

# APPRAISAL TODAY

## COVID-19: Data, Comps, and Values

I had planned on writing this newsletter last week, but spent most of the time writing changes to Fannie, etc. in two weekly newsletters. That is why it is delayed 2 days. In this newsletter I explain about what COVID-19 is and what it means for you.

**This is changing fast daily and sometimes hourly. What you read here may be out of date as I wrote it up earlier this week.**

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The first 5 pages of this newsletter are about health and safety issues for appraisers, plus valuations.

The second article is about the states pandemics, the comps (current and previous pandemics), immunity, etc. The third article is about vaccines, immunity and Q&As.

I have 3 sections/articles to make it easier to read, but it is all about COVID-19 and what it means for all of us.

### **Effects of COVID-19 on values - Extreme economic changes It's all about the data.**

The 2008 mortgage crash was about making loans to unqualified buyers. There were a lot of foreclosures and a recession. Form 1004MC was initially released in November of 2008 to make sure appraisers were looking at market trends.

What did you do after the crash started in 2007? Did you do negative time adjustments as soon as listing prices started dropping, with declining prices, no pending and lots of expireds? Did you just look at comps and not the market - listings, pendings, expired, talk with local agents?

As with the mortgage crash, percent declines can vary by neighborhood and price levels. In my market, my city had about a 30% decline, typical for other periods of price declines in the past. In nearby Oakland, declines varied from 30% to 80%, with the highest price declines in the lowest priced homes. What was your market like?

For COVID-19 the effects started

very recently and are all over the news. on values with changes over time. Unemployment is very high now, making foreclosures more likely. Business are shut down, affecting commercial properties. The effect of federal stimulus payments is another unknown.

Start getting data on the current and previous market NOW so you can get time adjustments for today and the future, which will be changing rapidly.

Be very, very careful not to over-value. Statements are okay in your appraisal but are not an excuse for not getting accurate values.

There has never been a time, in the U.S., that when within a few weeks, businesses shut down and people were out of work. There will be some government assistance for a limited time. Many small businesses and people don't have the resources to be able to pay their bills very long. Government at all levels are seeing sales tax revenues plummet.

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COVID-19 is not a natural disaster that occurs in a relatively short period of time. It will be going on for awhile. COVID-19 is affecting the entire world at the same time. The Spanish flu in 1917 also affected the entire world, but we don't have any data on the effect on real estate.

The primary ways to prevent getting infected are hand washing and social distancing. If you are at home, you and anyone else outside your home can't get infected. Hand washing when you come home from going out, or any time is very good. Easy to do, and free.

Other methods such as masks and gloves are less reliable, but useful. See below.

### **Appraisers age and health**

Many appraisers are over 60.

There is no question the older you are, the greater the risk. If you have any health problems, such as heart trouble or diabetes you are at greater risk. Particularly risky is anything that affects the lungs, such as asthma, COPD, etc.

Seriously consider if you want to continue doing interior inspections.

I will be 77 in June and am in good health, except for Type 2 diabetes. I think of myself as being in my 50s. I live with my cat, Widget. If I lived with someone else, I would definitely not expose them to the risk. Whatever my age, I would not do interior inspections as I think they are too risky for the occupants of the home as well as the appraiser.

### **How many infected people have no symptoms?**

As many as 25 percent of people infected with the new coronavirus may not show symptoms, the director of the Centers for Disease Control and Prevention warns - a very high number that complicates efforts to predict the pandemic's course and strategies to mitigate its spread.

In particular, the high level of

symptom-free cases is leading the CDC to consider broadening its guidelines on who should wear masks.

As many as 18 percent of people infected with the virus on the Diamond Princess cruise ship never developed symptoms, according to one analysis. A team in Hong Kong suggests that from 20 to 40 percent of transmissions in China occurred before symptoms appeared.

The high level of covert spread may help explain why the novel coronavirus is the first virus that is not an influenza virus to set off a pandemic.

### **CDC considering changing their recommendations on face masks**

Masks work by stopping infected droplets spewing from the wearer's nose or mouth, rather than stopping the acquisition of the virus from others.

Before March 31, the CDC was recommending not wearing masks outside of health care settings, especially considering there may not be enough masks for all of the health care workers in the US.

For other people, such as borrowers, it protects them from getting CV from you. For yourself, N-95 masks may help if someone within 6 ft. coughs or sneezes.

Don't hoard them, especially N-95. Unfortunately we have a severe shortage of all types of masks. I have not tried to purchase any. They must be reserved for healthcare workers who are dying. They cannot change face masks after every patient and are getting infected.

We should all be wearing them whenever we may be within 6 ft. of another person. Best to assume that everyone is infected, including yourself. Even if you were tested and passed, you could become infected soon after.

All the masks are designed to be used once, then discarded so you don't infect other people. That is not

possible now.

Surgical facemasks are loose-fitting and provide only barrier protection against droplets, including large respiratory particles. No fit testing or seal check is necessary with facemasks. Most facemasks do not effectively filter small particles from the air and do not prevent leakage around the edge of the mask when the user inhales.

