

Don't Panic, Be Cautious, and Together We Can Stop the Coronavirus Epidemic!

Lawrence J. Lau and Yanyan Xiong¹

15 March Supplementary Charts

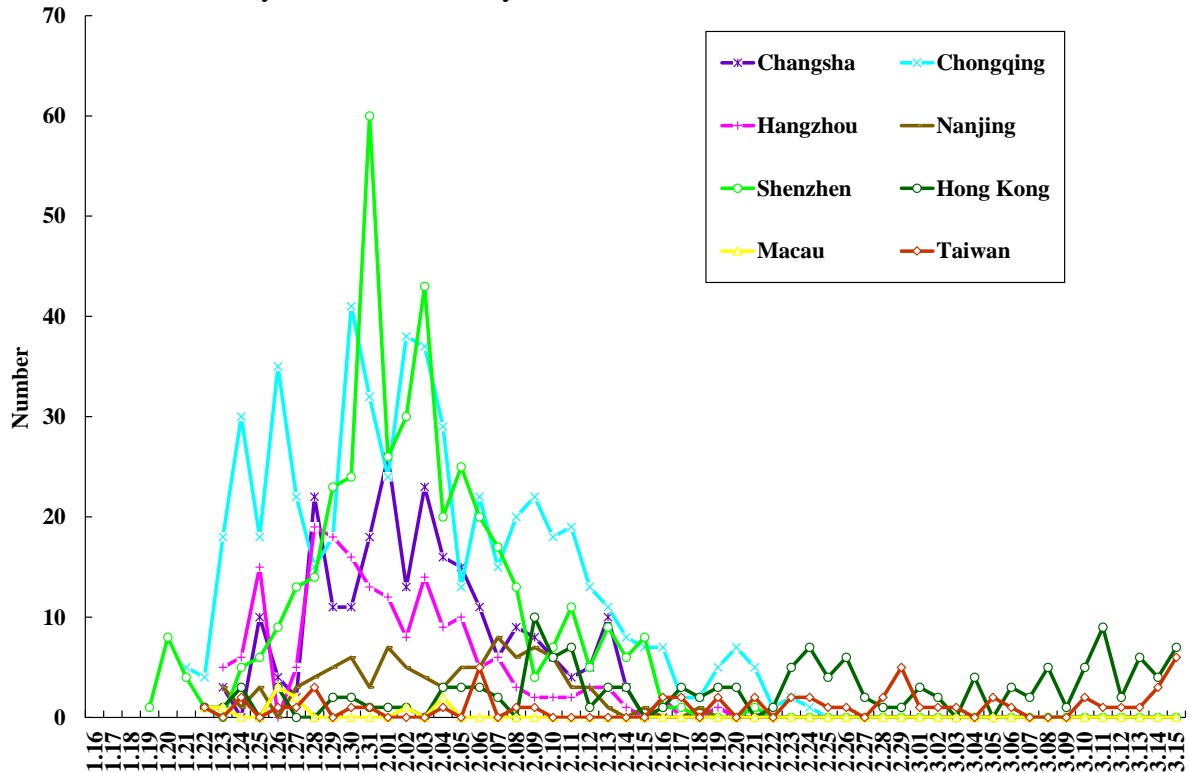
16 March 2020

Since the publication of our paper in the *Asia Pacific Biotech News*², we have continued to monitor the development of the COVID-19 epidemic on the Mainland of China. We have prepared this update, through midnight (2400) of 15 March, to some of the Charts in our original paper. We note that our earlier prediction, namely, that the COVID-19 epidemic should be over on the Mainland ex Hubei by the middle of March, has turned out to be true. And as a pleasant surprise, the daily number of newly confirmed cases in Hubei (almost all in Wuhan) has also fallen to the level of single digits at the same time, indicating that the epidemic may even be over in Wuhan in at most another couple of weeks, sooner than our past predictions. Concern has now shifted to how to isolate and contain cases imported into the Mainland from abroad.

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² Lawrence J. Lau and Yanyan Xiong, "Don't Panic, Be Cautious, and Together We Can Stop the Coronavirus Epidemic," *Asia Pacific Biotech News*, Special Issue 1, March 2020, doi: s0219030320001202, pp. 90-107.

