# Functional Specifications Document

**Dimagi Vaccine Solution** 



November 2022 Version 1.0

# **Purpose of the Document**

This document outlines the functional specifications of the digital solution Dimagi has built to support partners with vaccine delivery. The solution includes a mobile and web application for frontline workers, bi-directional messaging for direct client engagement, and real-time analytics to visualize the progress of vaccine delivery.

# **Use Cases by Micro-Application:**

Client Registration	UC 1.1 Register Household UC 1.2. Edit/Remove Household UC 1.3. View Registered Households UC 1.4. Register New Member in Household UC 1.5. Edit/Remove Member in Household UC 1.6. Register New Member via SMS/Chatbot UC 1.7. View Registered Members of Household UC 1.8. Register Client UC 1.9. Edit/Remove Client UC 1.10. Population Demographics Dashboard and Analytics
Vaccine Delivery	UC 2.1. Administer Vaccine Doses UC 2.2. Record Immunization History UC 2.3. View Follow-up Doses UC 2.4. Record Details on Missed Visit UC 2.5. View Clients Missed Follow-up Visit UC 2.6. View Clients Due For Follow-up Visit UC 2.7. View Immunization Details via SMS/Chatbot UC 2.8. Key Program Indicators Dashboard and Analytics UC 2.9. Vaccine Delivery Dashboard and Analytics
Adverse Event Tracking	UC 3.1. Record Adverse Events Following Immunization UC 3.2. Report Adverse Events Via Chatbot UC 3.3. Adverse Events Tracking Dashboard and Analytics
Community Mobilization & Counselling	UC 4.1. Community Mobilization & Counselling UC 4.2. Community Counselling Dashboard and Analytics
Health Worker Training	UC 5.1. Health Worker Training UC 5.2 Training via Chatbot



## **Facility & Stock Management**

UC 6.1. Register Facility

UC 6.2. Edit Facility Details/Information

UC 6.3. Facility Readiness Assessment

UC 6.4. View Facility Details

UC 6.5. Update Vaccine Stock Details

UC 6.6. View Vaccine Stock Management Details

UC 6.7. Vaccine Stock Management Dashboard and

Analytics

# 1. Client Registry

The 'Client Registry' micro-application contains workflows that allow the user to register a client/household and manage clients/households that have already been registered with the vaccine site. The micro-application supports both client and household registration to account for the fact that registrations may differ depending on the context in which the solution is deployed (with some workflows relying on household registration and others relying on individual registration). Inside this menu, the user can access workflows to register new clients/households by adding basic demographic details, edit an existing client/household's details added while registering, or remove clients/households from the system. Additionally, users can also access a sub-menu to view details of all members in each household, register new members in the household, and administer vaccine doses to them.

#### **Implementation LOE:**

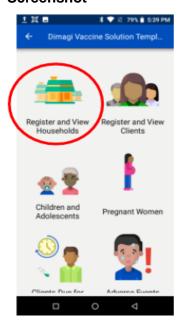
The following table contains the estimate of the level of effort required for implementation of the 'Client Registration' micro-application in a system and the factors influencing it:

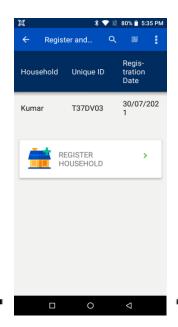
LOE estimate for implementation	Medium
2. Factors affecting LOE	<ul> <li>Number of demographic questions</li> <li>Questions on logic of screening of clients for certain vaccines (COVID etc)</li> <li>Implementation of either only 'Client Registration' or combination of 'Household and Client Registration'</li> <li>Enhancement/Customization of Dashboard indicators</li> </ul>
3. Prerequisites	<ul> <li>To enable Chatbot components through WhatsApp, the delivery team should acquire a WhatsApp line through Turn.io first.</li> </ul>

## **UC 1.1. Register Household**

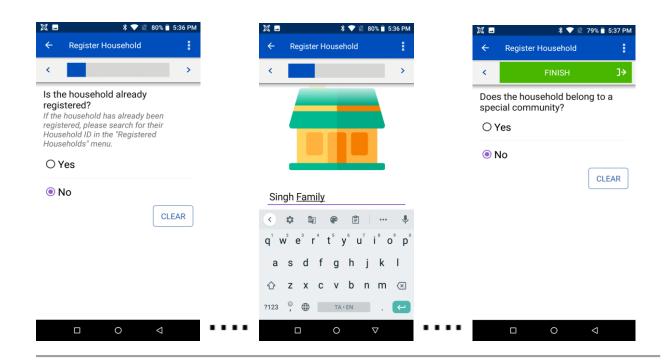
Use Case Name	Register Household
System Modules	Client Registration
Location in the App	Register and View Households Menu → Register Household
Component	Form
Primary User(s)	Community Advocate, Vaccine Site Administrator

Description	This form allows the user to register a new household in the system. It provides data fields to capture demographic details of households like state, district, address, phone number etc.
Trigger	User clicks on the 'Register Household' form in 'Register and View Households' menu
Pre-Condition	None
Usage Flow	Users click on the 'Register Household' form in the 'Register and View Households' menu to register a new household on the system. Users can record a name for the household and capture demographic details like address, phone number, etc.
Post Condition	Once the user has filled in the details, the system asks them to:  1) Add one or more members to the family.(Register New Member use case link)  2) Go back to the "Register and View Households menu" to see the registered household in the list. (View Registered Households use case link)
Business Rules	The system does not let the user proceed with registration if the household is already registered.





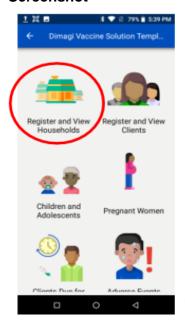


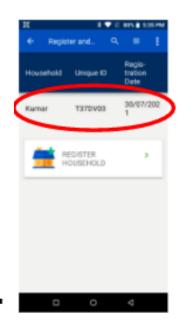


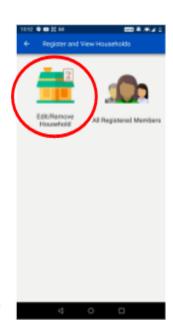
## UC 1.2. Edit/Remove Household

Use Case Name	Edit/Remove Household
System Modules	Client Registration
Location in the App	Register and View Households Menu → Edit/Remove Households
Component	Form
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This form allows the user to Edit/Remove the household in the system. It provides data fields to edit demographic details of the household like state, district, address, phone number, email address etc.
Trigger	User clicks on the 'Edit/Remove Household' form in 'Register and View Households' menu
Pre-Condition	Household must be registered in the system
Usage Flow	User clicks on the 'Edit/Remove Household' form in the 'Register and View Households' menu to edit/remove the details of the household in the system.

	Users can edit a name for the household and also edit demographic details like address, phone number, etc added at the time of registration.
Post Condition	Once the user has updated details / removed the household:  1. The edited details of the household are updated in the system.(View Registered Household use case link)  2. Once the household is removed from the system the household won't be visible in the case list of 'View Registered Household' menu . (View Registered Households use case link)
Business Rules	Post the removal, the household and all associated clients will no longer be available on the system.

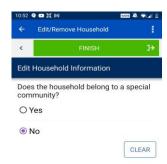














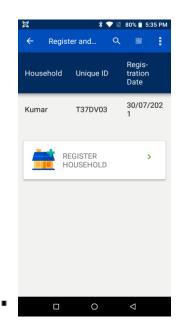
# **UC 1.3. View Registered Households**

Use Case Name	View Registered Households
System Modules	Client Registration
Location in the App	Main screen after the user press start
Component	Menu
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	The 'View Registered Households' menu allows the user to view the list of households that are already registered in the application.
Trigger	Users press start and select the 'View Registered Households' menu
Pre-Condition	Household must be registered in the system
Usage Flow	User clicks on 'View Registered Households' menu, which consist of the following forms/sub-menus  1. Edit/Remove household form → to edit details or remove the household that are registered in the system
Post Condition	None
Business Rules	The household won't be visible in case list of the 'View

Registered Households' menu if the household is not registered in the system

#### **Screenshot**

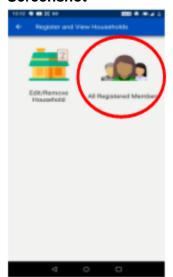


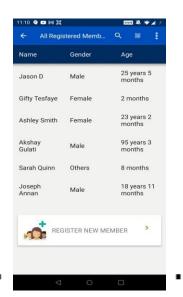


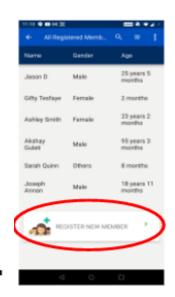
# UC 1.4. Register New Member in Household

