

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

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8 March Supplementary Charts

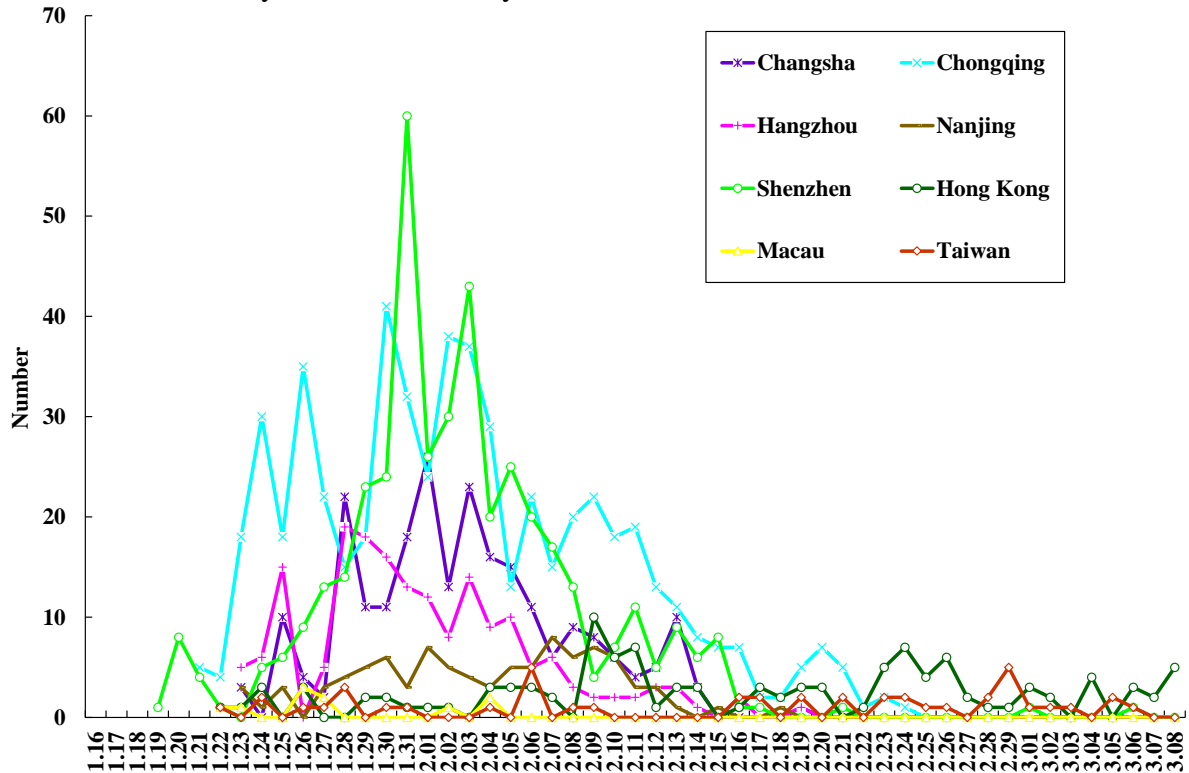
9 March 2020

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 8 March, to some of the Charts in our original paper. We note that our earlier conclusions, namely, that the COVID-19 epidemic should be over on the Mainland by the middle of March, and in Hubei (Wuhan) perhaps in yet another month, continue to be supported by the new data.

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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.

