

Technical Design Document

Dimagi Vaccine Solution

dimagi

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Version 1.0

Purpose of the Document

This document outlines the technical design 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.

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DESIGN APPROACH

1. Set of micro-applications


Dimagi Vaccine Solution has been designed as a digital toolbox consisting of 6 micro-applications:

- Client Registry
- Vaccine Delivery
- Adverse Events Tracking
- Community Mobilization and Counselling
- Facility Management and Stock Monitoring
- Health worker Training

Each of these micro-applications consist of a defined set of application workflows (menus and forms), D2C workflows and dashboard visualizations.

Partners will have the ability to choose one or multiple micro-applications and deploy them either independently, in integration with an external system or an existing CommCare deployment.



Below is a matrix of recommended constituents of each of the micro-application. As of now, there is **NO** logic in the application which separates out these offerings across micro-applications. However, the template application is built in such a way that it is easy for delivery teams to separate out the entire solution into micro-apps at the menu or form level (for example, by using display conditions on the application).



Micro-applications	Constituents
 <p style="text-align: right;">Client Registration</p>	<ul style="list-style-type: none"> ● CommCare Application(Menus) <ul style="list-style-type: none"> ○ Register and View Households ○ All Registered Members ○ Register and View Clients ● CommCare Application(Forms) <ul style="list-style-type: none"> ○ Register Household ○ Edit/Remove Household ○ Register Client ○ Edit/Remove Client ○ Record Immunization History ● D2C Chatbot <ul style="list-style-type: none"> ○ Self-Registration using Chatbot ● Dashboard <ul style="list-style-type: none"> ○ Population Demographics Tab <ul style="list-style-type: none"> ■ Total Households Registered ■ Distribution of Households by Area(Urban/Rural) ■ Total Clients Registered ■ Distribution of Clients by Age Group ■ Distribution of Clients by Occupation



Vaccine Delivery

- **CommCare Application(Menus)**
 - Clients Due for Follow-up Visit
 - Clients Missed Follow-up Visit
 - Follow-up Doses(Sub-menu)
- **CommCare Application(Forms)**
 - Record Immunization History
 - Administer Vaccine Doses
- **D2C Chatbot**
 - View Immunization Data via Chatbot
- **Dashboard**
 - **Key Program Indicators, Vaccine Delivery Tabs**
 - Total Doses Administered
 - Percentage of population fully vaccinated with COVID-19
 - Percentage of children, pregnant women fully vaccinated
 - Total Clients Received First Dose and Final Dose
 - Population fully vaccinated as a percent of population eligible
 - Total number of clients eligible for each vaccine
 - Vaccine drop-off rates (total clients who didn't turn up for a vaccine appointment / total clients who took the first dose for each vaccine)
- **This micro-application is dependent on Client Registration. Possible**
 - Combine Vaccine Delivery with Client Registration micro-app(regi)
 - Integrate Vaccine Delivery with Client Registration workflow on a platform where the minimum case properties are created by Client Registration workflow
 - Integrate Vaccine Delivery with an external registration system at

 <p style="text-align: center;">Adverse Event Tracking</p>	<ul style="list-style-type: none"> ● CommCare Application(Menus) <ul style="list-style-type: none"> ○ Adverse Events Reported Via Message ● CommCare Application(Forms) <ul style="list-style-type: none"> ○ Report Adverse Events Following Immunization ● D2C Chatbot <ul style="list-style-type: none"> ○ Report Adverse Events Following Immunization via Chatbot ● Dashboard <ul style="list-style-type: none"> ○ Adverse Events Following Immunization Tab <ul style="list-style-type: none"> ■ Total Adverse Events reported ■ Total Adverse events reported by age group ■ Total Adverse events reported by vaccine type ■ Total number of occurrences of each of the side-effects ● This micro-application is dependent on Client Registration and V options: <ul style="list-style-type: none"> ○ Combine Adverse Events Tracking with Client Registration mic household) and Vaccine Delivery. ○ Integrate Adverse Events Tracking with Client Registration an CommCare application view ensuring the minimum case properties Delivery workflow (Minimum CP list) ○ Integrate Adverse Events Tracking with an external registration (Minimum CP list)
<p>Community Mobilization & Counselling</p> 	<ul style="list-style-type: none"> ● CommCare Application(Menus) <ul style="list-style-type: none"> ○ Pregnant Women ○ Children and Adolescents ○ Clients Due for Follow-up Visit ○ Clients Missed Follow-up Visit ● CommCare Application(Forms) <ul style="list-style-type: none"> ○ Record Details on Missed Visit ○ Community Counselling ● D2C Chatbot <ul style="list-style-type: none"> ○ N/A ● Dashboard <ul style="list-style-type: none"> ○ Community Counselling Tab <ul style="list-style-type: none"> ■ Total Community Events Organized ■ Frequency of each Topic ■ Frequency of anti-vaccine sentiments ■ Feedback on sessions - Word Cloud