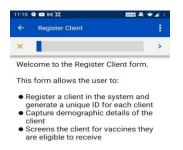
Use Case Name	Register New Member in Household
System Modules	Client Registration
Location in the App	All Registered Members → Register New Member
Component	Form
Primary User(s)	Vaccine Administrator
Description	This form allows the user to register a new client in the system that is linked to a household and record their demographic details and health status of the client.
Trigger	Users click on 'Register Client' form in 'All Register Client' menu
Pre-Condition	The client should not be already registered in the system
Usage Flow	User clicks on the 'Register Client' form in 'All

	Register Client' menu and register a new client by capturing the name and demographic details of the client like gender,age,phone number,health status etc and based on all the demographic details and health status of the client the system generates the list of next due vaccines along with the due date.
Post Condition	Once the user has entered the details the client is registered successfully in the system. The system suggest users to:  1. Administer the first vaccine dose to the client by using 'Administer Vaccine dose' form  2. And also updates the list of next doses due based on the changes made in the demographic details
Business Rules	The system does not let the user proceed with registration if the client is already registered

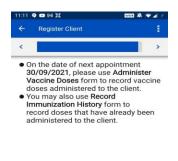










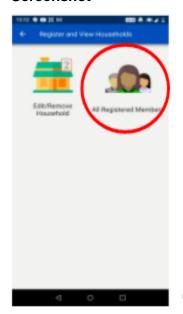




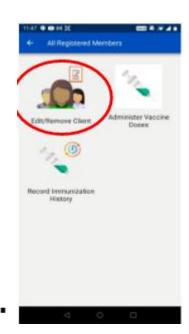
### UC 1.5. Edit/Remove Member in Household

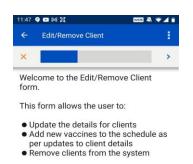
Use Case Name	Edit/Remove Member in Household
System Modules	Client Registration
Location in the App	All Registered Members → Edit/Remove Member
Component	Form
Primary User(s)	Vaccine Administrator
Description	This form allows the user to edit/remove a member in the system.  It provides data fields to edit demographic details and health status of the client like state, district, address, phone number, comorbidities etc and based on all the demographic details and health status of the client the system updates the list of next due vaccines along with the due date
Trigger	Users click on 'Edit/Remove Members' form in 'All Registered Members' menu
Pre-Condition	The member must be registered in the system and linked to a household
Usage Flow	The user clicks on the 'Register and View Household' menu > selects a household > selects the member and

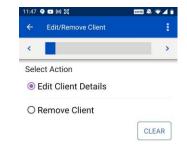
	clicks on the 'Edit/Remove Member' form in the 'All Registered Members' menu.
Post Condition	Once the user has updated the client details, it successfully gets updated in the system. The system suggests users to:  1. Administer the first vaccine dose to the client by using 'Administer Vaccine dose' form  2. And also updates the list of next doses due based on the changes made in demographic details
Business Rules	The system does not let the user proceed with edit/remove members if the member is not registered in the system.

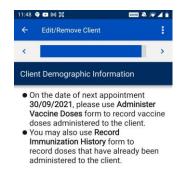












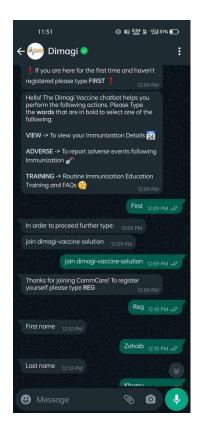


## UC 1.6. Register New Member via SMS/Chatbot

Use Case Name	Register New Member via SMS/Chatbot
System Modules	Client Registration
Location in the App	(Chatbot) → Register Client (Chatbot)
Component	Chatbot
Primary User(s)	Vaccine Recipient
Description	This form allows the user to self register into the system via the chatbot. It provides data fields to capture name, date of birth, gender etc.
Trigger	User types "REG" on the WhatsApp chatbot line to start the registration form.
Pre-Condition	The user has not been registered already on the system (through the app or chatbot)
Usage Flow	The user first self-registers into the system by typing "join dimagi-vaccine-solution" and after successfully registering, type "REG" to start the registration form to capture additional details.  The Registration includes the following questions:  • Name

	<ul> <li>Gender</li> <li>Date of birth</li> <li>Ability to answer additional registration questions (eg. Birth Registry ID, Address, Pregnancy details)</li> </ul>
Post Condition	Once the user has registered themselves into the system, it asks the users to visit their nearest facility where the Community advocate or Vaccine Administrator can fetch their case based on Client ID and Client Name into their device by clicking on the "Search All cases" option inside the "Register and View Clients" menu. Post that, additional registration questions are recorded first and then the first dose can be administered as mentioned in UC 2.1
Business Rules	The system does not let the user proceed with registration if the client is already registered.





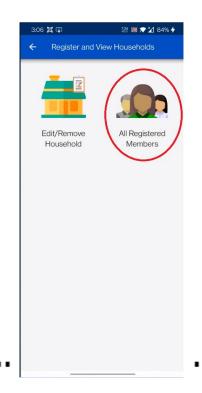


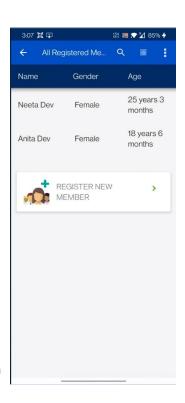
# UC 1.7. View Registered Members of Household

Use Case Name	View Registered Members of Household
System Modules	Client Registration
Location in the App	View Registered Households → All Registered
	Members
Component	Menu
Primary User(s)	Vaccine Administrator
Description	The user can view all the registered members of a household in the system through the "All Registered Members" menu
Trigger	User clicks on 'View Registered Household' Menu and clicks on the household.
Pre-Condition	The member must be registered in the system and linked to one of the registered households.

Usage Flow	User clicks on the 'View Registered Household' menu > selects the household. Once the user clicks on the registered household, a list of all the members of the household is presented in the 'All Registered Members' menu
Post Condition	None
Business Rules	The Registered household must have members registered in the system using (Register New Member form)





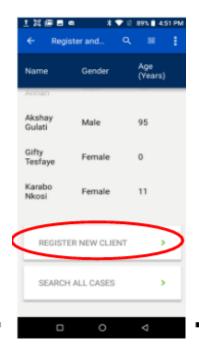


# **UC 1.8. Register Client**

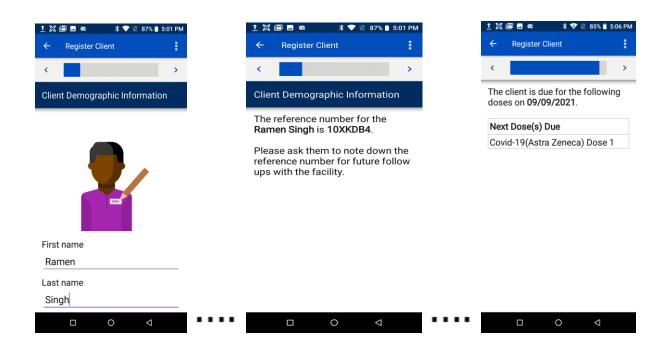
Use Case Name	Register Client
System Modules	Client Registration
Location in the App	All Registered Clients → Register new Client
Component	Form
Primary User(s)	Vaccine Administrator

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Description	This form allows the user to register a new client in the system that is not linked to a household.
Trigger	Users click on 'Register Client' form in 'All Register Client' Menu
Pre-Condition	The client should not be already registered in the system
Usage Flow	Users click on 'Register Client' form in 'All Register Client' Menu and Register the new client by capturing the name and demographic details of the client like gender,age,phone number,health status etc and based on all the demographic details and health status of the client the system generates the list of next due vaccines along with the due date
Post Condition	Once the user has enter the details the client is registered successfully in the system, the system asks them to:  1. Administer the vaccine dose to the client by using 'Administer Vaccine dose' form  2. And also gives the list of next doses due based on the demographic and other details provided by the client
Business Rules	The system does not let the user proceed with registration if the client is already registered







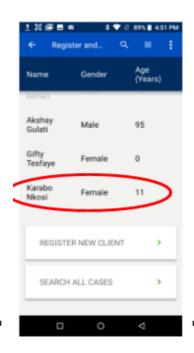


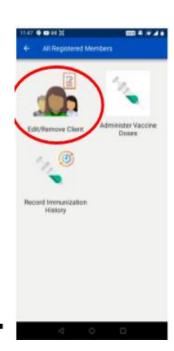
## **UC 1.9. Edit/Remove Client**

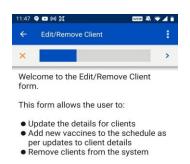
Use Case Name	Edit/Remove Client
System Modules	Client Registration
Location in the App	All Registered Clients → Edit/Remove Client
Component	Form
Primary User(s)	Vaccine Administrator
Description	This form allows the user to edit/remove clients in the system.
	It lets the user edit the details of the client added at the time of registration. It also allows the user to remove clients registered in the system.
Trigger	Users click on 'Edit/Remove Client' form in 'All Registered Clients' menu
Pre-Condition	The client must be registered in the system.
Usage Flow	The user clicks on the 'All Registered Clients' menu > selects a Client and clicks on the 'Edit/Remove Client'

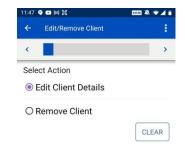
	form
Post Condition	Once the user has updated the details the client details are updated successfully in the system, the system asks them to:  1. Administer the first vaccine dose to the client by using 'Administer vaccine dose' form  2. And also updates the list of next doses due based on the changes made in demographic details
Business Rules	The system does not let the user proceed with edit/remove members if the member is not registered in the system.









