

# UGM Expert: The End of the Pandemic Depends on the Control of Covid-19 Transmission

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Prof. Dr. rer.nat. Dedi Rosadi, S.Si., as a Professor of Statistics UGM, MSc., for an encore, delivered a prediction of the newest trend of confirmed cases of Covid-19, both for predicting short-term trends and long-term trends.

"The end of the pandemic influentially depends on the government's efforts to control the rate of Covid-19 transmission," he said on Thursday (24/9).

According to him, based on the recent data tracking and using various data-driven modeling approaches (based on data movement), there is a significant rise in the projection value of positive cases at the end of the pandemic compared to the last release at the end of July 2020. The most optimistic prediction obtained by using the SIR-Regression-time-series compartment hybrid model is estimated that the pandemic will end in mid-February 2021 with a total of at least 322 thousand positive cases.

On the other hand, from the Probabilistic Data-Driven Model (PDDM) Covid-19 Indonesia compiled by Dedi Rosadi and UGM FMIPA Alumni, Drs. Joko Kristadi, MSi. and Dr. Fidelis Diponegoro, S.Si., MM., found that the pandemic will peak in mid-November to early December and end of May 2021 with an estimated total of about 700 thousand positive cases.



Meanwhile, with the other team, Dedi Rosadi conducted a study using the Richard curve model approach and the logistic growth curve, which revealed that the final projection of the pandemic was between April 2021 and early 2022 with a prediction range for total sufferers that was very similar to the results of the SIR-Regression and PDDM models.

Moreover, monitoring the patient's daily incidence curve shows that the increase in daily patients' numbers has not yet climaxed until now. Meanwhile, the current transmission rate ( $R_t$ ) is still above 1, worth 1.07 on 23 September 2020. However, with the SIR-Regression-time-series model, it can be assumed that there has been a slight increase in the rate of infection, which is accompanied by a fairly high increase in the rate of disease of patient recovery.

Based on this prediction, Dedi Rosadi conveyed several important keys that deserve mutual attention at this time. First, it is necessary to control the spread of Covid-19 optimally by intensifying 3T, tracing, testing, and treatment at the main epicenter of Indonesia, namely DKI Jakarta, West Java, East Java, Central Java, Banten, and South Sulawesi. Likewise, in other provinces, it is also necessary to control the spread more optimally by intensifying the 3T movement.

"On a national scale, in the short term, it is also important to closely monitor the possibility of the emergence of PILKADA clusters because population mobility supports the process of this activity both before the D-day and on the D-day of the PILKADA activities," he explained.

Furthermore, there is a need to increase awareness of local transmission in several provinces or districts, which are the epicenter of the spread of Covid-19. This thing is important to do, considering the  $R_t$  calculation (reproduction rate/transmission rate) of Covid-19 Indonesia in the last few days is still around 1.07.

Dedi said we could together optimally reduce the rate of transmission with various efforts. The main thing is to discipline the community by adhering to health protocols, especially masks and maintaining distance, regulating population mobility more carefully, and giving mass vaccines. On the other hand, the discovery of medicinal technology will increase the recovery rate. Hence, together these efforts can quickly stop the Covid 19 pandemic.

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