Situation report – COVID19; Japan, Tuesday 9th of June 2020

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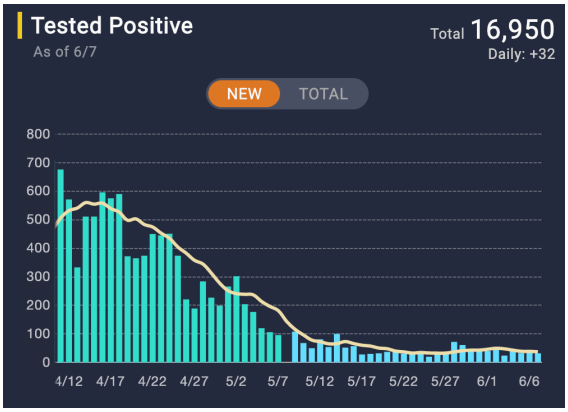
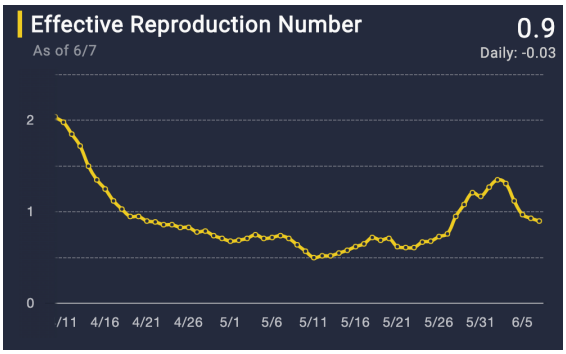
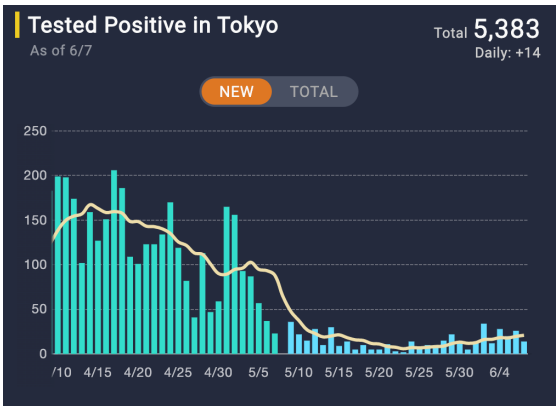
Current Situation in Japan

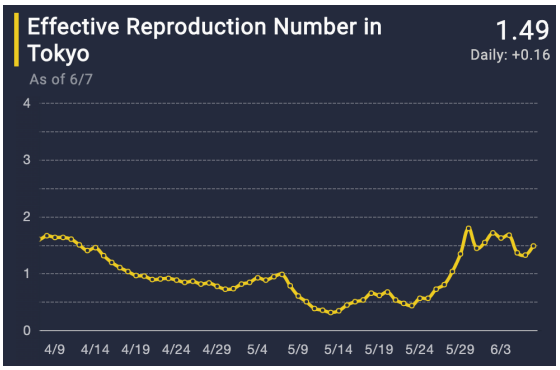


(National)



Nationwide case numbers remain low and have been consistently below 100 per day for over three weeks. The current effective reproduction number (R) for the whole of Japan is a little below 1, suggesting that a second wave of infections across the whole country is unlikely in the near future. However, within these figures there is considerable regional variation. Many more rural prefectures have now had no cases for several weeks meaning that they are effectively disease free. Osaka and the Kansai region in general reports limited numbers of cases with an effective reproduction number of below one, so it is reasonable to expect that cases there will fall to zero in the near future, unless there is a significant introduction of infection from outside.





Tokyo

The situation remains of some concern.

Although case numbers in the capital remain well below the levels seen during the state of emergency, over the past week numbers have been over the level at which further emergency measures might be considered (threshold 0.5 cases per week per 100,000 population). Average case numbers for the past 7 days (2nd to 8th of June) are 21 per day, equating to a little more than 1 per 100,000/week.

This means that with the relaxation of social distancing which has come with the end of the state of emergency, Tokyo's (R) is now over one, indicating a gradually expanding number of infections.

