C-CAMP
Centre for Cellular and Molecular Platforms

Name of the institute: Centre for Cellular and Molecular Platforms (C-CAMP)

Incubator: Bio-Incubator at C-CAMP

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Objective: To strengthen the World's largest vaccination drive with multi-tenanted cloud-based technology for clinical engagement

Type of Intervention: (Choose one)

1) Proposal on Vaccination drive community engagement

Details of intervention:

The Centre for Cellular and Molecular Platforms (C-CAMP), being the leading hub of deeptech Life Sciences innovation and entrepreneurship in India, has joined nationwide fightback efforts to combat a rapidly spreading pandemic which demands an urgent response. Our one of the flagship program COVID-19 Innovations Deployment Accelerator (CCIDA) have fast-tracked 30 COVID-19 mitigating technologies by assisting in product development, pilot deployment, and scaling up at different COVID-19 care/healthcare centres. Ubiqare Health supported by C-CAMP has developed tele-healthcare platform offering COVID Care at Home for Asymptomatic & Mildly Symptomatic Patients. Here we propose an innovative multi-tenanted integrated and interactive Audio-Video chat for post vaccination follow-up with the beneficiaries.

a. Focus of the initiative

An essential element in the COVID vaccination drive is the Continued Active Clinical Engagement (CACE) of the Vaccination Service Provider (Healthcare organization) and the beneficiaries/recipients (healthcare workers, elders, adults) during the complete cycle of vaccination, starting from registration to a pre-defined period after the last shot of the vaccination. This clinical engagement covers triaging, acquiring medical history, scheduling the vaccination encounters as per the personalized clinical protocol, monitoring of the patient health between the two shots and for a defined period after the last shot.

This data will also serve well for annual vaccines for future epidemics or future prevention drives.

b. Product/ Technology

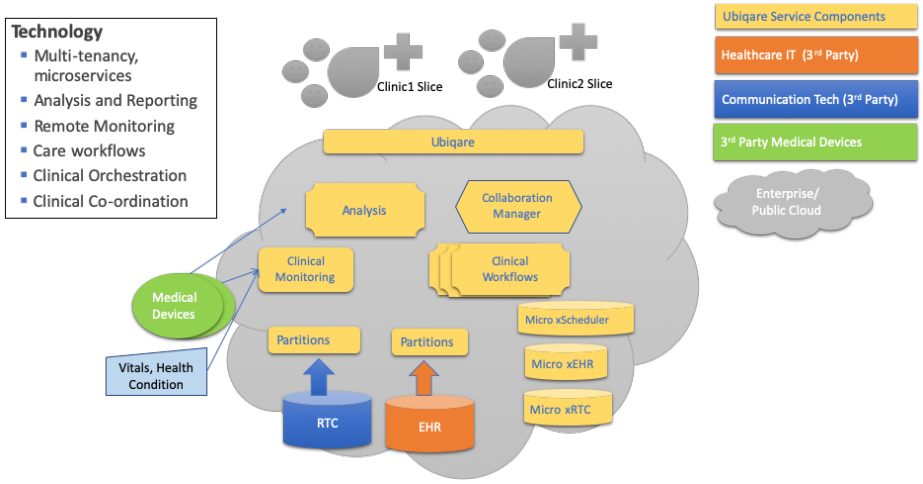
[Back-end, Doctors Web App, Patient App, Cloud Telephony, SMS Services, Web Services]

The Ubiqare platform is a multi-tenanted cloud-based platform with an underlying HIPAA compliant EMR, patient-centric access and integrated interactive Audio-Video chat for post vaccination follow up with the

beneficiaries. The vaccination beneficiaries' clinical data will be centrally stored on a cloud storage with access to the clinical team of doctors and nurses.

It has a web interface for the doctor and other clinical workers for taking specific clinical notes along with the initial triage for all those who are undergoing the vaccination. It will support admission to the program post the initial triage and collaboration among the clinical team to closely monitor the post vaccination effects and clinical orchestration of the needed care to the beneficiary. This will also support tracking of adverse condition and ensure monitoring and follow up of care in the event of any adverse condition.

Beneficiaries will be regularly monitored by the clinical team through audio call from cloud telephony. In the event of an adverse condition or any condition needing clinical follow up the clinical team can reach out to the beneficiary through an AV call for assessment and determine the necessary course of action. Those beneficiaries who needed to be monitored closely will have access to a mobile app where their parameters can be updated on regular basis. In the event of any clinical threshold variations a notification will be sent to the concerned clinical team.



