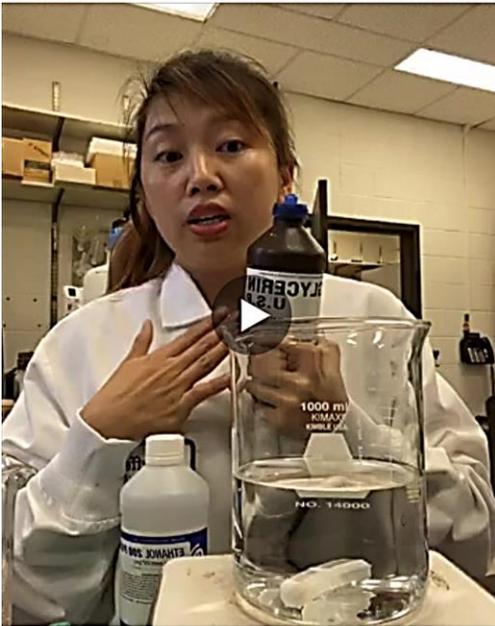


JeffPost COVID-19 Issue

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Making Hand Sanitizers in Lab, Dept. of Pharmaceutical Sciences



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Desperate times call for desperate measures. Sounds too true when you hear the story of Ms. Annie Chhun, who is a laboratory coordinator in the Department of Pharmaceutical Sciences. In late January 2020, she started trying to make gel hand sanitizer for home use as the COVID-19 crisis started. Soon thereafter, the commercial stock of sanitizers became quite expensive or unavailable. As a follower of the Cambodia community on Facebook, she learned that there was a shortage of cleaning products, such as Lysol, ethanol, and hand sanitizers. Ms. Chhun said, “Dr. Gagan and I were talking about it and thought since we developed a formulation for PharmD students, can we make hand sanitizers with whatever ingredients we have in the laboratory? This question led us to develop a new formulation of easy-to-make hand sanitizers from a few simple ingredients in the laboratory.”

To have an idea of the interest in this product, she posted the concept on her Facebook page and shared it on the Cambodia community Facebook page, writing in their Khmer language. One major reason behind this was because of the economic issue, since not everyone can afford the hand sanitizers as they had become way overpriced. Instead, it can be made totally at home for less than 50% of the price and in larger quantities.

Following are ingredients of the preparation “homemade sanitizer:”

1. 70% IPA or high
2. 0.15% of HEC (Hydroxyl-ethanol)
3. 0.1-0.2% of Glycerin
4. Optional: essential oil and gel color of your choice

Cambodian Version: <https://www.facebook.com/100002064106399/posts/2926544557424319/?d=n>

English Version: <https://www.facebook.com/100002064106399/posts/2926549880757120/?d=n>

She has made seven batches (nearly 1 liter of preparation) so far in various scents like watermelon, orange, and gardenia. She distributed the preparation within the laboratory to see if it works. She first shared with her husband, then her colleagues, Miriam and Ankit, then others in the lab, and then Drs. Gagan Kaushal and Alok Bhushan. The video of the preparation received over 500+ shares and >20k viewers. She instantly received comments and discussions on the preparation. Common questions were about the possible substitutions for ingredients, where can they find those raw ingredients, and how do they make specific dilutions. Recently, she also made a video in English to reaching out to a bigger community. She hopes that people appreciate that small efforts can provide help in a big crisis.

-Dr. Ankit K. Rochani (VP, Communication, JPA, and Editor-in-Chief, PSERT)

Jefferson Fights Against COVID-19

Jefferson cares for its employees and students. The closing of the institute was ordered nearly 3 weeks before the US saw a serious surge in positive cases. Figure 1 shows the time line of cases and actions taken by Jefferson to contain the crisis for students, postdocs, and faculty members.