Surgical masks protect patients from getting something from health care workers when breathing, such as bacteria. They should be used once and discarded. Cannot be sealed well against your face.

N95 respirators (also called facemasks) reduce the wearer's exposure to airborne particles, from small particle aerosols to large droplets. N95 respirators are tight-fitting respirators that filter out at least 95% of particles in the air, including large and small particles.

Cloth masks are "better than nothing", but not much. Many different types of material are being used, such as prewashed quilting cotton, which are 100% cotton, tightly woven and are washable. But, they are not as good as surgical or N-95 masks which filter much more effectively.

**A very good use of face masks is to keep you from touching your face!** I tested myself and wore an N-95 facemasks off and on for a few days. (I had masks in my earthquake emergency kits (go bag, home, and a large bag in my car.) It can be tricky to get a good seal against you face with N-95 masks. Beards, etc. are a problem.

I learned a lot about N-95 masks when we had big fires in Northern California recently. Our homes, cars, businesses were not set up to keep us safe. Smoke particles were very small and seemed to be everywhere. I used allergy air cleaners which helped.

There are hoods that completely enclose your head. Health care workers needing full protection use them.

"When researchers conducted systematic review of a variety of interventions used during the SARS outbreak in 2003, they found that washing hands more than 10 times daily was 55 percent effective in stopping virus transmission, while wearing a mask was actually more effective - at about 68 percent."

"Wearing gloves offered about the same amount of protection as frequent hand-washing, and combining all measures - hand-washing, masks, gloves and a protective gown - increased the intervention effectiveness to 91 percent."

Google the article, published in the New York Times with references: "More Americans Should Probably Wear Masks for Protection".

### **Disposable gloves**

Experts say "This isn't something the general public would be wearing... "I don't think they're going to do anything but give people a false sense of security, waste time and create more demand for something that's unnecessary, just like masks."

And "People likely don't wear them appropriately,"... (For example, putting on gloves, taking them off to use your phone, and then putting them back on.) And, ... "if they're using latex medical gloves, they're not designed for everyday use and rip easily."

And "People who wear gloves still have a tendency to touch their face, which is the main way COVID-19 is spreading."

My opinion below:

I have a few disposable gloves, which are very thin. I re-use them. I wish I had stronger gloves, but they are not available now. I guess it makes me feel better...

I use them at the gas station pump handle, which are very, very dirty all the time. Maybe some gas stations are cleaning them after every use.

When checking out at the grocery store, I use gloves on my right hand to pick up what I buying and the end of a pencil to touch the screen. I may be a bit paranoid, as there is no data on this touch screens, but it makes me feel better.

### **Booties**

I could not find any references to this for appraisers. Health care workers using full protection use them.

### **Hand sanitizers and hand washing - use them a lot**

The ability of hand hygiene, including hand washing or the use of alcohol-based hand sanitizers to prevent infections is related to reductions in the number of viable pathogens that can contaminate the hands.

Hand washing mechanically removes pathogens, while laboratory data demonstrate that 60% ethanol and 70% isopropanol, the active ingredients in CDC-recommended alcohol-based hand sanitizers, inactivates viruses that are genetically related to, and with similar physical properties.

How to wash your hands is best seen in a video, rather than trying to describe it.

### **Songs to sing while hand washing for 20 seconds. Be Creative.**

Make up your own lyrics! Do all of them twice typically.

- Row, row, row your boat (twice)
- Happy birthday (twice)
- We will, we will rock you (rock you) Or We will, we will wash you.
- Twinkle, twinkle little star
- This Little Light of Mine
- Jolene
- Somewhere over the rainbow
- Stayin' Alive (also a favorite song for performing CPR)

Google for lots more hand washing songs!

### **Disinfectants**

Cleaning refers to the removal of germs, dirt, and impurities from surfaces. It does not kill germs, but by removing them, it lowers their numbers and the risk of spreading infection.

Disinfecting refers to using chemicals, for example, EPA-registered disinfectants, to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface after cleaning, it can further lower the risk of spreading infection.

Additionally, diluted household bleach solutions (at least 1000ppm sodium hypochlorite) can be used if appropriate for the surface. CDC recommends 5 tablespoons of bleach per gallon of water.

Appraisers can disinfect their car and home interiors.

For lots more info, google. Too much info to include in this article!

### **Social distancing**

Louisiana is an example of what happens when lots of people gather together. Mardi Gras was February 25. No one knew much about the virus then.

Social distancing and Isolation will definitely cause mental health problems. Humans are social animals. In an experiment done in the past, babies raised without physical touch died.

Do you know people who are at home and don't have many family or friends, particularly if they are elderly and are not familiar with zoom, email, and other ways to connect. Give them a phone call.

What I miss with the virus is my face to face regular social activities - weekly lunch with my appraiser friend, going to the gym, playing pickleball 4 afternoons a week, MLS tours, etc.

