PIDE
COVID-19 BLOG
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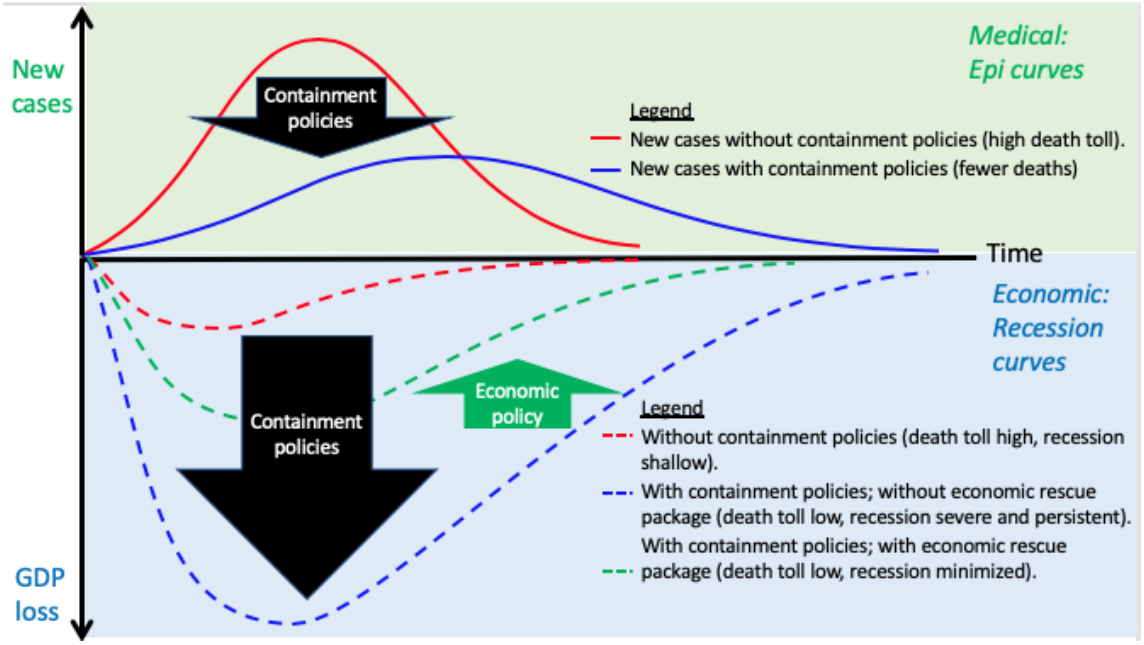
# TECHNOLOGY TO OUR HELP IN FLATTENING THE CURVE MAKING USE OF A LOCKDOWN MORE EFFICIENTLY

Economic activities in Pakistan are gradually coming to a halt, irrespective of whether a lockdown is being officially declared or not. The purpose of the such lockdowns is to slow the spread of infections, also called “flattening the curve”. The decrease in the rate of infections can help provide better medical care to those who are already infected. More importantly, it can free up medical resources, such as ICU beds and ventilators for the critically ill patients. Flattening the curve has the flip side though, and that is affecting the economy. For Pakistan, a lockdown will further hurt an already fragile and limping economy. But there is a tradeoff between saving lives and avoiding an economic slowdown, i.e., recession. Figure below shows the relationship between the two.

## Lockdown and Economic Recession




*Source:* https://voxeu.org/article/supply-side-matters-guns-versus-butter covid-style

The figure shows that with the lockdown having no accompanying economic policies to support, the recession will be long and deep (blue broken line). But it can be dampened with economic policies, such as social safety nets, fiscal packages, and monetary interventions. Without the lockdown, on the other hand, although the recession will be shorter (red broken line) it would result in a higher number of deaths (solid red line) and more intense spread of the disease.

There is a dilemma for Pakistan as the government does not have much fiscal space to work with. The lockdown is bound to hamper production, reduce demand, delay investment plans and lower government revenues. But if the government does not resort to the lockdown, the virus will not only spread faster but will result in a higher number of deaths.

The prolonged lockdown, however, is not sustainable especially for an economy like Pakistan. The time of the lockdown, therefore, needs to be used effectively. The most important thing that needs to be done is to track those who are and can be infected, and get them isolated. Pakistan still has not carried out coronavirus tests widely. According to the latest figures (March 30, 2020), less than 15000 tests have been performed, which are not enough given the size of the population and the fact that many infections can be asymptomatic.

The most crucial aspect is collecting information on those who have been infected. Identifying and keeping track of those who have the infection can help in more targeted testing. This is where the cellular phone technology and telecommunication companies (telcos) must be used to their potential. Cellular phone technology is being used around the world to fight the COVID-19 war. In fact, technology has been used previously as well (see box below).

**Use of Cellular Technology to Fight Infectious Diseases**

- FluPhone" project, run by Prof Jon Crowcroft and Dr Eiko Yoneki of the Cambridge Computer Laboratory. They created an app that monitored flu-like symptoms by questioning the phones' owners and then subsequently logged their physical proximity to other people they met. The pilot study conducted by volunteers over a few months – which in an odd twist of fate coincided with the outbreak of swine flu – demonstrated convincingly how smartphones can provide data that would otherwise be unavailable to public health authorities.
- In early February, for example, South Korean geeks wrote "Corona 100m", an app that allows people to see the date a coronavirus patient was confirmed to have the disease, along with that patient's nationality, gender, age and the places the patient visited. The person using the app can also see how close they are to coronavirus patients. It was launched on 11 February and had a million downloads in the first 17 days.
- And the Israeli government authorised the country's internal security agency to use mobile phone location data to help combat the virus. According to a New York Times report, the data will be used to retrace the movements of individuals who test positive for the virus, and identify others who should be quarantined.

*Source:* https://www.theguardian.com/commentisfree/2020/mar/21/smartphones-could-help-track-coronavirus-but-at-what-cost

To flatten the curve, following uses of technology can help us:

## Geotagging and Tracking

The cellular phones can be used to track those using mobile phones who have the COVID-19 infection so that they can be monitored. Once the person who has contracted the virus is identified, the messages can be sent to those who are in the vicinity for awareness and safety. This would help the government in tracking down and quarantine those who are infected and can potentially infect others in the area

around them. Currently, the government is working with the telcos for an app preparation and setting the process in motion. This needs to be done urgently.

### Drones

The drones, attached with thermal sensors, can be used to track individuals running a fever. The police in China are using such drones. This technology can create ***heat maps***, helping to identify the troubled spots.

### Phone Applications and Chatbots

Those who have contracted the virus and are quarantined also need support. Keeping this in mind, in South Korea, authorities have developed a smartphone application that connects quarantined individuals with health workers so that they can report their progress and ask any questions that arise. Similarly, the Australian government has launched a chatbot to address people's concerns and queries, and also to halt the spread of false information.

In an environment where social distancing is the basic need, technology is the best, and probably the only, way of doing things. Talking specifically in the context of 'flattening the curve', technology can help from the identification of potential carriers to tracking the vulnerable population, isolating them and monitoring their treatment process. We are not even mentioning all the other uses here, like conducting transactions and businesses in this time of restricted mobility.

Before signing off, let me add here that it is technology which is keeping us 'social' and connected to our dear ones during this grim time of, what should be more appropriately called, 'physical distancing'.

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