



INSACOG WEEKLY BULLETIN- July 5th , 2021

The proportion of known variants of concern that are in circulation in India remain unchanged from preceding week. Delta is the dominant lineage for new cases across most states in India and is the most rapidly rising lineage globally, having spread to over 100 countries and causing fresh outbreaks in regions where the pandemic had previously been in control. The very high transmissibility and the possible immune escape property of the Delta variant, as previously reported by INSACOG (1, 2), is being confirmed by investigation of these outbreaks. Similar to the experience in India, vaccines have been highly effective in protecting against severe disease in Delta driven outbreaks in other nations, reinforcing the importance of vaccination as a public health strategy. Vaccine efficacy in preventing infections varies across reports but is consistently reduced for Delta compared to Alpha or other background lineages.

Delta sub-lineages AY.1 and AY.2 show no sign of gaining against Delta in India or globally so far. Rise in cases in some districts shows no correlation with either AY.1 or AY.2. UK CoG data shows decline in AY.1 relative to Delta. US data showed increase in AY.2 in California in June but that is part of a general rise in Delta against non-Delta and currently AY.2 appears to be declining in prevalence. At this time, there is no unequivocal evidence for increased threat level of AY.1 or AY.2 beyond Delta. This will continue to be monitored.

Alpha variant has been declining in India and globally. Beta and Gamma are at very low levels in India at this time but due to strong immune escape properties may become important in the post-Delta second wave phase. Beta has been seen in community sample sequences at low levels in India and was highly prevalent in neighboring countries before being displaced by Delta. Any recurrence in Beta will be specifically monitored. Gamma is not seen in community samples from India.

Two variants of interest (VOI) are not yet seen in community samples from India, but have critical immune escape features relevant for future waves, meriting attention. In a recent study, variant B.1.427 / B.1.429, also known as the Epsilon variant, was linked to strong immune escape properties (3). Lambda variant, rising rapidly in South America, and also seen on other continents at low level has been seen in vaccine breakthrough cases and is reported to have both increased transmissibility and immune escape, with greater neutralization reduction than



Gamma in a pre-print (4). Epsilon has been recently downgraded by US CDC from VOC and Lambda is not yet rising significantly globally and is not yet a VOC. However necessary caution will be maintained during surveillance including forthcoming plans for sewage surveillance that can provide early evidence of variants entering the community.

References

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- 2) Mlcochova P et al. SARS-CoV-2 B.1.617.2 Delta variant emergence and vaccine breakthrough. (pre-print, <https://www.biorxiv.org/content/10.1101/2021.05.08.443253v3>)
- 3) McCallum M et al. SARS-CoV-2 immune evasion by the B.1.427/B.1.429 variant of concern. Science 2021 July, abi7994
- 4) Acevedo ML et al. Infectivity and immune escape of the new SARS-CoV-2 variant of interest Lambda, (pre-print, <https://www.medrxiv.org/content/10.1101/2021.06.28.21259673v1>)