



## ***Notes on the Pandemic #4*** *April 7, 2020*

### **Dear DCI Community,**

I am so pleased that you were able to join our second DCI Global Community Town Hall gathering on Monday April 6<sup>th</sup>. Given all the challenging news that we continue to receive each day, reaffirming the importance of our DCI Community was deeply moving. We had 227 Fellows and Partners join the Town Hall meeting and had a far-ranging discussion about the current coronavirus pandemic and beyond. I continue to marvel at the breadth and depth of our DCI Community and much we are all helping each other during these challenging times. Thank you for that.

What follows are my continuing “*Notes on the Pandemic*,” which I hope you will find useful. We are all being bombarded by information and I have tried to be selective in addressing a range of topics and issues that I hope will be of interest to you. I underscore again that my comments are personal and directed to our community and thus I hope will not be given weight they don’t deserve. With that, here are some loosely connected commentaries.

### **The Changing Landscape of Recommendations Regarding Social Distancing and the Use of Masks**

It’s understandable that information and guidance about how we should respond to the current COVID pandemic is subject to change as new data and information emerges. However, responses can be both appropriate but, in some cases, may be an overreaction. More specifically it is important to do our best to recognize which recommendations are science and data-based and which are driven by our fears and anxiety, even when decisions seem to make “common sense.” After all, just a handful of weeks ago, “social distancing” and “shelter in place” were hardly centerpieces of our lexicon. Even the recommendations regarding social distancing have changed from three feet of separation to now six feet – understanding that it is not just a single moment of contact but rather the concentration of an exposure over time. That is, we are most vulnerable when exposure involves contact with infected individuals (whether they are symptomatic or asymptomatic) with whom we share a common space – like a home or care facility, especially when it is a closed and indoor space.

As you know, social distancing has been differentially embraced in the US and around the world. When practiced along with other strategies social distancing does appear to be making a difference as I previously noted for China, Singapore, South Korea, Taiwan and more recently in Spain, France, Germany and Austria. As you also know, most of the US is experiencing increases in reported cases and most states are still impacted by continued challenges with availability and accessibility to testing – although that is better in some areas of the country, including the Bay Area. While some countries are beginning to consider relaxing their social distancing policies, that is not a good idea for the US at this time, despite comments to the contrary from the Executive Office. The “surge” of COVID positive cases and especially those requiring hospital, ICU or ventilatory support is variegated across the US. The Institute for Health Metrics and Evaluation (IHME) at the University of Washington (see: <https://covid19.healthdata.org/projections>) is a useful resource and on April 7<sup>th</sup> it tracked the peak

resource use for the US taking place on April 15<sup>th</sup>, when for the entire US there could be a shortage of 36,654 hospital beds, 26,323 ICU beds and a need for 24,824 ventilators. The projections vary by state and I am listing below some of the states where DCI Fellows reside or have come from based on the data in the IMHE projections. I want to underscore that these are projections and I am not claiming any validation of their veracity. I share them to illustrate how the pandemic is being experienced in different parts of the US – which all of us can appreciate based on what we are reading in the news or seeing in other data sources. It is notable that the state of Washington was the first to report a case of COVID and that its peak has occurred, and that some flattening of the curve is now being seen (which is encouraging news). High density states and especially the metropolitan New York areas, however, are experiencing a lack of hospital beds and ICU resources. It is clear that these and other states are still very much in the midst of the pandemic and that we are several weeks away from being able to determine whether the policies in place have made the difference we are all seeking. Based on what we know from other countries, had social distancing not been embraced, the outcomes could have been much worse (as may well be seen in states like Florida and Georgia where there was late adoption of social distancing).

State	Projected Peak for Resources	Bed Shortage	ICU Bed Shortage	Invasive Ventilators Needed
Arizona	April 23 <sup>rd</sup>	0	0	150
California	April 14 <sup>th</sup>	0	0	678
Colorado	April 4 <sup>th</sup>	0	0	113
Connecticut	April 21 <sup>st</sup>	7488	1751	1573
District of Columbia	April 3 <sup>rd</sup>	0	0	15
Florida	April 21 <sup>st</sup>	0	769	2095
Georgia	April 20 <sup>th</sup>	0	743	1133
Illinois	April 16 <sup>th</sup>	0	722	1575
Maine	April 15 <sup>th</sup>	0	0	46
Maryland	April 18 <sup>th</sup>	2482	958	1040
Massachusetts	April 18 <sup>th</sup>	8408	2745	2569
Missouri	April 19 <sup>th</sup>	0	0	95
New Jersey	April 15 <sup>th</sup>	16,887	4,527	4,242
New York	April 8 <sup>th</sup>	12,476	5,946	5,664
North Carolina	April 13 <sup>th</sup>	0	0	219
Pennsylvania	April 11 <sup>th</sup>	0	0	267
South Carolina	April 24 <sup>th</sup>	0	0	119
Texas	April 19 <sup>th</sup>	0	0	605
Utah	April 25 <sup>th</sup>	0	0	56
Washington	April 3 <sup>rd</sup>	0	0	157

