

Sl. No.	State	Total active cases
8	Odisha	30,999
9	Assam	29,133
10	Kerala	28,870

#### Development of Corona vaccine

284. SHRI PRABHAKAR REDDY VEMIREDDY: Will the Minister of HEALTH AND FAMILY WELFARE be pleased to state:

- (a) the details of companies/institutes working for Corona vaccine in the country;
- (b) the details of companies/institutes which have completed Phase-I and Phase-II trials and details of results;
- (c) the details of companies whom Government has given permission to conduct Phase-III trials;
- (d) by when the country can expect to get the vaccine;
- (e) whether Government has studied vaccines announced by Russia and China; and
- (f) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF HEALTH AND FAMILY WELFARE (SHRI ASHWINI KUMAR CHOUBEY): (a) to (c) Central Drugs Standard Control Organisation (CDSCO) has granted test license permission for manufacture of COVID-19 Vaccine for preclinical test, examination and analysis to the following manufacturers in India:-

1. M/s Serum Institute of India Pvt., Ltd., Pune
2. M/s Cadila Healthcare Ltd., Ahmadabad
3. M/s Bharat Biotech International Ltd., Hyderabad
4. Biological E Ltd., Hyderabad
5. M/s Reliance Life Sciences Pvt Ltd., Mumbai
6. M/s Aurbindo Pharma Limited, Hyderabad
7. M/s Gennova Biopharmaceuticals Limited, Pune

The Indian Council of Medical Research (ICMR), an autonomous organisation under the Department of Health Research, has informed that the following companies are conducting clinical trials for COVID-19 vaccines in India:-

- (i) An inactivated whole virion candidate vaccine (BBV152) for SARS-CoV-2 has been developed by Bharat Biotech International Ltd (BBIL) using the virus isolate (NIV-2020-770) provided by ICMR-National Institute of Virology (NIV), Pune. Characterization of the vaccine candidate has been undertaken at ICMR-NIV followed by safety and tolerability studies in small animals like rats, mice and rabbits. Status of clinical trials is as follows:-
  - Phase I clinical trials alongwith parallel studies in large animals have been completed. The trial has revealed excellent safety of the candidate vaccine. Immunogenicity testing is in progress.
  - Phase II clinical trials are ongoing.
- (ii) A DNA vaccine (ZyCov-D) has been developed by Cadila Healthcare Ltd. Pre-clinical toxicity studies were conducted in small animals: mice, rats, rabbits and guinea pigs. The vaccine has been found to be safe and immunogenic. Cadila has partnered with ICMR for conduct of parallel pre-clinical studies in large animals. Status of clinical trials is as follows:-
  - Phase I clinical trials have been completed. The trial has revealed excellent safety of the candidate vaccine. Immunogenicity testing is in progress.
  - Phase II clinical trials are ongoing.
- (iii) Serum Institute of India (SII) and ICMR have partnered for clinical development of two global vaccine candidates:-
  - ChAdOx1-S, which is a non-replicating viral vector vaccine developed by University of Oxford/AstraZeneca. This vaccine is undergoing phase III clinical trials in Brazil. Phase II/III bridging studies have been initiated by ICMR at 14 clinical trial sites. ICMR-National Institute for Research in Tuberculosis (NIRT), Chennai is the lead institution.
  - ICMR and SII have also partnered for clinical development of a glycoprotein subunit nanoparticle adjuvanted vaccine developed by

Novavax from USA. The trial will be initiated in second half of October after the vaccine is manufactured by SII. The trial is led by ICMR-National AIDS Research Institute (NARI), Pune.

As per details provided by Department of Biotechnology (DBT)/Department of Science and Technology(DST), more than 30 vaccine candidates have been supported which are in different stages of development.

(d) While the Govt, and Industry are trying their best to make available a safe and effective vaccine for COVID-19 at the earliest, it is difficult to comment on the exact timelines in view of various complex pathways involved in vaccine development.

(e) and (f) Discussions within Government on the Russian vaccine are ongoing as of now. However, no formal studies have been initiated.

#### **Status of development of COVID vaccine in India**

285. DR. SASMIT PATRA: Will the Minister of HEALTH AND FAMILY WELFARE be pleased to state:

- (a) by when the vaccine for COVID is going to be ready for use in India;
- (b) the arrangements that have been made by Government to ensure adequate supply of COVID vaccines for the entire country;
- (c) the present status of development of the COVID vaccine in India; and
- (d) the quantum of Government funding or financial support, if any, in development of COVID vaccine in India?

THE MINISTER OF STATE IN THE MINISTRY OF HEALTH AND FAMILY WELFARE (SHRI ASHWINI KUMAR CHOUBEY): (a) While the Government and Industry are trying their best to make available a safe and effective vaccine for COVID-19 at the earliest, it is difficult to comment on the exact timelines in view of various complex pathways involved in vaccine development.

(b) The Government has constituted a high-level National Expert Group on vaccine administration for COVID-19 which is chaired by Member, Niti Aayog and co-chaired by Secretary, Ministry of Health and Family Welfare. Other representatives are: Secretary, Ministry of External Affairs, Secretary, Department of Biotechnology, Secretary, Department of Health Research, Director General of Health Services, Ministry of Health