

COVID update: ID perspective

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The new coronavirus, SARS-CoV-2, emerged in China in late 2019, and subsequently global spread occurred resulting in WHO declaring a pandemic on 11th March 2020. In mid-July 2021, globally, the incidence of COVID-19 continues to increase, with an average of over 400,000 cases reported each day. The cumulative number of cases reported is now over 186 million and the number of deaths exceeds 4 million. The greatest burden of cases and deaths is in low to middle income countries such as Brazil, India, and Indonesia.

The SARS-CoV-2 virus is an RNA virus and as such, continues to evolve, with emerging variants of concern (VOC) showing different patterns of transmissibility and other phenotypic characteristics. The four VOCs characterized to date (Alpha; Beta; Gamma, Delta) have demonstrated increased transmissibility. The Delta variant has now been detected in at least 111 countries across all six WHO regions in the last two months and has shown higher transmissibility than other VOCs identified to date. It is likely to become the dominant variant globally over the coming months.

There has been considerable debate amongst the aerobiologists, engineers with expertise in fluid dynamics, atmospheric scientists and infection prevention and control experts as to the mode of transmission of the SARS-CoV-2 virus. This has led to a paradigm shift in thinking. The principal way in which people are infected with SARS-CoV-2 is through exposure to respiratory fluids carrying infectious virus. Exposure occurs through inhalation of fine respiratory particles, deposition of respiratory particles on exposed mucous membranes in the mouth, nose or eye by direct splashes or sprays and by touching of mucous membranes by contaminated hands. The currently recommended infection prevention and control measures remain effective for these forms of transmission.

By early July almost a quarter (24.7%) of the world's population has received at least one dose of a COVID-19 vaccine (over three billion doses administered). However, there are vast inequities in vaccine distribution and administration with the majority of vaccines administered in a small number of high and upper-middle-income countries. Vaccination of healthcare workers has been shown to be effective in reducing the risk of COVID-19.

The actions required to prevent infection are not new, and include vaccination, adherence to public health and social measures, hand hygiene and avoiding poorly ventilated indoor environments.