I am introverted and can easily stay at home. But I know that face-to-face is very important for me. I had to ask

my long time cleaning person to stop coming. I will continue to pay her. She is low income and has lost many customers.

I highly recommend zoom. Very easy to use. I have a zoom meet up every week with some pickleball friends. This week my band mates and I will have a zoom jam session.

Keeping positive is very important. Every evening before I go to bed, I listen to an episode of 3rd Rock from the Sun on Amazon Prime. I always laugh. This past week I took off Friday afternoon and evening and binged watched a DCI Banks, a British police drama. Turned off computer. Did not watch any news. Total escape!!

### **Change is very hard**

For most of us, our social routine is gone. I have to change habits I have from decades of using them. It is not easy.

I am still adjusting to not going into my office weekdays and chatting with my assistant. Plus my other activities.

### **My story of how it has changed so fast**

Friday, March 5, I attended a 4 hour live appraisal CE class. We were sitting 2 or 3 people to a table. At the break an appraiser wanted to shake hands. I fist bumped instead. No one discussed CV. One person coughed and quickly said something got caught in his throat so attendees were somewhat aware of it.

Thursday, March 12, I was signed up for jury duty the next week and was very nervous about sitting in a packed jury room. I called and was excused. I was very surprised that someone picked up the phone immediately. I had expected lots of similar calls were being made.

Tuesday, March 17, shelter in place started in California. Finally got serious about social distancing. My business is not exempt (don't do lender

appraisals) so my assistant and I got remote access by Thursday. Can only do desktop appraisals on non-lender work. Our office is full of paper files. Not leaving our homes except to go grocery shopping and go to the office to pick up postal mail and some paper files. Still working on coordinating paying bills, etc.

Today. Live CE cancelled. Moving to online CE. Not leaving house except for gas and groceries once a week or less. No one coming into house, even my cleaning person. When my assistant drops off stuff at my house, she is on the sidewalk and puts it on the front steps. We wave at each other though my glass front door.

January - started learning about coronavirus. March 6 newsletter - first mentioned it. Shifted all my newsletters to the virus and Fannie changes. Takes a lot of time. Keeps changing all the time. March 20 - mostly about Fannie and some CV. Started doing newsletters twice a week. April 3 - Monthly newsletter focusing on the epidemic.

Really miss my regular face to face schedule. Doing personal Zoom meetups. Fun and very easy to do.

### **My science background**

I discovered science in my high school biology class my sophomore year. After I graduated I worked in several labs, including a hospital toxicology lab. I worked for a biotech company that had a Level 2 small containment room with smallpox and other bad viruses. Also, I was in medical school for a year, but had to drop out due to a severe illness.

I understand the importance of science and the scientific method. I will always be a scientist, although I have not practiced it since I started appraising in 1975. I am compelled

to be objective.

"The scientific method is defined as a method of research in which a problem is identified, relevant data is gathered, a hypothesis is formulated from this data, and the hypothesis is empirically tested." It is similar to appraising. Instead of a hypothesis, we develop an opinion.

### **Why I am writing lots of details about COVID-19 in the next pages**

I became fascinated by the novel coronavirus and have been following it since January. I have spent a lot of time reading about it. My science background was a good reason. But, I realized it is also very personal.

Last fall I studied a lot about getting prepared for an earthquake. I remember the 1989 Loma Prieta earthquake. I live 10 miles to the west from San Francisco and 4 miles to the east from the Hayward fault. I have 3-4 weeks of food, over 25 gallons of water and set up a go-bag for my house and a large bag for my car.

I am within 25 miles of Hot Zones: San Jose, Santa Clara, etc. I get daily updates from my local newsletter on what is happening here.

A few years ago I started reading post-apocalypse novels about solar flares, earthquakes, pandemics, and other topics (no zombies). I like reading about people connecting with others to form a "family" to survive. I also really liked the science. Of course, in books and movies it is much more dramatic, with a large percent of people dying or other unusual scenarios. Over a very short time, CV was in the U.S, then very close to my home.

# Data and comps

## It's all about the data!

The forecasts of the possible COVID-19 spread scenarios are based on data. Last Saturday during a news segment, several people mentioned "data". When Dr. Deborah Birx speaks she frequently uses data.

Appraisers use data on appraisals. What if there were no public records available on sales? What if you did not even know what had sold? No MLS? No electronic records? No Internet?

What we need is lots more testing to get the data. Testing has begun to increase, but is still too limited. For example, we need to know how many people do and don't have it in a particular geographic area.

For current data, epidemiologists data modelers are using data from China, South Korea and other locations, which is okay. But, we need data from the U.S. Historical data from other epidemics/pandemics are also being used. See below for more details.

### **Will there be more virus pandemics in the future?**

Yes, it is inevitable. There are many, many viruses hosted by animals.

We can learn much from this so all of us can be better prepared next time..

We have been lucky this time. Deaths rates are relatively low. Ebola had a 40% death rate.

### **What about sampling a population?**

Good idea, but requires test data to determine.