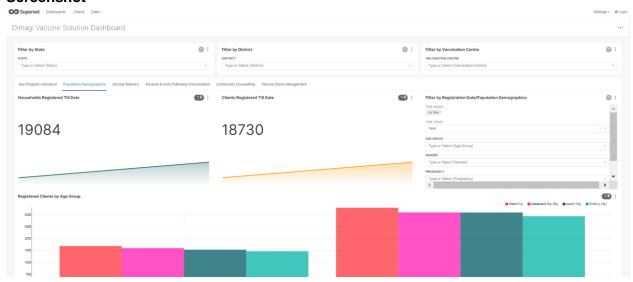




# **UC 1.10. Population Demographics Dashboard and Analytics**

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Use Case Name	Population Demographics Dashboard and Analytics
System Modules	Client Registration
Location	Dimagi Vaccine Solution Dashboard -> Population Demographics Tab
Component	Dashboard
Primary User(s)	Country/State/District Level Administrator
Description	By accessing the "Population Demographics" tab on the Dashboard, program administrators can access visualizations and analytics related to "Client Registry" microapplication. Following is the list of visualizations available as part of the template solution:  1) Households Registered Till Date 2) Clients Registered Till Date 3) Registered Clients by Age Group 4) Registered Households By Area Type 5) Registered Clients By Occupation
Trigger	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Population Demographics" tab.
Pre-Condition	The client must be logged into the system.

Usage Flow	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Population Demographics" tab.
Post Condition	N/A
Business Rules	All the visualizations listed in the Description section can be filtered at the State, District and Vaccination Centre level. All visualizations can be filtered via Registration Dates as well.  Only client-related visualizations can be classified by Gender, Age Group((Infant, Child, Adolescent and Adults), Pregnant and Comorbidities condition.



# 2. Vaccine Delivery

The 'Vaccine Delivery' micro application contains workflows that allow users to administer the vaccine doses to eligible clients, The 'Vaccine Delivery' micro application also allows the users to record the immunization history of the client . It displays the next doses of vaccine(s) for which the client is eligible along with the due date of the vaccine(s).

#### Implementation LOE:

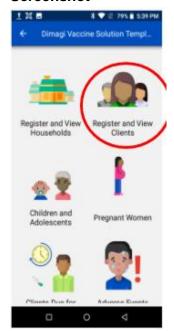
The following table contains the estimate of the level of effort required for implementation of the 'Vaccine Delivery' micro-application in a system and the factors influencing it:

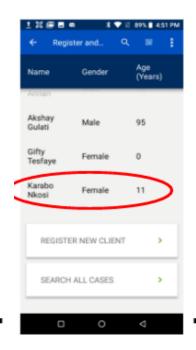
LOE estimate for implementation	High
2. Factors affecting LOE	<ul> <li>The total number of vaccines added to the system</li> <li>Complexity of the vaccine scheduler configuration (Refer the Product Configuration Guide <a href="here">here</a>)</li> <li>Enhancement/Customization of Dashboard indicators</li> </ul>

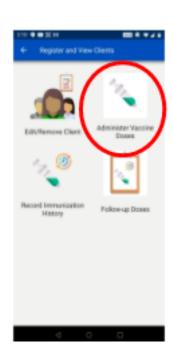
#### **UC 2.1. Administer Vaccine Doses**

Use Case Name	Administer Vaccine Doses
System Modules	Vaccine Delivery
Location in the App	All Registered Members → Administer Vaccine Dose
Component	Form
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This form allows the user to Administer vaccine doses to the client based on their eligibility, the user can administer multiple vaccines to the client
Trigger	Users click on 'Administer Vaccine doses' form in 'Register and view clients' Menu
Pre-Condition	Clients must be registered in the application and eligible for receiving a vaccine.
Usage Flow	The user clicks on the 'Register and View client' menu and then selects a Client and then clicks on the 'Administer vaccine dose' form in "Registered and view clients" menu

Post Condition	Once the user has administered the vaccine dose, then the system asks them to:  1. Administer the follow-up doses for the vaccine administered  2. Allows the user to Report adverse event in case of side effect of vaccine
Business Rules	The system does not let the user proceed with Administer vaccine dose if the client is not registered in the system or the client is not eligible to receive any vaccine.















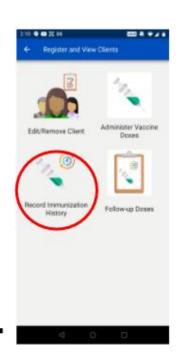
# **UC 2.2. Record Immunization History**

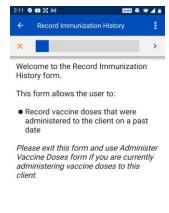
Use Case Name	Record Follow-up Dose
System Modules	Vaccine Delivery
Location in the App	All Registered Members → Administer Vaccine Dose
Component	Form
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This form allows the user to Administer vaccine doses to the client based on their eligibility, the user can administer multiple vaccines to the client, It also allows the user to receive the follow-up doses of the vaccine based on the vaccine administered to the client
Trigger	Users click on 'Administer Vaccine doses' form in 'Register and view clients' menu     Client must have received the predecessor dose of the same vaccine
Pre-Condition	Clients must be registered in the application and have received a predecessor dose of the same vaccine.
Usage Flow	The user clicks on the 'Register and View client' menu > selects a Client and then clicks on the 'Administer Vaccine Dose' form in "Registered and View Clients"

	menu
Post Condition	<ol> <li>Client can report adverse event for the vaccine dose they currently received</li> <li>Client can view the new follow-up doses in the 'Follow-up doses' menu</li> </ol>
Business Rules	Clients must be registered in the application and have received a predecessor dose of the same vaccine.

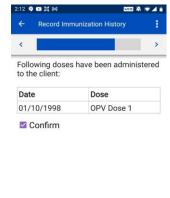








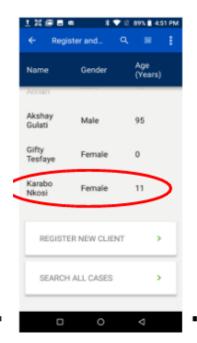


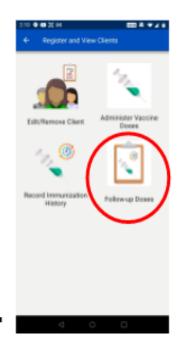


# UC 2.3. View Follow-up Doses

Use Case Name	View Follow-up Dose
System Modules	Vaccine Delivery
Location in the App	All Registered Members → View Followup doses
Component	View Only Menu
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This is a view only menu which displays the follow-up doses of the vaccine administered to the client in the ascending order of the dose eligibility date/ follow-up date
Trigger	Users click on the 'View Follow-up doses' view only menu in the 'Register and view clients' menu
Pre-Condition	Client must be registered in the application and have already received the first dose of vaccine
Usage Flow	The user clicks on the 'Register and View client' menu > selects a client and then clicks on the 'View Follow-up Doses' view only menu in "Registered and view clients" menu
Post Condition	Once the user has been administered the vaccine dose, the system suggests the users to:  1. This module helps the user to know administer the follow-up doses to the client  2. This module helps the user to find whether the vaccine dose is still due or expired
Business Rules	The system will display an empty case-list if the user hasn't received any vaccine doses which have a follow-up dose.





