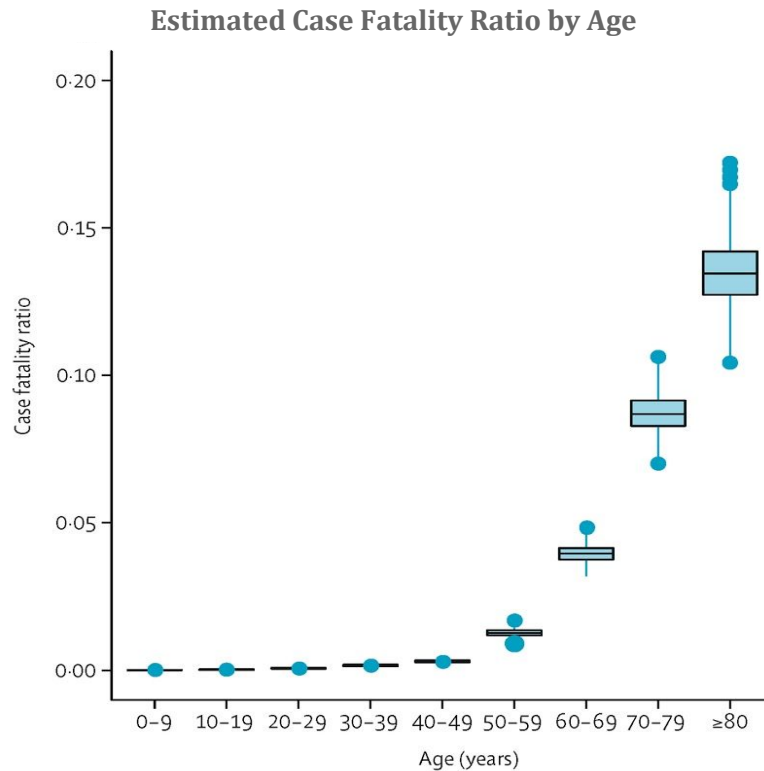
In March 2020, ICL released a report that estimated overall case fatality to be 1%, lower than the 3% initially estimated by IHME.<sup>32</sup> They reported that due to, “the (unlikely) absence of any control measures or spontaneous changes in individual behaviour,” after three months, 81% of people in the United States and United Kingdom (UK) would become infected, leading to 2.2 million deaths in the US and over a half-million deaths in the UK. The report assumed that 30% of hospitalized cases would require critical care and that half of those patients would perish.<sup>33</sup>

Despite the recognition by the researchers that a scenario in which no avoidance strategies are employed would be unlikely, the staggering fatality estimates were continuously cited by those in the media<sup>34</sup> and government.<sup>35</sup> These estimates would also prove to be much too high. Today, federal CDC data show the hospitalization rate among those aged 65 and older, the age group at highest risk, to be under 400 per 100,000 population, or 0.4%.<sup>36</sup>



Source: U.S. CDC

A study published at the end of March in the UK medical journal *Lancet*, and cited by both IHME and ICL in developing their models, showed a distinct difference in estimated fatality rate by age group. For those younger than 60 years old, the case fatality rate was estimated to be 0.63%, yet for those aged 60 or older, it was estimated to be almost 6%. The following graph represents the *Lancet* study's estimates of case fatality ratio by age distribution.<sup>37</sup>



Source: The Lancet Vol. 20, Issue 6

From the beginning of this global pandemic, the data were clear that this new virus affected the elderly most severely, presenting the highest risks of infection if exposed, hospitalization, and death. State officials could have heeded this information in the early response period, understanding that an effort to protect 100% of the population would not be as effective as an effort to protect the truly vulnerable, and enlisted the aid of charities, businesses, and academic institutions to serve the people most at risk. Authorities could have understood that individuals will voluntarily, substantially alter their behavior such that the grossly overestimated models outlined above would be moot.

The early period of the pandemic was one of great uncertainty. Officials in government and public health were forced to constantly adapt to rapidly changing data and knowledge of the virus and its incursion into the state. No one can blame state leaders for changing policy as they learned more. Yet, even at the time the first case of COVID-19 was recorded in Maine, there was not enough evidence to show that full-scale lockdowns would be the most effective strategy. The available evidence suggested that the vast majority of people would not suffer severe illness; this should have led state leaders to focus on the most vulnerable people in society.

