

## Not the Last Word: How Necessary COVID-19 Lockdowns Can Go Too Far

Joseph Bernstein MD

On June 7, 1971, Jerome Rodale, publisher of *Organic Farming and Gardening* magazine, was interviewed by Dick Cavett at ABC television studios about his diet and lifestyle. Rodale remarked that he “never felt better” and “decided to live to be a hundred.” Minutes later, Rodale slumped back in his chair and died [12].

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If nothing else, the Rodale episode cautions against making public predictions about matters of life and health. Therefore, as I compose this on April 29, 2020, I am not going to hazard any guesses about how the coronavirus 2019 (COVID-19) pandemic will pan out. We are in the fog of war. Nonetheless, a few observations about the government’s response to the threat can be made already.

The edict to shelter in place and “flatten the curve” might well have averted a disaster, but it has left at least 30 million Americans unemployed. School has been upended for countless children. Physicians’ abilities to care for patients without COVID-19 have been substantially compromised. For those reasons alone, I claim that the lockdown has been too long and too harsh.

Although as of this writing there is pretty strong support around the country for these restrictions (though perhaps less so with each passing and warming day), some of that support might be based on a misplaced hope that restrictions will make people “safe”. Yet protecting people from the virus is not the promise of the plan. We were locked down to delay cases—not to dodge them forever, for we can’t.

I further contend that states’ unrelenting stay home policies can be labeled as misconceived—even now,

without knowing the final outcome. That is because they have been influenced by biases that are known to skew medical decision-making in other circumstances; and among the biases I have detected, all slant in the direction of longer or harsher restrictions. A few examples are shared below.

### Chemotherapy is Only Effective if It’s Tolerated

As a medical student rotating at Memorial Sloan Kettering Cancer Center, I asked my preceptor how to calculate the dose of Doxorubicin, a chemotherapeutic whose nasty side effects earned it the nickname “Red Devil.” “That’s easy”, he replied. “We give as much as we can without completely poisoning the patient.”

To that end, a chemotherapy protocol is not followed blindly after starting it. In the case of Doxorubicin, echocardiograms can be performed periodically, with the dosage decreased if heart failure appears.

And of course, we stop removing tissue during an excisional biopsy, once the margins are clear.

As I write this, after more than a month of restricted social activity, it looks like US governors are not adequately monitoring adverse effects and adjusting dosage accordingly. The governors have also continued their surgical resection past the point of negative margins, so to speak. The curve is so flat that many hospitals are empty to the point that workers are furloughed [3].

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We have an “underwhelmed” healthcare system and yet the restrictions continue.

A lockdown policy is effective only at sublethal and necessary doses, and we seem to be outside that range of effectiveness now.

### Loss Aversion and the Sunk Cost Fallacy

If a patient presents with a sufficiently mangled extremity, an immediate amputation is justified. Amputating at the time of presentation predisposes to a more rapid return to function. And there is yet another advantage: Amputation preempts painful and costly attempts at saving the limb despite the high likelihood of failure. Patients who have survived their initial hospitalization with a mangled leg still attached will excessively seek risk to keep it.

A similar psychological process may have our leaders prolong their restrictive policies well past the point when the strategy is justified. American leaders could have responded to the pandemic with protection for the vulnerable and limited constraints on everybody else. (Sweden, for example, chose this approach.) Yet now, having deeply invested in a policy of severe restriction, our governors, like a patient trying to save an unsalvageable leg, may be too deeply committed to their choice to abandon it.

**“Anyone who believes that the same thing can be suited to everyone is a great fool, since medicine is practiced not on mankind in general, but on every individual in particular.”- Henri De Mondeville (French surgeon, c. 1260 – 1320)**

Displaced fractures of the femoral neck [2] in a young person are usually

treated with internal fixation. In an older person who does not walk much, a hemiarthroplasty is usually used for this injury, with total hip replacement reserved for people with higher functional demands. In De Mondeville’s formulation, only a great fool would think that one operation suits all comers.

