

**Dear valued patients and colleagues**

### **The future**

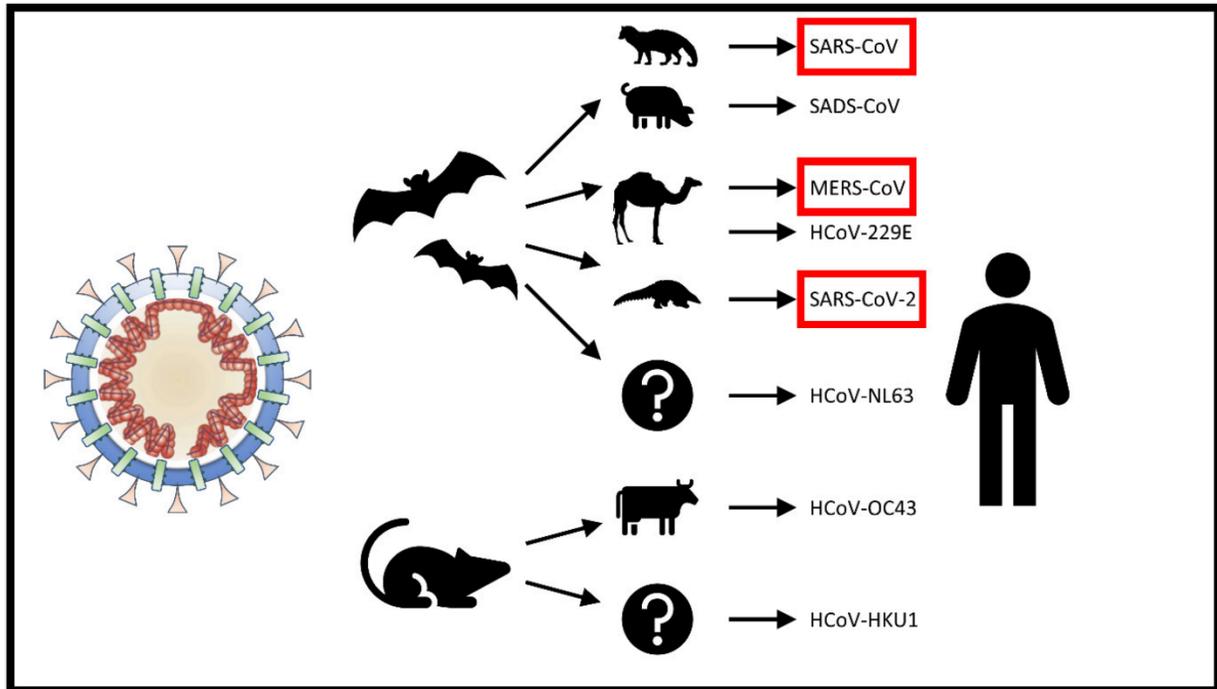
Let us imagine a look into the future. The SARS-CoV-2 pandemic has caused worldwide illness and death. Pharmacological treatments and other measures to limit the spread of disease are still being researched. Two questions loom with regard to how to handle this disease in the immediate future. The first is, how long should we quarantine? The second is, at what level of social distancing is going to be needed? The answers to these questions and what the future will look like moving forward depend on several, to date, unanswered questions.



Background facts that may enter into equations about how to handle the country's response to the coronavirus moving forward include:

1. Coronaviruses vary in their lethality. SARS-CoV-1 or SARS is a severe illness with an approximately 9% mortality rate. MERS is even more severe with a mortality rate of approximately 36%
2. HCoV-OC43 and HCoV-HKU1 are two additional coronaviruses. We see these commonly in the US. These two viruses are much milder and either may be asymptomatic or be accompanied by mild to moderate upper respiratory symptoms. HCoV-OC43 and HCoV-HKU1 are the second most common cause of the common cold (the first being a different virus called rhinovirus).
3. Immunity to HCoV-OC43 and HCoV-HKU1 viruses appears to decrease remarkably after one year.
4. SARS-1 infection can induce longer lasting immunity.
5. Immunity to SARS-1 can generate neutralizing antibodies against both the HCoV-OC43 and HCoV-HKU1. This is called cross immunity.

We do not know yet what the response SARS-CoV-2 will elicit, but we can lay out some predictions about what might happen.