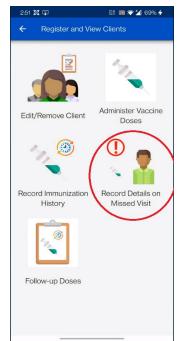


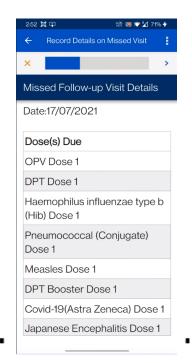


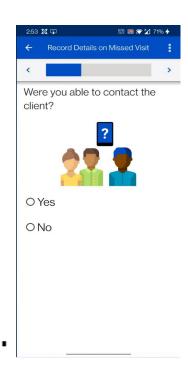
#### UC 2.4. Record Details on Missed Visit

Use Case Name	Record Details on Missed Visit
System Modules	Vaccine Delivery

Location in the App	Register and View Clients → Record Details on Missed Visit
Component	Form
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This form allows the user to record details on a missed vaccination visit.
	It provides data fields to capture details gathered from the clients on their missed follow-up visit, such as the reason for missing, intention to resume, etc.
Trigger	User clicks on the 'Record Details on Missed Visit' form in 'Register and View Clients' menu
Pre-Condition	<ol> <li>The client is registered and all the relevant details are captured in the system.</li> <li>Next follow up date for a vaccine dose has surpassed.</li> </ol>
Usage Flow	User clicks on the 'Record Details on Missed Visit' form in the 'Register and View Clients' menu to record details on the  1. Mode of communication used by workers to contact beneficiaries, who missed their vaccination visit, if able to contact  2. Reason for missing their follow-up visit  3. Client's intention to resume the vaccine doses and set a date on which the client would like to receive their next set of doses.  4. Reason if the client does not want to resume vaccine doses
Post Condition	If the client has showed interest in resuming vaccine doses, the system sets a new follow up visit date for the vaccine dose
Business Rules	The system does not display data fields to record details on missed follow-up visits if the user was not able to contact the client.

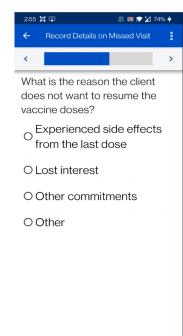








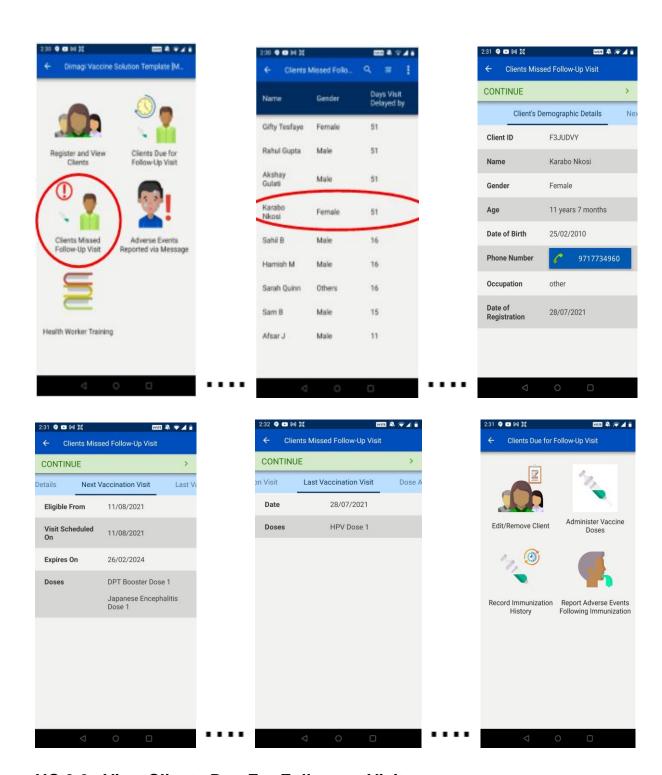




## UC 2.5. View Clients Missed Follow-up Visit

Use Case Name	View Clients Missed Follow-up Visit

System Modules	Vaccine Delivery
Location in the App	Main screen after the user press start
Component	Menu
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This menu is used to display the client who have missed the dose expiration date
Trigger	User clicks on 'Client Missed Follow-up Visit'
Pre-Condition	Clients must be registered in the application and haven't received a vaccine dose before the dose expiration date.
Usage Flow	User press on start and then clicks on 'Client Missed Follow-up Visit'
Post Condition	<ol> <li>If the client has showed interest in resuming vaccine doses, the system sets a new follow up visit date for the vaccine dose</li> <li>Allows the user to edit/remove client details from the system.</li> </ol>
Business Rules	The client can be administered the vaccine dose if they show interest and want to continue receiving vaccines

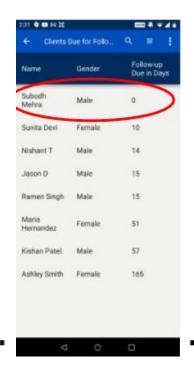


# UC 2.6. View Clients Due For Follow-up Visit

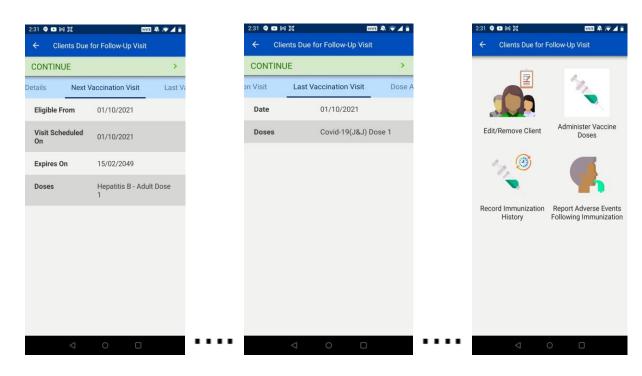
Use Case Name	View Clients Due For Follow-up Visit
System Modules	Vaccine Delivery

Location in the App	Main screen after the user press start
Component	Menu
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This menu is used to display the client who are eligible to receive vaccine and are currently due for receiving a vaccine dose
Trigger	User clicks on 'Client Due for Follow-up Visit
Pre-Condition	Client must be registered in the application and is currently eligible to receive a vaccine and their next follow-up date is in future
Usage Flow	User clicks on start and then clicks on 'Client Due for Follow-up Visit
Post Condition	None
Business Rules	Client must be registered in the application and is due for receiving a vaccine that is their next follow-up date must be in future









## UC 2.7. View Immunization Details via SMS/Chatbot

Use Case Name	View Immunization Details via SMS/Chatbot
System Modules	Vaccine Delivery
Location in the App	(Chatbot) → View Immunization Data (Chatbot)
Component	Chatbot
Primary User(s)	Vaccine Recipient
Description	User can view their Immunization details via the chatbot i.e Next Dose Due, Vaccine Dose Administration History and the Last dose received once their vaccine administration is recorded into the system.
Trigger	User types "VIEW" on the WhatsApp chatbot line to view the Immunization details
Pre-Condition	User must have received one dose of vaccine
Usage Flow	User types "VIEW" on the WhatsApp Chatbot line and then the following details are displayed on a single message:  • Next Dose Due  • Vaccine Dose Administration History  • Last dose received

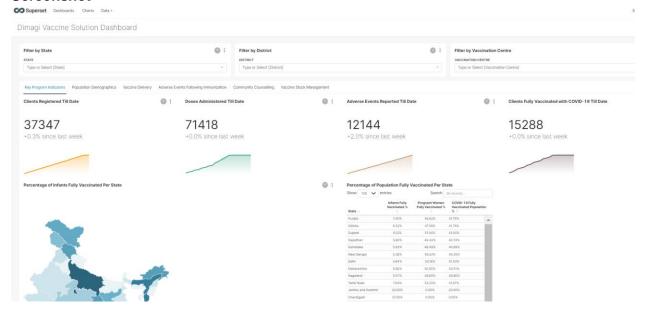
Post Condition	None
Business Rules	The system does not allow the user to view the details of immunization if they have not received any vaccine doses



# UC 2.8. Key Program Indicators Dashboard and Analytics

Use Case Name	Key Program Indicators Dashboard and Analytics
System Modules	Vaccine Delivery
Location	Dimagi Vaccine Solution Dashboard -> Key Program Indicators Tab
Component	Dashboard
Primary User(s)	Country/State/District Level Administrator
Description	By accessing the " <b>Key Program Indicators</b> " tab on the Dashboard, program administrators can access the key visualizations and analytics related to the vaccination program. Following is the list of visualizations available as part of the template solution:  1) Clients Registered Till Date

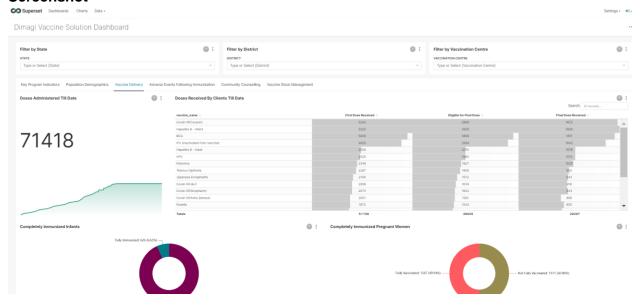
	<ol> <li>Doses Administered Till Date</li> <li>Adverse Events Reported Till Date</li> <li>Clients Fully Vaccinated with COVID-19 Till Date</li> <li>Percentage of Infants Fully Vaccinated Per State</li> <li>Percentage of Population Fully Vaccinated Per State</li> </ol>
Trigger	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Key Program Indicators" tab.
Pre-Condition	The client must be logged into the system.
Usage Flow	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Key Program Indicators" tab.
Post Condition	N/A
Business Rules	All the visualizations listed in the Description section can be filtered at the State, District and Vaccination Centre level.