It supports message notifications to report to clinical team on any changes in clinical parameters, reminders to clinical team for getting the clinical parameters from beneficiaries and reminders for scheduling updates.

It supports collaboration among partner clinicians to provide all services as one team driven by one protocol under one clinical leadership.

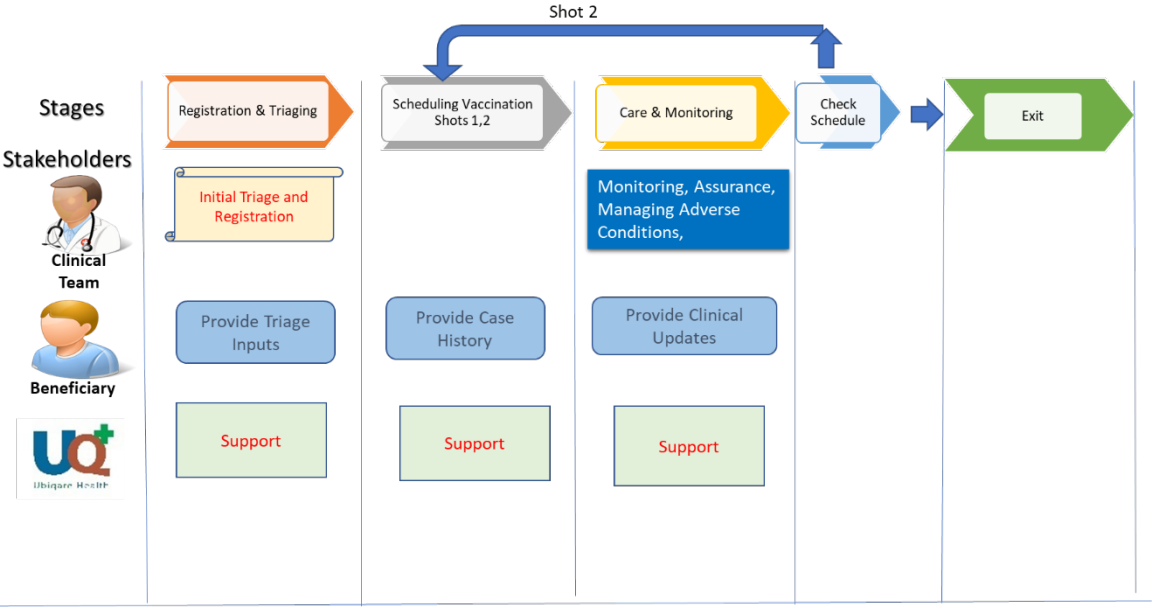
c. Workflow

The workflows supported by CACE are: a) registration, b) triaging, c) case history uploading, d) scheduling vaccination and e) Care & Monitoring during and after vaccination.

Registration: The individual can self-register with an administrator approving at the back-end or an administrator can register an individual. In both cases, authentication is strongly recommended to avoid duplication. Mapping to health ID and Aadhaar can be supported.

Triaging: CACE supports the beneficiary being clinically triaged for health conditions prior to administering the vaccine. The Vaccine Advisory, which is a dynamic guideline, labels some of these health conditions as contraindications (permanent or temporary). These beneficiaries have to be exempted or their vaccinations deferred.

It is important to capture all co-morbidities during triaging, even if some are not contraindicative. This data will help anticipate and reconcile the effects likely to be faced by the beneficiary.



Case History Upload: Case history uploading is supported at the front-end mobile App, as well as at the back-end. The various co-morbidities are captured and mapped to the parameters to be measured and monitored.

Scheduling Vaccination: The vaccination schedule is marked against the health record of a beneficiary. This serves as a record and can also be used to send alerts and notifications.

Care & Monitoring: This will start after the first shot and end after a pre-defined period post the second shot. Vaccines are known to cause adverse effects on some individuals. Some effects are normal and should not be classified as adverse effects. Some with existing morbidities may experience some symptoms that may or may not be related to the vaccination.

The initial rollout of vaccination will generate a lot of noise and anxiety. A lot of this can be prevented if all beneficiaries are admitted to a care and monitoring regimen. Those at low risks can be monitored lightly or even encouraged to self-monitor their conditions for a definite period. Those with known conditions can be monitored more frequently. A digital access and phone access will go a long way in ensuring that the campaign runs smoothly, and adverse effects are quickly addressed as well as properly documented.

d. Milestones, Timeline

The table below is created with timelines relative to the start of the project with contract approval.

