Plantation Bay Circular on Coronavirus

From Manny Gonzalez, March 18, 2020

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What Is It?

A virus is a packet of genetic material (RNA) encased in a shell, usually of fatty material. Technically a virus is not alive, but if it can penetrate a normal living cell in an animal, the virus can "hijack" the cell to make more viruses. Coronaviruses are a large group of viruses with protein 'spikes' which enable them to attach more readily to certain kinds of cell.

Viruses are the cause of many human and animal diseases, like the common cold, influenza, SARS, MERS, bird flu, swine flu, polio, smallpox, chicken pox, and Ebola. Not all diseases are related to viruses. Cholera, tuberculosis, and malaria are caused by bacteria and other living cells. Diseases caused by biological agents (viruses, bacteria, amoeba, plasmodia, etc.) are called pathogenic diseases. Non-pathogenic diseases are caused by mechanical failures or weaknesses of parts of the body; examples of these are heart disease, diabetes, and arthritis. Some diseases traditionally viewed as non-pathogenic, such as cancer, are now being suspected of being triggered by a pathogen, but this is still unproven.

The practical difference between virus-caused and other pathogenic diseases is that antibiotics work against other kinds of pathogenic disease but not against viruses, because viruses are not alive. The only way to cure a virus-based illness is for the body's immune system to "recognize" the virus and mobilize its own "antibodies" to hunt down and kill those viruses inside the body. (We are using everyday images here instead of biochemical terminology and processes.)

Or, before you even get sick, a virus can be vaccinated against. A vaccine is a weakened form of a virus; it "teaches" your immune system to recognize that virus and attack it immediately (should it enter your body) before it can infect your cells. Successful vaccines have been developed against smallpox, polio, and yellow fever, but not against the common cold. Many people hope that a Covid-19 vaccine can be developed, but the timeline for this is uncertain.

This is important: ANTIBIOTICS DO NOT WORK AT ALL against colds, flu, or the Covid-19 virus. Taking antibiotics will give you an upset stomach (by killing the so-called good bacteria which live in your stomach and help you digest) but won't kill the virus.

How Contagious and How Deadly is the Covid-19 Virus?

The short answer is "not very". Many authorities have been spreading wrong information on this subject. In my opinion, our best source of probabilities and expectations related to Covid-19 is the case of the Diamond Princess. As anyone knows, most cruise customers are elderly, and most cruise crew are young. With identifiable "elderly (assorted health conditions)" and "young (healthy)" populations, and a quarantine widely regarded as botched and ineffectual, this was virtually like conducting an experiment in a test lab under controlled conditions. It amazes me that nobody in WHO or CDC has zeroed in on this case and tried to draw conclusions from it.

One passenger was diagnosed positive after disembarking. The ship was promptly quarantined. But although the passengers were made to stay in their cabins, the crew had to serve them and thus for weeks were exposed to both the passengers and each other. However, everyone presumably took sensible precautions - face masks, frequent hand-washing, regular cleaning of fixtures and surfaces, minimized body contact.

To use round numbers, there were 2400 passengers and 1100 crew in the close confines and recirculating air of a cruise ship. Despite the ineffective quarantine and conditions conducive to contagion, only 700 persons eventually caught the virus (600 passengers and 100 crew). The semi-final death toll is 7, all passengers. "Semi-final" because after leaving the ship, some 250 patients remain in shoreside quarantine, about 15 critical; leaning toward pessimism, the final total death toll might reach 20. (The ultimate cause of death is usually pneumonia, if the infection reaches the lungs and the patient is too weakened to fight the pneumonia.)

Over 400 of the 700 infected were asymptomatic. This number is worth noting. If your aim is to Stop the Virus, "asymptomatic" is bad, because infected people might be going around stealthily spreading contagion. But if your aim is to Save Lives and Lessen Suffering, "asymptomatic" is not so bad, because those people aren't going to suffer or die. 400/700 or more than half with no symptoms is in fact pretty good compared to smallpox, which is 100% symptomatic.

In any case, despite the "perfect incubator" conditions, 90% of the crew didn't catch the virus at all. Among the 100 who did get the virus (with or without symptoms), the death rate has been 0% so far. Among the passengers, 25% got the virus; their expected final death rate would be 20/600, about 3%.