Data available in early March, like studies from *The Lancet* and WHO could have been used by state officials to support a strategy of containment for the populations most at risk, without causing massive disruption to the economy and society. Instead, politicians and public health experts selected which data and models they would follow, choosing to anchor themselves to those that supported a lockdown strategy. This is not to say that this choice was made out of malice. This decision was likely made because of pride in the ability of the government to plan society, blinding their ability to recognize the shortfalls of massive government intrusion into daily life.

In this way, executive administrations of many states, including Maine, displayed data that they believed would generate the most excitement and fear, thereby leading more citizens to listen to and follow state guidance to lockdown the economy and society. The fact that these representations of the existing case data did not provide an accurate view of infection rate or fatality rate was not a factor in official decision-making. It seems that the most prominent factor in choosing data to present to the public was whether the public would be more or less willing to follow the recommendations—and later orders—of state authorities.

## Nursing Homes Given Inadequate Attention

Even while public officials were operating with very limited information at the outset of the emergence of SARS-CoV-2, the science was clear that the virus posed a significantly higher risk to the elderly and those suffering from preexisting conditions. This conclusion was based on data from China and Europe from early in the year. Given this important, albeit limited, understanding of the risks to the population that COVID-19 presented, by June 12—three months into the Civil State of Emergency declared by Governor Janet Mills—Maine CDC had only sent inspectors to less than one-third of the state’s nursing homes.<sup>38</sup> By mid-June, nursing home residents accounted for more than half of the total deaths from COVID-19 in Maine.<sup>39</sup> According to a federal review of the inspection data at that time, Maine was inspecting nursing homes at a slower rate than all but nine other states.

The review was prompted in March, when the White House suspended the requirement for yearly in-person general inspections of nursing homes, instead recommending state agencies focus their inspections on “infection control practices,” like hand-washing protocols and the proper use of protective gear.

In response to an inquiry by the *Bangor Daily News*, state officials claimed that the Maine CDC was not able to conduct these federally-required checks of nursing homes in a timely manner because of limited PPE and staff. There is no doubt that access to these crucial resources was an issue during the early weeks of the pandemic, and state officials had to make tough choices about which institutions in the state would be prioritized to receive PPE. Yet, in order to conduct these sorts of crucial checks, at a bare minimum, state health officials would have been the ones who needed this equipment. The federal government was not requiring the state to disburse PPE to these homes, but to merely inspect them for basic infection control practices.

In mid-May, while state leaders were working to secure a broader testing regime through a partnership with IDEXX, a Portland-based medical technology company, Dr. Shah noted that through this expanded testing capacity, the state would be able to “zero in” on nursing homes.<sup>40</sup> The IDEXX partnership tripled the state’s testing capacity when it was unveiled later in the month. Despite this timeline being much too late to fully secure the most susceptible—nursing home residents and staff—it was broadly understood that the state needed to focus on the potential for outbreaks in nursing homes and congregant care facilities. Dr. Shah said as much in his daily briefings at that time. Maine officials did not lift previous testing prioritization protocols until this partnership was announced.



When the head of the Durgin Pines long-term care facility in Kittery was denied testing analysis by Maine CDC, even after collecting samples from a specified portion of the residents and staff at the home,<sup>41</sup> it became clear that the state's priorities in this regard were misdirected. After Durgin Pines recorded its first confirmed case, tested the residents it believed to be at the highest risk, and presented those samples to Maine CDC, the state refused to process these samples. Maine CDC spokesman Robert Long had stated their protocol would be to recommend universal testing if an outbreak—three confirmed cases or more—had been recorded. Obviously, Durgin Pines was not requesting universal testing, it was trying to get ahead of a potentially deadly outbreak within its walls, yet it was denied help by Maine CDC at a critical time.

Maine CDC denied an initial request by Maine Policy Institute for more in-depth data on confirmed COVID-19 cases and fatalities within nursing homes. An additional request has been made in accordance with Maine's Freedom of Access Act in order to aid the public's ascertainment of the proper effect of state decisions on Maine's nursing home residents.

