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Larry Hirschhorn, PhD

Thomas Jefferson University, larry.hirschhorn@jefferson.edu

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No double trouble: How to reopen the economy.

Larry Hirschhorn, Ph.D. (Economics, MIT)
Principal Emeritus, CFAR

Adjunct Professor: PhD in Complex Systems Leadership and DMgt in
Strategic Leadership
Thomas Jefferson University

lhirschhorn@cfar.com
267-970-357

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There is a great tension surrounding the challenge of when and how restart the economy. Impoverishing and idling millions will exact their toll. Unemployment pushes families to the edge, impoverishes households, amplifies worry and increase the tensions between husbands, wives and children. This toxic mix of stress leads to excessive drinking, headaches, high blood pressure, overeating and stomach pain, while aggravating diabetes, asthma and dementia. Deaths will result. How many? In a classic study Harvey Brenner of Johns Hopkins University found that a 1% increase in unemployment resulted in 6,000 extra deaths.¹ Should unemployment reach 20% we could expect 84,000 extra deaths.

Yet surely, we cannot ignore the peril of opening up too quickly and consigning too many people to death. How many people will die? There are 266 million people in the U.S. above the age of 15. Estimates of how many people will catch the infection range from 20% to 60% for a mid-range of 40%.² The best current estimate of mortality is under .5%.³ This means that 385,000 people will die. This is a horrendous amount and since people over 65 account for roughly 80% of all deaths, this means the death of 306,000 seniors. Very sobering.

But we need to keep one central issue in mind. **This deathly number is true no matter how fast or slow we open the economy and no matter how steep or flat the curve is.** It is simply due to the fact that we have limited to no population immunity to the virus. The devastation wrought by COVID-19 is due less to its lethality and more to its novelty. By contrast, in the 2017-2018 flu season 13% of the population got the flu and about 60,000 died—one good result of vaccinations and immunity.⁴ Were we not so immune and 40% had been infected, 180,000 people would have died.

This sobering reality complicates the idea that we can open up the economy in phases, using cases of infections as a guide post. If a city has successfully restricted movement by shutting down life, the number of cases and deaths could very well fall to zero. Yet as soon as you open it up even partially, infections and cases will necessarily increase leading to another lockdown. This is Russian roulette with all the gun chambers filled. People will stop complying.

¹ Brenner, MH and Mooney, A. “Unemployment and Health in the Context of Economic Change.” https://www.jstor.org/stable/3343311?seq=1#metadata_info_tab_contents

² <https://reason.com/2020/04/21/if-covid-19-has-a-low-infection-fatality-rate-how-many-will-die/>

³ “We could make a simple estimation of the IFR as 0.36%, based on halving the lowest boundary of the CFR prediction interval. However, the considerable uncertainty over how many people have the disease, the proportion asymptomatic (and the demographics of those affected) means this IFR is likely an overestimate.” <https://www.cebm.net/covid-19/global-covid-19-case-fatality-rates/>

⁴ <https://cnsnews.com/article/international/michael-w-chapman/cdc-estimate-45-million-flu-cases-61000-flu-associated>

Can testing save us? That's unlikely. In the early stages of an epidemic testing is part of the trifecta of contact-tracing and isolation. We find patient number zero, trace his contacts and isolate them, preventing the virus's spread. But there are close to 1,000,000 counted cases in the U.S., and we now know from a range of settings, including New York State, that total cases are more than 10 times the counted cases.⁵ This means that there are currently at least 10 million people and counting who have been infected. You can't trace their contacts and isolate them.

The current lockdown has put us in jeopardy. What can be done? We can open up the economy by communicating risks, letting individuals decide if they want to be exposed, and monitoring hospital capacity to ensure that hospitals are not overwhelmed. If the virus' inherent lethality is beyond our control, and no treatment is within sight, the most we can control is our capacity to care for the sick, ensuring that people do not die because of inadequate hospital care.

For the moment, while there are hot spots, our health care system has not been overwhelmed. Researchers at the Institute for Health Metrics and Evaluation, (IHME), estimated that as of April 14, when hospital capacity was expected to peak, we needed 18,000 ICU beds, (1/3 of our capacity) and 41,000 regular beds, (less than 1/10th of our capacity).⁶ This is surely one victory for social distancing, particularly in settings of great density. But the discrepancy is also due to the fact that mortality rates were significantly overestimated due to the pervasive undercount of cases.

What to do? We need a program of **controlled relaxation**. It has four elements.

- We communicate the risk of death to those under 65, 37 per100,000 people, which is six times their death rate from flu and less than a 10th of a percent. We offer them the choice of rejoining the workforce should they desire to do so. We encourage workplaces to do their best to delimit the infection's spread.
- We continue to ban larger gatherings in stadiums movie theaters, concert halls, etc.
- We urge people over 65 to remain relatively isolated. We communicate the risk to them as 587 per 100,000 which is 6.5 times their death rate from flu and about 6/10 of one percent. We support them in their isolation. Social service agencies help elderly couples who are impaired and those who live alone with the tasks of daily living.
- We monitor hospital capacity creating a green/yellow/red warning system for assessing when we are at risk of overwhelming hospitals. The red zone will depend on how fast deaths are growing when we relax restrictions. If we hit the red zone we reinstitute social distancing measures using the best practices we have gleaned from our current experience.

⁵ <https://www.nbcnewyork.com/news/local/2-7-million-in-new-york-may-have-been-infected-study-finds-nj-poised-to-top-100k-cases/2388182/>

⁶ <https://covid19.healthdata.org/united-states-of-america> and https://docs.google.com/spreadsheets/d/1xAyBFTrIxSsTKQS7IDyr_Ah4JLBYj6_HX6ijKdm4fAY/edit#gid=0

This policy introduces a measure of choice, consonant with our culture. Those younger than 65 can make their own personal tradeoffs between health and livelihood, while older people, knowing that the virus will be spreading more quickly through the population will be even more cautious, thus preventing their early deaths. We return decisions to people while ensuring that the sum total of decisions does not overwhelm our hospitals. One felicitous result of this policy is that the virus will spread more quickly through the healthier population. This means that when the elderly re-engage in social life they will encounter fewer rather than more infected people reducing the likelihood that they will become sick and die themselves. Ironically, the best way to protect seniors is to let the virus spread in a controlled fashion among those who are not.

The watchwords: Communicate risk, let people make their own choices, ban large gatherings, monitor hospital capacity, reintroduce social distancing if and when necessary. The results: individual choice, an economy restarted, more immunity in the population and better protection for seniors.

Larry Hirschhorn is Principal Emeritus of CFAR, a management consulting firm in Philadelphia and Boston. He is adjunct professor in the PhD program in Complex Systems Leadership and in the DMgt program in Strategic Leadership at Thomas Jefferson University in Philadelphia. He has a PhD in economics from MIT.