

## **Editorial - Finally, people to speak with!**

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The history of the COVID-19 pandemic in the United States has yet to be written, but most public health and infectious disease experts would agree that, overall, it has been handled very poorly. It has now been more than one year since the first cases of COVID-19 were recognized in the United States. By numerous metrics, the United States has been the worst performing country in the world. We have the highest number of cases, now exceeding 25 million and the largest number of deaths. It is expected that by February we will have reached and exceeded a death total of 500,000. Deaths from all causes nationwide were 18% above normal from mid-March 2020 to early January 2021. During this same time period, deaths in New York City were a staggering 63% above normal. Rather than getting the virus under control in the near term future – almost 11 months into the pandemic – we may well be approaching the most difficult period for our country. This is as we begin the vaccine roll-out. How did we get to this place in the most sophisticated scientific country in the world? How and why were we so unprepared?

Clearly, the answers to these questions and our very inadequate response are complex. However, it is my belief that the colossal failure of effective communication between science and public health on one side, and government on the other, contributed significantly to this tragedy and will need to be an important focus of our society if we are to successfully negotiate the control of this current pandemic and avoid future pandemics.

Many hospitals, individually and throughout the country, began preparations in mid-to-late February to care for the large numbers of patients infected with the “novel coronavirus” who were first expected in mid-March. We knew the Chinese and Wuhan experience, but it was the far more transparent Northern Italian experience that captured the imagination of many in the international and especially Western medical communities. In New York, we followed the unfolding tragedy in Northern Italy very closely and “flattening the curve” became the focus of many public health authorities and hospitals here and throughout the United States. Many hospitals, with the expectation that they would need to care for an extreme number of very sick patients infected with SARS CoV-2 made extensive preparations to expand the bed capacity for patients who would require oxygen support, and other critical care interventions such as mechanical ventilation and cardiac monitoring. We reconfigured staff and brought in additional manpower – either new hires or volunteers - - especially those having critical care expertise, from other parts of New York State and the country. Physicians in training, including many who were international medical graduates and on H-1b and J-1 work visas, were redeployed based on projected clinical need. Infection control and Occupational Health Service policies were reviewed and rewritten to limit nosocomial transmission. And though ultimately all of these interventions likely had some beneficial effect, collectively they were, and continue to be, insufficient to control this generational pandemic.

Early on, our politicians, with the exception of perhaps Washington State and California, were slow to react. It was only one week, for example, before the onslaught of patients arrived into most New York City Emergency Departments, that there was a lockdown and schools closed. Crowds were limited in both number and in the broad range of their “normal” activities including, but not limited to, dining in restaurants and entertainment, and people were encouraged to work from home and wear masks.

Of course, one week was far too short a timeframe to impact the curve for hospitalizations and death. Ultimately, it took a month or longer of lockdown and associated decrease in viral transmission to significantly impact the flow of patients into hospitals and to tame the extraordinary number of deaths experienced in New York City. A recent compelling VA study clearly documents that patients with COVID-19 were more likely to die when intensive care units faced a surge of illness.

The tragedy of our country is that we did not learn from the New York experience. The virus has spread to, and affected every part of our nation. Before remdesivir, the antiviral agent approved for treatment of COVID; before the clear survival benefit of steroids for patients with COVID-19 requiring supplemental oxygen; and before the widespread use of high flow oxygen; we knew how to limit person-to-person transmission of this respiratory virus.

Despite the changing recommendation of mask wearing very early on in the pandemic, it became a clear recommendation and public health guideline that mask wearing and physical distancing were the “backbone” of transmission control. Individuals congregating in restaurants and bars, and numerous other indoor spaces, were known to be at high risk for transmission and infection. With the appreciation of the large number of asymptomatic infections, contact tracing with appropriate isolation for those infected – both symptomatic and asymptomatic - and quarantine for those exposed, should have become a mainstay of control of viral transmission. For countries that effectively intervened with these strategies, such as South Korea and New Zealand, control meant far fewer cases, far fewer hospitalizations and dramatically fewer deaths. Most public health authorities supported these straightforward interventions early on but their guidance, their collective knowledge and wisdom were marginalized by policy makers. This was true not only at the federal level, but at the state and local level as well. In many places, this message became one of mixed messages, some dramatically opposed to public health recommendations and guidelines, and all too frequently not the singular message of government.

We are now in the era of monoclonal antibodies and, of course, highly efficacious and safe vaccines. Perhaps most importantly, we are now in the era where government, science and public health, appear to be speaking and listening to one another. President Biden has signed an executive order to enact the Defense Production Act, which will help expand vaccine availability, supplies for testing, and assure adequate personal protective equipment. We have rejoined the World Health Organization with a recognition that this pandemic needs to be controlled internationally if the United States is ultimately going to be safe. And the Centers for Disease Control and Prevention, under new and capable leadership, now appears to be assuming its expected and necessary role as the science-driven public health agency for the entire country.

As hopeful as I am that government will look to and listen to science and public health to drive policy, there are several very important known potential difficulties ahead and perhaps some that we currently cannot imagine. Though our expectations are very high for the vaccine to control the pandemic and bring some semblance of normalcy to life, vaccine hesitancy remains far too common, even among health care workers who have directly witnessed the severe morbidity and mortality from patients hospitalized from COVID-19. Based on current estimates that 70-75% of the population will need to be vaccinated to achieve herd immunity, vaccine hesitancy is a real obstacle to achieving this goal. This is most apparent in communities of color who have been disproportionately affected by the pandemic. In addition, at least three SARS-CoV2 variants have been identified that are more easily transmitted from person to person. There is preliminary evidence that infection with the British variant, B.1.1.7, may cause more severe illness and

the South African strain may be more resistant to one of the two approved mRNA vaccines. It is clear that we need to monitor the genetic profile of viruses causing new infections in a systematic manner to see if they can potentially impact transmission, clinical illness and vaccine efficacy. This has already begun under the new administration.

Very significant challenges remain before this pandemic is under sufficient control to enable life to return to close to normal. However, I remain exceedingly optimistic in this new era where science, public health, and government are finally speaking and listening to one another.

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