### **UC 2.9. Vaccine Delivery Dashboard and Analytics**

Use Case Name	Vaccine Delivery Dashboard and Analytics
System Modules	Vaccine Delivery
Location	Dimagi Vaccine Solution Dashboard ->Vaccine Delivery Tab
Component	Dashboard
Primary User(s)	Country/State/District Level Administrator
Description	By accessing the "Vaccine Delivery" tab on the Dashboard, program administrators can access visualizations and analytics related to "Vaccine Delivery" micro-application. Following is the list of visualizations available as part of the template solution:  1) Doses Administered Till Date 2) Doses Received By Clients Till Date 3) Completely Immunized Infants 4) Completely Immunized Pregnant Women 5) Percentage of Eligible Population Fully Vaccinated 6) Population Eligible For Each Vaccine 7) Clients Due for Follow-up Doses 8) Vaccine Drop-off Rates

Trigger	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Vaccine Delivery" tab.
Pre-Condition	The client must be logged into the system.
Usage Flow	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Vaccine Delivery" tab.
Post Condition	N/A
Business Rules	All the visualizations listed in the Description section can be filtered at the State, District and Vaccination Centre level.



# 3. Adverse Event Tracking

The 'Adverse Event Tracking' micro application contains workflows that allow users to report and investigate any adverse events that occur in clients following their immunizations. This micro application caters to two types of functional workflows through which clients can report adverse events,

- a. Report AEFIs via the application: If a client takes a vaccine at a vaccination centre and faces immediate side-effects, users at the site can use this form to report and investigate the side-effects.
- b. Report AEFIs via messaging: If a client experiences adverse events after they have left the vaccination site, they can report these events via SMS/Chatbot functionality. Application users can follow up with such clients and investigate further on the adverse events faced by them.

#### **Implementation LOE:**

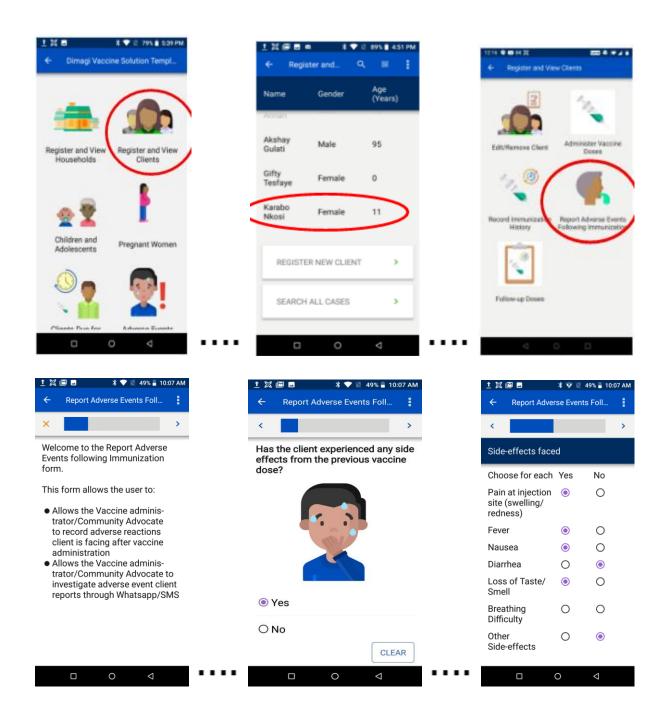
The following table contains the estimate of the level of effort required for implementation of the 'Adverse Event Tracking' micro-application in a system and the factors influencing it:

LOE estimate for implementation	Medium
2. Factors affecting LOE	<ul> <li>Enhancement/Customization of the already existing AEFI workflow in the AEFI Form(Eg, Currently the investigation only revolves around the last dose(s) received )</li> <li>Enhancement/Customization of Dashboard indicators</li> </ul>

### **UC 3.1. Report Adverse Events Following Immunization**

Use Case Name	Report Adverse Events Following Immunization
System Modules	Adverse Event Tracking
Location in the App	Register and View Clients → Report Adverse Events Following Immunization
Component	Form
Primary User(s)	Community Advocate, Vaccine Site Administrator
Description	This form allows the user to report and investigate any adverse events that occured and were reported by beneficiaries following their immunization.

	It provides data fields to capture details on the adverse events experienced by clients following their immunization such as, the types of side-effects, the severity of side-effects, etc.
Trigger	User clicks on the 'Report Adverse Events Following Immunization' form in the 'Register and View Clients' menu
Pre-Condition	Clients have received at least one dose of immunization.
Usage Flow	Users click on the 'Report Adverse Events Following Immunization' form in the 'Register and View Clients' menu to record details on.  1. Types of side-effects, such as fever, pain at injection site, nausea, loss of smell/taste, etc., faced by the client after a confirmation from the client that side-effects were experienced after the previous dose  2. Date client started experiencing side-effects  3. Intensity (mild/ moderate/ severe) of each of the side-effects faced by the client.  4. Date of hospitalization, if the client was hospitalized due to the side-effects
Post Condition	None
Business Rules	The system does not display this form for clients who have not received any vaccine doses



### **UC 3.2. Report Adverse Events Via Chatbot**

Use Case Name	Report Adverse Events Via Chatbot
System Modules	Adverse Event Tracking
Location in the App	(Chatbot) → Report AEFI (Chatbot)

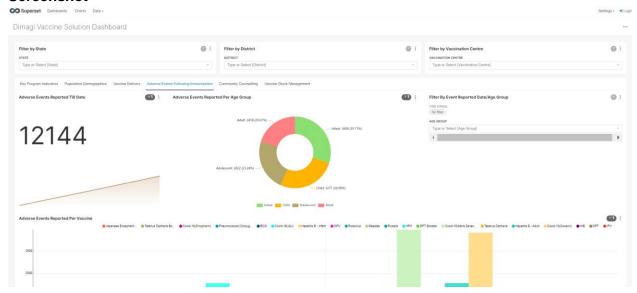
Component	Chatbot
Primary User(s)	Vaccine Recipient
Description	This form allows the user to record adverse events that occurred in clients and were reported by beneficiaries following their immunization and highlight if the symptoms are severe or not.
Trigger	User types 'ADVERSE' keyword on their WhatsApp chatbot
Pre-Condition	The user has received at least one dose of immunization.
Usage Flow	User types 'ADVERSE' keyword on the WhatsApp chatbot line. The chatbot asks the user whether they want to report adverse events and if the side effects are severe or not.
Post Condition	After recording the AEFI through the chatbot, client will show up on the case list of 'Adverse Event reported via Message', where the mobile user (Community Advocate, Vaccine Site Administrator) can follow up with the client using the chatbot
Business Rules	The system does not allow for user to record AEFI who have not received any vaccine doses



### UC 3.3. Adverse Events Tracking Dashboard and Analytics

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Use Case Name	Adverse Events Tracking Dashboard and Analytics
System Modules	Vaccine Delivery
Location	Dimagi Vaccine Solution Dashboard ->Adverse Events Following Immunization Tab
Component	Dashboard
Primary User(s)	Country/State/District Level Administrator
Description	By accessing the "Adverse Events Following Immunization" tab on the Dashboard, program administrators can access visualizations and analytics related to "Adverse Events Tracking" micro-application. Following is the list of visualizations available as part of the template solution:  1) Adverse Events Reported Till Date 2) Adverse Events Reported Per Age Group 3) Adverse Events Reported Per Vaccine 4) Type of Side-Effects Reported
Trigger	Users login into the Superset portal -> Access Dimagi

	Vaccine Solution Dashboard and select "Vaccine
	Delivery" tab.
Pre-Condition	The client must be logged into the system.
Usage Flow	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Adverse Events Following Immunization" tab.
Post Condition	N/A
Business Rules	All the visualizations listed in the Description section can be filtered at the State, District, Vaccination Centre level and via Age Group (Infant, Child, Adolescent and Adults).
	The visualizations can be filtered by Side-Effect Reported Dates as well.



# 4. Community Mobilization & Counseling

The 'Community Mobilization & Counseling' micro application contains workflows that allow users (community advocates) to record details of any vaccine confidence counseling events/sessions that were organized by the user.

Additionally, it also contains counseling content to support users in combating vaccine hesitancy in their catchment area, by providing vaccine confidence counseling via personal counseling, household counseling or community events/sessions.