## The Real Cost of Lockdowns

The economic costs of government-ordered wholesale lockdowns in response to the novel coronavirus have largely outweighed the relative risk to Maine people from the virus itself. Natural changes in behavior due to the virus, like avoiding contact with those outside of one's household, would undoubtedly contribute to a loss of economic activity and some level of stagnation, but Maine experienced a tripled unemployment rate, cratered consumer spending, and the permanent closure of dozens of businesses. The true number of permanently closed businesses won't be realized until 2021 business license data become available, but every week, Mainers hear of another struggling sector asking for more federal and state bailout funds.

Tourism is integral to Maine's economy. In 2018, Maine welcomed 37 million visitors.<sup>42</sup> The Office of Tourism estimates the industry supports 110,000 jobs, or one out of every six Maine jobs. Annually, it generates \$2.5 billion in household income and contributes \$600 million in taxes.<sup>43</sup> Catastrophically, due to the economic shutdown over the spread of COVID-19, MoneyGeek estimates nearly 60% of Maine's total job losses have come from the tourism sector.<sup>44</sup> For many of these businesses, the "summer season," commonly understood to last from Memorial Day to Columbus Day, makes up the bulk of yearly earnings.

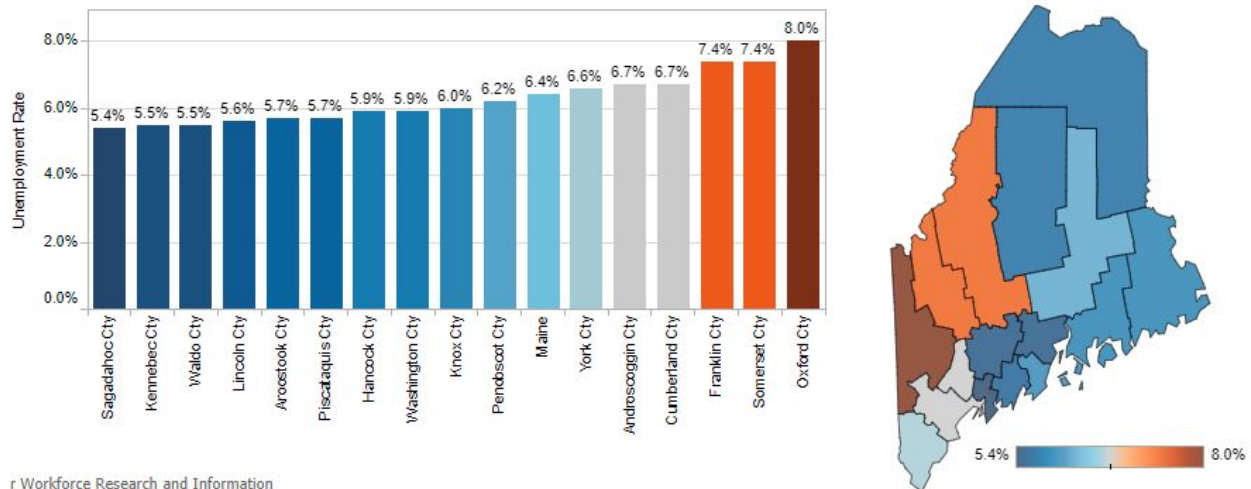
In late April, in response to an outpouring of frustration from business leaders, especially those reliant on tourism, Commissioner Johnson said, "I think we may have misunderstood the complexity of the business side of some of this."<sup>45</sup> From the perspective of economists, this may be the understatement of the year.

The overall unemployment rate in Maine during the month of June, the latest data available, shows that more than 6% of Mainers are currently out of work.<sup>46</sup> While better than the April number of over 10% and May number of over 9%, the share of unemployed Mainers today is still double that of this time last year. Broken down by county, Maine Department of Labor data show that western and southern Maine have borne the brunt of the economic damage from the mandatory shutdowns. This is likely due to many factors, considering York, Cumberland, and Androscoggin counties were targeted by state leaders as having the highest infection rates in addition to community