The good news therefore is young, healthy people are not highly likely to catch the virus and if they do, their expected mortality and even the degree of discomfort, are minimal. Also, even the elderly mostly come out ok, with a 97% survival rate.

Here are my simple conclusions from the numbers: One, the virus is not that easy to catch or most of the crew should have gotten it, given the face-to-face contact among each other and regular contact (direct or indirect) with the passengers. Covid-19 might be easier to spread than SARS or MERS, but it's far from the bubonic plague or smallpox (with community infection rates of over 50%, no matter how careful you are). **With ordinary Social Distancing and Personal Hygiene precautions, everyone regardless of age has a decent to excellent chance of avoiding the virus altogether.**

Two, if you do get the virus and have symptoms, with easily-applied medical intervention the survival rate is high. It's not brain surgery. Cruise ships aren't hospitals. The medical assistance provided can only have been makeshift, consisting of respiratory assistance devices and some palliative care. Yet the survival rate varied between 100% for the young and healthy, and 97% for the average older patient. These are good odds.

But note: even if not very high-tech, the medical assistance must be appropriate and prompt - mechanical respiratory devices as soon as possible when breathing difficulties arise.

If Not Very Contagious, Why Are So Many Cases Being Reported?

First, even just 1% of 50 million (Spain's population, for example) is a big number, 500,000. Second, there may have been many unknown cases but now that we're looking, they're being found. Third, many people are probably still not following correct distancing and hygiene. On the first day after Spain told people to stay home, people all over Madrid still insisted on going out to restaurants and bars. A cabinet minister told people they should self-quarantine if exposed to anyone positive with the virus, then ignored his own instructions.

Instead of Europe, look instead at countries in Asia which seem to have controlled their epidemics, by making strong and early efforts to stamp out the virus, and getting the cooperation (willing or otherwise) of the population - China, South Korea, Japan, Hong Kong, Singapore.

If Not Very Deadly, Why Are So Many Dying?

Death Rates are highly variable from country to country. China's running death rate is 5%, even though pulmonary health is very bad from the air pollution, because it built emergency hospitals and implemented smart criteria for when to admit patients, possibly with some compromises on individual freedoms. Italy's

mortality is almost 50%, because it has a vulnerable elderly population and the medical response may not have been the most effective.

Instead of the few countries with high death rates, look at the many countries in Asia, or most countries in Europe, with low mortality. The worldwide death rate is also numerically skewed because the weakest patients die earlier, while many mild or asymptomatic cases don't even get counted.

What Are the Symptoms of Covid-19? How do you Recognize Who is Sick?

The common ones are a moderate fever (about 40 C) and a dry cough. Sneezing and runny nose are not so common. As we saw in the Diamond Princess, over 50% of the "sick" may not even show any symptoms. In brief, you can't reliably diagnose it by symptoms. You don't know who might be carrying the virus.

Most important to keep in mind is that, whether you have it or not, you should behave as if you do (to minimize your chance of infecting others), or you might (to protect yourself). See below.

How do You Catch the Virus (and How Can You Dodge It)?

The incubation period is the amount of time between exposure to a pathogen and showing the first symptoms. This is 2-14 days for the Covid-19 virus, but since many people never show symptoms, we don't know with certainty when a person becomes contagious. Covid-19 infects first the upper respiratory tract then if not cured sooner, the lungs (and not, for example, your feet or your brain, though stomach infection sometimes occurs). Here are the ways the viruses produced by your respiratory parts (nose, mouth, throat, lungs) can spread to another person:

- Direct transfer: kissing, including "beso-beso" or "making lamano". Stop all these practices immediately, or kiss only one partner if you are both sure you are not carrying the virus.