In addition to social distancing we have all been well advised to use hand sanitizers and to wash our hand frequently and to do our best not placing our hands across our faces to avoid inoculating ourselves by transmitting viral secretions to mucosal surfaces (e.g., our eyes, nose, mouth). I commented in [Notes on the Pandemic #2](#) on the data regarding persistence of virus on surfaces in a highly cited but somewhat artificial setting that magnifies the concern. I have had many questions from our DCI Community as well as others about the safety of packages, including food, either being delivered or coming to our homes. While it is hard to ever subscribe anything to zero risk, I would say that the risks for getting infected with SARS-CoV2 from grocery bags and delivery boxes (including cardboard)

should be extremely low. That said, my own practice is to wash my hands (or use disinfectant) after unpacking groceries or opening packages. I think the risk here is minimal since this is a respiratory virus transmitted largely by air droplets.

### Face Masks

That brings me to face masks, which along with other personal protective equipment (PPE) has been much in the news because of their limited availability to many of the busiest hospitals and medical centers. The most protective of these face masks is the N95 mask and it is remarkable to think that in a country as wealthy as the US, that a need for decontaminating and reusing scarce N95 masks would be necessary. This led one of our Stanford faculty, Manu Prakesh, who has been a leader in developing medical equipment for low resource parts of the world, to establish <https://www.n95decon.org/>, a volunteer collective of scientists, engineers, clinicians and students from the academic, public and private sectors to provide a review of “best practices” for decontamination of these important PPEs. Of course, it would have been far better had our nation prepared for the need of these and related PPEs as did so many other nations.

Given their short supply and the scientific data supporting face masks, the CDC and other authorities did not recommend the use of face masks or other PPEs for individuals who were not in high-risk settings for transmission. In fact, such utilization was discouraged, in part to assure that scarce PPEs would get to healthcare providers who more desperately need them. To a degree that changed on Friday, April 3<sup>rd</sup> when the CDC “recommends wearing cloth face coverings in in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies) especially in areas of significant community-based transmission.” In fact the CDC posted instructions on how to wear and make face coverings (see: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>), purporting that this shift in the guidance about face coverings was related to the awareness of potential transmission from asymptomatic infected individuals.

While it is understandable that the now rising tide of anxiety about COVID seeks additional protections, the data to support these recommendations are limited. Michael Klompas et al wrote in a Perspective article entitled “*Universal Masking in Hospitals in the Covid-19 Era*” that was published in the April 1<sup>st</sup> *New England Journal of Medicine* that states: “*We know that wearing a mask outside health care facilities offer little, if any, protection from infection. Public health authorities define a significant exposure to Covid-19 as face-to-face contact within 6 feet with a patient with symptomatic Covid-19 that is sustained for at least a few minutes (and some say more than 10 minutes or even 30 minutes). The chance of catching Covid-19 from a passing interaction in a public space is therefore minimal. In many cases the desire for widespread masking is a reflexive reaction to anxiety over the pandemic.*” Further, the authors note that “*A mask alone (even in healthcare setting) will reduce risk only slightly, however, since it does not provide protection from droplets that may enter the eyes or from fomites on the patient or in the environment that providers may pick up on their hands and carry to their mucosal membranes (particularly given the concern that mask wearers may have an increased tendency to touch their faces).*” These recommendations are different for healthcare workers in high-risk settings where, together with other equipment and practices, they can provide benefit to providers.

Of course, we are all cognizant that not all medical recommendations are data driven and, in fact, one of the liabilities of the US healthcare system is that we often do more than is required. Indeed, in the “*Overtreatment in the United States*” (see: *PloS One*, Sept 6, 2017), Heather Lyu et al observed that 22% of prescription medications, 24.9% of tests and 11.1% of procedures are unnecessary, with the fear of malpractice being the most common reason cited (in 84.7% of the cases). These are different conditions than the recommendation about face masks, but I believe that they are motivated by similar

fears and lack of data. As some have noted, there is also a risk that individuals wearing homemade cloth masks might believe that they are protected beyond the reality and thus engage in more risky contact than safer ones.

I am not saying that our community should ignore the most recent guidance of the CDC but that we are aware of the limitations of this recommendation. That said, it is likely that more standard face masks, when available, may be part of the re-entry plans for communities and our workforce when the current pandemic ebbs.