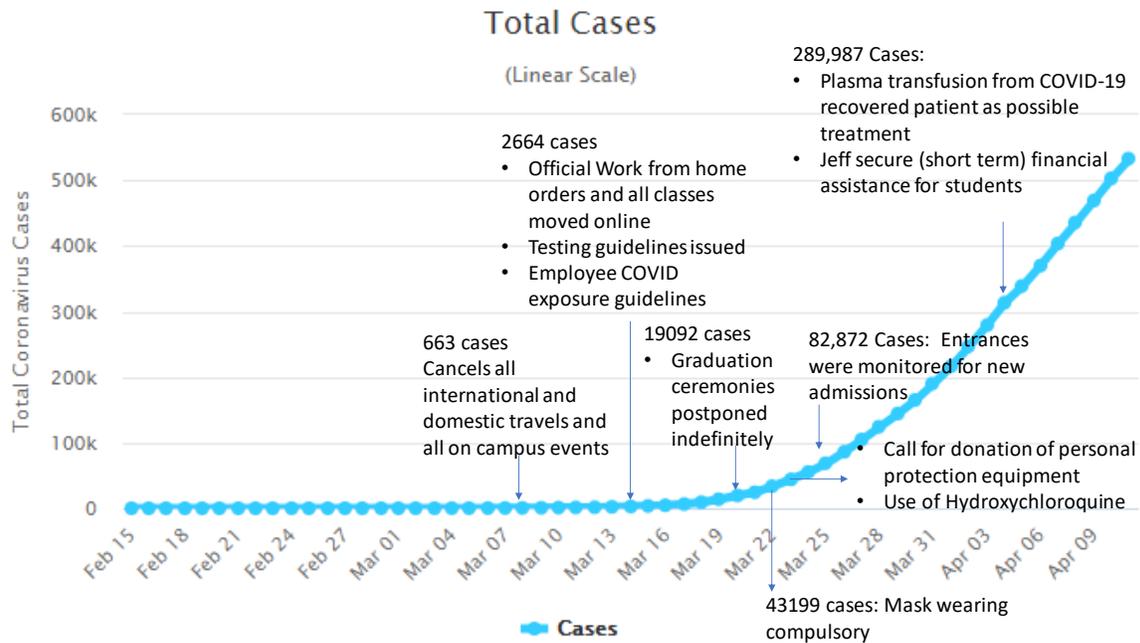


Figure 1: Shows number of COVID-19 cases over time for the US (as per Worldometer) and steps taken by Jefferson over that same period to safeguard people working or studying at the organization.

Due to limited availability of masks and as per new Outpatient Guidelines (https://www.jeffersonhealth.org/coronavirus-covid-19.html?utm_source=cv19banner), Jefferson is also providing necessary masks to patient visitors to prevent the spread of infection. As of April 22, there are 26 testing centers and drive-through testing sites; details are given in the weblink. Currently there are >400 confirmed cases being treated at Jefferson Hospital. Jefferson follows CDC, NIH, and Local authority guidelines for helping people cope with the situation.

COVID-19 test utilizes real time reverse transcription polymerase chain reaction (rRT-PCR_ methodology) and is done using respiratory samples that can be obtained via a nasopharyngeal swab or sputum sample. The results from the test are available anywhere from a few hours to 2 days. Jefferson currently utilizes the PCR-based diagnostic test in the hospital as well as all of its mobile testing units. For COVID-19 related information specific to Jefferson refer to: www.jefferson.edu/coronavirus (by Dr. Nikita, PSERT Editor)

In other Philadelphia hospitals, physicians are carefully evaluating which elective procedures should be deferred to a later time. In addition, conservation strategies are in place for isolation gowns because of the ongoing critical shortage in personal protective equipment (PPE). Staff required for intubation procedures or procedures that involve generation of aerosols must wear appropriate PPE – N95 respiratory/PAPR, eye protection, gown, and gloves. Current treatments include hydroxychloroquine, Tocilizumab, and Remdesivir, depending on the severity of disease (by Lauren Springer, PhD candidate, Jefferson College of Life Sciences).

Philly In Lockdown



Over a million cases in USA and >40,000 cases in Pennsylvania. It is like living in the plot of the Contagion movie. Photos of empty streets of Philly in Lockdown. The Sakura (cherry blossom) season has come and gone but people continue to live in the grip of crisis. The lockdown situation has changed their lifestyle and affected people physically and mentally. The empty streets were prefaced by a rush to gather food stuff that was quite chaotic and challenging to adapt to for everyone. The Stay Home order and social distancing may be working. After all the restrictions, currently there are > 12,000 confirmed cases in Philly, and >400 deaths, with an exponential rise in cases.

COVID-19 Situation in China

When things were settling down in China after 2 months of lockdown, one of our JPA EB members (Dr. Xi Chen) let us know the experiences she heard among the community/family back in China. The new cases in China are monitored and were reported to be from people who travel to China from abroad. The government is very strict with people who recently traveled abroad. Those people need to be quarantined at the place of arrival for 14 days, and then travel to other provinces later. Most of the healthcare providers who volunteered to help in Wuhan are back to their hometowns. Overall, life is gradually returning back to normal. People have been back to work for a while and restaurants are reopening. School is kept in an online form. But I hear that people are still not willing to shop in the supermarkets or eat in the restaurants, out of concern for virus transmission. On buses, passengers are required to sit with one seat in between and crowds are not allowed. Each Chinese citizen has their personal ID information registered and transferred as QR code in either their cell phone or elsewhere. Wherever they go publicly, like supermarkets or buses, they need to scan this code when entering.

COVID-19 broke out during the spring festival of China when there was 7-day official holiday nationwide. In China during the time of WFH, there was a saying spreading that, "Staying at home is a contribution for the community and the country."

In my community in China during the past month, each family was allowed to have one person go out of the community every other day for essential needs, like grocery shopping. I believe that the lockdown of Wuhan and essential cities helped to control the virus outbreak in China.