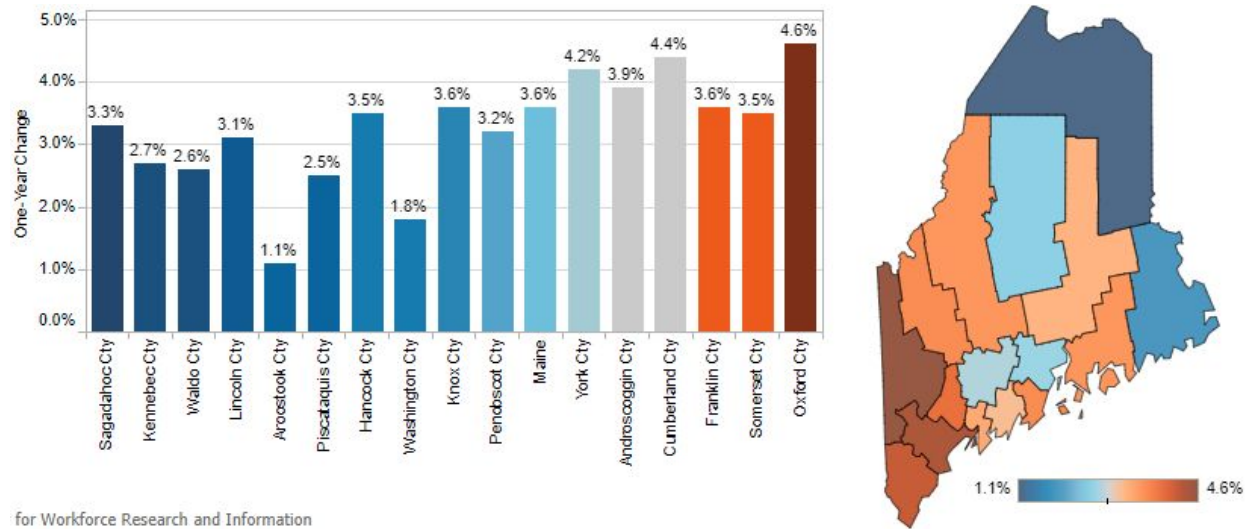


transmission of the virus. These are also the counties with the greatest economic output,<sup>47</sup> so it would stand to reason that a statewide economic shutdown would affect these counties more so than others. It is also possible that the western and southern counties, due to their proximity to New Hampshire, which has allowed business to resume under commonly-understood safety guidelines since mid-June, are suffering from unusually high cross-border losses.

**Maine Unemployment Rate By County (June 2020)**



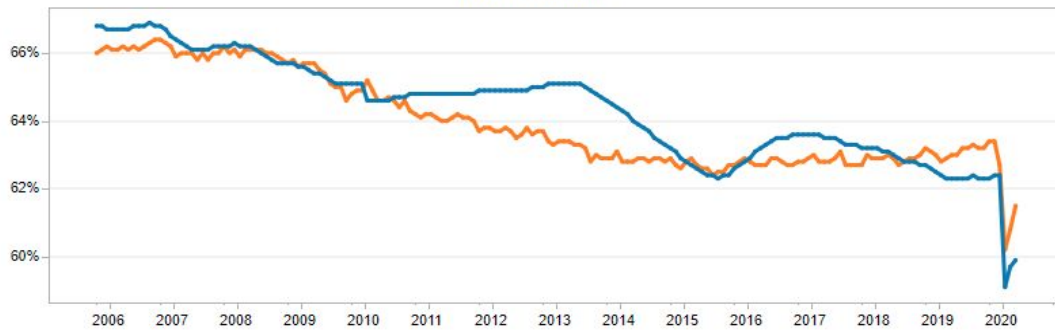
**One-Year Change in Maine Unemployment Rate By County (June 2019 to June 2020)**



Source: Maine Department of Labor

As a measure of economic struggle in the aggregate, the overall unemployment rate is a significant indicator. A somewhat more alarming trend, and one that may signal a longer recovery, is the exodus of individuals from the labor market itself. Since the unemployment rate is determined by the number of workers who are not working divided by the number of those in the workforce, a rapid drop in those looking for work is likely hiding a more dire unemployment situation than the aggregate data would suggest.