 <p>Health Worker Training</p>	<ul style="list-style-type: none"> ● CommCare Application(Menus) <ul style="list-style-type: none"> ○ Health worker Training ● CommCare Application(Forms) <ul style="list-style-type: none"> ○ All forms within Health worker Training menu ● D2C Chatbot <ul style="list-style-type: none"> ○ Training via Chatbot
<p>Facility & Stock Management</p> 	<ul style="list-style-type: none"> ● CommCare Application(Menus) <ul style="list-style-type: none"> ○ Facility Management and Stock Monitoring ○ Vaccine Stock Management(submenu) ● CommCare Application(Forms) <ul style="list-style-type: none"> ○ Register Facility ○ Edit Facility Details/Information ○ Facility Readiness Assessment ○ Vaccine Stock Management ● D2C Chatbot <ul style="list-style-type: none"> ○ N/A ● Dashboard <ul style="list-style-type: none"> ○ Vaccine Stock Management Tab <ul style="list-style-type: none"> ■ Total Instances of Stockout reported ■ Total instances of Stock oversupply reported ■ Distribution of stockouts by state ■ Distribution of stock oversupply by state ■ Distribution of stockouts by vaccine type ■ Distribution of stock oversupply by vaccine type

2. Configurable Application Design

- a. The application is designed in a way such that it can be readily adapted as per partner's needs. Few examples are:
 - i. **Configurable Vaccine schedule:** The vaccination schedule and mapping of eligibility criteria of population to vaccines is available in the form of lookup tables. This approach makes the application flexible to adapt to a country's vaccination schedule and also requires minimal changes on the application to configure new vaccines/population eligible to receive a particular vaccine.
 - ii. **Separate case for each vaccine stock to monitor:** Vaccine stock management module creates a new case for each vaccine stock. This makes reporting configurable and also reduces the LOE to implement new stocks to monitor considerably.

3. Interoperable with COVID-19 Vaccine Delivery Apps

One of the objectives of the Routine Immunization template application is to be interoperable with Vaccine Delivery apps. DVS application follows a similar case structure to COVID-19 Vaccine Delivery application (person and vaccine_doses case types), and uses similar case property names. Thus, cases created as part of COVID-19 Vaccine Delivery application can be operated via DVS application as well. To test the interoperability, the project team established some use cases and tested interoperability in practice. More details about this activity can be found [here](#).

APPLICATION STRUCTURE

1. Organizational Hierarchy

Organizational Level	Owns Cases	User Types	Case Sharing	Additional Comments
Country	No	-	-	
State	No	-	-	
District	No	-	-	
Vaccine Site	Yes	<ul style="list-style-type: none"> vaccine_administrator community_advocate vaccine_site_manager 	Yes	<ul style="list-style-type: none"> Closed cases vaccine site owns all person and household cases when removed from the application. Chatbot cases vaccine site owns all person cases registered using SMS/Chatbot until they are not claimed by a vaccine site.

2. Case Structure

Case Type	Definition	Relationships	Create	Close	Owned By Location
household	Each case stores details for each household registered on	a) Parent - person.	Created during household registration.	Case is never marked as closed. Rather, moved to a	<ul style="list-style-type: none"> Vaccine Site

	the system.			common location called Closed cases through removal workflow.	
person	Each case stores details for each client registered on the system.	a) Parent - vaccine_doses. b)Child - household.	Created during client registration through the app or self-registration using sms/chatbot.	Case is never marked as closed. Rather, moved to a common location called Closed cases through removal workflow.	<ul style="list-style-type: none"> ● Vaccine Site
vaccine_doses	Each case stores details for each vaccine dose that is administered to the client. Created during vaccine administration.	a)Extension - person.	First dose of any vaccine created at the point of administration. Followup dose of any vaccine created at the point of administration of predecessor dose.	Closed at the point of administration. Moved to a common location called Closed cases if the parent person case is removed using removal workflow.	<ul style="list-style-type: none"> ● Vaccine Site
facility	Each case stores details for each vaccine administration facility registered on the system.	a)Host - vaccine_stock	Created during facility registration.	No closure/removal from phone workflow configured.	<ul style="list-style-type: none"> ● Vaccine Site

vaccine_stock	Each case stores stock-related details for each type of vaccine available at the facility.	a)Extension - facility.	Created during facility registration or facility information update.	Can be closed through a workflow in Edit Facility Information form.	<ul style="list-style-type: none"> ● Vaccine Site
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3. User Types