A similar analysis can be applied to the consistency of some states’ stay-at-home policies. Consider this: The goal of social distancing orders is to slow the spread of infection. This speed of spread is a function of many factors, but certainly population density is among the most important. Yet we see that (as of this writing at least) all 58 counties in California are under the same set of restrictions. That can’t be right. A given policy might be appropriate for Los Angeles, with 10 million people in its 4000 square miles, but it cannot be simultaneously appropriate for San Bernardino, right next door, with only 2 million people distributed across 20,000 square miles (or vice versa). That the same policy is imposed on two counties whose population density differs by a factor of 25 suggests a foolish, small-minded consistency.

We also see similar restrictions applied across all age groups, though COVID-19 poses significantly higher risks for older people. For example, a report of 5700 cases in New York reported 553 deaths overall but there were no deaths in the younger-than-18 age group [16]. Here, too, consistency is not praiseworthy.

### Conclusion

The lockdown policy US governors have chosen is, in the end, a medical treatment regimen—an intervention employed to improve health. Unlike

pharmaceutical treatments that are scrutinized by the Food and Drug Administration (FDA), public health policy interventions can be employed without detailed scrutiny of high-level medical evidence. In that sense, devising such an intervention is more like inventing a surgical operation, which also can be deployed without FDA approval. Devising a public health policy intervention can also fall prey to the same biases that can affect surgical decision making, as detailed above. Here, these biases give us more than the optimal amounts of social and economic restrictions.

Still, with luck, by the time you are reading this, the stay-at-home orders will have begun to ease, the rhetoric of fear will have subsided, and our society will have started to rebound. With luck, we will salvage lessons from this experience, including how to improve decision-making in all realms.

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Admittedly, being married to a state supreme court judge can be intimidating. One of her favorite phrases in any discussion is “Don’t let the facts get in the way!”

So, it goes with my friend Joe Bernstein, who I have known and respected for more than 25 years. Joe is simply a victim of his environment and so I will respectfully destroy his thesis that we should be relaxing the stay-at-home orders. Let’s look at the numbers we have been dealing with at New York-Presbyterian (NYP).

**9500** — the number of hospitalized patients with COVID-19 that NYP Hospital system has treated since the pandemic hit New York City.

**746** — the number of intubated patients with COVID-19 in the

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intensive care unit (ICU) in the NYP system at the peak of the pandemic.

**195** — the number of intubated patients with COVID-19 in our ICU as of May 9, 2020.

**118** — The number of ICU beds at our hospital pre-COVID. In preparation for the surge, we expanded our ICU beds to 270, which was nothing short of Herculean (and the system expanded to 900). To be clear, as of today, we still have 77 more patients on ventilators in ICU than our normal maximal capacity 8 weeks after this pandemic started in New York City.

**3** — the number of intubated ICU patients with COVID-19 in every operating room at Columbia right now.

**17** — the number of children who have been hospitalized with post-infectious Kawasaki's disease at Morgan Stanley/Columbia Children's Hospital of New York (CHONY) since April 18<sup>th</sup>.

I understand why Joe wants to open up again. I understand why people are feeling stir-crazy, bored, angry, confused, scared, and sometimes just unconvinced that there really is a problem. Let me be clear—this is a huge problem.

During my redeployment to the emergency room (ER)-ICU (a make-shift ICU in the ER with 17 intubated patients with COVID-19), I saw more patients die in one 12-hour shift than I have seen in 25 years as a physician. I saw despair, despondency, and dismay amongst our ER, internal medicine, and anesthesia colleagues. I saw acts of heroism that defy comprehension—full codes on elderly patients with COVID-19 who had virtually no chance of survival while putting the healthcare workers in serious harm's way. Respiratory therapists in the eye of a storm of aerosolized droplets spraying from emergency intubations in the emergency room where in a

typical week one to two patients may get a tube compared to today's 10 to 12 per shift.

And now for the most important number—99,000. The number of deaths in the United States as of tonight. My biggest concern is that while everyone seems to be focusing on the decreasing numbers of patients with COVID-19 in New York, they somehow seem to have not noticed that the curve has not flattened at all—it's going up in the rest of the country. Bottom line is that Joe is not letting the facts get in his way. Do not take the restrictions off. This is not the time to do so.