### **Implementation LOE:**

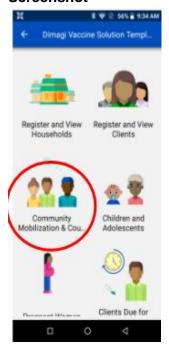
The following table contains the estimate of the level of effort required for implementation of the 'Community Mobilization & Counseling' micro-application in a system and the factors influencing it:

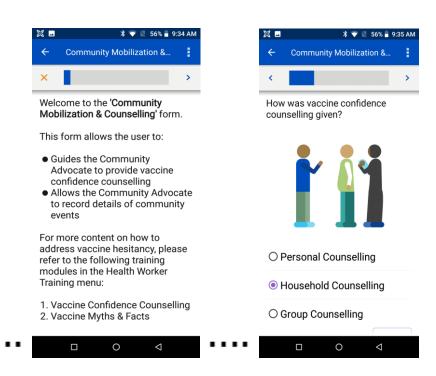
LOE estimate for implementation	Low
2. Factors affecting LOE	<ul> <li>Customization of the existing questions in the Vaccine confidence and community response workflow</li> <li>Customization/Enhancement of Dashboard indicators</li> </ul>

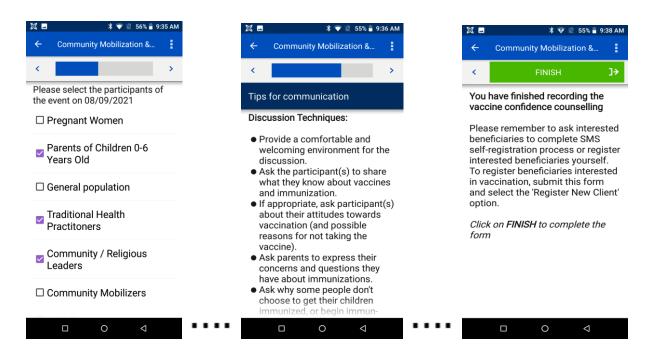
# **UC 4.1. Community Mobilization & Counseling**

Use Case Name	Community Mobilization & Counseling
System Modules	Community Mobilization & Counseling
Location in the App	Community Mobilization & Counseling→ Community Mobilization & Counseling
Component	Form
Primary User(s)	Community Advocate
Description	This form allows the users, community advocates, to record details of the vaccine confidence counseling events/sessions held by them.  It provides data fields to add details about the counseling sessions held such as the topic, number of attendees; capture reasons on the anti-vaccine sentiments shown among attendees of the event. Additionally, it also contains some content to assist users during counseling.
Trigger	Users click on the 'Community Mobilization & Counseling' form in the 'Community Mobilization & Counseling' menu.
Pre-Condition	None
Usage Flow	Users click on the 'Community Mobilization & Counseling' form in the 'Community Mobilization & Counseling' menu to record details on.

	<ol> <li>On the counseling session conducted by workers such as date and how was the counseling conducted, i.e., personal level, household level or group counseling.</li> <li>Type of participants of the event, such as pregnant women, health practitioners, parents, etc as well as the total number of attendees at the event.</li> <li>Topic of the counseling event</li> <li>Number of attendees showing anti-vaccine sentiments and their reasons for it.</li> <li>Record feedback from the session.</li> </ol> The form also contains some guiding contents for conducting the session.
Post Condition	None
Business Rules	None







### UC 4.2. Community Counseling Dashboard and Analytics

Use Case Name	Community Counseling Dashboard and Analytics	
System Modules	Community Counseling and Mobilization	
Location	Dimagi Vaccine Solution Dashboard ->Community Counseling Tab	
Component	Dashboard	
Primary User(s)	Country/State/District Level Administrator	
Description	By accessing the "Community Counseling" tab on the Dashboard, program administrators can access visualizations and analytics related to "Community Counseling and Mobilization" micro-application. Following is the list of visualizations available as part of the template solution:  1) Community Events Organized Till Date 2) Total Events by Topic Covered 3) Total Events By Participant Type 4) Reasons for Anti-Vaccine Sentiments 5) Word Cloud - Feedback From Sessions	
Trigger	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Community Counseling" tab.	

Pre-Condition	The client must be logged into the system.
Usage Flow	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Community Counseling" tab.
Post Condition	N/A
Business Rules	All the visualizations listed in the Description section can be filtered at the State, District, Vaccination Centre level. The visualizations can be filtered by Event Dates as well.



# 5. Health Worker Training

The Health Worker Training menu contains a set of modules and sub-modules that form an E-learning repository containing content and materials on skills and knowledge that each type of user, i.e. Vaccine Administrators, Community Advocates and Vaccine Site Managers, should have in order to effectively carry out their services and responsibilities.

The menu as well as all of the learning modules/sub-modules shall be visible to all types of users.

Learning Modules	Community Advocates	Vaccine Administrators	Vaccine Site Managers
Introduction to Vaccines	•	•	•
Storage Handling, Delivery and Waste Management  Standard Operating Procedures & Equipment Maintenance  Organizing & Storing Vaccines  Vaccine Inventory Management	•	•	•
Vaccine Confidence Counseling	•	•	•
Vaccine Myths & Facts	•	•	•
Vaccine Administration	•	•	•
Adverse Events Following Immunization	•	•	•

### Implementation LOE:

The following table contains the estimate of the level of effort required for implementation of the 'Health Worker Training' micro-application in a system and the factors influencing it:

LOE estimate for implementation	Low
2. Factors affecting LOE	<ul> <li>Customization of the educational content and quiz questions</li> </ul>

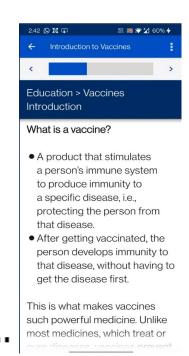
# **UC 5.1. Health Worker Training**

Use Case Name	Health Worker Training
System Modules	Health Worker Training
Location in the App	Health Worker Training

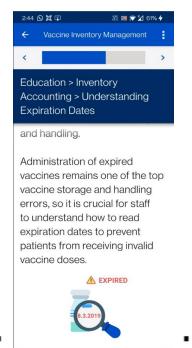
Component	Menu
Primary User(s)	Vaccine Administrators, Community Advocates and Vaccine Site Managers
Description	This menu allows the user to access educational, knowledge building contents aimed at assisting the workers in their service delivery and responsibilities.  It contains contents on various topics such as  1. Introduction to Vaccines  2. Storage Handling, Delivery and Waste Management  a. Standard Operating Procedures & Equipment Maintenance  b. Organizing & Storing Vaccines  c. Vaccine Inventory Management  3. Vaccine Confidence Counselling  4. Vaccine Myths & Facts  5. Vaccine Administration  6. Adverse Events Following Immunization  Each of these forms a module/sub-module for a particular topic.
Trigger	User clicks on the 'Health Worker Training' menu.
Pre-Condition	None
Usage Flow	Users click on the 'Health Worker Training' menu and select the module/sub-module based on the topics, each of the which contains  1. Greetings and objectives of the course module/sub-module  2. Educational content  3. Course quiz, if agreed, to gauge understanding of the topic  4. Self-assessment, if agreed, to assess the user's confidence to explain/deliver services based on the content in the form/module.
Post Condition	None
Business Rules	In instances where the user does not take at least one quiz (assessment, self-assessment), the system blocks users from submitting the form.

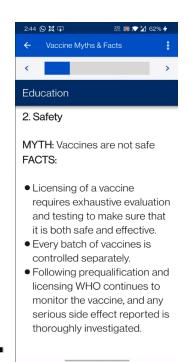












### **UC 5.2. Training via Chatbot**

Use Case Name	Training via Chatbot
System Modules	Health Worker Training

Location in the App	NA (Configured on Turn.io)	
Component	Chatbot	
Primary User(s)	Vaccine Administrators, Community Advocates ,Vaccine Site Managers and Clients	
Description	The chatbot allows the user to access educational, knowledge building contents aimed at assisting the workers in their service delivery and responsibilities.  It contains contents on various topics such as  1. Introduction to Vaccines  2. Storage Handling, Delivery and Waste Management  a. Standard Operating Procedures & Equipment Maintenance  b. Organizing & Storing Vaccines  c. Vaccine Inventory Management  3. Vaccine Confidence Counselling  4. Vaccine Myths & Facts  5. Vaccine Administration  6. Adverse Events Following Immunization	
Trigger	User types 'TRAINING' keyword on the chatbot	
Pre-Condition	None	
Usage Flow	Users interacts with the WA chatbot by sending 'TRAINING' keyword on the WA line and then select the sub-section based on the topics, each of the which contains a separate keyword (List of topics and keywords <a href="https://example.com/here">here</a> )	
Post Condition	None	
Business Rules	None	



# 6. Facility & Stock Management

The 'Facility & Stock Management' micro application contains workflows that allow users to register and manage healthcare facilities. Users can register a facility by capturing it's basic demographic information. Once a facility is registered in the system, users can update the existing facility details, conduct facility readiness assessments and capture stock management details of vaccines that are available to the users in their facility.