### **The Confusion about Therapeutic Interventions: What do We Know Now and Can Share Responsibly and What We Need to Learn to Improve the Future**

The CDC also provides guidance about what to do if one becomes sick with COVID-19 (<https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/steps-when-sick.html>). The agency also offers commentary on therapeutic options beyond general supportive care (see: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/therapeutic-options.html>). This include Remdesivir, an intravenous drug first used in Ebola but with evidence of *in vitro* and some clinical activity against SARS-CoV2, that is now being studied in a number of multi-institutional global clinical trials. As you know, there has been a lot of press coverage about hydroxychloroquine and chloroquine based on very limited and incomplete data (but with some strong claims), although the CDC notes: There are no currently available data from Randomized Clinical Trials (RCTs) to inform clinical guidance on the use, dosing, or duration of hydroxychloroquine for the prophylaxis or treatment of SARS-CoV2 infection.

While some western, traditional or home remedies may provide comfort and alleviate symptoms of COVID-19 there is no data to support them. More specifically, the WHO notes that *“there is no evidence that current medicine can prevent or cure the disease. WHO does not recommend self-medication with any medicines, including antibiotics, as a prevention or cure for COVID-19. However, there are several ongoing clinical trials that include both western and traditional medicines. WHO will continue to provide updated information as soon as clinical findings are available.”*

Of some encouragement is the degree of global collaboration in establishing clinical trials to seek new therapies, interventions or strategies to treat or prevent COVID-19. For example, the WHO is coordinating the Solidarity trials of Remdesivir (noted above) and RECOVERY is conducting an additional study of Lopinavir-Ritonavir (although one reported trial of this combination did not demonstrate benefit).

Of interest, ClinicalTrials.gov, which provides proposed clinical trials in the US, lists 51 studies that include disease monitoring, therapeutic and preventive trials of small molecules, biologicals and other interventions of which 22 are currently enrolling patients.

While we all want effective therapies to become available as quickly as possible, the unfortunate reality is that it takes time to conduct the safety and toxicity as well as efficacy data on new agents, which is why finding drugs that may have already been studied for other disease states (e.g., Remdesivir that was tested for Ebola or hydroxychloroquine that was approved for malaria) can expedite the entry of a promising therapy into the clinic. But use of these or other therapies must be based on data and not anecdotes or assumptions, especially since many drugs have safety profiles that also need to be managed.

### **The Role of Physicians on Some of the Societal Consequences of the Pandemic**

On April 3<sup>rd</sup> two highly regarded pediatric faculty, Professors Lisa Chamberlain and Paul Wise, discussed the impact of COVID-19 on local and global communities, with a particular focus on children

and families at the Stanford Pediatric Grand Rounds (<https://med.stanford.edu/pediatrics/education/grandrounds.html>). These pediatric leaders, in tandem with others, highlighted the disruption of essential services to children that result from the pandemic. This includes access to safety net programs, such as the US Department of Agriculture National School Lunch Program, School Breakfast Program, and Child and Adult Care Program that serve 35 million children daily and which deliver sources of nutrition and support to children and families. School closures have interrupted these services and the USDA has not mandated that schools offer these food services, leaving local communities or states to develop their own plans. Dr. Chamberlin delineated some of the program in the Bay Area which have engaged community and academic pediatricians (as well as residents and trainees) in advocating for other services to support families with limited resources, including helping with care services or programs that block eviction or the shutdown of utilities during the current crisis. There is also a focus on highly vulnerable populations who are particularly impacted by the current crisis, including the homeless, immigrants and the migrant community. It is gratifying to observe the responsiveness and compassionate caring of medical providers to these important societal issues.

This topic was also addressed by Caroline Dunn and colleagues in a Perspective article entitled “*Feeding Low-Income Children During the Covid-19 Pandemic*” in the March 30<sup>th</sup> issue of the ***New England Journal of Medicine*** with five important recommendations in their paper which I convey here:

1. *“Centralize and widely distribute information about schools and school districts offering meals during school closure.*
2. *Decrease social exposures and reduce the time and transportation and burden for families by providing multiple days’ worth of meals, allowing for drive-through meal pickup (when reasonable), or coordinating meal delivery.*
3. *Extend emergency benefits to caregivers of children in childcare facilities participation in the Child and Adult Food Program, and authorize use into periods beyond the Covid-19 response, such as summer months or other emergencies.*
4. *Codify efforts to expand Supplemental Nutrition Assistance Program access and benefits during future pandemics.*
5. *Examine and amend policies that reduce or deter participation in the nutrition safety net (e.g., the public charge rule).”*

These recommendations from the Harvard T.H. Chan School of Public Health together with those from Stanford convey how pediatric leaders are seeking to care for vulnerable children and families during this crisis. Unfortunately, it is easy to miss these contributions when the focus of the news media is on the patterns and progression of the pandemic and the impact on hospitals and care providers. But physicians and public health leaders like Drs. Chamberlain, Wise and Dunn are also contributing to the welfare of vulnerable communities and thus also deserve our gratitude and respect during these extraordinary times.