### **Percentages are important - lack of data**

For example, we want to know what percent of Americans are infected. We need the total number of Americans infected divided by the

total population. Or, what percent of those who are infected die. We need the number of both deaths and infected.

### **Why are there no reported deaths or percent of infected who die in many areas and many other statistics?**

No data on:

1. Age. The available data uses large age groups such as 20-45 We need smaller data groupings.
2. Sex. Do males have a higher mortality rate?
3. Why children are rarely infected.
4. Who, exactly, is at the highest risk? Over 60, Over 70, Over 80? So we can identify and concentrate efforts on them, such as not waiting until they show up at the hospital and can barely breathe.

### **What data do epidemiologists use to analyze and forecast COVID-19?**

Many are working on it all over the world. Current data from the U.S. and other countries are used, but this is the past. How well can the models predict the future. Also used are pandemics in the past. Lack of U.S. current data makes it more difficult and less reliable, so there is a wide range of forecasts.

### **How do you know what is happening in your area?**

For the U.S., look at other countries that are ahead of us. They are our future.

For where you live, get all the local news you can.

How many people have been tested? Just because you have few, if any, who have been positive does not mean much unless you have lots of people tested.

Urban areas, such as mine, have been significantly increasing testing for awhile. Non-urban areas depends

on how much local mayors, governors, etc. are able to obtain more testing.

### **What about rural areas?**

In a state (county or city) with no known infected people, it may seem to be okay to loosen up social distancing. However, that may be due to lack of testing, particularly in rural areas. You must test to know whether it can be done.

In many small rural towns, people know each other well. When there is a funeral it is a big event. Unfortunately, there have been news reports of 100-200 people attending a funeral in a city with a small population. Many got infected. There can be "blaming" for those they think brought the virus to the funeral.

### **What are the historical comps?**

The comps are previous virus epidemics and pandemics. None are as severe as COVID-19. Scientists are using this for their models. The lack of testing data on the U.S. is a major problem.

Appraisers (and data modelers) look at the past to help predict the future. Epidemiologists and others are looking at this data to try to predict the future, such as how many will be infected?

How good are the comps? We won't know for a while. Eventually a vaccine will be developed and it can be added to the annual flu shots.

1918 Spanish flu. The avian-borne flu that resulted in 50 million deaths worldwide. Hundreds of thousands of Americans died and body storage scarcity hit crisis level. But the flu threat disappeared in the summer of 1919 when most of the infected had either developed immunities or died.

1957 Asian flu caused an estimated

total of about 1.1 million deaths globally, with 116,000 deaths in the United States. A vaccine was developed, effectively containing the pandemic.

1968 Hong Kong flu (H3N2 virus) The estimated number of deaths was 1 million worldwide and about 100,000 in the United States. Most excess deaths were in people 65 years and older. I had this flu in my early 20s in San Francisco. I was staying with my brother and was so sick I wrote out a will.

1981: HIV/AIDS. Treatments have been developed to slow the progress of the disease, but 35 million people worldwide have died of AIDS since its discovery, and a cure is yet to be found.

2003: SARS coronavirus, In 27 other countries, infecting 8,096 people, with 774 deaths. Quarantine efforts proved effective and by July, the virus was contained and hasn't reappeared since.

2009 (H1N1) "swine" flu. 2009 (H1N1). Like COVID-19, there was no immunity at the start of the outbreak. There were antivirals to facilitate recovery, and by the end of 2009, a vaccine which - combined with higher levels of immunity - would provide protection in future flu seasons. It claimed over 12,000 lives in the United States.

2012 Middle East Respiratory Syndrome (MERS) is an illness caused by a virus (more specifically, a coronavirus) called Middle East Respiratory Syndrome Coronavirus (MERS-CoV). Most MERS patients developed severe respiratory illness with symptoms of fever, cough and shortness of breath. (MERS) killed 34% of people with the illness between 2012 and 2019 (2,494 cases and 858 deaths.

2014-2016 Ebola extremely deadly, killing up to 50 percent of those who got sick. But because it predominantly spread through bodily fluids like sweat and blood during the last

stages of the disease, it wasn't as contagious as COVID-19. The symptoms were so severe, health officials were able to quickly identify those who'd been in contact with people who had it and isolate them.

### **Lessons from the 1918 Spanish Flu**

There is not a lot of data, but there are death rates in cities.

The 1918 flu, also known as the Spanish Flu, lasted until 1920 and is considered the deadliest pandemic in modern history

In 1918, the studies found, the key to flattening the curve was social distancing..

One of the chief lessons of the 1918 pandemic is that cities such as St. Louis that acted early and decisively to contain the virus by banning large public gatherings, closing schools, and isolating ill or suspected case, fared notably better than cities such as Philadelphia that failed to take timely measures or did not sustain them.

The problem, of course, is that such actions are hugely disruptive to the economy, a fact reflected in the reluctance of authorities to employ such measures except as a last resort.