### **Implementation LOE:**

The following table contains the estimate of the level of effort required for implementation of the 'Facility & Stock Management' micro-application in a system and the factors influencing it:

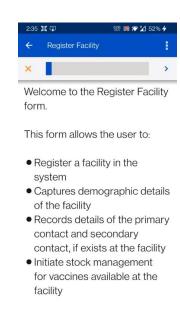
LOE estimate for implementation	Medium
2. Factors affecting LOE	<ul> <li>Customization of existing stock management workflow</li> <li>Customization/Enhancement of Dashboard indicators</li> </ul>

### **UC 6.1. Register Facility**

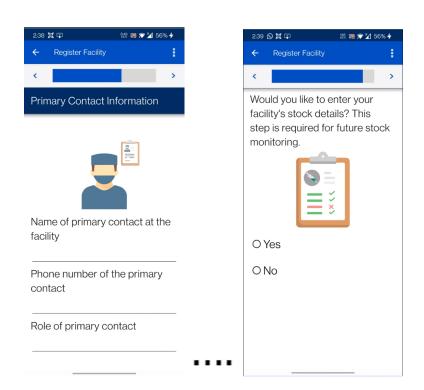
Use Case Name	Pogistor Facility
Use Case Name	Register Facility
System Modules	Facility & Stock Management
Location in the App	Register Facility → Register Facility
Component	Form
Primary User(s)	Vaccine Site Manager
Description	This form allows the user to register a new healthcare facility in the system.
	It provides data fields to capture demographic details of the facility, primary contact and secondary contact, if available, at the facility. Additionally, users can also initiate stock management for the vaccines available at the facility.
Trigger	User clicks on the 'Register Facility' form in 'Register Facility' menu
Pre-Condition	None
Usage Flow	Users click on the 'Register Facility' form in the 'Register

	<ol> <li>Facility' menu to record</li> <li>Demographic details of the facility such as its name, address, pincode, GPS location, staff size, etc.</li> <li>Basic information, such as name, role, phone number of the primary and secondary contact, if available, at the facility</li> <li>Initial stock management for the vaccines available at the facility</li> </ol>
Post Condition	Once the user enters the details of the facility and submits the form, the facility gets successfully registered in the system.  Users can edit the details added at the time of registration using the 'Edit Facility Details/Information' form.
Business Rules	Once a vaccine site manager registers the facility in the system, the 'Register Facility' menu disappears for that user, i.e, the system does not allow re-registration of an already registered facility.





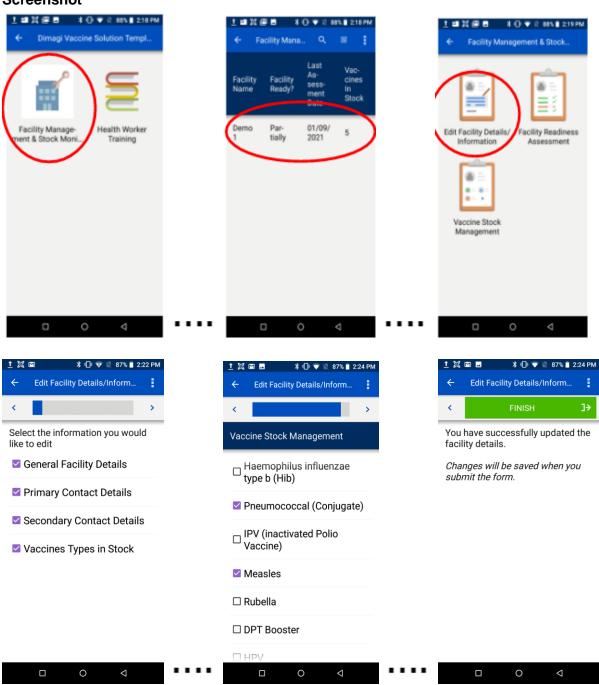




# UC 6.2. Edit Facility Details/Information

Use Case Name	Edit Facility Details/Information	
System Modules	Facility & Stock Management	
Location in the App	Facility & Stock Management → Edit Facility  Details/Information	
Component	Form	
Primary User(s)	Vaccine Site Manager	
Description	This form allows the user to edit details or information of the facility registered in the system.  It provides data fields to edit demographic details of the facility, primary contact and secondary contact, if available and added during registration, at the facility; update vaccines for which stock monitoring was not initiated during registration and discontinue stock monitoring for a vaccine.	
Trigger	User clicks on the 'Edit Facility Details/Information' form in 'Facility & Stock Management' menu	

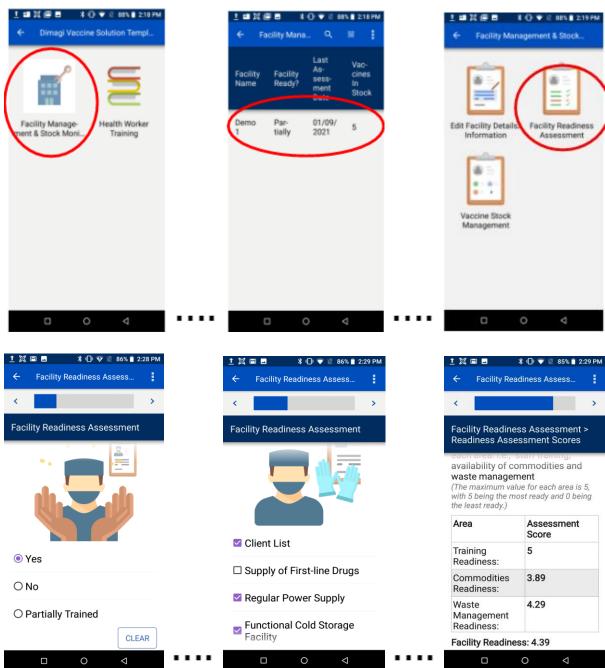
Pre-Condition	The facility is registered in the system.
Usage Flow	The user clicks on the 'Facility & Stock Management' menu > selects the registered facility from the list and clicks on the 'Edit Facility Details/Information' form.  Users select, from the choices, the information they would like to edit in the form, i.e., general facility details, primary contact details, secondary contact details or vaccine types in stock. Based on the selected choices, users can edit  1. Demographic details of the facility such as its name, address, pincode, GPS location, state, etc added during registration, staff size, etc.  2. Basic information, such as name, role, phone number of the primary and/or secondary contact, if available, at the facility that were added during registration  3. Initial stock management of vaccines, for which it wasn't initiated during the registration.  4. Discontinue stock monitoring for vaccines already being tracked at the facility.
Post Condition	<ol> <li>The edited information is updated in the system</li> <li>Vaccines for which stock monitoring is initiated via the 'Edit Facility Details/Information' form start appearing in the 'Vaccine Stock Management' menu list.</li> <li>Vaccines for which stock monitoring is discontinued via the form stops appearing in the menu list.</li> </ol>
Business Rules	None



### **UC 6.3. Facility Readiness Assessment**

Use Case Name	Facility Readiness Assessment
System Modules	Facility & Stock Management

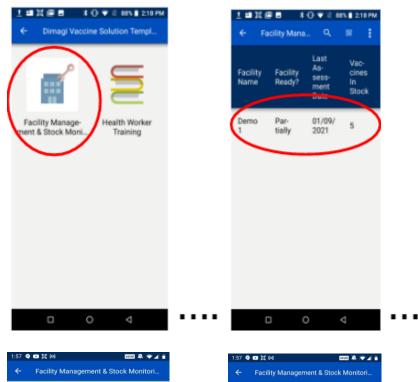
Location in the App	Facility & Stock Management → Facility Readiness
	Assessment
Component	Form
	-
Primary User(s)	Vaccine Site Manager
Description	This form allows the user to assess the facility's readiness to receive and give vaccinations to beneficiaries.
	It provides data fields to capture information of staff training (Yes/No), commodities and waste management tools/system available at the facility and calculates the facility's readiness in each of the areas.
Trigger	User clicks on the 'Facility Readiness Assessment' form in 'Facility & Stock Management' menu
Pre-Condition	The facility is registered in the system.
Usage Flow	The user clicks on the 'Facility & Stock Management' menu > selects the registered facility from the list and clicks on the 'Facility Readiness Assessment' form.  Users add details on the  1. Staff training status, i.e., trained to handle potential side effects from vaccination (yes/no)  2. Commodities available at the facility, such as regular power supply, syringes, vaccine vials, etc.  3. Waste management system available at the facility, such as syringe/needle destroyer, etc.  Based on the data added, the system  a. Calculates and displays readiness score, out of 5, for each of the areas, i.e., training, commodities and waste management; and an overall facility readiness score, also out of 5.  b. Displays a message conveying that the facility is ready/ partially ready/ not ready to receive and distribute vaccine services along with displaying the improvement areas if the facility is either partially ready or not ready.
Post Condition	Facility readiness score is updated in the system and is displayed in the 'Facility & Stock Management' menu list.
Business Rules	None