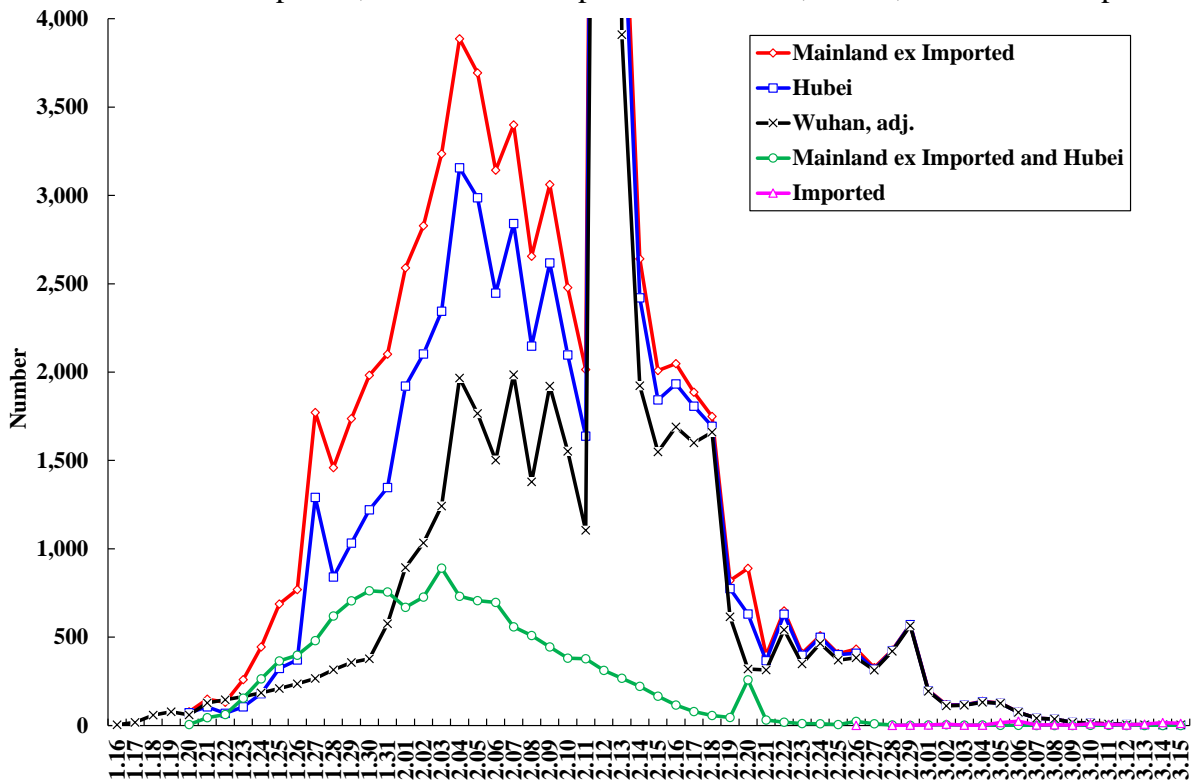
Chart 2: The Daily Number of Newly Confirmed Cases in Selected Areas outside Hubei



Sources: Same as Chart 1.

The updated Chart 2 shows that, on the Mainland, in areas outside of the Province of Hubei, the incidence of the COVID-19 virus has continued to decline due to the successful isolation of the confirmed infected patients, the lockdown, social distancing and other precautionary measures undertaken locally. The numbers of newly confirmed cases, excluding those imported from abroad, have fallen to zero in all of our five major cities on the Mainland. The epidemic is basically over in these areas. We have not included other major cities such as Beijing, Shanghai and Tianjin in Chart 2 because, despite their large resident populations, the numbers of newly confirmed cases there have always been quite small, ranging between zero and one recently, aside from cases imported from abroad. The daily newly confirmed cases in Hong Kong and Taiwan have continued to fluctuate at single-digit levels, with 7 and 6 newly confirmed cases respectively on 15 March. We believe that further widespread transmission is unlikely, given all the precautionary measures already undertaken. However, in Beijing, Shanghai and Shenzhen, and the Provinces of Gansu, Guangdong, Henan, Ningxia, Shandong, Yunnan and Zhejiang, newly confirmed cases imported from outside of the Mainland have been identified. Strict quarantine measures must be taken on the Mainland to prevent any imported case from spreading and possibly triggering a resurgence of the COVID-19 epidemic.

