

United States Senate
Committee on Homeland Security and Government Affairs
COVID19: How new information should drive policy

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May 6th, 2020

Chairman Johnson, Ranking Member Peters, and distinguished members of the Committee, thank you for the chance to speak with you today about COVID 19. My name is Tom Inglesby. I am the Director of the Center for Health Security of the Johns Hopkins Bloomberg School of Public Health and a Professor of Public Health and jointly in Medicine at Johns Hopkins University. The opinions expressed herein are my own and do not necessarily reflect the views of The Johns Hopkins University.

This virus has already done great damage to our country, firstly in terms of people sickened and lives lost, and secondly in terms of the terrible economic consequence and loss of jobs around the country. As a reminder of the speed of how quickly this has spread, on March 6, two months ago, there were about 200 people diagnosed with COVID-19. As of yesterday, 1.19 million people have gotten sick with COVID, and more than 70,000 people had died in the US.

This virus has a reproductive rate of about 2-4, which means the average person with this virus would spread it to 2-4 others, with each new generation of cases occurring every 5-7 days. Without having put social distancing measures in place, the virus would have continued to spread far more rapidly and widely, and it could have doubled weekly during this time period.

Principles for and steps toward reopening

Colleagues at our Center worked with colleagues at the American Enterprise Institute to publish the report called: [“National Coronavirus Response: A Roadmap to Reopening”](#). That report advised that four conditions were necessary to reopen states with low risk. These conditions can be summarized as: the state has a sustained reduction in cases for at least 14 days; hospitals in the state are safely able to treat all patients requiring hospitalization without resorting to crisis standards of care; the state is able to test all people with COVID-19 symptoms, mild or severe; *and*, the state is able to conduct active monitoring and quarantine of confirmed cases and their contacts. These conditions are largely consistent with criteria and key capabilities outlined by the White House report on [“Opening up America Again”](#), though in that report some of those metrics were considered Gating Criteria and some were considered Core State Preparedness Responsibilities.

As of last evening, as per the [NYT summary of data](#), 33 US states reported 150 new cases or more each day, and of those, 15 US states had an average of more than 500 new cases each day. 17 states in the country have daily case counts that are continuing to rise. On the other hand, 10 states have had 2 week declining numbers of cases, though two of them had high daily new case numbers of 250 and 2500 respectively. But there is no easy way to gauge independently whether those or other states have met the other 3 criteria above. States that have had 2 week declines and do meet the other 3 above reopening conditions would be the least risky places to move ahead on re-opening businesses first. States reopening without meeting those conditions will be at higher risk of acceleration of COVID spread in those states.

In all places where decisions to reopen are happening, political and public health leaders should continue to strongly advise all individuals to maintain their own physical space of 6 feet or more from persons outside their homes. All persons should be strongly encouraged to wear cloth masks when they will be around other people outside their home. People should be encouraged to continue to telecommute wherever that is possible. And people should be strongly discouraged from attending gatherings which have resulted in many reported outbreaks of COVID.

Once decisions are made to reopen, it will be critical for workplaces to follow guidelines for how to reopen with as little risk as possible. CDC and OSHA both have guidance, and CDC is developing more detailed guidance which I hope will be shared publicly soon. Industries themselves are developing their own guidance which will be helpful, but I have heard that American businesses want federal government guidance that they can compare themselves to in order to assure their employees and customers they will be operating as safely as possible. Based on public health principles, workplaces that have higher density, more people, closer personal interaction, indoor spaces will all be at higher risk of generating transmission than those with the opposite conditions. All workplaces should take places to mitigate risks within their operations. Our Center made recommendations regarding these issues in a [recently published report](#).

There will need to be special precautions put in place for workers in places where there is particularly high density or congregate living. One particularly clear example of this is in meatpacking facilities around the country where there have been many outbreaks. There will need to be changes to meatpacking facilities to lower the risks to the employees. Workers in those facilities should have access to PPE, and operations should be modified in whatever way possible to diminish close interaction and increase spacing. There should also be regular testing and screening in those facilities, with close cooperation with local public health officials so that contact tracing and quarantine can take place as rapidly as possible. Information on signs and symptoms of COVID should be available to all employees in their native languages, as should be direction regarding what should be done if they develop illness. [CDC and OSHA have put out clear guidance](#) on this, and it should be carefully followed.

Special precautions should of course be taken to protect nursing home residents, including the restriction of visitors and provision of PPE to staff in those facilities.

Minority populations have also been disproportionately sickened and killed by COVID19. Special efforts should be made to ensure they are getting ready access to testing and medical care as the rest of the population, esp if reopening efforts are initiated in states, when the risk will rise regarding transmission in those communities.

As soon as it can be safely done, in states where cases are not increasing, consideration should be made for resuming elective procedures. Those decisions should ultimately be left to hospital systems who know best what capacity they have in their system. But if hospitals do have good capacity in their systems, it would be reasonable to consider beginning to open up elective procedures again. Of course, if high numbers of COVID pts begin to appear in hospitals and ICUS again, then those procedures may have to again be put on pause to deal with the those patients.