### **UC 6.4. View Facility Details**

Use Case Name	View Facility Details
System Modules	Facility & Stock Management

Location in the App	Main screen after the user press start
Component	Menu
Primary User(s)	Vaccine Site Administrator
Description	The 'View Facility Details' menu allows the user to view the registered facility.  Additionally the menu also displays the  1. Facility readiness status,i.e., Yes, No, Partially or Not Assessed  2. Facility Assessment Date  3. Count of Vaccines in Stock
Trigger	User press start and select the 'Facility & Stock Management' menu
Pre-Condition	Facility must be registered in the system
Usage Flow	User clicks on the 'Facility & Stock Management' menu and selects the registered facility. The menu consists of the following forms/sub-menus  1. Edit Facility Details/ Information - to edit details or information of the facility registered in the system.  2. Facility Readiness Assessment - to assess the facility's readiness to receive and provide vaccination services.  3. Vaccine Stock Management (Menu) - to view the list of vaccines for which stock monitoring has been initiated and record stock management details of the vaccines.
Post Condition	None
Business Rules	None







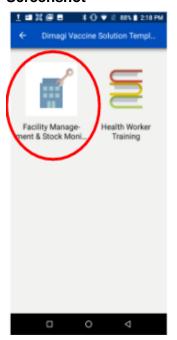


# **UC 6.5. Vaccine Stock Management**

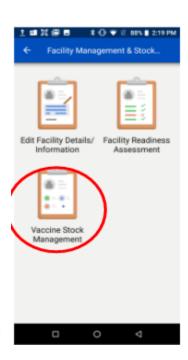
Use Case Name	Vaccine Stock Management
System Modules	Facility & Stock Management

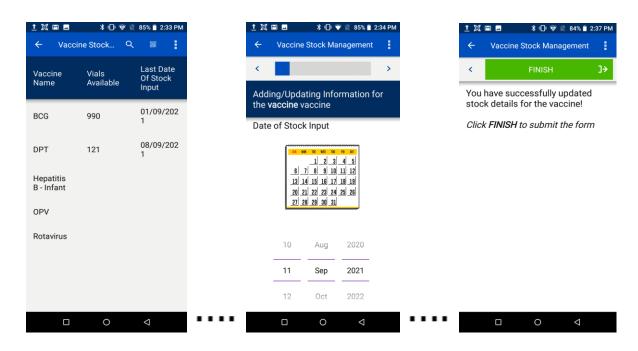
Location in the App	Facility & Stock Management → Vaccine Stock  Management → Vaccine Stock Management
Component	Form
Primary User(s)	Vaccine Site Manager
Description	This form allows the user to record stock management details of vaccines, for which stock monitoring was initiated at the time of registration or updated via the 'Edit Facility Details/Information' form.  It provides data fields to capture details of the vaccines stock such as the opening and closing numbers of the vaccine vials, report potential stock outs or oversupply, wastage of vials at the facility
Trigger	User clicks on the 'Vaccine Stock Management' form in 'Facility & Stock Management' menu
Pre-Condition	<ol> <li>The facility is registered in the system.</li> <li>Stock monitoring is initiated for the vaccine.</li> </ol>
Usage Flow	The user clicks on the 'Facility & Stock Management' menu > selects the registered facility from the list > clicks on the 'Vaccine Stock Management' menu > selects the vaccine for which stock management is to be updated > click on the 'Vaccine Stock Management' form.  The form functions differently when opened for the first and when opened from second time onwards:  1. First time - Users can record details, such as minimum/maximum days for which the stocks should be available at the facility, number of opened and closed vials of the selected vaccine, at the beginning and the end of the day; and report wastage.  2. Second time onwards- Users can update the last added minimum/maximum days for which the stocks should be available at the facility, record information of the vials, i.e., number of opened and closed vials of the selected vaccine, at the beginning and the end of the day, add about the new vials received since last update, report potential stock outs or oversupply of the vaccine vials, which is predicted by the system based on the historical data and average consumption rate

	; and report wastage, can provide number of vials wasted due to various reasons.
Post Condition	The added details are updated in the system and the total number of vaccine vials available at the facility is displayed in the 'Facility & Stock Management' menu list.
Business Rules	If the form is filled and submitted for more than once a day, the system captures the total number of vaccine vials that were consumed on the date which then forms the average consumption rate of that date.





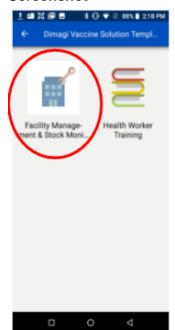




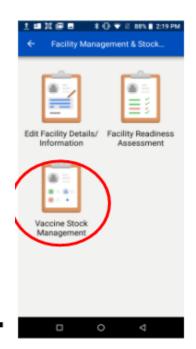
### **UC 6.6. View Vaccine Stock Management Details**

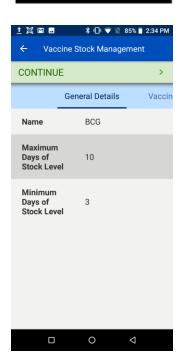
Use Case Name	View Vaccine Stock Management Details
System Modules	Facility & Stock Management
Location in the App	Facility & Stock Management → Vaccine Stock Management
Component	Menu
Primary User(s)	Vaccine Site Administrator
Description	The 'Vaccine Stock Management' menu allows the user to view the list of vaccines for which stock monitoring has been initiated.  Additionally the menu also displays the  1. Vials Available - number of vaccine vials available at the facility.  2. Last Date of Stock Input - date on which stock details were last updated for the vaccine.
Trigger	User press start and selects the 'Facility & Stock Management' menu > Selects the facility > clicks on the 'Vaccine Stock Management' menu
Pre-Condition	Stock monitoring for the vaccine is initiated.

Usage Flow	User clicks on the 'Facility & Stock Management' menu, selects the registered facility and clicks on the 'Vaccine Stock Management' menu . The menu consists of the following forms/sub-menus  1. Vaccine Stock Management - record stock management details of vaccines
Post Condition	None
Business Rules	Vaccines for which the user has discontinued stock monitoring won't appear in the list of the 'Vaccine Stock Management' menu.





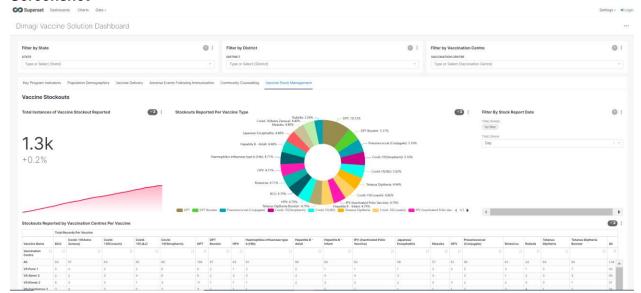




### **UC 6.7. Vaccine Stock Management Dashboard and Analytics**

Use Case Name	Vaccine Stock Management Dashboard and Analytics
System Modules	Facility and Stock Management

Location	Dimagi Vaccine Solution Dashboard ->Vaccine Stock Management Tab
Component	Dashboard
Primary User(s)	Country/State/District Level Administrator
Description	By accessing the "Vaccine Stock Management" tab on the Dashboard, program administrators can access visualizations and analytics related to "Facility and Stock Management" micro-application. Following is the list of visualizations available as part of the template solution:  1) Total Instances of Vaccine Stockout Reported 2) Stockouts Reported Per Vaccine Type 3) Stockouts Reported by Vaccination Centres Per Vaccine 4) Total Instances of Vaccine Stock Oversupply Reported 5) Stock Oversupply Reported Per Vaccine Type 6) Stock Oversupply Reported by Vaccination Centres Per Vaccine
Trigger	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Vaccine Stock Management" tab.
Pre-Condition	The client must be logged into the system.
Usage Flow	Users login into the Superset portal -> Access Dimagi Vaccine Solution Dashboard and select "Vaccine Stock Management" tab.
Post Condition	N/A
Business Rules	All the visualizations listed in the Description section can be filtered at the State, District, Vaccination Centre level. The visualizations can be filtered by Stock Reported Dates as well.



# **Relevant Resources**

**Product Configuration Guide**