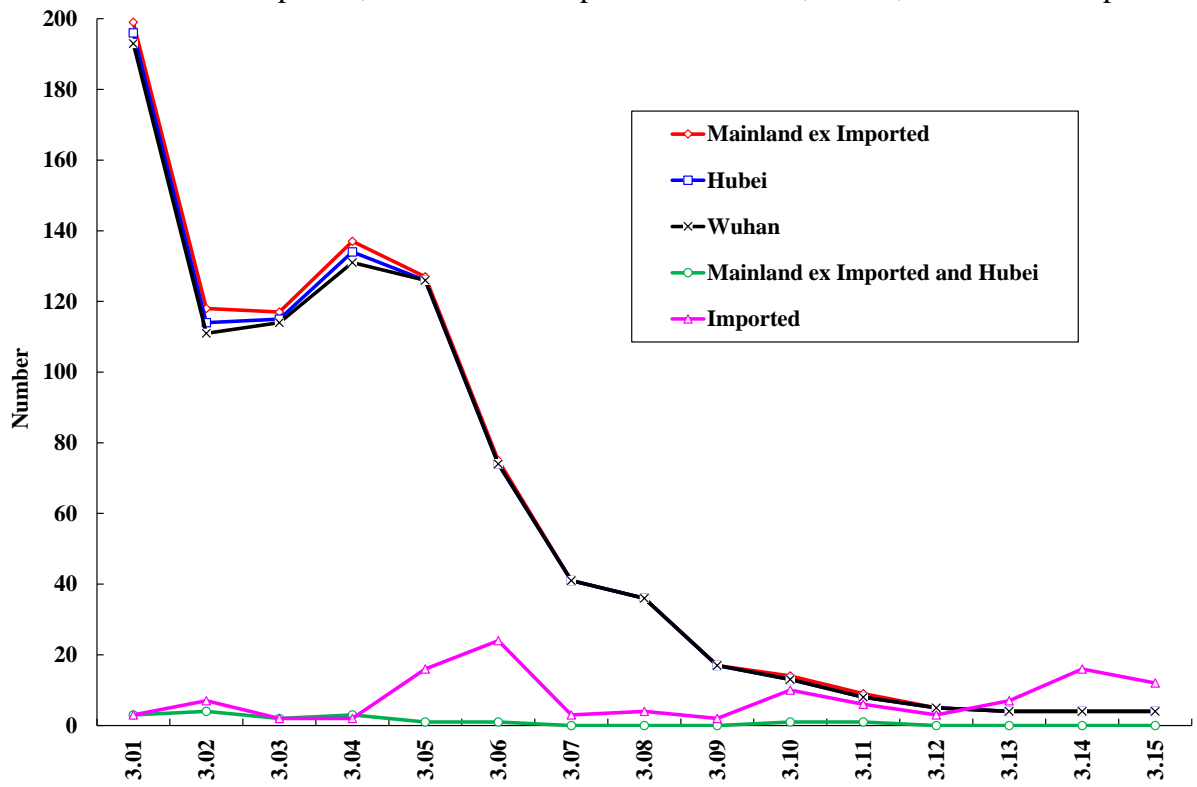
Chart 3: The Daily Number of Newly Confirmed Cases under the Current Definition: The Mainland ex Imported, Mainland ex Imported and Hubei, Hubei, Wuhan and Imported



Sources: Same as Chart 1.

