Controlled Human Infection Model (CHIM)

Recently, The Department of Biotechnology (DBT) has proposed to develop new **influenza vaccines** using a **Controlled Human Infection Model (CHIM).**

- Under the CHIM approach volunteers who take part in trials will be infected, under expert supervision, with infectious viruses or bacteria.
- Vaccines traditionally are made of a **weakened form of a disease-causing virus or bacteria** and injected into the body to coax the immune system into making **antibodies that create immunity against future infection.**
- Years of vaccine development have shown that frequently vaccines that work in small groups of people may not always work in large populations, or those that are effective in one country may not be in another.
- A CHIM approach will speed up the process whereby scientists can quantify whether potential vaccine candidates can be effective in people and identify the factors that determine why some vaccinated people fall sick and others do not.
- Experience with CHIM could help to **create clinical investigators trained in vaccine development.**
- Earlier, The Hyderabad-based biotech company, **Bharat Biotech,** used the CHIM approach to develop a **Typhoid vaccine.**
- Though the vaccine is already licensed in India the vaccine's potency was evaluated by infecting human volunteers at Oxford University in the U.K. and not in India.
- The risk in such trials is that intentionally infecting healthy people with an active virus and causing them to be sick is **against medical ethics.**
- CHIM approach would also help to study **bacterial or enteric viruses (residing in the intestine) like cholera** which is prevalent in India.

Source: TH