

# Of Covid-19 and Inflection Points

SARS-CoV-2 is the latest addition to the family of coronaviruses - enveloped positive-sense RNA viruses - first identified in the 1960's. In a few weeks it has managed to shrink the GDP of the entire world. It exposed the economic fragility of some countries, yet showcased the resilience of others (including Malta). Key to this poise is the ability to mitigate the challenges posed by the pandemic on healthcare systems and social fabric.

SARS-CoV-2 has brought the entire world to its knees for various reasons. It is highly contagious which can spread even through pre-symptomatic and asymptomatic transmission. Apart from the classic symptoms, case reports have described covid-19 patients initially presenting with symptoms ranging from thrombotic events, cardiac inflammation to renal insufficiency. In children, a Kawasaki-related disease has also been reported. This can make early diagnosis challenging, especially in the community setting. Other factors including globalisation and an ageing population [with ensuing health complications] certainly precipitated the onset of the pandemic.

We have also witnessed the lack of healthcare preparedness in some countries, general complacency in others, and at times conflicting messages delivered by policy leaders still in others. Of note is the meagre statistics and information divulged by specific countries which have been initially affected by the disease which could have delayed action and ensuing research. In keeping with this, numerous countries have called for an investigation into the origins of the pandemic.

This leads me on to the next point ... the paradigm shift in the machinery of science which we are experiencing. The number of publications relating to Covid-19 has

been fast and gargantuan [close to 10,000 papers]; this is largely attributed to preprints which are being made readily available and free-of-charge prior to peer review. Although the practice of preprints in the medical field has always been a bone of contention, recent studies have shown that the difference in scientific value between preprints and the final version, following peer review, can be minimal. An advantage of preprints is that experts from *different fields* can criticize and 'dissect' the research; to a certain degree, this leads to self-regulation. Most importantly, preprints accelerate collaboration between researchers, which in turn, churns 'real-time' data and this, in turn, yield important information which is then used by policy makers from all over the world to make decisions. In essence, this pandemic effectively seems to be changing the manner in which scientists conduct their work and collaborate. It is the opinion of several leading academics that such practice is here to stay.

At this stage, the kernel of the matter is when a vaccine [or vaccines] will be licensed. Currently, to date, there are over 80 vaccines under development. In keeping with this, last May the EU raised \$8bn in pledges from worldwide donors to finance the collaborative development and universal deployment of diagnostics, treatments and vaccines against covid-19 [the US and China did not pledge any money]. Malta committed €400k. Interestingly, in April, Serum Institute of India, the world's biggest vaccine maker by volume, announced that it will start manufacturing a vaccine currently being developed by Oxford University when clinical trials reach Phase III, if effectiveness is proved.

In another editorial we will discuss immunity passports and excess mortality measurements. The latter are used to identify reporting lacunae, which may stem from varying death-certification procedures in various countries, that effectively undermine any correct analysis of real-time covid-19 deaths, especially in nursing homes. In the meantime, stay healthy and safe!