In 1918, the studies found, the key to flattening the curve was social distancing. And that likely remains true a century later, in the current battle against coronavirus.

### **Current comps - from the U.S. and other countries**

This is how we can see what the virus does. The timeline is very short however, as it started probably in December 2019 in China.

Scientists are using other countries, ahead of us, to see our future. Again, we have little U.S. data. We can see which countries are ahead of us and how many are dying.

### **Who is immune and why it matters**

Every flu we have, every cold, creates a memory. The immune system stores the recollection of an invading pathogen, and the next time we're exposed our bodies recognize the foe and attack it.

That memory is expressed in antibodies that circulate in the blood. In the last week, two major U.S. medical firms have announced what are known as serology tests. With a sample of blood, they can find out if a person was ever infected.

It's a question that's as important scientifically as it is practically. Broad antibody tests can uncover the true history of the virus. How many people did it infect? Who was most at risk? Was there an undiscovered current of mild cases? Which groups developed severe symptoms and needed to be hospitalized? Which didn't? What's the real mortality rate?

The tests can also tell us who's likely to be immune. With business shut down, the health-care workforce short on protective gear, and people staying in their homes to avoid catching or spreading the coronavirus, knowing who's already had it is crucial. These are people who can go back to work or can help alleviate an increasingly pressured front line of health-care workers who are among the most at risk of being infected.

The tests can also be conducted well after a person is ill. Unlike nasal swabs that only pick up the virus while an infection is ongoing, serological tests can find out if a person was exposed and recovered. They're a way of looking back into the body's past and making up for some of the testing failures that have plagued U.S. efforts to track the outbreak. Source: 4/1/20 Bloomberg Prognosis Daily

### **When will the pandemic and social distancing end?**

Most experts say we're past the point of containing the virus, like we did with SARS and MERS. That means that COVID-19 is here to stay, and the pandemic will end only with herd immunity.

Herd immunity occurs when a significant proportion of the population (or the herd) have been vaccinated (or are immune by some other mechanism), resulting in protection for susceptible (e.g. unvaccinated) individuals. The larger the number of people who are immune in a population, the lower the likelihood that a susceptible person will come into contact with the infection.

It is more difficult for diseases to spread between individuals if large numbers are already immune as the chain of infection is broken.

Current estimates put the coronavirus's  $R_0$  (how many people a person infects) between two and three, meaning anyone with COVID-19 tends, on average, to infect two or three other people. While this number can change based on our behavior, researchers estimate that the herd immunity threshold for COVID-19 is about one-third to two-thirds of any given population. Worldwide, that means anywhere from 2.5 billion to 5 billion people.

We are a very long way from this.

The coronavirus outbreak may last for a year or two, but some elements of pre-pandemic life will likely be won back in the meantime.

### **Stages of a Pandemic**

A pandemic is a global outbreak of disease. Pandemics happen when a new virus emerges to infect people and can spread between people sustainably. Because there is little to no pre-existing immunity against the new virus, it spreads worldwide.

The World Health Organization (WHO) provides an influenza pandemic alert system, with a scale ranging from Phase 1 (a low risk of a flu pandemic) to Phase 6 (a full-blown pandemic):

Phase 1: A virus in animals has caused no known infections in humans.

Phase 2: An animal flu virus has caused infection in humans.

Phase 3: Sporadic cases or small clusters of disease occur in humans. Human-to-human transmission, if any, is insufficient to cause community-level outbreaks.

Phase 4: The risk for a pandemic is greatly increased, but not certain.

Phase 5: Spread of disease between humans is occurring in more than one country of one WHO region.

Phase 6: Community-level outbreaks are in at least one additional country in a different WHO region from phase 5. A global pandemic is under way.

We are in Stage 6.

Source: CDC

### **How is COVID-19 spread?**

"The most important way it is spread is through droplets coming from the mouth or nose of someone who is infected. Those droplets, because of their weight, usually fall through the air and drop to the ground within about six feet. So we think if you're within that distance of somebody who's infected, you have a chance of getting infected."

"Those droplets could be expelled just through normal talking. With every person you're next to - within that six foot radius - you're taking a risk, because you don't know whether they're infected or not. So the most prudent thing to do is to limit your contact."

"Another route is touching an object, like a pen, that's been touched by someone who is infected. The virus can sit on an object and then

spread to you if you touch it and then touch your nose, mouth or eyes."

Lots of information online. Be sure to rely on information with data and testing, not just speculation.

### **How long is the "incubation period" between exposure and symptoms?**

"The median incubation period is 5.1 days, with most people getting sick between four and six days. About 97.5% of those who develop symptoms will do so within 11.5 days."

**That's why it is best to assume that everyone is infected, including yourself.**

### **What are the most common symptoms?**

"Early on, we identified the classic symptoms as dry cough, fever and severe body aches. But now we're seeing lots of very different presentations as well."

"Some people get very short of breath pretty quickly. But other people may be sick a week before they experience even a little shortness of breath. Some people get upper respiratory congestion; others don't. A few people get diarrhea. There are a myriad of symptoms."