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Influenza epidemics have occurred with some regularity for at least 500 years, with inter-pandemic intervals averaging 40 years. Aside from bouts with cholera, typhus, and HIV/AIDS, Americans have stoically suffered through bouts of seasonal flu in addition to five global viral pandemics in 1918, 1957, 1968, 2009, and now in 2019 – 2020. In response to this emerging “fact of life”, officials at the US Department of Health and Human Services (HHS) developed a pandemic influenza plan to prevent, control, and respond to (H5N1) viruses. (The Pandemic Intervals Framework was first presented in 2005. Incremental changes have followed in 2009, 2016, 2018, and 2020.)

As a result of such efforts, The Pandemic Intervals Framework, The Influenza Risk Assessment Tool, and The Pandemic Severity Assessment Framework were put in place and looked upon as an essential treatise on the subject. These protocols should provide confidence in our approach to viral pandemics [1, 17].

Despite the volatile nature of influenza severity in the 20th century, understanding the epidemiology of past pandemics should help prepare physicians, hospitals, and governments to predict and to prepare for the subsequent waves of infections. Coordination of national efforts to control or reduce the impact of viral pandemics has been, however, fraught with the potential for under and over-reaction [10]. According to an estimate by the Centers for Disease Control and Prevention (CDC), approximately 45 million patients contacted the flu in the United States during the 2017-2018 influenza season, resulting in an estimated 810,000 flu-associated hospitalizations and an estimated 61,000 flu-associated deaths. In contrast, COVID-19 in the United States has resulted in 1,500,000 diagnosed cases and 89,498 deaths. The amazing factoid is that a year ago the seasonal flu did not generate any sense of notoriety or emergency. Nothing appeared in our newspapers or on prime-time television [15]. With each subsequent episode, we follow the standardized treatment guidelines as recommended by the CDC and thereafter interpret the medical outcomes. Science and reason are in a battle with conjecture and instinct to determine public policy. Partisanship and economic interests are likewise playing their part. In the context of the current situation, it is clear that government's actions have resulted in an intrusion upon our economic well-being. Regardless of how you feel about the current crisis, from my perspective, farmers, entrepreneurs, and a variety of small business owners' sense that the government has implemented a lockdown.

We have become victims—masked and gloved, enclosed within vinyl partitions, unable to be with significant others, house-bound, unable to attend

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church, prohibited to see professional sports, and conflicted over the necessary application of medical care for diagnostics, joint replacement and cancer. We have unknowingly become victims of methodology [6, 20].

Within this context, there is the cautious approach—intent with following shifting numbers and insisting that success is simply a mathematical marker on a sloping curve. With this timid approach, treatment regimens are modified after limited successes and subsequent failures. But there is a more pragmatic approach in which local governments are armed with necessary guidelines and testing equipment. Decisions should be made in partnership with regional CDC.

Committees [20] and not with politicians. Policy should follow the rigors of medical data and not the agitated partisan opinion of government officials or newscasters. It is local government (which should be seen only as a facilitator) in union with the employer to protect employees and customers. With this admonition, treatment will again be focused in a step-wise process driven by the patient-doctor relationship.

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Dr. Bernstein's commentary raises interesting questions regarding the legitimacy of stay-at-home orders to mitigate the spread of COVID-19. Here, I offer a view through the public health ethics lens.

The justification of population-health interventions partly depends on whether a proposed measure is effective, necessary, and proportional to the mortality and morbidity it seeks to reduce [4], and whether it is implemented

fairly [8]. When multiple alternatives may provide similar results, a balance between respect for people's autonomy, prevention of population harm, and accountability requires public-health officials to adopt the least restrictive alternative [19].

Dr. Bernstein's suggestion that the United States should have offered "protection for the vulnerable and limited constraints on everybody else," similar to what was implemented in Sweden, points to some of these issues. The disproportionate COVID-19 burden on vulnerable immigrant and elderly populations in Sweden and elsewhere notwithstanding, the Swedish model of urging people to follow distancing and sanitation guidelines is less restrictive than imposed orders. If it is effective, an enforced stay-at-home model would be ethically unjustified.