User Type	Description
vaccine_administrator	<p>a) Uses the application to</p> <ul style="list-style-type: none"> ● Access health worker training content ● Register individual clients for vaccination ● Administer vaccines ● Record side effects reported by clients post vaccination. ● Investigate adverse events reported by clients via SMS/Chatbot functionality <p>b) Can also use the chatbot to access health worker training content</p> <p>c) Is located at a vaccination site</p>
community_advocate	<p>a) Uses the application to</p> <ul style="list-style-type: none"> ● Access health worker training content ● Register households and individual clients within households for vaccination ● administer vaccines ● Record side effects reported by clients post vaccination. ● Investigate adverse events reported by clients via SMS/Chatbot functionality ● Followup with clients who missed a vaccination visit ● Conduct mass community based events to educate community on importance of vaccination and address vaccine hesitancy prevalent in the community <p>b) Can also use the chatbot to access health worker training content</p> <p>c) Goes into the community to perform the aforementioned functions</p>

vaccine_site_manager	<p>a) Uses the application to</p> <ul style="list-style-type: none"> Record demographic and personnel details about the vaccination site Conduct readiness assessment of the vaccine site to gauge if the vaccine site is ready to administer vaccines Manage stock of vaccines available at the vaccination site. <p>b) Can also use the chatbot to access health worker training content</p> <p>c) Is located at a vaccination site</p>
client/vaccine recipient	<p>a) Enrolls into the vaccination program and visits nearest vaccination sites to receive vaccine doses.</p> <p>b) Uses chatbot/SMS to</p> <ul style="list-style-type: none"> Register for the vaccination program View vaccination history, next doses due and upcoming date of visit to vaccine site to receive the next set of doses Receive confirmation upon dose administration and reminders for next visit to vaccination site Report adverse events faced post immunization

4. Lookup Table Configuration

The template application consists of [3 configurable lookup tables](#):

- a) **vaccine_schedule** - This lookup table defines the schedule of vaccine doses a client should receive. Each row in this lookup table corresponds to a vaccine dose.

Field	Description
dose_unique_id	A user-defined ID that uniquely identifies each dose in this lookup table. The delivery team must ensure that values in this column are unique for each new dose added to the system.
vaccine_dose_name	Name of the dose.
dose_number	Number of dose in the vaccine series.
vaccine_id	A user-defined ID that uniquely identifies each vaccine being given as part of the vaccination program. The delivery team must ensure that they maintain one unique ID for each vaccine being rolled out as part of the program.

vaccine_name	Name of the vaccine.
type	<p>Used to determine if a client is eligible to receive a particular dose. Template application provides 2 values:</p> <ul style="list-style-type: none"> a) Routine - means that the dose can be administered to the entire population. b) Conditional - means that the vaccine can only be administered to a selective population. If a dose is conditional, the application looks at additional criteria (explained further in definition for vaccine_elig_criteria and eligible_populations lookup table) before incorporating the dose in the client's vaccination schedule. <p>It is recommended that this field is configured to a common value for all the doses belonging to a particular vaccine.</p>
pivot	<p>Specifies a date input like date of birth, last menstrual period etc. to calculate eligibility window for a dose. Once a person is deemed eligible to receive a dose through screening questions on the app, the application uses the date specified in the pivot column to calculate the date of eligibility and expiry of a dose.</p>
eligible_from_days	<p>The integer present in this field is added to the date specified in the 'pivot' field to calculate the date a client is eligible to receive a dose from.</p>
expires_on_days	<p>The integer present in this field is added to the date specified in the 'pivot' field to calculate the date a client stops being eligible to receive the dose.</p>
predecessor_dose_id	<p>If a dose is a follow-up dose and their eligibility date is dependent on the administration of a predecessor dose, specify the dose_unique_id of the predecessor dose here.</p> <p>The template application is tested to support a dose to be set as the predecessor for only one dose in the entire vaccine schedule. That means, this column must always hold unique dose_unique_id's. Furthermore, dose belonging to the same vaccine series can be set as a predecessor to a follow-up dose.</p>
days_after_predecessor	<p>Specifies the number of days post administration of the predecessor dose, the current dose can be administered.</p> <p>The app calculates the maximum of (pivot+eligible_from_days) and (date of administration of predecessor_dose_id+days_after_predecessor) to</p>

	determine the recommended eligibility date for a followup dose.
expires_days_after_predecessor	Specifies the number of days post administration of the predecessor dose, the current dose expires. The app calculates the maximum of (pivot+expires_on_days) and (date of administration of predecessor_dose_id+expires_days_after_predecessor) to determine the recommended eligibility date for a followup dose.

