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April 10, 2020

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Governor Lee,

It is safe to say that the most pressing issue that the State of Tennessee is facing right now has progressed from a pandemic to an epidemic. As a physician and surgeon, I am not speaking of a viral epidemic, but one of a more insidious nature: an epidemic of fear.

Make no mistake, SARS-Cov-2 (Covid-19, the "Wuhan virus") is a serious illness that demands our attention as a community. However, with over a month of dedicated data about this virus, its transmission, and the at-risk population, we now have the ability to make data-driven, logical decisions to help prevent our healthcare systems from being over-run with critically ill patients, as well as prevent un-necessary deaths from this latest viral respiratory disease.

Unfortunately, the statistic that is most talked about, and apparently which you and other leaders use to make decisions, is the one that is the most meaningless: total number of cases of SARS-Cov-2. This is a vanity metric that serves only to stoke fear and panic and sell newspaper ads, but says nothing about who is at risk of serious consequences should they contract this virus. An example: since the start of the current influenza season in September, 2019, there have been over 290,000 laboratory-confirmed cases of flu, as compared to the current laboratory-confirmed total of 427,000 cases of SARS-Cov-2 infections. One is totally ignored by the news media and "decision makers" such as yourself, the other is cause for a national shutdown. Both numbers are eye-opening, but tell us NOTHING about the seriousness of either disease process.

A metric worth using to guide decisions is the hospitalization rate from this disease. The hospitalization rate for the population at the greatest risk for morbidity and mortality (those over 65 years old and/or with weakened immune systems, who will be referred to as the "at risk" group from here on) with SARS-Cov-2 is 16.8 per 100,000. The hospitalization rate for the same group with influenza is 195.4 per 100,000. This represents greater than a 1000% difference. The table below illustrates the hospitalization rate by age group. **Clearly, the data shows that SARS-Cov-2 causes, for the majority of the population, a mild illness.**

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Hospitalization Rate (hospitalized patients per 100,000 people)*				
	SARS-Cov-2		Influenza (2019-2020)	
	TN	USA	TN	USA
0-4 yr	0	0.3	90.3	94.1
5-17 yr	0	0.1	21.2	24.6
18-49 yr	2.7	2.5	32.2	35.6
50-64 yr	9.9	7.4	101.6	90.2
65+ yr	16.8	12.2	195.4	179.7
85+ yr	42	17.2	323	

The mortality rate is an even more important datapoint that must be used to help guide decisions. The current estimates of mortality for the 2019-2020 influenza season put the number of deaths attributed to documented influenza between 24,000 and 65,000. Put that in perspective with the current number of mortalities of SARS-Cov-2. As of April 10, the United States has had just over 4,900 confirmed SARS-Cov-2 deaths, with over 30% of these (1,950) in New York City alone. According to the CDC, there have been 16 laboratory-confirmed SARS-Cov-2 deaths in the state of Tennessee. However, when compared to influenza, the mortality rates from SARS-Cov-2 are higher across the board. The mortality rates among the "at risk" group is especially concerning, being between 3 and 30 times higher for patients over 65 (between 2.5% and 25%). Of these deaths, over 90% of them had "co-morbid conditions" – obesity, heart disease, pre-existing lung disease, etc – making them much more medically fragile than the general public. Among the rest of the population (those under 65), mortality rates are, similar to influenza, less than 1% in each age group. **In summary, although for most of our population SARS-Cov-2 is a mild, self-limited infection (as are most viral illnesses), those in the "at risk" group are at greater risk of death from SARS-Cov-2 than they are from the seasonal flu.**

Population density is an important factor in the spread of disease. New York City, the US leader in both hospitalizations and mortalities from SARS-Cov-2, has a peak population density of over 56,000 inhabitants per square kilometer**. King County, Washington, also a hard-hit area in the United States, has a population density in areas of well over 20,000 inhabitants per square kilometer. In contrast, Nashville and Memphis, both the leaders in SARS-Cov-2 mortalities in the State of Tennessee and the most populous areas of the state, have population densities that peak at 4,000 inhabitants per square kilometer. The majority of the state has population densities that average less than 100 inhabitants per square kilometer. We live in a state that, fortunately, lacks the population density that

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facilitates the rapid spread of this illness. We are not New York City or Seattle, and we should not be dealt with as such.