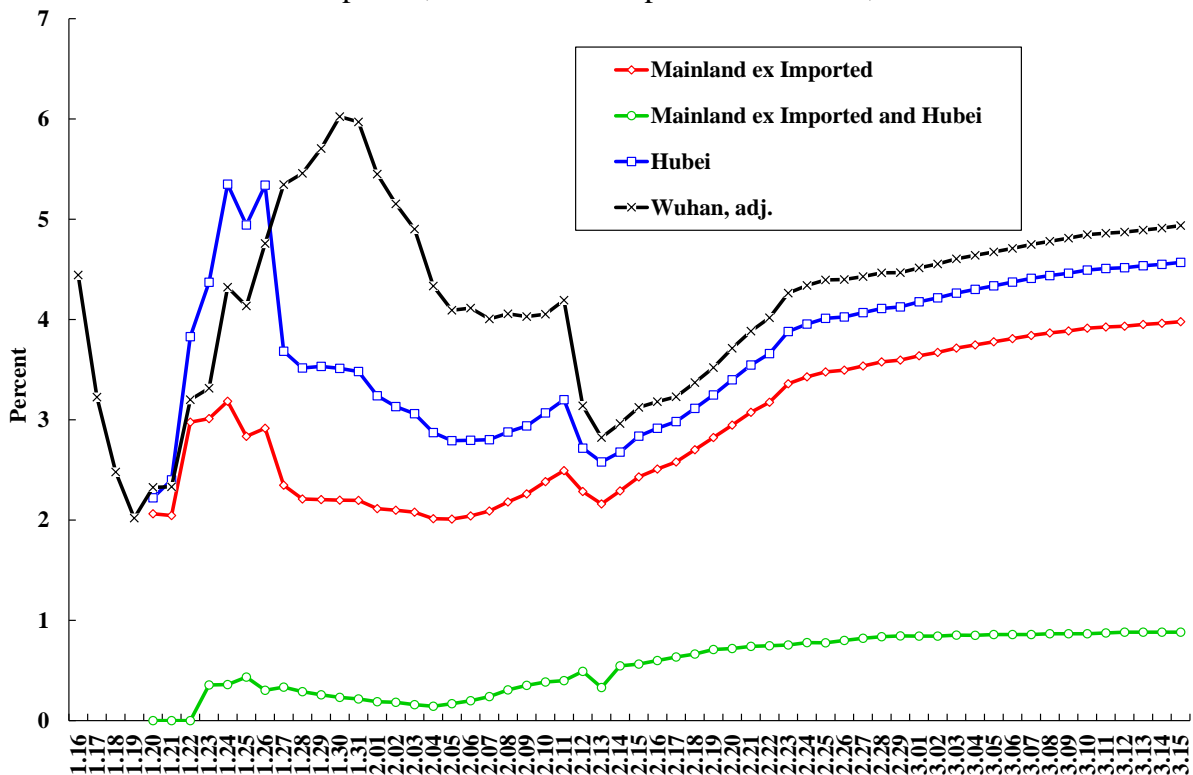
The updated Chart 3 shows that the daily numbers of newly confirmed cases on the Mainland excluding imported cases (henceforth Mainland ex Imported) and in Hubei and Wuhan have continued their generally declining trends begun on 4 February. On 26 February, the first imported COVID-19 case was identified. In order that the more recent developments can be examined more clearly, we have also added a new Chart 3A to cover the period beginning on 1 March. Almost all of the daily newly confirmed cases on the Mainland since 1 March have been either from Wuhan or imported from abroad. The number of daily newly confirmed cases on the Mainland ex Imported and Hubei has been either 0 or 1 since 5 March. Hubei ex Wuhan has had no newly confirmed cases for eleven days in a row (5-15 March). The daily number of newly confirmed cases in Wuhan has fallen to single digit levels since 11 March, in accord with our previous prediction that the number of newly confirmed cases in Wuhan should decline to the level of single digits by the middle of March and essentially zero by the end of March. All the signs suggest that the epidemic is about to be over on the entire Mainland, including the Province of Hubei and its capital Wuhan. The daily number of imported newly confirmed cases is still relatively small, but has grown to be larger than the daily newly confirmed indigenous cases on the entire Mainland since 13 March. China must take steps to prevent the number of imported cases from growing because it may rekindle domestic transmission of the COVID-19 virus in an uncontrollable way.

Chart 3A: The Daily Number of Newly Confirmed Cases under the Current Definition:
 The Mainland ex Imported, Mainland ex Imported and Hubei, Hubei, Wuhan and Imported



Sources: Same as Chart 1.

Chart 5: The Instantaneous Cumulative Mortality Rates:
The Mainland ex Imported, Mainland ex Imported and Hubei, Hubei and Wuhan