- Almost direct transfer: spitting, talking while expelling small amounts of saliva, coughing, sneezing, etc., and the virus-bearing little drops of fluid you expelled enter the other person through eyes, nose, or mouth; shaking hands. Stay 2 meters away from all other people, whether having dinner, standing in line, talking to a colleague, or riding a bus. If you have to be closer for any reason, wear a mask and be conscious of where your breaths are coming from. Stop shaking hands.
- Indirect transfer: if you are infected and expel viruses by coughing (especially in your hand), through feces, spitting, blowing your nose into tissue or handkerchief, touching your nose or mouth, and the viruses come to rest on an item or material where they survive long enough to be picked up by another person. If you cough or sneeze, do it into the inside of your elbow. If you blow your nose, do it into two 3-ply tissues (6 plies in all) to avoid that your fingers or hands get moist with virus-laden mucus; toss the tissue and as soon after as feasible, wash your hands. On the receiving end, avoid touching items that other people touch, like money (coins are worse than paper money but both are bad), cellphones, TV remotes, doorknobs and handles, elevator buttons, escalator hand-rest belts, stairway railings, etc. Don't kiss or lick religious shrines, or insist on taking Communion direct from the priest's fingers like the Iranians and the Spanish, possibly the Italians. If you have no choice and are forced to touch such items, as soon as you can wash your hands and in the meantime avoid touching your face with the hand that made contact.

How Long Does the Virus Remain Infectious after Being Expelled by a Sick Person?

This is based on tentative experiments:

- Floating in air, 4 hours. So if walking through a hospital corridor or riding in an elevator that someone coughed in 3 hours ago, there is some risk (wear a mask).
- On soft surfaces like paper, paper money, cardboard, 24 hours. (No data on fabrics, because of difficulty of swabbing for samples; probably less than paper unless the fabric is very wet.) If you have to handle any of these that may have viable viruses, wash your hands as soon after as you can.

- On hard surfaces like metal, glass, coins, bus grips, hard seats, telephones, etc., as long as 72 hours. Carry a small perfume-sprayer filled with disinfectant. If possible spray such items with a disinfectant before touching. If not, wash your hands as soon as you can.

Don't let these numbers terrify you. Remember the Diamond Princess: if you are reasonably careful, you have a good chance, probably 75% or better, of never catching the virus. If Covid-19 seems to be spreading fast in some areas, it is because people aren't taking the social distancing and hand washing seriously.

Handwashing with soap or rubbing with 70% alcohol both weaken the lipid wall of a virus, so it just breaks up. Other substances which can kill viruses are bleach/chlorine, hydrogen peroxide, and vinegar or lime juice, but none of these work as well as simple soap or alcohol. Salt water does not kill viruses, but nasal irrigation with saline solution can relieve a stuffed-up feeling and by flushing sinuses might speed recovery.

Should I Test Just to Be Sure?

If you arrive at the scene of the Titanic sinking, do you need to test for hypothermia before throwing a life-vest? This is one of the stupidest things to come out of the supposed experts, specifically the World Health Organization. We are in the middle of a pandemic, and have been for at least a month before WHO declared it officially. Long ago, everyone in the world should have been told to behave as if they already have it, or will eventually get it if they're not careful. In the course of the 1918 Spanish Flu, eventually 600 million, or ⅓ of humanity, got it in some form.

Because of the focus on testing, many people reasoned "I'm not proven sick yet, so I don't have to change my behavior" - they kept acting normally, and then either got it or spread it. And instead of preparing cots and respirators, people have been clamoring for US$ 100 test kits.

If you feel okay, don't bother the healthcare system, which has more important things to worry about than giving you false reassurance. If you are Negative today, you might still catch it tomorrow. Instead, stay home if you have the option; and if you have to go out, wear a mask and observe all the advice given above.

You Keep Referring to Masks, but the US Surgeon General Said People with Masks are More Likely to Catch the Virus.

The US Surgeon General is an idiot, and you can quote me on that. The statement was later qualified by other brilliant minds in the current US leadership - ". . . if you don't wear it right." This is about as smart as saying "Don't ride a bicycle, because if you don't know how to ride one you should probably have walked."

Of *course* masks help. Any barrier between the virus and you is going to help. True, viruses are very tiny, and could easily go through the weave of any fabric - if they could fly. Viruses can't fly; they need to hitch a ride on droplets of fluid (saliva or mucus). Stop the fluid with almost any woven or matted substance, and you've stopped at least those viruses. If you can't get a normal surgical mask, make your own with three layers of cotton or silk bandana.

