

## **Annexure-I**

### **COVID Vaccine Intelligence Network (CoWIN)**

#### **BACKGROUND**

As the world moves closer to COVID-19 vaccine availability, governments and healthcare organizations will require developing flexible technology solutions/platforms across the entire gamut of vaccine inventory management, administration, appointment scheduling, notifications, outcome monitoring, and other necessary support for a frictionless distribution of billions of doses of vaccines around the country. The Electronic Vaccine Intelligence Network (eVIN) system, which provides real-time information on vaccine stocks and storage temperatures across all cold chain points in the country, is being enhanced to address the needs for distribution and tracking of COVID-19 vaccine. This CoWIN system will be a subset of COVID India Portal which provides end to end management of COVID19.

#### **APPLICATION MODULES**

- 1. User Administrator Modules** – The various administrators available in the CoWIN application are Universal Administrator, National Administrator, State Administrator, District Administrator etc. The Universal Administrator will be the super user in the application and can create National Administrators as well as customized templates for bulk data upload. The National Administrators can create State Administrators and state/district masters. The State Administrators can create District Administrators and district/block masters. The District Administrators can create facilities, session sites, sessions planning, vaccinators, supervisors and surveyors. When sessions are created by the respective District Administrator, the concerned Vaccinators and Supervisors will be notified.
- 2. Beneficiary Registration** – The Beneficiary Registration module will have three broad functionalities – Self Registration, Individual Registration and Bulk Upload Registration. In Self Registration, the beneficiaries can directly register themselves through the web as well as mobile application. In Individual Registration, the surveyors (or District/Level-2/Level-3 Administrators) can register individual beneficiary through the web as well as mobile application. In Bulk Upload Registration, District/Level-2/Level-3 Administrators can register multiple beneficiaries in one go using pre-defined bulk upload templates through the web application.
- 3. Vaccination** – The Vaccinators will use the Vaccination module for administering vaccination to the beneficiaries. The Vaccinators can opt for conducting sessions at the

designated session sites, verify beneficiaries' details, update vaccination status and generate vaccination certificates.

- 4. Beneficiary Acknowledgement & Status Updation** – This module covers the notification, in terms of SMS alerts, to be sent to beneficiaries with the link for vaccination including details such as Name, Age, Mobile Number, Vaccination Status, Date & Time of Vaccination, Place of Vaccination, Session Site, Health Facility and Name of Vaccinator.

## **TECHNOLOGY STACK**

The following technology stack is being used for the design and development of CoWIN application.

1. API Gateway
2. Frontend – Angular JS 8.0.0
3. API – Node JS REST
4. Database – MySQL (Master Database & Audit) & DynamoDB
5. Container Management – Docker/ Docker Swamp
6. Storage – Document Storage Service
7. In-memory Data Storage – Redis

## **TECHNICAL ARCHITECTURE**

Following is the detailed technical architecture of the CoWIN application.