- b) **eligible_populations** - This lookup table has been developed to make the solution modular. During registration or screening of clients for vaccines, the application presents a series of questions to the client (for instance, their gender, whether they are pregnant etc.). Upon answering these questions, different population categories the client falls in is determined and stored on a case property called beneficiary_category on the app level. The app further uses this lookup table to determine conditional vaccines the client is eligible for, based on the population types they fall in.

Field	Description
beneficiary_category	Specifies configurable categories clients need to fall in to receive any conditional vaccine. (Eg. client must be a healthcare_worker to receive COVID-19 vaccine)
eligibility_indicator	Used to build a case property called unique_eligibility_indicator on the application based on the population categories the client is part of.

This lookup table is designed to support many-to-many relationships between different population categories and eligibility indicators.

- c) **vaccine_elig_criteria** - This lookup table is used to populate a case property called conditional_vaccines which specifies the conditional vaccines client is eligible to receive. All conditional vaccines which are part of the vaccine schedule must be defined in this lookup table. No two rows in this lookup table can have the same vaccine_id.

Field	Description
vaccine_id	User-defined ID of the vaccine. This should be the same as the ID defined in vaccine_schedule lookup table. Every row in this lookup table must have a unique vaccine_id.
eligibility_indicator	Reference to map eligible_populations table with conditional vaccines the client should receive. This

	should be the same as the value used in the eligibility_indicator field of eligible_populations lookup table.
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5. Auto Case Update Rules

1) Auto-close case claim extension cases 1 day after opening

Rule Criteria

Case Type*

✘ AND Case not modified in days

Add Filter

Actions

✘ Close the case ⓘ All cases matching the above criteria will be closed

2) Move person cases to Closed Cases location if household case is moved

Rule Criteria

Case Type*

✘ AND Case property has a value

✘ AND Case property equals

Add Filter

Actions

✘ Set case property to the exact value

3) Move vaccine_doses cases to Closed Cases location if person case is moved

Rule Criteria

Case Type*

vaccine_doses



AND

Case property

parent/owner_id

equals

d45c66bd17874e83982d2b



AND

Case property

parent/beneficiary_removal_r

has a value

Add Filter

+ Select a filter

Actions



Set case property

owner_id

to the exact value

d45c66bd17874e83982d2b4

6. Feature Flags

[List](#) of Feature flags utilized by the template application.

APPLICATION WORKFLOWS

1. Menu - Register and View Households

This menu allows the user to manage households registered with the vaccine site. Inside this menu, the user can access workflows to register new households, edit an existing household's demographic details, or remove 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.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	household
Forms/Sub-Menus	<ul style="list-style-type: none">• Forms<ul style="list-style-type: none">○ Register Household (via different case list)○ Edit/Remove Household• Sub-menus<ul style="list-style-type: none">○ All Registered Members
Fields	<ul style="list-style-type: none">• Household name• Household UID• Date household registered
Filtering	No filters added
Sorting	Sorted in the increasing order of date registered

1.1. Form - Register Household

This form allows the user to register a new household in the system. It provides data fields to capture demographic details of the household like state, district, address, phone number etc.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

SAVED CASE PROPERTIES**CASE MANAGEMENT:**

Case Type	Load	Create	Update	Close
household	•	•	•	•

TECHNICAL NOTES:

- Case_name is set as concat('household_', 'household_uid')
- Register household form is visible and can be accessed from the household case list.
- While filling this form, the user is prompted with a question - "is the household already registered?". If the user answers "No" to this question, they are not allowed to proceed further in the form.
- The template app supports a workflow where if a household is already registered with another vaccine site, the user could pull that household to the current location using Case Claim feature. This workflow is not yet implemented in the Template application and Delivery teams could enable this workflow as per project requirements.

1.2. Form - Edit/Remove Household

This form allows the user to edit or remove an existing household in the system. It provides data fields pre filled with information captured during registration which can be edited and updated by the user. The form also allows the user to remove an existing household from the system after recording an appropriate reason for removal.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
household	•	•	•	•

TECHNICAL NOTES:

- 1) When a user selects to remove a household, the case's owner_id is updated to a dummy location called "**Closed Cases**". The case is NOT closed.
- 2) The "child" cases of a household case (called person case) are moved to "**Closed Cases**" location via auto-update case rules if a household is removed from the device.

