

## The Coronal Virus and Challenge to Our State Organizations

Part 3

Friday February 7, 2020

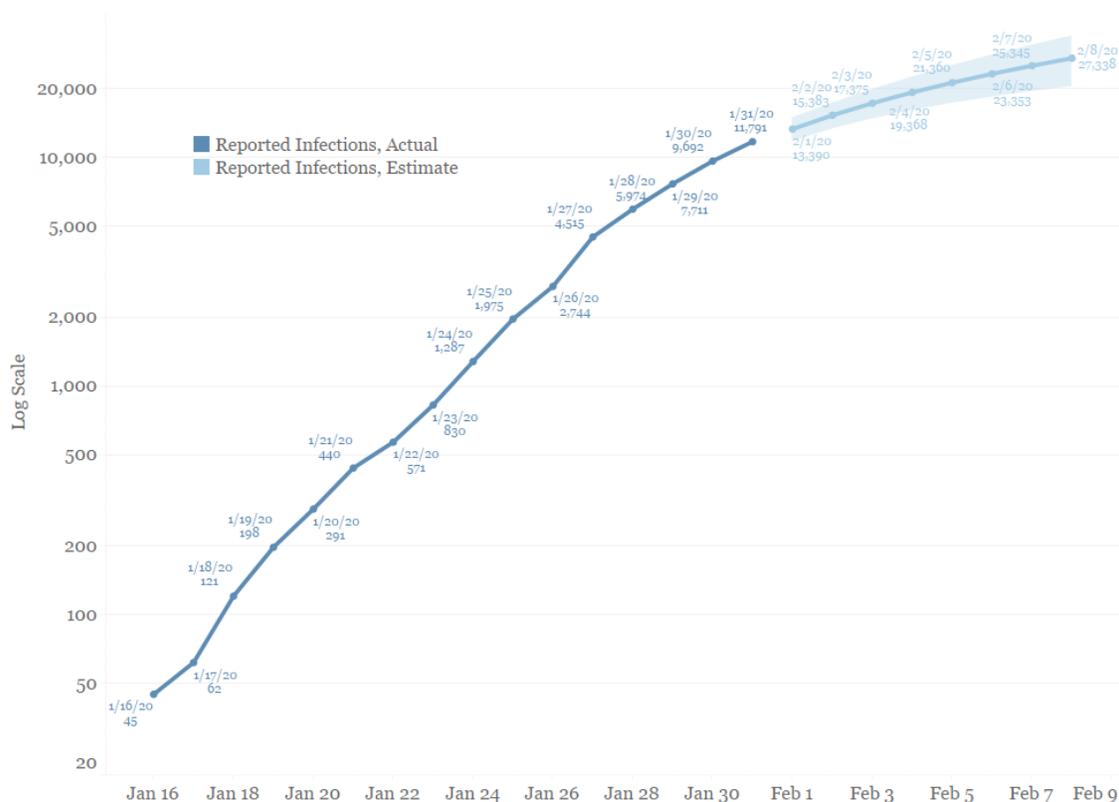
What we now know about the new coronavirus originating in December in China is that it is trending into a pandemic affecting many countries as opposed to a virus limited in its scope. Last Friday's (January 31) estimates were nearly 10,000 confirmed cases in China and cases in 17 other countries. There were 120 deaths.

This Friday's estimated cases are 30,000 confirmed cases and 700 deaths. Cases have been reported in 30 countries. It is likely to continue to increase through February and March into the month of April and affect most countries.

### Where The Data Originate

These case data that make up the estimates come from sources such as the World Health Organization, who, in turn depend on nations to report data to the WHO. Importantly there are contingencies on the accuracy of these data. One is the ability of a nation to collect data. Nations vary tremendously on the level of health care and the preparation of health professionals. With new diseases or diseases that require complex tools to detect and categorize, estimates are compromised. In the case of the coronavirus, it is only been known since December and kits for detection are in short supply. There are also reasons that local authorities or even nations may act to undercount. Rising counts may depress travel and trade with the area. They may threaten political positions. They may cause local panics. Thus, we should consider current numbers as some lower approximation of actual numbers.

## Confirmed Coronavirus Infections



Source: Information comes from the official website of the National Health and Health Commission

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### Economic Consequences

The consequences first for China and then the world economy are large. China's economy is built on trade with it being the world's leading exporter. About 20% of China's economic activity is export-related. China is also a heavy importer of items like foods, raw materials such as cotton, soybeans and petroleum as well as mechanical and electrical components. Remove or reduce the economic activity of China and significant problems occur that radiate far beyond China.

### Impacts on Texas

China's challenges are instructive for what we may face and must do in Texas. First and foremost the problems of China have direct implications for Texas. Trade by Texas with China and much of Asia will decline. China is Texas' third in size export customer and is second from where we import. Yet, China will have greater

needs for Texas agricultural produce, if they can secure funds to buy it. The same is true for oil. China imports 13% of the world supply, and the daily price for West Texas Crude is an indicator of the strength of an important component of the Texas economy. Oil priced below \$50 a barrel means that much of the economic boom of the Permian Basin will decline. That region has grown in the last decade through the technique of fracking, but to be profitable oil must sell above \$45. Oil at these prices negatively affects producers but also refiners. The consumption rate of oil is a measure of the world economy and even before the virus, the economy was declining. The world economy will now likely decline more rapidly. Oil is trading at the low of the last 12 months.