Seasonally-Adjusted Labor Force Participation Rate (blue = Maine, orange = US)

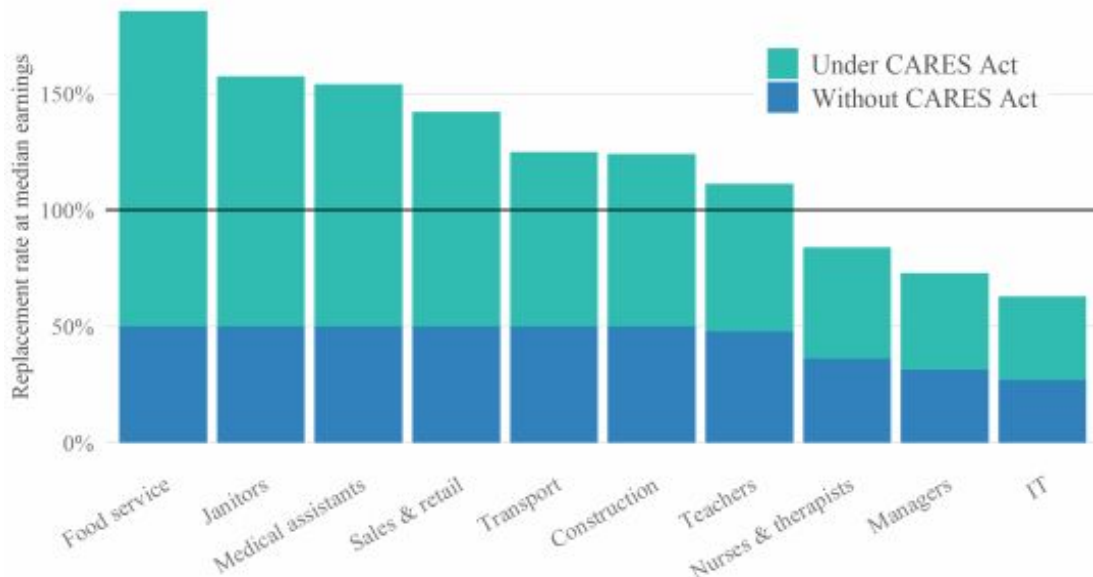


Source: Maine Department of Labor

Obviously, significant growth in the number of Mainers who are unemployed can take an enormous toll on the ability of those families to sustain themselves, and on the ability of the overall economy to bounce back from this largely government-manufactured shock. The expansion of federal unemployment insurance (UI) under the CARES Act shows how heavy-handed government policy further distorted the labor market. This program gave every American who had been laid off due to the pandemic response an extra \$600 a week, on top of the regular state benefit.

While trying to take care of the people who had been most affected by the economic shutdowns, the federal government established perverse incentives for workers, paying many of them more than what they would make if they were working. A paper from the Becker Friedman Institute at the University of Chicago, published in May, found that the median worker receiving pandemic UI was earning 134% of their previous wages. Over two-thirds of those on UI received at least 100% of their previous earnings.<sup>48</sup>

UI Benefit Replacement Rates for Common Occupations



Source: Becker Friedman Institute

While this sort of system would produce many adverse effects, like disincentivizing able-bodied adults from returning to work, the greatest may be the widened disparity between “essential” and

“nonessential” workers. Those businesses deemed nonessential were ordered to close, and subsequently laid off workers, while those determined by government to be essential workers maintained their current wages during a period of higher risk. This is seen most starkly in the Becker Friedman paper within occupations, especially food service and janitorial services. In order to avoid this unfair situation for thousands of essential workers as well as additional unintended consequences, Congress should cap total (federal plus state) UI benefits at 80% of previous earnings in its next coronavirus-related bill.

## Transparency Issues Among State Officials

A primary goal of policymakers during a fast-moving crisis must be an adherence to a high standard of public transparency. When making large-scale unilateral policy changes, state officials must be completely forthright about which metrics and indicators they are using to determine the course of action. This high standard was not always met by the Mills administration.

