# Masks Are Helpful

## Why in news?

Studies say that the Covid-19 spread can be contained significantly if many people begin to use masks.

## What does the New York study reveal?

- A study using mathematical models for population in New York was conducted by popular universities.
- It shows that if 70% of people wore a professional mask every time they ventured outdoors, the pandemic could be eliminated from the city.
- The same result could be achieved in the entire US, if at least 80% of the population regularly used masks.
- Even low-quality home-made masks could lead to significant reduction in the disease spread, along with other interventions to eliminate it.

## Will usage of masks, shorten the lockdown period?

- Another study said that for preventing **community transmission** of the disease, **home-made masks were adequate**.
- These are adequate, even if these were about thrice less effective than professional masks in blocking transmission of smaller particles.
- It said mask usage by a large proportion of the population could help in reducing the lockdown period as well.
- However, these masks should be used in conjunction with quarantining, testing, contact tracing, hand washing and physical distancing.
- Using a mask is a **two-way protection**. It protects the person wearing it and prevents the possibility of infecting others.
- If people stop wearing masks, the probability of a second wave in winter may be greatly increased.

## What does an Indian study reveal?

- A study by Indian researchers from government and private institutions simulated the aerodynamic flow of particles from the mouth.

- This showed how masks could block airborne transmission of the virus.
- **Simulation** - Without a mask, a turbulent jet forms (during cough or sneeze), and droplets with a broad size distribution are ejected.
- Large droplets (greater than about 125 microns in diameter) fall to the ground within about 2 metres.
- However, the turbulent clouds transport a mist of small aerosolized droplets over significant distances (approx. 5 m).
- **Without mask** - Within a minute of sneezing, around 37% of potential viral load in the ejecta was found deposited within 2 m on the floor.
- The remaining 63% are suspended in the air, between 2 m and 5 m from the individual.
- **With mask** - 70% of virus-laden droplets were deposited on the mask.
- While those droplets that escaped could potentially take the virus no farther than 1.5 m but it falls off sharply after that distance.
- **Conclusion** - A loosely fitted simple cotton cloth mask qualitatively changes the propagation of the high velocity jet.
- It also largely eliminates the turbulent cloud downstream of the mask.
- Airborne transmission of virus could be reduced by wearing a simple mask and maintaining a strict physical distancing of 2 m.

**Source: The Indian Express**