Impact in illness and mortality

In the last month, there have been more than 200,000 new American COVID cases diagnosed each week, and this is despite stay at home orders in place in most of the country. It took us about one month to go from very small numbers of cases nationally, to the number of 25-30,000 new cases daily. For this past month we have been at around those numbers in a prolonged national plateau. It is not clear yet when those number will go down. The great majority of the 70,000 deaths that took place occurred in the last 30 days.

An additional way to look at the number of deaths that could be attributed to COVID19 is to look at excess deaths. In the weeks ending Mar 28 through April 18, the [CDC National Health Statistics](#) website shows excess deaths for that period nationally of 54080. If we extrapolated forward from the week ending April 18 through to May 6 (basing it on the deaths per day the week of April 18 since average daily deaths per day from COVID have not gone done in that time), that would be an additional 42,431 deaths between April 18 and May 6. That would be a total of more than 96,000 excess deaths since the week ending March 28th. That number is already considerably higher than the approximately 70,000 deaths that have been confirmed by COVID diagnostic testing. I think that is a conservative estimate because death reporting lags by 1-8 weeks, so that number would likely grow when all the data is entered into the CDC database.

[A Kaiser Family Foundation report](#) concluded that 37.6% of adults 18 and older in the U.S. (92.6 million people) have a higher risk of developing serious illness if they become infected with coronavirus, due to their older age (65 and older) or health condition. Strategies designed to focus social distancing efforts only on older Americans and those with underlying conditions, at the same time letting society completely return to as it was before COVID with no further mitigation or distancing efforts, would need to recognize that this group represented a 1/3rd of adult Americans. There are no feasible paths to isolating one third of American adults from the other 2/3rds.

Its important to acknowledge as well, that while the disease has a much lower fatality rate in younger adults than older adults, there is still a lot we are learning about this disease. For example, just last week we started learning that it is causing strokes in people in their 30s and

40s. We learned this week that it is likely leading to the dangerous Kawasaki's disease in some number of children – 50 children in NY state reported to have this illness. If COVID19 were to spread quickly and widely in the US population, will not be entirely benign for younger adults and children. There will be hospitalizations, critical illness and deaths that will occur. It is important that CDC publish more detailed information on the full range of illness and death that is occurring in the US population.

Well designed serosurveys with tests that have been received FDA Emergency Use authorization are getting done now and we will soon have a more clear sense of what percent of the population has been infected by COVID. Until then it is difficult to put high confidence in the results of serology tests that have not been formally evaluated. [FDA has given an EUA to 10](#) of the as many as [275 antibody tests](#) that are reported to have been developed or are in development. Even when we have confidence in a serosurvey, others challenges with serology are that we don't know yet whether it will cause immunity, and if it does we don't know long that immunity will last. More scientific research is needed to answer those questions.

Some have proposed allowing the disease to spread until the point where the country has achieved "herd immunity". Epidemiologic estimates are that it will require on the order of [70% of the population to be infected](#) to achieve herd immunity. 70% of the US population is about people 233 million people. Most studies that have been done calculate the infected fatality rate to be in the .5 to 1% range. For example, [this Lancet analysis](#) concluded that there was an infected fatality rate of .66% in China. If .5% of 233 million people were to die from this illness in the US, that would be 1,165,000 deaths.

Beyond that, it is likely that the infected mortality rate would go up substantially under conditions where the virus were allowed to spread rapidly in the US with no social distancing. We have lost 70,000 people to this virus in conditions where no patients were denied a ventilator because of shortages. If substantially higher numbers of people got sick with COVID in the same time period in a given city or state, there would be the possibility of overwhelming the health care facilities in that place, outstripping the number of available ventilators and/or the people needed to operate them. If that were the case, the infected fatality rate could go up substantially. We have to work to prevent that from happening.

Its important to look at the experience of Wuhan, Lombardy in Italy, and New York City in dealing with their COVID crises. Each of those places are considered to have strong hospital systems. And in each of them, this virus was rapidly able to come rapidly from causing no disease to causing complete health care crisis in a period of weeks. That pattern is nothing like influenza, or any other disease we have dealt with in modern times.

Conclusion

COVID19 has caused terrible illness and economic impact in the US over the recent months. It will continue to be a major public health threat until a safe and effective vaccine becomes available and is made available to the general public. Dr Fauci said this week that he believes that might start as soon as January 2021, which is more encouraging news than we had heard about a potential COVID vaccine until now.

In the meantime, we have to find a way to balance the severe potential public health impact and the severe economic toll that social distancing and the concern and fear about this virus has caused. Some states are in a better position than others to cautiously start to move ahead on easing social distancing. All states that do move forward on social distancing should do so with eyes wide open and recognition that the disease could rebound sharply in the weeks that follow those changes. They should monitor hospitalization rates, ICU bed rats, ventilator usage and deaths very carefully, and be prepared to change course if the epidemic in that state substantially changes for the worse. For businesses that are allowed to reopen they should do so with great care, mitigating their risks through changes to operations and processes and physical changes wherever needed and possible. And throughout all of this, political and public health leaders should communicate clearly to the public that individual physical distancing measures will remain critically important throughout all of this, and the public should continue to take these measures with the greatest seriousness. Keeping the epidemic from rebounding and causing new waves will take great collective action on the part of the America public.