Dr. Nirav Shah, having previously noted in his daily briefings that testing positivity rate is the best metric for measuring the success of the administration’s efforts to contain the virus, only began to release daily tallies of negative test results by the end of May, leaving out over two months of calculating a more granular-level trend line. The public saw the weekly (7-day) positivity rate every Wednesday, but in that crucial time, our understanding about the new virus was changing rapidly, as were the administration’s policies. The administration’s response to repeated questioning on this topic was that there was simply too much data to calculate every day based on the Maine CDC’s staff. In late May, Matthew Gagnon, CEO of Maine Policy Institute, began compiling daily data on a public spreadsheet in order to calculate daily positivity rate based on daily testing numbers.<sup>49</sup>

Maine was the last state to release town-level data, reporting case data only at the county level until early June. The Mills administration had previously resisted providing town-level data, arguing that it could lead to the identification of patients in small towns with low case counts, a violation of the Health Insurance Portability and Accountability Act (HIPAA). This reasoning did not sway those interested in government transparency, especially during a period of concentrated power in the hands of the governor under a Civil State of Emergency.

Dr. Shah had expressed his hesitancy to release more detailed data because, if it showed case load concentrations in the most densely populated areas, it could engender a false sense of security, leading Mainers to not take the virus seriously. Even supported by this seemingly reasonable rationale, the administration’s obfuscation of data is inexcusable. Epidemiological data accumulated by the CDC is public record to the extent it does not compromise any private, personal information of patients. This is well within the ability, and the duty, of the state to provide to the people, especially in times of crisis.

Only on June 3, after a request filed by the *Portland Press Herald* following weeks of pressure from groups like the Freedom of Information Coalition, did the Maine CDC provide town-level case data.<sup>50</sup> This data was merely cumulative across the previous 10 weeks, not showing active cases, or charting across time. It did not provide any indication of infection trends in each town, or within each county. The administration and the Maine CDC provided the bare minimum.

By early June, the governor made drastic eleventh-hour changes to her reopening plan, such as arbitrarily restricting the reopening of certain restaurants, bars, and personal care services in the four counties outside of the “Rural Reopening” strategy. This change was made only four days before these businesses planned to resume somewhat-regular operations. Maine people were constantly assured that these changes were being guided by current data and scientific evidence, without being allowed to see it for themselves.

Early in the pandemic response, Governor Mills broke the state’s open meeting law by conducting closed-door briefings with selected legislators.<sup>51</sup> Throughout the spring, legislators from both parties<sup>52</sup> complained that they were not being consulted or alerted to the changes being made to the governor’s phased reopening plan, or how the administration was solving the persistent issues with the unemployment system.<sup>53</sup>

Government officials, especially when operating under a state of emergency and substantially expanded executive powers, are bound to a duty of transparency to the public. Even if they are worried about their ability to control the message received by the public, administration officials have consistently stated that their actions are supported by epidemiological data and science. People deserve to see the same data on which the administration is using to rationalize large-scale economic shutdowns and phased reopening policies.

Policymakers working with a limited understanding of a problem are likely to generate greater unintended consequences. In the interest of maintaining the public’s trust and legitimacy, officials in the future should ensure that full, open data is the first priority.

## **Balancing Caution with Social Costs**

A tendency toward caution is not a bad thing, especially when dealing with an unknown new disease. The potential for a disease to spread exponentially is very possible without adequate public awareness of the risks. Mainers could have seen a much worse outbreak under different circumstances. Government officials, ever-conscious of how the state’s response will reflect on them professionally, will tend towards the most cautious position possible, narrowly focusing on a single variable. In this instance, it was COVID-19 case counts. While a noble intention, this course of action fails to consider the myriad other responsibilities of public officials, even during a perceived public health crisis.

The most dramatic early models charting the potential spread of COVID-19, on which many officials based their responses, assumed no voluntary changes in behavior due to the existence of a global pandemic. The fact is that many people were aware of this new disease and changed their behavior based on the data and suggestions from public health experts. Sadly, the over-correction made by governments in ordering near-complete shutdowns of local economies, including urging hospitals to delay elective procedures to save hospital capacity for the worst case scenarios, brought to the surface societal issues much deeper than the global pandemic had previously shown us. In addition to lost employment and the inherent dignity that comes with employment, we were warned that with every 1% rise in the unemployment rate, we would see 1-2% rise in afflictions like suicide and substance abuse.<sup>54</sup>