As of this writing (late May 2020), it is too early to declare the Swedish voluntary model a success or failure. Sweden has a higher death toll per million than its Nordic neighbors but lower than some other European countries [13], and no country has set a predetermined acceptable mortality rate, or defined an equilibrium between the human and economic costs of a shutdown.

There are also sociopolitical and population-health differences between the United States and Sweden. Generally speaking, the people of Sweden trust and follow government recommendations [7]. Indeed, the different political parties in Sweden have prioritized the collective good in presenting unified messages and coordination in the pandemic [9]. In contrast, the United States is socially and politically divided, with government officials and scientific experts giving conflicting messages on COVID-19, sowing further confusion

and anxiety. Photos of people in packed restaurants and bars in reopening states as well as government officials flouting mask and physical distancing guidelines raise questions that voluntary measures would be effective in the United States, especially since the higher density and prevalence of chronic diseases in this country make COVID-19 more lethal.

Facing a rapidly spreading and lethal virus about which we have limited but evolving knowledge, a temporary but widescale stay-at-home order might be necessary to provide crucial time to slow down the spread of the virus, increase healthcare capacity both in the hospitals and in the communities, and learn more about other mitigation measures [11].

While Dr. Bernstein's doubts of a uniform and extended stay-at-home order are well taken, states with early reopening have seen flocks of visitors defying other protective guidelines. As stay-at-home orders have bought us time, the question now is why we continue to lag in developing less-restrictive approaches, such as wide-scale testing and contact tracing to identify and isolate those at risk, to achieve the public health goal of mitigating COVID-19 spread. The lack of common metrics and coordination at the national level have plagued local and state authorities in safe reopening. Without these measures, we would be locked in further uncertainties.

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The choice our governors made to require social distancing was painful but not misconceived, as Dr. Bernstein contends, because it was the only realistic option. The United States was caught on its back foot with COVID-19 despite early warnings. In early



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March of 2020, we faced a growing pandemic with an awareness that the weakest and most vulnerable of us were at risk, and we needed to do something—even though we lacked basic data, and had an insufficient number of tests and personal protective equipment available to those who needed them most. Our choices were to try to either decrease transmission through social distancing until a vaccine or good therapies became available in order to give hospitals a chance to take care of the patients they were charged with caring for or let the virus run rampant and count the bodies.

What were we supposed to do? South Korea, having endured Middle East Respiratory Syndrome (commonly known as MERS) just 5 years earlier, reacted, in my view, correctly—they strictly followed social distancing guidelines, tested like mad, followed up contacts assiduously, and prevented an outbreak from becoming an epidemic [18].

But social distancing has consequences. There is little doubt that we have lost significant wealth and that our children will likely have to pick up the economic costs after we are gone. We will probably see more people dying from non-COVID-19 causes than died from COVID-19, because they were too fearful to come to clinic or the ER. A large number of clinics and practices and hospital systems will, paradoxically, go bankrupt. But we cannot compare this to the *status quo ante*. The right comparison is the counterfactual, the do-nothing scenario, and that arguably might have been worse. A simple model from Imperial College London suggested that without measures to decrease the transmission of the virus, and in the absence of a vaccine or good therapies, the death toll could reach 2.2 million in the United States [5].

As for policy implementation, without data it is difficult to know where to tighten and where to ease restrictions, and perhaps the county is not the right level of analysis (what if in a sparsely populated county most inhabitants live in a single crowded city?). As more data become available about the course of the pandemic, I believe we will see a more-nuanced approach. In Virginia for example, where I live, restrictions were relaxed for much of the Commonwealth, but not for the DC metro area, where threshold metrics had not been met [14].

Until we have a vaccine, we will likely, in my view, find ourselves again having to institute social distancing measures to prevent community spread of the virus. We need more data, more manpower, and leadership that is committed to science. Still, I think Dr Bernstein might agree with me that a scientific technical agency like the CDC should only provide input into policy here and not set it. Policy direction in a situation like this needs health, economic and social inputs, reliable data, and leadership that understands and explains the tradeoffs, makes the choices, and communicates them clearly to people.

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