### Closing Price on Tuesday, February 4, 2020 For West Texas Oil Benchmark



Joint manufacturing will be problematic in terms of safe travel to China and back and requisite efforts to control disease. If China experiences sharp economic setbacks as has begun, Texas will feel this market shrinkage and it will reverberate with Texas' other trading partners. Watch Mexico, particularly, as it is Texas' largest trading partner both in terms of exports and imports. The last year has been Mexico's slowest in a decade.

The other of the two central concerns about this virus is the threat to health. If the corona virus were to spread like the seasonal flu, it would overwhelm the medical and hospital system and create hundreds of thousands of deaths. Texas being a border state and with high international trade and travel would likely experience higher rates of incidence.

### Relative Impact On Health

While very dangerous most people will not get the virus. Most of those that get the virus will recover. We can reduce the impact by reducing the incidence and moving quickly to isolate those that become infected. But sick days will increase, as will worries.

We are all familiar with the seasonal flu as we are urged to get vaccinations each fall. Here is a critical comparison of three measures for the flu and the corona virus, NCoV that indicates the more serious nature of this new disease. The ordinary flu causes death in 1 case in 1,000. The new virus has a rate of 20 or more deaths in each 1000 cases. R0 is the measure of how rapidly the virus spreads. NCoV is twice or more rapid in spreading to others. Lastly is the measure of how much an infection requires an Intensive Care Unit in a hospital. These three measures indicate how fatal the new virus is when people contract it, how rapidly it is spreading and the community costs to treat the virus.

### Case Fatality Rate (CFR)

Flu = 0.1%

nCoV = 2.5-3.5%

### Rate of Spreading (RO)

Flu = 1.28

nCoV = 2.5-3.5

### Serious Complication Rate

Flu = <1%  
nCoV = ≈20%

The average daily cost of one day of hospital stay in Texas is \$2,000. When an ICU is required, the cost rises to \$4,000. The most critical issue is how many cases will develop, how intensive must care be and the number of days. Few if any hospitals have many ICU beds that are empty. Thus, the critical issue is how many cases occur and the case severity.

#### **General Health and Economic Impact**

Organizations must anticipate higher than average sick days, take steps to sanitize areas where people are including doorknobs, hallways, water fountains and bathrooms. Good institutional and personal sanitation practices will reduce infection numbers and severity of infections.

Export and import business will drop. Part of the immediate reason is that much economic activity in China has been reduced and that will affect agricultural purchases and oil exports from Texas. Similar declines will occur in manufacturing particularly with components manufactured in China. That should affect companies that operate in Texas like Dell, Apple, Intel, Texas Instrument, Samsung, AMD, the many companies that provide the hardware for oil drilling and refining and countless other companies that use some components made in China.

An Austin small manufacturer illustrates the supply line vulnerability. Reported on the Austin station, KVUE, this week a young company called UnaliWear manufactures a watch that can contact medical personnel or a caregiver if the wearer falls, panics or experience some form of dementia. The problem the company faces is that one component that includes the battery is made in China. Until those battery units arrive or until the company can find another supplier, it cannot manufacture the watch.

We are in the early stages of this epidemic. It continues to spread slowly in the United States while spreading very rapidly in China and most of Asia. Health impact in Texas will perhaps occur in March. Economic impact may be more far reaching.

#### What Can Each Person and the Organization Do

**Step 1** is to become informed and track incidence to know if the virus is in the community and then will affect people.

**Step 2** is to take personal and organization precautions to minimize exposure. Carry personal hand sanitizer and avoid exposure as much as possible.

**Step 3** is to maximize health with adequate rest and appropriate nutrition.

**Step 4** is communicate with others including family and co-workers about concerns and efforts to mitigate the impact.

Families and work teams that regularly communicate and keep an eye out for each other have better health and apparently stronger immune systems. This is the concept of **social capital** and both helps your health and the likelihood of creating successful strategies for dealing with the viruses but more importantly for dealing with the organizational challenges that will come. The variety of surveys that my research group provides to organizations increase social capital among members of the organization and then with the larger community. The importance of organizational and community trust and reciprocity, social capital, will be a significant factor in dealing with this personal, organizational and community challenge.

#### Some important references and emerging stories:

Estimates of Virus Spread And Resources With The Work of Epidemiologist Professor Meyers  
<https://news.utexas.edu/2020/02/04/researchers-say-spread-of-coronavirus-extends-far-beyond-chinas-quarantine-zone/>

Texas Department of State Health Services Virus Support Site  
<https://www.dshs.texas.gov/coronavirus/>

Impact on Local Business As A New Startup by entrepreneur Jean Booth

<https://www.kvue.com/article/money/coronavirus-toll-on-austin-businesses/269-4554d8ef-2215-434a-8e7e-35157727bd63>

Impact on Oil Prices From Economic Decline in China

<https://www.nytimes.com/2020/02/04/us/oil-coronavirus.html>

Mexican Economy and Current Leadership of Lopez Obrador

<https://www.bloomberg.com/news/articles/2020-01-30/zero-growth-year-is-price-amlo-pays-for-mexican-transformation>

China Today Including Recent Changes and Leadership under Xi Jinping

<https://time.com/5778994/coronavirus-china-country-future/>

More Supply Lines Affected

<https://www.tomsguide.com/news/the-coronavirus-is-wreaking-havoc-on-the-electronics-industry>

<https://www.nbcnews.com/think/opinion/coronavirus-tests-u-s-medical-system-s-unhealthy-reliance-china-ncna1131211>

<https://www.bloomberg.com/graphics/2020-global-economic-impact-of-wuhan-novel-coronavirus/>

<https://www.wsj.com/articles/ask-a-doctor-of-economics-about-coronavirus-11580990402>

<https://www.odi.org/blogs/16639-economic-vulnerabilities-coronavirus-top-countries-risk>