Milestone No.	Responsibility	Milestone	Activities	Timeline (In Months)
M1	C-CAMP & Ubiqare	Planning and Customization	- Execution of agreement and detailed project plan	0-01
			- Identifying/planning deployment sites/schedules	0-01
			- Customization	01-02
M2	Ubiqare	Deployment & Support	- Installation & Go Live Support	01-03
			Training Healthcare staff	01-03
M3	C-CAMP & Ubiqare	Monitoring Value Addition	- Platform interactions and impacts are tracked, monitored and reports are generated	03-06
			-Branding and publicity outreach	03-06
			- Final report submission on Impact due to the intervention	05-06

These timelines are subject to changes due to dependencies of interaction with the Vaccination administration organization and specific customization requirements as they evolve.

e. Financials

We have eliminated the Capex cost by our SaaS model of delivering the software platform. Customization charges will be extra based on the aligned customization requirement. The estimate is for 23 installations across the urban and rural vaccine administration organizations across the state.

Budget Summary	
Particulars	**Total Cost in INR**
Programme **(Deployment at 23 sites*, deployment support, Training of healthcare staff, incubation, expert meetings, impact assessment reports, branding and publicity outreach, travel and contingency)**	85,20,000
Personnel **(technology deployment, mentorship, coordination and monitoring, impact analysis & dissemination)**	9,00,000
Equipment **(office costs)**	1,00,000
Institutional **(administration and management)**	4,80,000
Total	**1,00,00,000**
*1000 beneficiaries per month per site (INR 100 per beneficiary)	

Do you have State Government connection, or will you require support from CSR –

The Centre for Cellular and Molecular Platforms, or C-CAMP an initiative supported by Department of Biotechnology, Govt of India has also established connections with various State Governments under different programmes. C-CAMP works very closely with the Government of Karnataka, through three key flagship programs, namely 1. K-TECH Technology Business Incubator 2. K-TECH Centre of Excellence for Agri Innovation 3. Karnataka Start-up Advancement Program - K-SAP BIO 50. Ubiqare Health is a beneficiary of K-SAP BIO50 program.

C-CAMP will coordinate, mentor and provide deployment assistance. C-CAMP will also perform Impact Monitoring and Assessment and disseminate the Impact Report for Technology Scale-up.

States that you can provide technology to – Karnataka

Ubiqare's technology could also be deployed at any other State in India

Please answer following questions depending on the intervention you choose and if applicable to you:

Can you do the Community engagement yourselves or will need help by CSR-

Ubiqare's technology is more of a clinical engagement platform for the vaccination staff to engage with the Community.

If you have a Market ready technology available,

- How do you plan to deploy:

Cloud-based platform will be deployed in SaaS mode.

- Number of unites available:

Ubiqare's is a cloud based software platform and can be scaled to any number in a short span of time.

Do u wish to partner with an NGO? If yes, name the NGO and provide details on how u will partner? (item wise costing should include cost to NGO for their scope of work)

C-CAMP is a Non-Government Organization supported initiated by Department of Biotechnology, GoI. C-CAMP will work closely with Ubiqare Health on this project.

Project Outcome

The project will be implemented as an aid to Government's initiative of World's largest vaccination drive to combat the COVID pandemic. Ubiqare's cloud based Tele-healthcare platform will enable the healthcare/vaccination staff to closely follow-up with the community to after the first shot of vaccination to a pre-defined period after the second shot for any critical side effects of the vaccination. The proposed project is in alignment with the Sustainable Development Goals (SDG) 3 and 9 to ensure healthy lives and promoting well-being for all and Building resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation respectively.

The impact of deployed technologies will be closely assessed during the project and will also be widely disseminated across various public and private health institutions and government departments. The impact

report generated as a part of this project will build a case for system-wide scale up of these innovative and indigenous technologies which is in alignment with the nation's call for Atmanirbhar Bharat.

Visibility to the Supporting Organization

- Display of logos on the user interface
- Visibility in news articles, reports and publications
- Visibility on the website and social media
- Visibility in impact dissemination reports
- Supported technologies could be given at special discounted prices to the extent possible to the supporting organization and its referred partners and collaborators to continue strengthening public health system beyond project duration

**** For this type intervention, please send a separate 1-2 pager proposal that will include abstract of the planned/proposed work, methodology, tentative budget, and estimated timeline.**