Sadly, this prediction turned out to be conservative compared to real-world experience. In mid-July, the Maine Attorney General's office and the Office of Chief Medical Examiner co-released a report, performed by the Margaret Chase Smith Policy Center, which showed that Maine lost 127 people to drug overdose from January to March 2020, 23% more than in the last quarter of 2019.<sup>55</sup> The report noted that preliminary analyses showed a likely continuation of that trend, estimating another 132 Mainers died of overdose in the second quarter. Alluding to the recent spike in "deaths of despair" induced by the pandemic and ensuing lockdowns nationwide, the report described this trend as:

"comparable to increases being seen nationally, which are attributed to the effects of the pandemic, including social isolation, economic difficulty, and reluctance to seek medical attention. Interruptions in drug supplies internationally have resulted in substitutions and combinations that may be contributing to additional vulnerabilities to overdose."

Nationally, data show a 13% increase in overdose deaths in the first quarter of this year, but Maine is exceeding this trend.<sup>56</sup> The Maine Attorney General's office estimates that drug overdose deaths in the state over the first half of the year will reach almost 260. It is a sad irony that, partly due to the massive shockwave of business and charity closures in response to the virus, Maine is suffering a substantial increase in overdose deaths, totalling even more deaths than those attributed to the virus. This effect is just one of the many unintended consequences of the overexertion of state power and limitation of personal autonomy in a time of crisis.

## **Recommended Government Response to Future Pandemics**

Understanding the state's comparative advantages in relation to other institutions of society is crucial to determining the proper scope and course of public action. Government action tends to favor one-size solutions, especially in crisis. In the throes of a public health crisis of pandemic scale, the state can play an important role, but true solutions are more likely to emerge within business, academia, and the nonprofit sector. When information is rapidly changing, mustering the greatest amount of knowledge possible—while maintaining societal balance—must be the goal for policymakers.

### **Secure Credible Information**

People will voluntarily alter their behavior based on the risks of living in a world with an unknown, potentially very contagious and deadly virus. Through the fast-paced nature of media within our increasingly connected world, information reaches people at lightning speed. Whether understood or not, people constantly reevaluate their situation and respond to changes in their condition.

In a true emergency situation, the state could aid in the spread of credible information by encouraging accurate, disinterested accumulation of peer-reviewed scientific information and issuing guidelines—not mandates—to apprise citizens of recent developments. Of course, this scenario would rely on the bureaucracy to be honest about its findings and principled in its approach, lest it overstep the boundaries of its own power. In this way, the government could have avoided the loss of legitimacy and trust among the populace that has inevitably occurred today.

So-called "caution fatigue" among the people can limit the effectiveness of large-scale public health interventions,<sup>57</sup> making it difficult for governments to maintain legitimacy. This should not be seen

as an indictment of common sense safety measures like voluntary face coverings, hand-washing, and stricter respiratory etiquette, but public officials must ensure they have the support of their constituents in order to be effective. Counterintuitively, broad mandates are likely to diminish overall effectiveness.

While regulating information flow *could* be a useful tool of the state, a danger still exists—based on the economic and political incentives inherent in state action—to make known information that would only support compliance by furthering a preferred narrative. This is likely what the people of Maine and many other states experienced during the course of the public response to COVID-19. To remedy this problem, this report recommends the separation of science and state. The potential for corruption and conflict of interest is too great when the state selects, hires, and finances its own experts for guidance on public health.

### **Seek Balance & Flexibility**

Despite the large-scale economic disruption that resulted from one-size-fits-all shelter-in-place orders from state governors, data shows us that the previously determined strategy of physical isolation to avoid infection was also harmful on an epidemiological level.

A recent study of data from the early months of the pandemic in South Korea showed that people are five times more likely to contract COVID-19 from household contacts than from non-household contacts.<sup>58</sup> Data released by the State of New York in early May showed a similar trend, with two-thirds of new hospitalizations coming from people who were staying at home.<sup>59</sup> New York Governor Andrew Cuomo called this revelation “shocking” during his May 6 briefing on the report, but this should not have been shocking. It was never expected that COVID-19 would simply disappear or be eradicated, it could only be managed.

The wholesale shutdown of a vast majority of business, and the order to “shelter in place” from the powers-that-be likely exacerbated not only the economic damage from the virus itself, but also the length and severity of the pandemic. Admonishing citizens for leaving their homes and interacting with others outside the household may have limited the short-term rate of infection, but it also inhibited the accumulation of useful antibodies in the healthy population, unintentionally extending the duration of the outbreak. Taking into account the many ways people respond to their environment necessitates a more holistic, balanced approach.