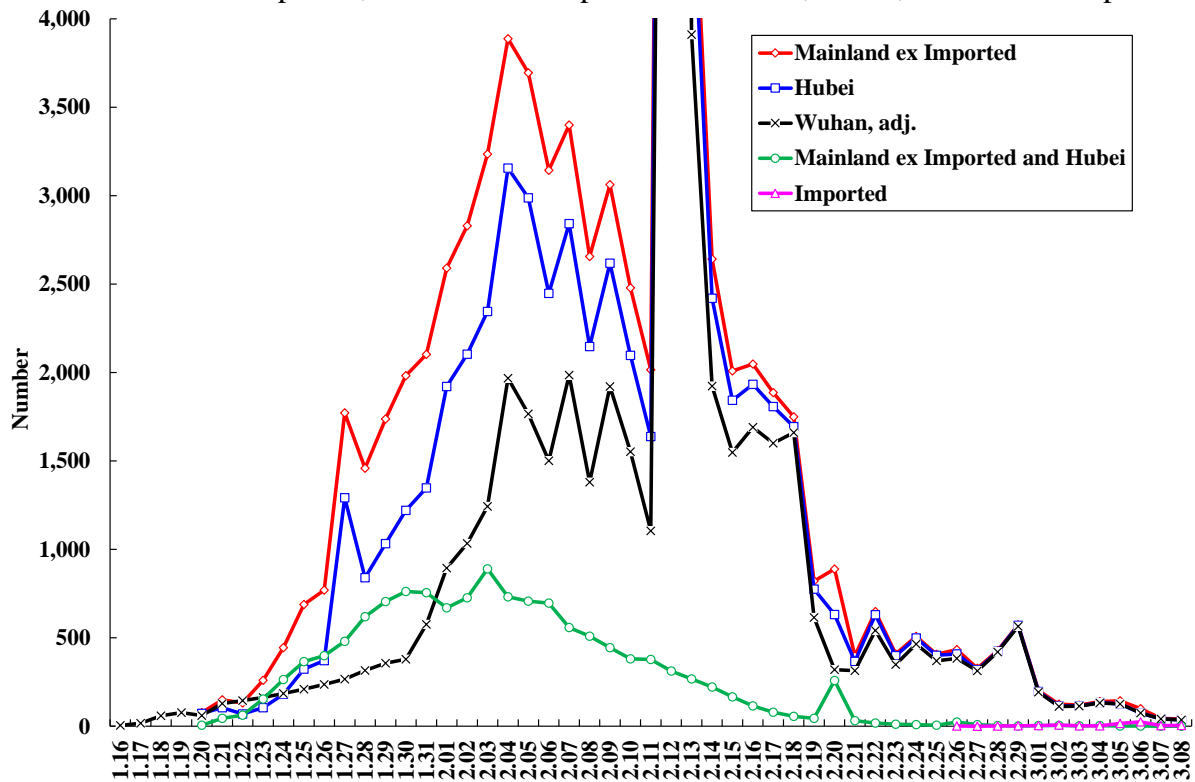
Chart 2: The Daily Number of Newly Confirmed Cases in Selected Areas outside Hubei



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, and other precautionary measures undertaken locally. The numbers of newly confirmed cases have all fallen to zero or close to zero levels. The epidemic should be over in these areas by the middle of March. We have not included major cities such as Beijing, Shanghai and Tianjin in Chart 2 because the numbers of newly confirmed cases there have always been quite small, ranging between zero and one recently aside from cases imported from abroad, despite their large resident populations. The daily newly confirmed cases in Hong Kong and Taiwan have also remained at low single-digit or zero levels, indicating that further widespread transmission is unlikely, given all the precautionary measures already undertaken. However, in Beijing, Shanghai and Shenzhen, and in the Provinces of Gansu, Ningxia 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, possibly triggering a resurgence of the COVID-19 epidemic.

