



# IHU Variant of Covid-19

## Why in News

Amid the spread of the **Omicron Variant** of coronavirus, the discovery of a new strain named '**IHU (Instituts Hospitalo-Universitaires)**' that emerged in France raises fears across the world.

## Key Points

### ▪ Discovery:

- Its discovery was announced by researchers from Méditerranée Infection in Marseille, part of **France's Instituts hospitalo-universitaires** (IHU, or University Hospital Institutes) - **hence the name**.
- The first known case of the IHU variant was detected in mid-November 2021 in a man from France who had returned from Cameroon in Africa (the continent where Omicron was also discovered).

### ▪ About:

- The variant is a **sub-lineage of the B.1.640**. It has been classified as **B.1.640.2**.
- The variant has **46 mutations and 37 deletions in its genetic code**, more than Omicron. Many of these **affect the spike protein**.

### ▪ Spreading Rate:

- Till now, only a dozen cases have been reported in France. No other country has detected any new cases of the new variant. It is certainly not as alarming as the spread of Omicron.
- While the large number of significant mutations in this variant has attracted the interest of researchers, and raised concerns among the public, **the B.1.640 is not spreading at a rate that is unnerving**.
- The **World Health Organization (WHO)** has **not yet deemed this IHU variant a variant of interest, a variant of concern, or even a variant under investigation**.

## Variant of Interest (VOI)

- A variant with specific genetic markers that have been associated with changes to receptor binding, reduced neutralization by antibodies generated against previous infection or vaccination, reduced efficacy of treatments, potential diagnostic impact, or predicted increase in transmissibility or disease severity.

### ▪ There are currently two:

- **Mu (B.1.621)**, which emerged in Colombia in early 2021
- **Lambda (C.37)**, which emerged in Peru in late 2020

### ▪ Variant of Concern (VOC)

- A variant for which there is evidence of an increase in transmissibility, more severe disease (e.g., increased hospitalizations or deaths), significant reduction in neutralization by antibodies generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.

- The B.1.1.7 (UK variant), B.1.351 (South Africa Variant), P.1 (Brazil Variant), B.1.427, and B.1.429 variants circulating in the US are classified as VOCs.

- **Variant of High Consequence**

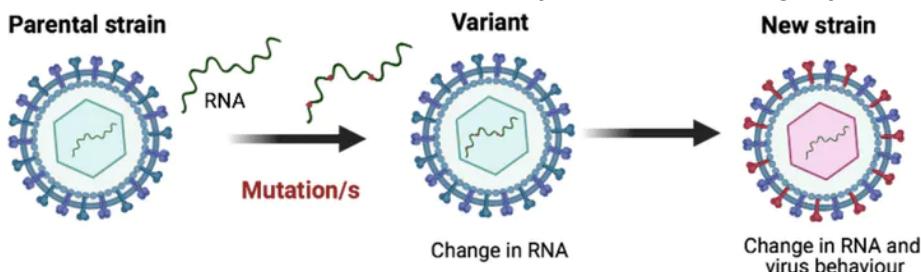
- A variant of high consequence has clear evidence that prevention measures or medical countermeasures have significantly reduced effectiveness relative to previously circulating variants.

- **Variants Under Investigation (VUI)**

- Public Health England (PHE) says that if the variants of SARS-CoV-2 are considered to have epidemiological, immunological or pathogenic properties, they are raised for formal investigation.
- At this point, the variants emerging from the B.1.617 lineage are designated as VUI.

## Mutation, Variant and Strain

- When a virus replicates it doesn't always manage to produce an exact copy of itself.
- This means that, over time, the virus may start to differ slightly in terms of its genetic sequence. [II](#)



- Any changes to the viral genetic sequence during this process is known as a Mutation.
- Viruses with new mutations are sometimes called Variants. Variants can differ by one or multiple mutations.
- When a new variant has different functional properties to the original virus and becomes established in a population, it is sometimes referred to as a New Strain of the virus.
  - All strains are variants, but not all variants are strains.

[Source: IE](#)