A loss of taste and/or smell has also been identified as a possible symptom. But, these are also signs of other respiratory infections, such as the common cold.

Two weeks ago, I had bad diarrhea and a fever slightly over 100 degrees. I had read about these symptoms and have been staying at home with few trips to grocery stores. I had to let my long time cleaning person stop coming to my house. I am still paying her as she has a relatively low income.

**When do the most severe symptoms hit - and what kills people?**

"Many of the people who get sicker tend to do so in about a week or so into their illness. So that's a challenging time. At Harvard's hospitals, about half of all people who are hospitalized need intensive care. "

"Patients develop acute respiratory distress syndrome, in which fluid builds up in the small air sacs of the lungs. That restricts how much air the lungs can take in, reducing the oxygen supply to vital organs, sometimes fatally. "

**If I don't have symptoms, or if I recover, can I give it to others?**

"What is disturbing is that virus "shedding," as detected in the mouth or nose, is very, very common and could be there prior to onset of symptoms in an infected person. That's why transmission could occur from asymptomatic individuals. "

"And virus shedding could continue for up to three weeks after a person recovers. "

**What's the current death rate?**

"The first good analysis of outcomes among patients in the U.S. shows trends that are similar to what's been seen in other countries: The risk for serious disease and death increases with age. The age-related death risk probably reflects the strength, or weakness, of the respiratory system. "

"The CDC analyzed data from February 12-March 16 and found that death rates were highest in people age 85 and older, ranging from 10% to 27%. Among people 65 to 84, rates were 3% to 11%; ages 55 to 64, 1 to 3; ages 20 to 55, below 1%. Until Tuesday, there had been no deaths in people under the age of 19.

"The Los Angeles County Department of Public Health announced that a person younger than 18 had died, the first such known case in the U.S. "

"Overall, 31% of cases, 45% of hospitalizations, 53% of ICU admissions and 80% of deaths were among adults age 65 or older, with the highest percentage of severe outcomes among persons aged age 85 or older. "The overall death rate in Italy (7.2%) is substantially higher than in China (2.3%), reflecting the older population in Italy. "

**What are the risks to children?**

"Until (last week), no ICU admissions or deaths were reported among young Americans under the age of 19. That changed with the sad announcement by the L.A. County Department of Health of the death of a young Lancaster resident. "

NOTE: as of a few days ago there was one infant death report.

"Most children stay healthy. When they're infected with the virus they might not have symptoms. Or they might have very mild symptoms. "

"But there are still children that are quite vulnerable - children with asthma and other chronic disease. That represents about 15% of all children. "

**How is the Coronavirus different from the seasonal flu - lack of historical data**

No human has ever been infected with the virus. The scientific term "novel" or new. Thus there is no immunity unless you have been infected.

- 1. COVID-19 is novel. No vaccine, unclear how it will manifest (symptoms, demographics. etc. )
- 2. About 20% of COVID-19 patients are in serious condition and need to go to the hospital, 10 times the number who go to the hospital with seasonal flu.

3. Patients stay in the hospital longer than for the flu. CV can infect the lungs, which often requires ventilators to breathe.

4. Hospital stays are twice as long as the flu.

5. About 85% of people get the flu every year. Some estimates for COVID-19 are 25% to 50%, possibly up to 80% No one knows how many people will be infected with it. Lack of data. The coronavirus is new.

6. The virus could be 1%, 10 times deadlier than the flu, which has 0.1%.

7. No treatments for the virus yet. Scientists and others are testing treatments used for other viruses, but it takes awhile to test. We don't want to risk the treatments making people sicker.

8. No vaccine. Takes a while to test on humans. We don't want to risk having the vaccines making people sicker. It has happened in the past.

## What are Pandemic Phases?

If you ever watch epidemic and pandemic movies and documentaries, they are always looking for "Patient Zero", the first human to get the virus or an animal that is a carrier.

This is how you contain a virus, traditionally. Find the person and trace their contacts. Restricting travel is much less useful.

Unfortunately, we are way past that stage as COVID-19 has spread into the community. We have community transmission.

Community transmission: When a person contracts the virus despite not having travelled to an affected area such as China, or not being in contact with someone known to have the disease.

## Pandemic Phases - the details

**Containment phase:** Steps introduced to prevent the virus from spreading for as long as possible, such as detecting early cases and trying to establish who the infected person has been in contact with.

**Delay phase:** Measures introduced to reduce the peak impact of the virus and slow its spread, such as restrictions on public gatherings.

**Mitigation phase:** Providing hospitals with the support they need to maintain essential services as the virus spreads, and help those who are ill in the community to reduce the overall impact of the disease on society.

What stage a geographic area is varies around the country. Obviously "hot spots" such as New York City, San Francisco Bay area and Seattle area are at mitigation. There may be some areas in Containment or Delay.

It would be great to know about Containment and Delay. Maybe restrictions could be lifted, However,

all the experts say that without test data there is no way to know.

Some areas are in the Mitigation phase.