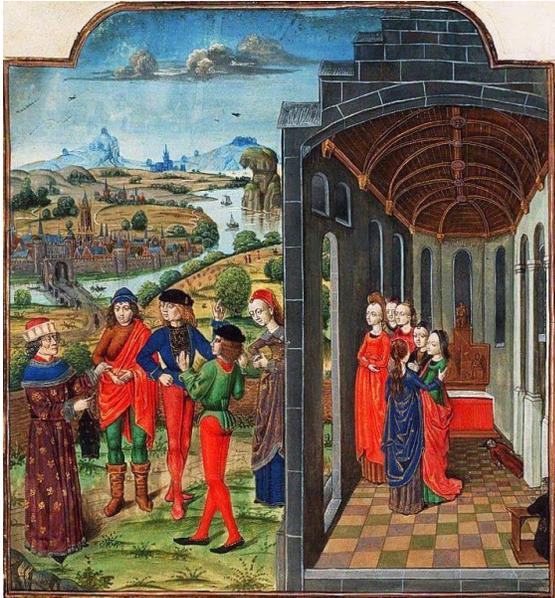


- If immunity wanes for SARS-CoV-2 in the same manner as other coronaviruses, recurrent wintertime outbreaks are likely to occur in the coming years. If immunity lasts years, then we may avoid chronic outbreaks. The total incidence of SARS-CoV-2 in the future will depend on duration of immunity and cross immunity from other coronavirus species.
- Vaccines will play a factor, as well, in the overall immunity duration and play a strong factor in the need for social distancing and our response in the future.
- Effective new medications to treat the disease would also go a long way in decreasing the need for the type of response we are now experiencing.
- Serological testing may very well be needed to understand the extent and duration of immunity that will help us determine how new outbreaks need to be handled.

### The Decameron

The Decameron by Boccaccio was one of the first books I read in college. At my school, two years of humanities was required to earn your degree, no matter what your major. I am forever thankful to the school for “making me read” the books I was “forced” to read over those two years of study. You might want to add it to your pandemic reading material. The book is set in the outskirts of Florence in 1348 and its protagonists have fled to the countryside because of the Black Death which is destroying their city. A group of 7 young women and 3 young men shelter in a secluded villa outside the city. The book is a collection of novellas as told by this group.

“And the plague gathered strength as it was transmitted from the sick to the healthy through normal intercourse, just as fire catches on to any dry or greasy object placed too close to it. Nor did it stop there: not only did the healthy incur the disease and with it the prevailing mortality by talking to or keeping company with the sick--they had only to touch the clothing or anything else that had come into contact with or been used by the sick and the plague evidently was passed to the one who handled those things.”



The Decameron tells us that epidemics can result in vast amounts of social disruption. At the time of the book's writing, there were three different approaches to the disease. One was debauchery and carefree living because one did not know if one would live to see another day. Another approach was herbal remedies. Others just fled.

Reconstruction is an essential theme of the Decameron. The most reconstruction is that of social relations with family, friends and everyone in between. Boccaccio also notes that we should avoid total isolation and he seems to foresee the mental cost of isolation and suggests isolating in groups.

"One citizen avoided another, hardly any neighbor troubled about others, relatives never or hardly ever visited each other. Moreover, such terror was struck into the hearts of men and women by this calamity, that brother abandoned brother, and the uncle his nephew, and the sister her brother, and very often the wife her husband. What is even worse and nearly incredible is that fathers and mothers refused to see and tend their children, as if they had not been theirs.

If classical literature and reading historical literature with a modern outlook of interest to you, I suggest this book.

### **TMI – Too much information**

We are not only in a pandemic; we are also in an “infodemic” as we are inundated daily with COVID news. How on earth are you to evaluate what you read? The techniques listed below are ones that I use when evaluating what I read in the news. Try them out.

Remember there is an unprecedented amount of information out there and scientific journals are actually “pre-publishing” meaning placing results online before intensive review. So, read them with a little skepticism. It does not mean pre-publishing is not true, but you should be more cautious in interpreting data that has not been peer-reviewed.



When you read a headline on a news website that references a scientific study, look for a link to the report of the study. There is no need to read the entire original article; an abstract or the conclusion may provide enough information. In general, the lay public does not want to grapple with the methods and statistics of the study.

As you review a study (or a report of a study), try to determine the number of patients that were included in the study. If there were less than 100 patients or if the patients are not representative of the larger population, it might behoove you to be more skeptical of the findings. In addition, try to determine if the drug, vaccine or treatment was compared against a group that did not receive the treatment (a control group). Studies with a control group tend to be more valid.

If you see a social media post that does not reference an original study, it is important to try to corroborate the findings being reported with other objective sources.

### **Medicine and Music**

What can one possibly say about Puccini, my favorite operatic composer? Works such as La Bohème, Tosca, Madam Butterfly and Turandot are all masterpieces. Puccini was a chain smoker of cigars and cigarettes and began to complain of chronic sore throats toward the end of 1923. A diagnosis of throat cancer led his doctors to recommend a new experimental treatment called radiation therapy. The new treatment led to complications and uncontrolled bleeding which led to a heart attack the day after

surgery. News of his death reached Rome during a performance of La Boheme. The opera was stopped immediately, and the orchestra played Chopin's Funeral March (last newsletter).



I cannot think of one single piece that encompasses his greatness. Try a few of these they are all short and utterly amazing.

From Gianni Schicchi: O Mio Bannino Caro (Oh, My Adored Father)

<https://www.youtube.com/watch?v=oi-oSnGfRM4>

From Turandot: Nessum dorma”

<https://www.youtube.com/watch?v=RdTBml4oOZ8>

From La Boheme: Si. Mi Chiamono Mimi

<https://www.youtube.com/watch?v=OkHGUaB1Bs8>

From La Boheme: Che gilida manina

<https://www.youtube.com/watch?v=XOPvS5mYX70>

I could go on forever, but we need to leave some for future newsletters.