

# The Third Way Proposition:

## Should we solely rely on epidemiologic doctrine to respond to the COVID-19 pandemic?

We have heard from the Epidemiologists and the Public Health community. Some have argued that we should allow the COVID-19 virus to spread through the population with minimal economic impact to promote herd immunity (the Great Barrington Declaration). Others argue that we should continue to follow established epidemiologic doctrine to control the COVID-19 pandemic (the John Snow Memorandum). Both arguments have valid points but ignore another important pathway toward vanquishing the pandemic which we will call the Third Way.

In a pandemic which has plagued our world like no other in over a century, our response has been to exclusively follow the Public Health community and their epidemiologic doctrine. That approach, lead chiefly by the CDC and WHO, was to issue guidance that would “flatten the curve” to avoid overwhelming the medical community’s ability to treat those with serious infections until a vaccine or effective therapeutics could be developed. In the U.S., the implementation from broad guidelines to practical control measures fell mostly to State and County public health agencies.

States developed tiers of responses based on the severity of infection in the community. The most severe tier was to shut down non-essential activities and schools and included hand washing, social distancing, face covering, testing and contact tracing. Over a period of months (too many), the infection metrics improved and restrictions eased although some sectors of the economy remain closed indefinitely while others are so restricted that their long term viability is in question.

No rational person would disagree that these measures (hand washing, social distancing, face covering, testing and contact tracing) decrease the spread of airborne viruses. These measures do, however, share a common weakness – their effectiveness depends on behavior modification. Not everyone is willing to avoid close contact or wear a mask and the will by authorities to uniformly enforce is lacking. Many people are reluctant to share contact information with public health authorities. We are now seeing alarming increases in infections because of the reliance on behavior modification. Polling suggests that when an effective vaccine becomes available, a significant portion of Americans will refuse to take it. Apparently, even vaccine acquired herd immunity relies on behavior modification.

Is the epidemiologic model the only response to the COVID-19 pandemic we can mount? The way it has been applied is a one size fits all approach that comes with the enormous cost of shuttering the economy. Add to that the harder to define costs of despair including increased poverty, homelessness, substance abuse, suicides, domestic abuse and a learning stunted generation of school aged children. And don’t forget the effects of inequality – how is it fair that the hardest working and lowest paid (essential) workers risk infection while those with the skills and a broadband connection can work from home?

Consider that in the United States, the country with the greatest financial and technical resources in the world, our most effective weapon against COVID-19 is a face mask that costs a few dollars. To borrow a cliché, we are bringing a knife to a gunfight. Millions of knives perhaps but knives nonetheless. All along, we have been ignoring other technical measures (or the guns) that are readily available and cost effective. And, most important, these measures do not rely on public behavior modification.

Germicidal UV light fixtures and HEPA filtration are two proven technical measures, backed up by years of scientific research, that can play a significant role in mitigating the spread of the virus. Upper air germicidal UV is proven to decrease measles and TB spread in public spaces. The virus that causes COVID-19 is even more susceptible to germicidal UV than those microbes. In-duct UV and needlepoint bipolar ionization systems kill airborne pathogens as air is recirculated through the HVAC system without the energy cost of brute force massive air exchanges. In room HEPA filter systems effectively remove viruses from the air. Unfortunately, a business will not install any of this equipment unless their local Public Health agency recognizes its effectiveness and allows the business to return to some kind of normal operation. Schools and other institutional settings will not adopt these measures and reopen unless their Public Health agencies approve their use.

Beyond helping our society reopen, widespread application of these technologies could not only stop the current pandemic, but prevent future pandemics at a fraction of what has been spent on the COVID-19 response. These measures would also reduce seasonal outbreaks of colds and flu. Keep in mind, these technologies do not sterilize the entire airspace – they will never guarantee that no one will ever get sick. They do, however, reduce the concentration of virus in the airspace thus reducing the chance of spreading infection. If one person can only infect only one other person (or fewer) at a time, the pandemic will fade away. Future novel viruses will not reach pandemic levels. Isn't time we consider Third Way mitigation measures rather than strictly following the flawed epidemiologic model?