As appraisers, we all have seen lots of graphs and understand what they mean and have seen the "flattening the curve" graphs.

Our health care system is having many problems, as with most other countries.

Many coronavirus patients have to be hospitalized when the virus peaks. We lack the capacity to double or triple the number of hospital beds, more ICUs, more health care workers.

In New York city, people are coming to hospitals with severe respiratory problems and most will need ventilators.

## What is in the 2019-2020 flu shot?

an A/Brisbane/02/2018

(H1N1)pdm09-like virus;

an A/Kansas/14/2017 (H3N2)-like virus;

a B/Colorado/06/2017-like virus (B/Victoria lineage).

a B/Phuket/3073/2013-like virus (B/Yamagata lineage)

These are grown in chicken eggs. It takes at least six months to produce large quantities of influenza vaccine.

This is one of the reasons their effectiveness varies as scientists don't have the most recent data on what is infecting humans.

Hopefully a faster method will be approved soon so the flu shot will be more effective.

# Vaccines, Immunity, Q&As

## **The difference between respirators and ventilators**

I kept a respirator in my car for use when driving when we had fire in Northern California. They are used in many industries for protection from particles and fumes. Mine was big and bulky. I also have N-95 masks at home and in my car.

Health professionals wear respirators to filter out virus particles as they breathe in so they don't get infected with COVID-19 while helping people and patients. N-95 is recommended.

In medical contexts, a ventilator is a machine that helps a patient breathe. This machine pumps oxygen into the lungs and removes carbon dioxide through a tube.

## **Why are ventilators so important?**

There is a shortage in most countries, including the U.S.

CV attacks the lungs, especially in older people with lower immunity. The people that are very sick from CV often need them. In other countries they have to decide who dies and gets to use them. No one wants to do that.

## **Why is hand washing very important?"**

The oily lipid envelope that encases this virus is vulnerable to soap or detergent. The soap molecules wedge themselves into the membrane and pry it apart, killing it. We don't really need anything new.

## **Self-Quarantine, Isolation, Social Distancing and Lockdowns**

There are some differences of opinion among experts on the details, but the definitions below are often used.

Quarantining means staying home and away from other people as much as possible for a 14-day period.

A diagnosis of COVID-19 triggers isolation. Isolation is when you are sick, either at home or in the hospi-

tal," "Infectious disease precautions are then much more rigid than in self-quarantine."

Social distancing is a broad category. It means not shaking hands, avoiding crowds, standing several feet from other people and, most important, staying home if you feel sick.

A lockdown refers to an emergency situation when it is safer to be inside your building, room or area. People are not allowed to leave their buildings or the area or move freely. We have not done this here yet, but it is occurring in other countries.

## **Critical Questions with no answers because it is a novel (new) coronavirus and we have little or no data**

- Will it decline in the summer?
- How long will it last?
- Will it return?

There is lots of speculation but none is very reliable.

## **How long should we shelter in place?**

Dr. Anthony Fauci of the National Institutes of Health said recently, "You don't make the timeline, the virus makes the timeline."

If you're in one of the many states that has done it, your governor decides. If in a city or county (some states don't do the entire state), the mayor and county health officials decide. I am in California. Some counties started, and within a week or the governor decided to make it mandatory for the full state.

If your state does not mandate it, doing it to keep yourself and others safe is good, but it is much less effective to stop the virus spread.

There are also many variations, such as not closing all businesses. Instead "encouraging" people to not eat out or shop except at grocery stores.

"The National Academy of

Medicine recently posted that a four-week intervention, even if it's effective, makes very little difference to the ultimate size of this epidemic. Even an eight-week intervention only reduces the cumulative number of infections by 20 or 30%. That was assuming no seasonality effects."

"You really need to maintain or suppress transmission for 12 or even 20 weeks before you will really make a big impact. That's a very long time for society to handle this."

"But it all depends also on how successful we are. If a significant fraction of the population doesn't really practice shelter in place, then the fact that many of us are... that will mute the impact. And it will mean that longer interventions will be even less effective. So the really the best strategy is to have a very strong intervention happen simultaneously in an entire population to suppress transmission."

## **Who is best scientist to listen to?**

Dr. Anthony Fauci and Dr. Deborah Birx are the best for the general public. Fauci is very experienced and has been working on epidemics since AIDS in the 80s. He is easy to understand. I like Birx as she is "all about the data" and can be a bit technical at times and has less speaking experience than Fauci.

Both are regular speakers at the president's daily update. They are scientists and speak what they think.

Google their names to see their presentations (audio and video) and what they have written.

### **What about politics?**

The past is dead. Mistakes tell us how to do a better job when the next pandemic comes. Let's move forward and try to work together to get past this stage of the virus without a lot of deaths.

Delaying recognizing (or publicizing) the severity of the pandemic was not usual in the past. Today, China and other countries delayed taking action.

I have my opinions, of course, but the focus of this newsletter is reliable science from experts and clarification of incorrect information.

