

# THE HINDU EXPLAINS

Relevant for: Developmental Issues | Topic: Health & Sanitation and related issues

**The story so far:** Everywhere you go, it has become impossible to avoid conversations about COVID-19, and most conversations are peppered with scientific terms that have now become commonplace. Here is a short glossary of terms that you might hear/use regularly, but may not understand entirely.

**COVID-19** — A term coined by the World Health Organization (WHO) to denote the disease that has led to a pandemic. On February 11, 2020, WHO announced a name for the mysterious disease originating in China, caused by a new coronavirus. It called it coronavirus disease 2019, abbreviated as COVID-19, where CO stands for corona, VI for virus, and D for disease, while the numerals – 19 refer to the year in which the first case was detected. WHO claimed it had consciously avoided naming the disease after the place of origin, to avoid stigmatising that country/area. The International Committee on Taxonomy of Viruses (ICTV) announced “severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)” as the name of the new virus, also on February 11, 2020. This name was chosen because the virus is genetically related to the coronavirus responsible for the Severe Acute Respiratory Syndrome (SARS) outbreak of 2003. While related, the two viruses are different. WHO and the ICTV were in communication about the naming of both the virus and the disease.

**Epidemic vs. pandemic?** Glossary of terms for virus outbreak

**Epidemic** — When the incidence of a disease rises above the expected level in a particular community or geographic area, it is called an epidemic. The outbreak started in Wuhan city in Hubei province in China, with what seemed then as a cluster of pneumonia-like cases.

**Pandemic** — A global epidemic. When the epidemic spreads over several countries or continents, it is termed a pandemic. On January 30, WHO announced that COVID-19 was a Public Health Emergency of International Concern. On March 11, WHO decided to announce COVID-19 as a pandemic.

**R0** — R-Naught is the basic reproduction number. This is the number of new infections caused by one infected individual in an entirely susceptible population. It helps determine whether an epidemic can occur, the rate of growth of the epidemic, the size of the epidemic and the level of effort needed to control the infection. If R0 is 2, then one individual will infect two others. As of end May, India's R0 value was in the range of 1.22.

**Co-morbidities** — Several health conditions including uncontrolled diabetes and hypertension, cancer, morbid obesity, lung diseases, compromised immune systems put patients at greater risk for contracting the infection, and also have poor clinical outcomes. Special attention to prevent the disease and prevent mortality in these groups is the concern of health managers.

**Transmission** — The method by which the disease spreads. In COVID-19 it is through respiratory droplets, expelled while talking, laughing, coughing and sneezing. This makes mask wearing and physical distancing the main tools for protection against the virus. Washing hands with soap and water is an effective way to kill the virus.

**Community transmission** — When you can no longer tell how someone contracted the disease, or who the source of infection was. As numbers climb, this tracing becomes next to impossible.

Unsure what herd immunity or social distancing is? Here's a coronavirus dictionary

**Contact tracing** — Identifying and monitoring people who may have come into contact with an infectious person. In the case of COVID-19, monitoring usually involves self-quarantine as an effort to control the spread of disease.

**Super spreader** — Some individuals seem to have the capacity to cause more infections in a disproportionately large number of people, than others. The current pandemic has recorded some super spreaders who have had a huge role in the transmission.

**Positivity rate** — The percentage of people who test positive among all those who are tested. If positivity rate is high, it is possible that only high risk groups are being tested. A low positivity rate can also indicate that not enough testing is being done.

**Infection fatality rate** — It is the number of deaths occurring in all infected people in a particular population. This includes those who might have the COVID-19 infection, but have not been tested for it. Given that the number of tests is not high, experts have clarified that this is not a useful metric to have in this pandemic.

**Case fatality rate** — This is the number of deaths occurring among confirmed cases of COVID-19. Since these two figures are available with a certain amount of reliability, it is actually CFR that is being referred to when there is a loose reference to fatality rate.

**Severe Acute Respiratory Infection (SARI)** — A respiratory disease also caused by a coronavirus, and spread through the same transmission method, i.e. respiratory droplets. The symptoms (fever, cough, body ache, difficulty in breathing) are also similar. The government has begun surveillance of SARI patients as also patients with Influenza-like Illness (ILI) admitted in hospitals too.

**Cytokine storm** — An immune reaction triggered by the body to fight an infection is known as a cytokine storm when it turns severe. The body releases too many cytokines, proteins that are involved in immunomodulation, into the blood too quickly. While normally they regulate immune responses, in this case they cause harm and can even cause death. Experts have noticed a violent cytokine storm in several individuals who are critical with COVID infection. These cytokines dilate blood vessels, increase the temperature and heartbeat, besides throwing bloodclots in the system, and suppressing oxygen utilisation. If the cytokine flow is high and continues without cessation, the body's own immune response will lead to hypoxia, insufficient oxygen to the body, multi-organ failure and death. Experts say it is not the virus that kills; rather, the cytokine storm.

**RT- PCR (Reverse Transcription-Polymerase Chain Reaction)** — It is the primary test to detect COVID-19 infection across the globe. It is a sensitive test that uses swab samples drawn from the nasal/oral cavity to test for the presence of viral RNA (ribonucleic acid). It has got better sensitivity (ability to correctly identify those with the disease) and specificity (ability to correctly identify those without the disease) rates in current diagnostic tests for COVID.

**Antibody tests** — These tests check your blood by looking for antibodies, and that just means you have had a past infection of SARS-CoV-2. Antibodies are proteins that help fight off infections, and are specific to every disease, granting immunity against getting that particular disease again. An antibody test, with poor specificity, is not believed to be effective in detecting new infections. States have been asked to commence testing seroprevalence in the community, using antibody tests, that are blood tests.

**Convalescent plasma therapy** — Researchers are examining the efficacy of using convalescent plasma, that is, using neutralising antibodies from the blood of people who have recovered from the COVID-19 infection to treat patients with COVID-19.

**Hydroxychloroquine (HCQ)** — An antimalarial oral drug that is being repurposed for treatment in COVID-19. It has also been used successfully in the treatment of some auto immune conditions. Its value in COVID-19 has not been resolved entirely.

**Flattening the curve** — Reducing the number of new COVID-19 cases, day on day. The idea of flattening the curve is to ensure that the health infrastructure is not overwhelmed by a large number of cases.

**Herd immunity** — This is also known as community immunity, and constitutes the reduction in risk of infection within a population, often because of previous exposure to the virus or vaccination.

**PPE** — Personal protective equipment, or PPE, is specialised clothing and equipment used as a safeguard against health hazards including exposure to the disease.

**Sources:** National Institutes of Health – National Cancer Institute, Centers for Disease Control and Prevention, U.S., Johns Hopkins University, Texas Medical Center, Mayo Clinic, Oxford Concise Medical Dictionary, Oxford Handbook of Epidemiology for Clinicians

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As many as 284 districts have at least one COVID-19 case

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