In a free society, the decision of life returning to normal in the face of a disease or virulent outbreak does not ultimately reside in the hands of government but in the societal determination of willingness to accept risk.

Every year society accepts the risk of the seasonal flu which can claim up to 80K lives. What conditions form the mindset of society to accept this risk? One is the availability of a vaccine (which is taken by less than 50% of adults), the CFR of 0.1% and the sense that one can protect themselves and assess their own risks based on staying away from folks whom they believe might have the flu. The people who can transmit the normal flu normally have active symptoms and there’s an assumption that most of these folks stay home when sick (which is iffy at best). Another factor is the sense that if one does gets sick, they can get effective treatments. This is supported by a mindset the flu won’t overwhelm our health care system because the flu season is roughly 7-8 months and even when an area has an outbreak, the system can generally keep up with it.

To summarize, the main factors that reduce risk to allow normal life to go on are the availability of a vaccine and the low impact of contracting the virus due to a low CFR (supported with effective treatments for those who develop symptoms including hospital care if necessary) and the development of a herd immunity that protects those who are vulnerable.

So let’s assess those factors. Vaccines are in early trials and won’t be available to guide our near term decisions. And while the final story on COVID-19 is yet to be written, there is evidence (<https://www.nejm.org/doi/full/10.1056/NEJMe2002387>) to suggest the CFR will be closer to a severe case of seasonal flu (e.g. 2019) than originally thought and modeled. However the contagion rate of asymptomatic individuals is much higher (the actual number is not knowable yet) and there is not yet a proven effective treatment although there are ongoing trials. As such, the outbreaks tend to place a much higher stress on the locality impacted over a shorter period of time than the seasonal flu.

Let’s discuss lock downs and their impact. Lock downs can be effective to buying time to develop more effective testing and treatments and also protect the health care system from becoming overloaded when an outbreak occurs. But lock downs are not shown to effectively reduce the probability of a future outcome once society reopens. And lock-downs work against the development of herd immunity.

Countries like Taiwan and S. Korea utilized early border closures to minimize the seeding of the virus and aggressive testing and enforced isolation to control spread without disrupting society. While this has shown to be extremely effective for an initial containment, sustaining this implies that these border controls and surveillance techniques remain in place until a vaccine or effective treatment options become available. Sweden has very few cases of seeding and has been largely unimpacted. This will change if the disease enters from external sources at a future date.

Locking down an area which has a low number of cases accomplishes little because the threat of infection comes from outside that area and not from with-in.

Locking down an area which has an outbreak can temporarily reduce the stress of that outbreak on the health care system. But unless a sufficient herd immunity is developed or the risk of introducing new cases is reduced, re-opening that area may lead to future outbreaks until a vaccine is developed.

Given this, what is necessary to reduce societal risk to get life back to normal? Locking down a country until a vaccine is available is not feasible.

The first factor to reduce risk is testing to identify and isolate those who have it and surveillance testing in areas so people can assess their risk of contraction in that area. It also implies having tight external (i.e. border) controls to limit the introduction of new cases.

A second factor is the development of effective early treatments. In this way people’s fear of contracting the virus will be reduced knowing that they can recover without serious consequences.

A third factor to reduce risk is to strongly protect those who are vulnerable which means compassionate isolation until a vaccine or prophylactic treatment is available for this population. In this way people can not only assess their own risk, but also reduce the risk of impacting someone more likely to have a negative outcome.

Given this, what is available in the near-term to make risk visible and managing it?

* Implementing expanded surveillance and serological testing
* Stronger protection and support for those who are vulnerable.
* Quick detection and isolation of new cases
* Swarming areas which show signs of an outbreak on the horizon

This pivots from a strategy of isolating the many to strongly protecting the few. This combination can perhaps lower the risk profile that leads to society returning to some degree of normalcy until a vaccine or prophylactic treatment is available.