Viral illnesses have been present since the dawn of time, and run a predictable cycle, much like seasonal influenza infections. They rise in the colder months, peak, and then fade as the weather warms and the society develops "herd immunity" by natural exposure to the virus that healthy immune systems handle with little disturbance other than a few days of fever, chills and the "flu" symtoms we all know (if there are any symptoms at all). Mass quarantine has never, in the history of recorded time, been an effective, durable disease management strategy. To think otherwise is folly. If any news from China is to be believed, their delay in recognizing this outbreak makes it probable that natural "herd immunity" to this virus developed before their total societal lockdown went into effect, which is why the viral spread ceased as quickly as it did. That is not likely to be the case in the United States, where the disease was recognized early but we did not have much reliable data on which to base decisions and a shutdown of American life seemed reasonable given the Chinese experience. Unfortunately, along with the rest of the "leaders" in our country, you have neglected to use a large, validated dataset to modify decision making as time passes, and continue to double-down on fear and panic as primary data points.

It is time to shift our decision making away from a knee-jerk, fear-based one and toward one predicated on data and making the best decision for the population as a whole. Usurping our Constitutional rights, forcibly closing private businesses, driving unemployment to levels not seen since World War 2, and destroying the economy is having devastating effects on our state and on our nation, from which recovery may be long and painful if it continues much longer. Indeed, the fabric of our nation may be irreparably damaged by this uninformed, unproductive societal shutdown. **To protect the 1% of the population who is at risk of serious consequences of this infection, we need not sacrifice the well-being and livelihood of the other 99%.**

To date, there have been exactly ZERO accurate computer models of this disease process (that have been made publicly available), and to continue to listen to academic "policy makers" and professional consultants who have yet to make an accurate prediction is tantamount to malpractice.

We need to focus on getting our population back to work to prevent economic and societal collapse. At the same time, we can target our resources to protecting the vulnerable, "at risk" population until this disease "burns out" as spring progresses to summer.

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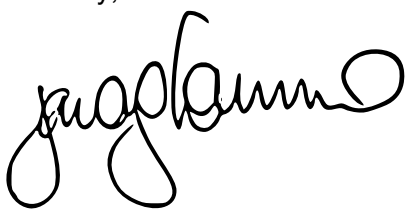
My recommendations are as follows:

1. **Repeal Executive Orders 17, 21, 22, and 23.** Focus on protecting the "at risk" population and get our state back to work and school.
2. **Repeal Executive Orders 18 and 25.** Allow the resumption of all surgical and dental procedures - elective as well as emergent. Physicians and surgeons are infinitely more capable of making risk/benefit decisions for their patients and their community than any politician. We do so every day without interference from the state.
3. **Protect the "At Risk" population - those over 65 and/or with fragile immune systems.** Individuals with suppressed immune systems (ie: those on chemotherapy or immune-suppression medications) and those over 65 years of age should be encouraged to stay at home until at least 5/15/2020. Limit visitation to nursing homes and hospital wards. Encourage expedited and delivery services for those who must be protected by sheltering. Government mandates don't work - allow private enterprise to do what it does best: innovate and solve problems. Encourage it with tax breaks and expedited business policies.

It is time to get Tennessee - and our nation - back to work, while protecting the vulnerable among us. Stop acting out of fear, and instead use the real, existing data to help make rational, logical, and effective decisions that help, instead of harm, our state.

Sincerely,



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*Data compiled from the Centers for Disease Control (www.cdc.org)
**Population data from Luminocity3d (https://luminocity3d.org)

Cc:
Sen. Lamar Alexander
Sen. Marsha Blackburn
Mayor Indya Kincannon
Mayor Glenn Jacobs