Look at all the countries which have quickly gotten their epidemics under control. They're all countries which have no social taboos about wearing surgical masks. Masks protect both the wearer and those around the wearer - two ways to lessen transmission.

So There's Nothing to Worry About?

Of course there is, if you care for your fellow man. Young, healthy people will have almost 100% survival and so need not worry for themselves. But everyone has relatives and friends who are older, or have some health issues already. These are the ones who will fill the hospitals and spill out into gymnasiums if the epidemic runs wild.

The best way not to infect others, is not to get infected yourself.

What to Do If You Feel Sick?

If you are young and healthy, stay home until the last symptom is gone, then wait two weeks more. If the public situation permits, get tested then.

If you are in a vulnerable group, call the public hotline (hopefully there will be one). Don't just rush to the ER, where you will be exposed to other sick people.

Again, What Personal Practices Help Most?

The Six Points for People

1. Cut out the kisses, handshakes, cheek busses, and even hugs until further notice.
2. Be conscious of where infectious viruses might be lurking, and wear a mask or avoid touching. For example, in a public toilet, use the paper towels to turn off the tap and turn the door knobs.
3. Maintain social distance - 2 meters from other persons in all circumstances. This unfortunately rules out places and activities involving crowds - amusement parks, sports stadiums, churches, restaurants (unless re-configured to keep diners apart).
4. Everyone now knows about washing hands with soap and hot water. To that I would add daily or twice-daily showers, and washing your face with soap every time you wash your hands. Why? If your hands did pick up viruses somewhere, you could also have transferred them to any part of your body.
5. For those who have to go out in public to buy groceries or commute to an essential job: wear a mask, and bring around a small spray bottle of disinfectant. If your store is out of it, make your own - the

most basic recipe is simple rubbing alcohol. If you'll also use it as a hand sanitizer, dilute it with 30% water (distilled or purified) and add a little glycerin or aloe vera. Personally I dislike gels like Purell, which are costly and require more effort to spread all over your hands.

6. In places where Covid-19 seems to be starting to rocket (like the UK now or Italy a month ago) vulnerable groups - older, or with health issues, or heavy smokers - should strongly consider self-quarantine at home to protect themselves from the public and even the other members of their household. If you are a younger person living with a vulnerable relative, help them with errands so they don't go out unnecessarily. Absolutely use whatever force is needed to prevent them from going out to the cockfights, church, pub, or mahjong parlor.

What Should Governments Be Doing?

Another Six Points, for Governments

1. Mount a public information campaign on the Six Points above. This might avoid a crisis and the staggering social and financial costs of border closures and full-scale "everyone stay home" lockdowns.
2. By city or region, set up a command center with a hotline and multiple operators, with the instruction that people who think they're sick should not go to an ER but call this number. The purpose of the command center is to field calls, maintain a database to monitor the persons afflicted, and centralize the decision-making on whether to tell a caller to stay home (but call back if his condition progresses either way), or assign him to be picked up and admitted to a specified treatment unit. In charge of each shift would be the equivalent of a taxi dispatcher with medical knowledge, people skills, and computer literacy, making life-or-death decisions on how to allocate medical resources. China and South Korea undoubtedly already have software and organizational systems for this purpose.

3. Gear up for the most vulnerable potential patients, the elderly. Stockpile cots and a variety of mechanical respirators. If Jack Ma wants to do something more than unload excess stocks of surgical masks, these are what he should be shipping to the world's poorer countries.
4. Make plans for how to set up bed space in gymnasiums, churches, or other suitable locations.
5. Recall the 1918 Spanish Flu, which appeared to die down in summer, but came back in Autumn in a mutated deadlier form, and eventually killed 50 million people. If the Covid-19 virus appears to fade in a couple of months, we should not assume it's gone, but profit from the pause to prepare better for Round Two.
6. Against that possibility, governments should have more comprehensive and well-thought-out plans for how to execute a Hubei-style Hard Lockdown while mitigating its impact on society and the economy. Thought has to be given to which functions are essential, what movements are permitted, how to enforce. Logistics should be worked out in advance.