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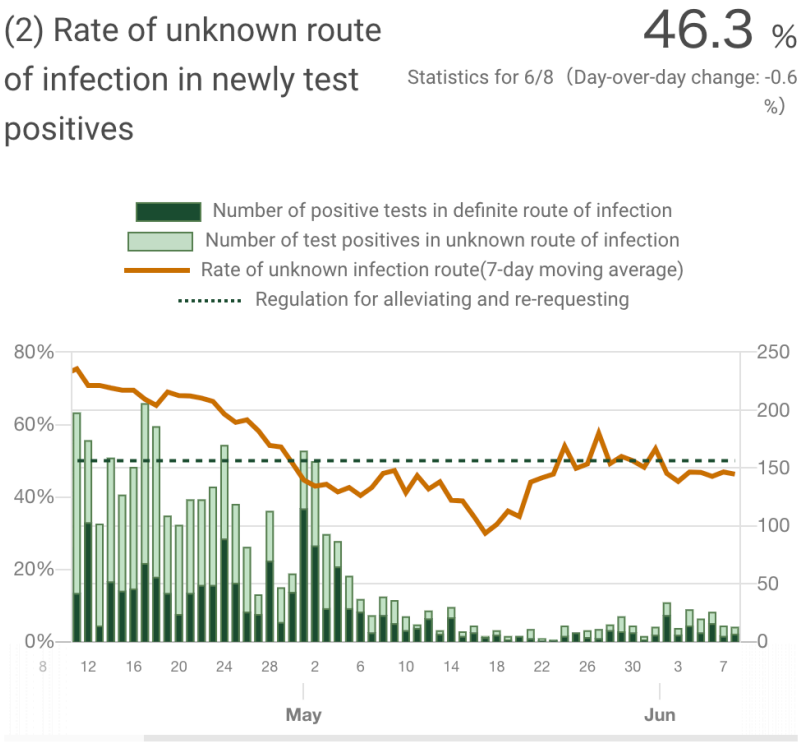
Do increasing infection rates mean that a new state of emergency in Tokyo is likely?

While numbers have risen, two additional criteria have been laid out by the government for consideration in deciding whether or not to escalate the response to a possible outbreak. These are the regional state of medical infrastructure and the pattern of contagion – or more specifically, the proportion of infections with no identified chain of contagion.

The current state of medical infrastructure in Tokyo presents no concern. Over 90% of hospital beds designated for COVID19 patients are now empty and in contrast to March and April, there is a greater capacity to test suspected cases so hopefully less diagnostic delays will occur. Even in the worst-case scenario of infections spreading with an (R) of 2.0, as was the case before the state of emergency, space already allocated would not fill up for several months during which time additional medical facilities could be re-purposed.

It appears that the recent increase in cases in Tokyo includes more infections from identified clusters, rather than a general spread of infections of no discernible source. Media reports have focused on an increase of in-hospital transmission and also on clusters of patients infected in nightlife areas of Shinjuku (hostess bars and host clubs). Continuing to refine our understanding of the demographics of this disease as it spreads in Japan may help to control it without the need for widespread and disruptive closures across all areas of economic activity.



Currently 46% of infections identified in Tokyo have no identified source. An increase in this level to above 50% would be a second criteria for imposing more emergency measures.

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Testing in Japan – reliable antibody tests are now routinely available

Last week antibody tests for COVID19 were granted regulatory approval and are now widely available through many medical facilities. Previously, antibody tests were sporadically offered by some private clinics but were performed using unregulated rapid test kits of highly variable quality. While these had the advantage of giving results in under 30 minutes, low specificity meant that serious concerns existed over high rates of false positive results.

A review of the published performance characteristics of newly approved tests shows that those made by Roche and Abbott are the most reliable. Roche's test showed a sensitivity of 100% when run on over 5,000 samples, meaning that all cases of COVID19 were correctly identified with no false negatives. Sensitivity is reported at 99.81%, meaning that some false positive tests may occur, but at a low enough rate to be of little concern. Abbott's test is of broadly similar reliability. Both of these tests require larger commercial labs to process meaning that results will typically take a few days to be released.

Antibody testing is also limited by the time taken for an individual's immune system to mount a response, so it is not appropriate or reliable when used in newly infected patients, who require testing by PCR. Typically, an antibody test won't generate a reliable result unless taken at least 14 days after the onset of infection and as this is a new disease, we still don't know how long antibodies will persist for after an infection although we anticipate months or years. We also can't confirm that the presence of antibodies means that an individual is protected against re-infection and a clear answer to this question may not be available for some time to come. Finally, some infected people seem to shed the SARS-CoV2 virus for several weeks, so anyone receiving a positive antibody test taken less than one month after resolution of symptoms may also need to undergo a PCR test to check for residual viral shedding.

Link to Informational Video on Antibody testing

https://studio.youtube.com/video/nRcywxM0SNs/edit

References

Reported Caseload Graphs and data sourced from MHLW as reported by Toyo Keizai and the Tokyo metropolitan government –
https://toyokeizai.net/sp/visual/tko/covid19/en.html
https://stopcovid19.metro.tokyo.lg.jp/en/

Resources

How to get help if you suspect that you have COVID19 (Tokyo residents)
https://stopcovid19.metro.tokyo.lg.jp/en/flow