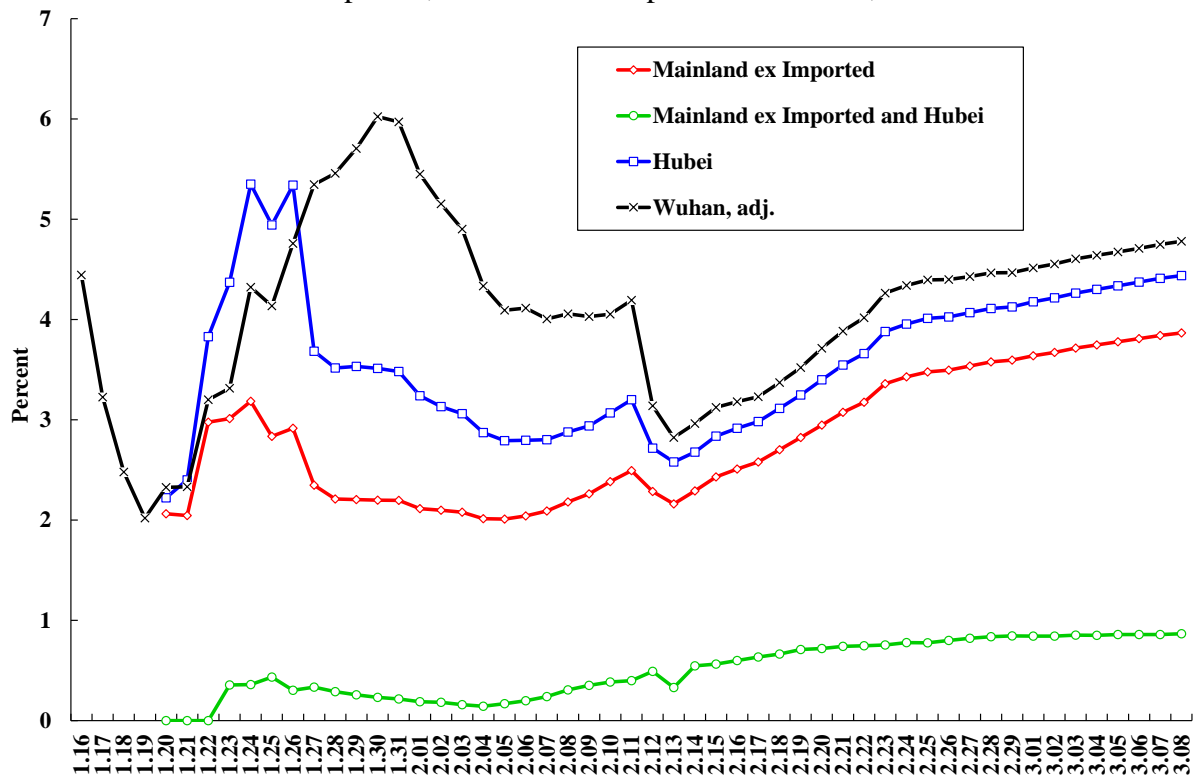
Chart 3: The Daily Number of Newly Confirmed Cases under the Current Definition: The Mainland ex Imported, Mainland ex Imported and Hubei, Hubei, Wuhan and Imported



Sources: Same as Chart 1.

The updated Chart 3 shows that under the current definition of a “confirmed case”, 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. (In order that the more recent developments can be seen more clearly, we have adjusted the scale and omitted the data points of 12 and 13 February when a jump occurred because of a change in the definition of a “confirmed case” in Hubei.) What is encouraging is that almost all of the daily newly confirmed cases on the Mainland during the past week have been either from Wuhan or imported from abroad. The number of daily newly confirmed cases on the Mainland ex Imported, in Hubei ex Wuhan, and in Wuhan on 6 March were respectively 75, 0 and 74. The same numbers were 41, 0 and 41 on 7 March, and 36, 0 and 36 on 8 March. Even Hubei ex Wuhan had no newly confirmed cases for four days in a row (5-8 March). We are hopeful that the daily number of newly confirmed cases in Wuhan will fall to the low tens by the end of the week of 8 March. The developments outside Hubei are represented by the line Mainland ex Imported and Hubei. It shows a continuous decline since 3 February with the exception of an unexpected one-off uptick on 20 February and has stayed at low single-digit levels since 28 February. On both 7 and 8 March, the total number of daily newly confirmed cases in the entire Mainland ex Imported and Hubei was 0. We have added an extra line in Chart 3, Imported; the daily number of imported newly confirmed cases is still quite small, but not completely insignificant. 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 a big way.