### **Where I get my information**

I am not an expert on epidemics and pandemics.

I prefer to get it directly from the scientists, such as direct written quotes, interviews, podcasts, etc. General interest writers are okay, such as in a publication or a blog, but they do not have a science background. That's why I wrote this for appraisers.

I have never watched cable news. I am sure there are some knowledgeable scientists speaking there. I record the daily president briefing to watch later, looking for my favorite scientists, Dr. Fauci and Dr. Birx.

The only national TV news I watch is the PBS Newshour. I record it and skip through some of the segments, looking for interesting topics and speakers. I like the "human interest" segments.

I also have been reading the New York Times and look for quotes and comments from scientists and other knowledgeable people. I read the opinions, of course, to help guide my own opinions.

I read my local newspaper every day to see what is happening here, plus the cartoons. It emails daily news alerts every day. Next Door is also very good for local information, but it has not been fact checked, so may not be reliable.

I subscribe to many podcasts and

emails from many medical/scientific groups and people, such as the Kaiser Family Foundation.

One of my best places is the San Jose Mercury News. It has an excellent series of Q&As with direct quotes from experts and references to the original source.

### **Q&As from San Jose Mercury. All have sources and references.**

#### **Once you become infected with the virus, can you get it again?**

There's potential immunity - but nobody knows. Of the seven coronaviruses that infect humans, four cause common colds - which, as we all know, can re-infect us. Antibodies are produced but then the levels slowly decline. So they sicken people again and again.

People infected by the fifth coronavirus, called MERS, show more durable signs of immunity. Antibodies can be detected up to two years after infection.

With the new virus's closest cousin, SARS, there's immunity that lasts at least two to three years.

There's only one study of immunity in the new virus, and it's not a human study. It's a macaque study. They infected the primates with this virus, then waited until they recovered and then tried to re-infect them. They could not. That bodes well for human immunity.

#### **Where's the vaccine?**

Hopes are pinned on a new approach to a vaccine which could deliver help faster than others. It uses a molecular courier, called "messen-

ger RNA," to trigger the production of protective proteins. The biotech company Moderna is the farthest along, but others are crafting a similar approach. It could take 18 months to prove safety and efficacy. Then supplies must be scaled up. But it might be available in the fall of 2020 to certain high-risk groups, such as health care workers, Moderna said.

#### **When will our outbreak peak? Two experts from different ends of the country offer perspectives:**

"We don't know. But we can look at some of the projections, based on the experience in other countries. With a lot of the modeling, the suggestion is that we're going to reach our peak in around 45 days (from March 18). That's a number that people are kicking around. But frankly, it's all a guess right now."

"I think 'soon' is exactly the right word there. Where I am here (March 24) in Boston, we think that we may be three, four or five weeks away from our peak of wave of illness, which means we have very little time to adapt."

#### **Will this coronavirus be seasonal?**

While the flu virus has been shown to be affected by weather, it's unknown if the COVID-19 virus behaves similarly.

A new Massachusetts Institute of Technology analysis found that the majority of coronavirus transmissions so far have occurred in regions with low humidity and low temperatures, between 37.4 and 62.6 degrees Fahrenheit. But correlation doesn't prove causation.

If weather does matter, we could have seasonal bouts, with the virus bouncing back and forth between the Northern and Southern hemispheres. This remains just speculation. And it shouldn't change our public health interventions.

### Will there be subsequent waves of infections?

It's so hard to predict. We expect that this wave may last three months, give or take. In previous pandemics, we have seen later waves that are delayed by a number of months. During the 1918 flu pandemic, for example, there were multiple waves.

We're going to have to figure it out, as we get through this wave, how much of the population has immunity. Because ultimately - whether we see another wave, and how big that wave (will be) - is going to depend on how much immunity there is in the population. If it's 70 to 80% immunity across the population, we may not see much of a wave.

But unfortunately it's far too soon to know. Before we can make that sort of prediction, we're going to have to do blood tests in search of protective antibodies. That will show us the level of community immunity.

The sections above with quotes are from this source, with comments from myself with no quotes.

There are many more questions, such as about sex, washing machines and lots of topics. Click here to read. You may need to copy and paste this very long link.

<https://www.mercurynews.com/2020/03/27/coronavirus-q-a-part-3-is-hiking-ok-is-my-newspaper-infected-what-about-sex>

### What does this mean for you?

Social distancing and washing hands are the most important for every American.

Help others whenever possible, especially those who may be having social isolation problems. Call, facetime, zoom, email and other methods are good. Contact someone you have not communicated with for a very long time.

My assistant come to my house to drop off paperwork a few times a week. We chat briefly though my glass screen front door. I really appreciate it.

All pandemics and Shelter in place will be over.

For the future, we have learned the value of being able to touch, see, and hug others. Other ways to connect, such as Zoom can be used to connect with others who are distant from us, such as family members in other states.

**As you can see below, mortgage applications have been going way up and down!!**

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### MBA Loan Volume Application Index – 1/16 to 3/20