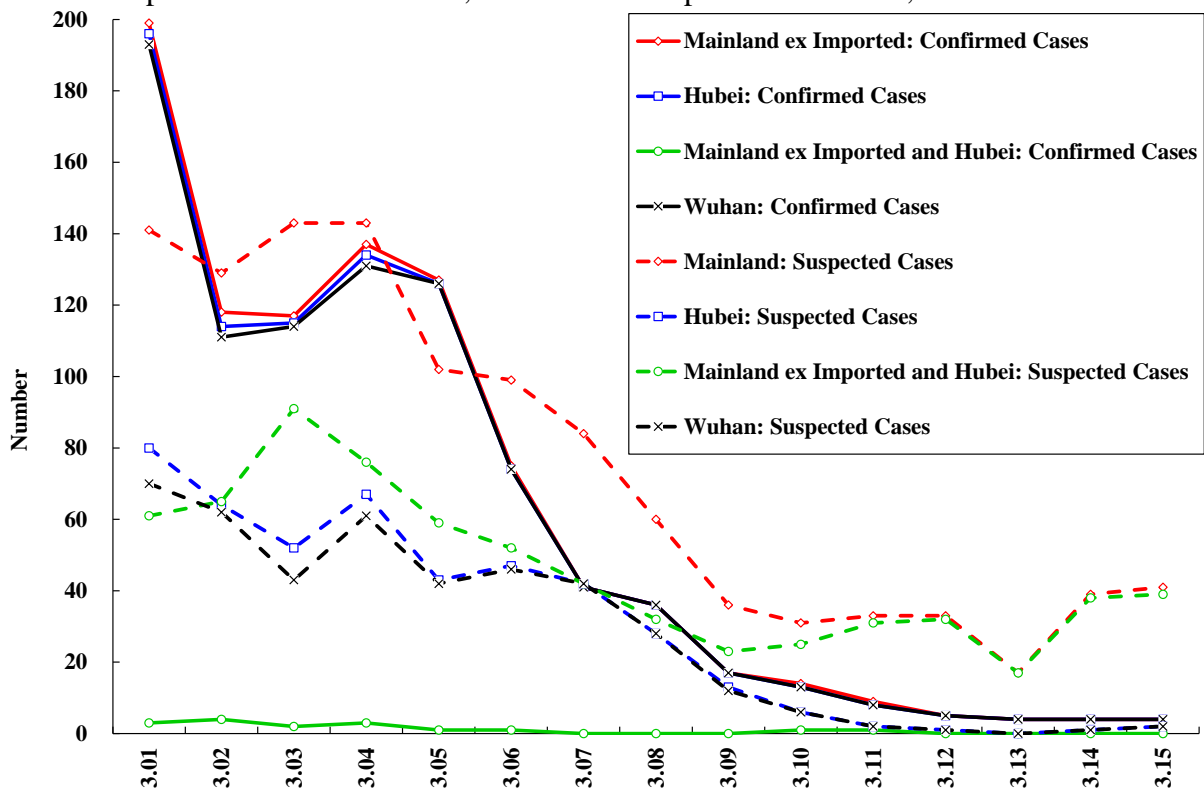


Sources: Same as Chart 1.

The updated Chart 5 shows that while the instantaneous cumulative mortality rate (the cumulative total number of deaths due to the COVID-19 virus divided by the cumulative newly confirmed cases to date) has continued to rise in Wuhan (4.9% as of 15 March), causing the Mainland and Hubei mortality rates to rise as well, it has done so at a significantly lower rate since 23 February. This reflects the improved availability of medical care in Wuhan. Outside of Hubei, the mortality rate of the Mainland has remained steady and been rising very gradually because of slowdown in the increases of the cumulative number of confirmed cases. It stood at 0.88% as of 15 March, less than one-fifth of the mortality rate of Wuhan. These numbers confirm our assessment that the mortality rate of the COVID-19 virus is relatively low, probably not more than 1%, in places where adequate medical care is available.

In the updated Chart 8, the daily newly confirmed cases are compared with the daily newly increased suspected cases, only for the period beginning on 1 March, in order that the more recent developments can be examined more clearly. Suspected cases are cases that have yet to become confirmed cases pending further clinical observations and/or nucleic acid tests. Once a case is determined one way or the other, it will no longer be retained as a suspected case. Thus, in general, the number of newly increased suspected cases should exceed the number of newly confirmed cases, or at least should do so after a short time lag.

Chart 8: The Daily Newly Confirmed Cases and Newly Increased Suspected Cases: A Comparison for the Mainland, Mainland ex Imported and Hubei, Hubei and Wuhan



Sources: Same as Chart 1.

The updated Chart 8 shows clearly that the numbers of new suspected cases on the Mainland (excluding imports) and in Hubei and Wuhan have generally continued their declines. For the Mainland as a whole, the daily number of new suspected cases has apparently stabilised at approximately 40, ten times the number of newly confirmed cases (excluding imported cases), indicating that most of them have been false alarms. However, in both Hubei and Wuhan, they have actually fallen below the levels of the numbers of newly confirmed cases, which are already in low single digits. This reflects the greatly improved availability of medical care in Wuhan and Hubei so that the backlog of unreported and suspected cases have essentially been cleared. It further reinforces our confidence that the number of newly confirmed cases in Wuhan, and hence in Hubei and on the Mainland, is likely to reach zero fairly soon.