One big issue I want to share is the lack of wearing face masks in the US. Their absence has been perplexing for most Chinese in the US during the pandemic. It is mandatory for every person in China to wear a face mask if they step out of their house during this time. In the past one month, China had a great need for masks. One of my relatives wanted me to help buy a large number of N-95 masks from the U.S. to donate to the hospitals in Wuhan even though the price was \$10 each on Amazon (out of stock though). In China, wearing face masks is a part of a culture or concept to protect yourself from airborne diseases. It is very common for Chinese to wear masks in public areas, even to protect from wind in winter in general. But in the US, it is a completely different concept. People think that you wear a mask only when you are sick. I personally wanted to wear masks earlier, before the outbreak of COVID-19 in the US. Out of concern for my personal safety and fear of being attacked, I did not wear a mask in the supermarket, subway, or buses. Being Chinese, this is very puzzling for me. Only these days, when the situation is worse, have I started seeing Americans wearing masks when they are out. This eases my mind a lot about wearing face masks outside.

After long time of lockdown, China has started opening schools, restaurants, and other businesses. This gentle liberty comes with strict social distancing rules and tracking people for their temperatures and disease condition.

-Dr. Xi Chen (VP Career Development, JPA)

India COVID-19 Experience



The recent COVID-19 pandemic has struck a blow to the health care systems of nearly all countries of the world, bringing developed as well as developing countries to their knees. The first COVID-19 case in the US was reported on January 21, 2020, and since then the US currently has over 1,000,000 positive cases. Similarly, the first COVID-19 positive case in India was reported on January 30, 2020, and currently India has approximately 30,000 positive cases. India shares a land border with China and also a land-based trade route, yet it has managed to control the spread of infection. The burning question now is what has the Indian government done differently to contain the spread. The Federal government in India followed the situation in China closely. As part of its initial containment policy, the Indian government followed suit of many other countries and set up mandatory health checkups at its major international airports for all travelers from countries which had already suffered major outbreaks. All travelers arriving from nations affected by COVID-19 were asked to self-quarantine for a period of 14 days. The central and state governments in India worked together to announce and implement a nationwide lockdown, including state borders, for a period of 21 days (until April 14th)

with the possibility of further extension until April 30th. It has now been extended until May 3rd. Furthermore, states in India that emerged as COVID-19 hotspots declared an emergency situation, allowing no more than 4 people to gather together in any public area. The lockdown was applicable to all non-essential businesses, but essential businesses, such as hospitals, grocery stores, and pharmacies remain open. However, social distancing is strongly recommended at all points of business. Additionally, the lockdown has also been applicable to inter-state buses, trains, and domestic and international flights, unless they have been granted permission by the state or central government. The central and state governments worked quickly to convert large hospitals into COVID-19 hospitals and started working with laboratories and institutions in India as well as across the globe to build alternatives to ventilators and masks. For the daily wage earners, who constitute approximately 20-30% of the nation's population, economic sanctions were quickly announced. Moreover, the authorities worked with non-profit organizations to provide groceries and food to all those in need. In addition to this, further rebates were announced by the Ministry of Finance regarding loans and mortgages.

As the number of patients in India continues to rise over the next few weeks, we will be able to see if the early complete lockdown and strict quarantine measures help the country avert a major health problem.

-Dr. Nikita (PSERT Editor)

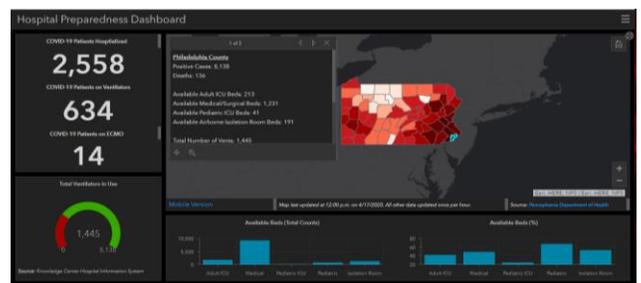
Technology to Support and Help Fight COVID-19

The US is the most hard-hit country of the world for COVID-19. There are a number of apps, database landscapes, and technological advancements currently available for researchers and the general population:

1. State and county wide maps for COVID-19 cases distribution. It also shows number of hospitalizations, on ventilations or ECMO therapies

<https://www.arcgis.com/apps/opsdashboard/index.html#/85054b06472e4208b02285b8557f24cf>

2. mContain (funded by NIH) mobile app for checking if the individual was in contact with a COVID-19 patient. <https://mcontain.md2k.org/>



3. Healthlyned COVID-19 Tracker: <https://apps.apple.com/us/app/healthlyned-covid-19-tracker/id1500575377>

4. Aarogya Setu (by Indian government): <https://www.mygov.in/aarogya-setu-app/>

5. COVID-19 app: <https://www.apple.com/covid19>

Kudos to Jefferson Hospital Nurses



Call for Stories for JeffPost

Graduate students, PIs, postdocs interested in showcasing the following should contact the JPA:

- Technologies or Services in labs at Jefferson for postdocs and the research community at Jefferson
 - Research stories from Jefferson laboratories
- Articles related to Jefferson's actions associated with improving the life of postdocs and students

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