### **Understand Comparative Advantage**

Regrettably, state action in response to COVID-19 meant that it would take on almost sole responsibility of planning the economy and society. By designating which businesses and workers were “essential” and which were “nonessential,” the government flipped the script on the people. Instead of outlining what action is prohibited by law, state officials attempted to construct society from the ground up, dictating what is expressly permitted.

During a new public health crisis, the comparative advantage of the state will likely be securing a standard testing regime across the healthcare system. Private-public partnerships, like the one made with IDEXX, can make up a lot of ground in the pursuit of adequate and actionable data with which to guide future decisions. The state can also promote innovation by simply removing regulatory limitations on the private sector,



encouraging the development of new products and occupations. The fewer barriers to innovation, the quicker possible solutions can be tried, tested, and eventually adopted.

The state may also have a comparative advantage in monitoring health care capacity on a statewide level. Reviewing the record on protecting vulnerable nursing home populations, it is clear that this should have been a priority of state leaders in the early stages of the pandemic. State CDC officials should target congregate care facilities most susceptible to severe outbreaks and prioritize the direction of protective equipment and testing capacity to those centers.

With the benefit of hindsight, the answer is clear: early on, limited resources should have been focused on securing the most vulnerable populations, like the elderly living in nursing homes. The state should have prioritized providing those residents and staff with COVID-19 tests and PPE as soon as possible in order to understand and better control the situation within congregate care facilities.

It is important for policymakers to understand the extent of their own comparative advantages in order to utilize the best that other institutions of society can provide. In the realm of public health, as well as economics, when the state tries to do too much outside of its comparative advantage, it can crowd out more efficient private-sector solutions.

## Conclusion

Policymakers chose to internalize and repeat to their constituents the most dramatic predictions found in the wildly inaccurate early COVID-19 models. Researchers provided their estimations within a 95% confidence interval, a crucial and statistically honest aspect of their work. Yet, politicians chose to highlight the high end of these over-exaggerations, resulting in widespread fear among the public. This emotion was leveraged to make the case for the disastrous mandatory shutdowns and state-supervised phased reopenings.

Early in the pandemic, case data was available that showed relatively limited risk to a vast majority of the population. Even so, an argument could be made that policymakers and the public did not have enough information to truly know how the virus would behave in those early days. Yet, despite the unknowns, state and federal officials decided to enact broad, sweeping economic shutdowns. This was done at the recommendation of singularly-focused public health experts, leading to serious unintended consequences to Mainers' livelihoods, mental health, and trust in their government.

As of today, there is no end in sight. Governor Mills has extended the Civil State of Emergency five times since first enacting it in mid-March, and is likely to continue to do so, possibly until the end of the year. Maine's laws governing emergency powers of the governor are broad, allowing extensions in perpetuity unless voluntarily relinquished by the governor or ended by a Joint Resolution of the Maine Legislature.<sup>60</sup> Legislators should enact more stringent limits on the extensions of emergency declarations when they return to Augusta.

The repercussions of the state's reckless actions over many months to suppress "non-essential" business will likely not be fully realized for many years. As legislators and the governor scramble to

balance the state budget in the wake of enormous private-sector losses, they would be wise to critique this strategy of near-total lockdown and relegate it to the dustbin of history. Policymakers' assumption that the virus, like people, can be controlled through coercion is their fatal conceit.

Policymaking is a practice of political economy. That is to say, it requires the measurement of trade-offs within the uniquely chaotic, spontaneously-ordered system of society. We must accept the ubiquity of unintended consequences when we interfere with immensely-complex systems.

Politicians and public health experts must understand that law and policy provide the environment through which individuals pursue economic and cultural prosperity. We live in an interconnected world, even within a single region, state, or county. Effects of massive policy changes will always expose what the 19th-century French political economist Frédéric Bastiat referred to as the seen and the unseen<sup>61</sup> because it is quite impossible for any single person, or group of people, no matter how well-intentioned or credentialed, to comprehend every consequence of their actions.



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