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

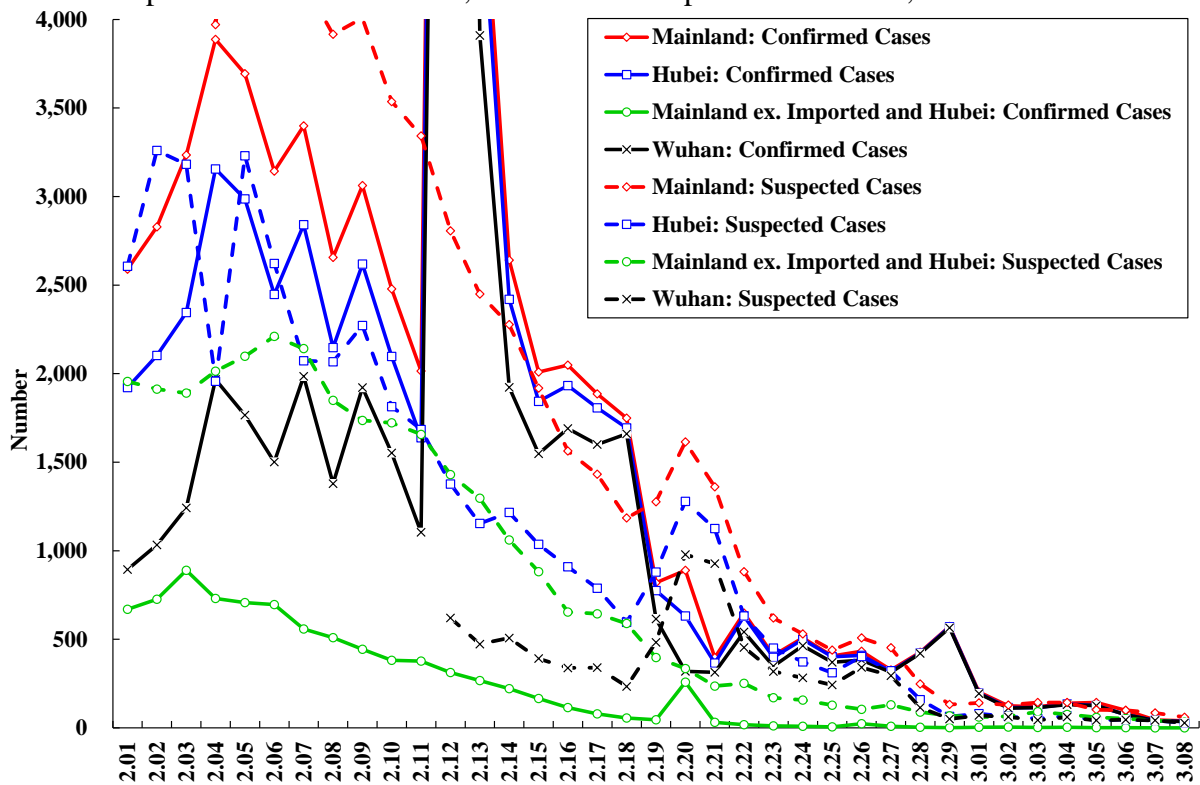


Sources: Same as Chart 1.

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 (4.8% as of 8 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 the decline in the increases of the number of newly confirmed cases. It stood at 0.87% as of 8 March, less than one-fifth of the mortality rate of Wuhan, in marked contrast. These numbers confirm our assessment that the mortality rate of the COVID-19 virus is relatively low in places where adequate medical care is available.

In Chart 8, the daily newly confirmed cases are compared with the daily newly increased suspected cases. In order that the more recent developments can be seen more clearly, we have also changed the scale of Chart 8, omitting the data points on 12 and 13 February. 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.

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 after an interruption on 18-22 February. In both Hubei and Wuhan, they have fallen to the same order of magnitude as the number of newly confirmed cases. This reflects the greatly improved availability of medical care in Wuhan and Hubei so that the backlog of suspected cases can be cleared much more quickly. It further suggests that the number of newly confirmed cases in Wuhan, and hence in Hubei and on the Mainland, is likely to continue to fall in the near future, as the number of newly confirmed cases must eventually fall below the number of new suspected cases. Our prediction is that the number of newly confirmed cases in Wuhan should decline to the teens by the end of the current week and reach single-digit levels, if not zero, by the end of March.