### **Looking to the Future**

In the last issue ([#3](#)) of these *Notes on the Pandemic*, I highlighted the report from the American Enterprise Institute led by Scott Gottlieb, Caitlin Rivers, Mark McClellan, Lauren Silvis and Crystal

Watson that addressed four phases to prepare for “reopening” the USA which included the following (with my comments in *italics*)

- **Slow the Spread** in Phase I (*we are currently in this phase and appear to be achieving success in a number of states but with further progress still needed*);
- **State-by-State Reopening** in Phase II (*which might be based on the differential course of the infection in different states as reviewed earlier in this communication*);
- **Establish Immune Protection and Lift Physical Distancing** During Phase III (*which we discussed during our recent DCI Town Hall meetings based on monitoring of new infections and the prevalence of the seropositivity of individuals who had evidence of COVID and recovery from it*);
- **Rebuild Our Readiness for the Next Pandemic** in Phase IV (*a topic we also discussed and which we cannot forget even though history continues to teach us we have behaved otherwise*).

I also mentioned during our Town Hall Meeting the editorial published in the *New England Journal of Medicine* on April 1<sup>st</sup> by Dr. Harvey Fineberg entitled “*Ten Weeks to Crush the Curve*” which offers an additional and important perspective on the AEI report. I have had the opportunity to work with Dr. Fineberg in a number of settings including when he served as dean of the Harvard School of Public Health and later as the President of the Institute of Medicine (now National Academy of Medicine). Along the line of lessons conveyed but not embraced, Dr. Fineberg authored a Review entitled “*Pandemic Preparedness and Response – Lessons from the H1N1 Influenza of 2009*” that was also published in the NEJM on April 3, 2014 – almost exactly six years ago. Many of you will remember the fears and anxieties that permeated the country in anticipation of the H1N1 seasonal infection (which created anxieties because of its similarities to the virus that caused the 1918 pandemic. Dr. Fineberg concluded his review with the following comment: “*influenza outbreaks and pandemics will continue to challenge policymakers and public health leaders to make decisions under conditions of stress and uncertainty. Pandemics will challenge national authorities and the WHO to function more efficiently and effectively with insufficient resources. Preparation beyond planning, with advance protocols and agreements, the commitment of ready reserves of public health experts and a financial line of credit, and the fulfillment of the IHR requirements can all help. Whenever the next influenza pandemic arises, many more lives may be at risk. By heeding the lessons from the 2009 H1N1 pandemic, the international community will be able to cope more successfully the next time.*” While his comments refer to influenza, they as well as the WHO recommendations that had emerged are relevant to the current coronavirus pandemic.

Finberg’s more recent editorial speaks to the first phase of the AEI report and includes six steps with my caveats in *italics*:

1. **Establish unified command** (*which we still don’t really have this or have it in challenged ways*).
2. **Make millions of diagnostic tests available** (*which we did quite poorly, and which is still not meeting the needs in many parts of the country*).

3. **Supply health workers with PPE and equip hospitals to care for a surge in severely ill patients** (*which, as discussed above, is quite variegated across the US and world*).
4. **Differentiate the population into five groups and treat accordingly.** These are first, knowing who is infected; second, knowing who is presumed to be infected because of their signs and symptoms even if initially test negative; third, who has been exposed; fourth, who is not known to have been exposed or infected; and fifth, who has recovered and is adequately immune. (*We have discussed these different groups and what we still need to do to adequately define them. Clearly knowing the fifth group – recovered and immune-protected – will be incredibly important and hopefully will be better known in the next weeks and months*).
5. **Inspire and mobilize the public.** (*This is still variegated around the US as we have witnessed but it is important to underscore the acts of good will, kindness and compassion that have been evidenced – by healthcare workers and communities*)
6. **Learn while doing through real-time, fundamental research.** (*Of course, we can all agree with and our hopes to have data driven approaches to care, treatment and prevention – and, of course, to learning how to handle our approach during the next pandemic, which is inevitable in the future*).

Hopefully in the next weeks we will be looking forward more optimistically and thoughtfully. As we do so it will be important for all of us to think creatively about what we are learning during this pandemic and how it will shape the world we re-emerge into. A number of thought leaders are opining on these issues and one worth reviewing is “*We can’t go back to normal; how will coronavirus change the world*” by Peter Baker in the March 3<sup>rd</sup> *The Guardian* (<https://www.theguardian.com/world/2020/mar/31/how-will-the-world-emerge-from-the-coronavirus-crisis>) that considers both a pessimistic and, more importantly, optimistic scenarios.

I think this is where the DCI Community can be most helpful by using its vast knowledge and experience to formulate how our current experience will change the world of education, healthcare, workplace, personal habits, travel, consumption and beyond. We all know the importance of not missing the opportunity for radical change during and following a crisis. So, let’s share ideas with each other as we move forward.

Best,