1.3. Submenu - All Registered Members

This menu allows the user to view and manage clients present within a household. Once the user selects a household from the parent menu, they can see all clients belonging to the household through this menu. Within this menu, user can access workflows to add a new client to the household, edit/remove details of existing clients and administer doses to the clients.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	person
Forms/Sub-Menus	<ul style="list-style-type: none">• Forms<ul style="list-style-type: none">○ Register Client (via different case list)○ Edit/Remove Client○ Record First Dose○ Record Follow-up Dose
Fields	<ul style="list-style-type: none">• Client ID (Search Only)• Beneficiary Full Name• Gender• Age(Years and Months)

Filtering	No filters added
Sorting	Sorted in the decreasing order of date registered

1.3.1. Form - Register Client

This form allows the user to register a client in the system. It captures demographic details of the client like address, date of birth, occupation and also collects information necessary to determine which vaccines the client is eligible to receive (for example, fields like DOB, is client pregnant, did they receive Hepatitis-B vaccines during childhood etc.). By utilizing this information, the form notifies the client which vaccines they are supposed to receive. The form further calculates eligibility and expiry dates for the next set of vaccine doses the client is supposed to receive and prompts the client to choose a date for their next vaccination appointment.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person		•	•	•
household	•	•	•	•

TECHNICAL NOTES:

1. There exists a **parent-child** relationship between household and person cases. However, it is not necessary that all person cases would have a parent household case. (Refer to pt. 3 below)
2. This form is implemented in another menu on the application called “**Register Client within Household**” and is available on the “All Registered Members” case list via “**Registration Form accessible via another case list**” feature.
3. The template application allows registration of both clients linked to households and individual clients. Due to various CommCare’s limitations, the application consists of two forms that are used for registration of person cases. The other form that allows registration of person cases has the same name and can be found under “**Register Client**” menu.

4. While filling this form, the user is prompted with a question - “is the client already registered?”. If the user answers “No” to this question, they are not allowed to proceed further in the form.
5. The template app supports a workflow where if a client is already registered with another vaccine site, the user could pull that client to the current location using Case Claim feature. This workflow is not yet implemented in the Template application and Delivery teams could enable this workflow as per project requirements.
6. **Significant case properties:**
 - a. **all_conditional_vaccines** - saved on the person case. This CP is a space-separated string of all conditional vaccines client is eligible for (Eg. covid_19, td vaccines)
 - b. **next_followup_date** - date when client is supposed to visit a vaccination site for their next set of doses.
 - c. **next_doses_due** - newline separated list of multiple **dose_name** (property in vaccine_schedule lookup table) the client is supposed to take on the next_followup_date

CONDITIONAL FEATURE FLAGS:

1. This form uses the “**Save to Case**” feature flag. Save-to-case FF is used to setup a parent-child relationship between household and person case.

1.3.2. Form - Edit/Remove Client

This form allows the user to edit details of a client or remove the client from a device who is present within a household. Upon updating details, the form re-calculates the next set of doses due, and eligibility and expiry dates for these doses.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

[SAVED CASE PROPERTIES](#)

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•	•	•	•
vaccine_doses	•	•	•	•

TECHNICAL NOTES:

1. As part of the template application, the user **CANNOT** edit Date of Birth and Pregnancy details like LMP, EDD and Pregnancy status via this form. These fields are non-editable once captured via the “Register Client” form.
2. This form provided an ability to capture “Actual date of Delivery” for pregnant clients and mark them as no longer pregnant.
3. When a user selects to remove a client, the case’s owner_id is updated to a dummy location called “**Closed Cases**”. The case is NOT closed.
4. The “extension” cases of a person case (called vaccine_doses) are moved to “**Closed Cases**” location via auto-update case rules if a person is removed from the device.
5. This form allows edit/removal of a client who is present within a household. There is a form with the exact same name present within the application (within menu “**Register and View Clients**”), that can be used to edit/remove both clients within a household/clients not present within a household.
6. **Significant case properties:**
 - a. **all_conditional_vaccines** - saved on the person case. This CP is a space-separated string of all conditional vaccines client is eligible for (Eg. covid_19, td vaccines)
 - b. **next_followup_date** - date when client is supposed to visit a vaccination site for their next set of doses.
 - c. **next_doses_due** - newline separated list of multiple **dose_name** (property in vaccine_schedule lookup table) the client is supposed to take on the next_followup_date

1.3.3. Form - Record Immunization History

This form allows the user to capture the immunization history of the client. This form displays all vaccine doses that, as per the vaccine schedule, could have been administered to the client in the past and can be administered now. Technically, this form displays all vaccine doses that are either expired or the client is eligible to receive right now. It won’t display doses that the client is not eligible to receive on the current date.

It further asks the date of administration and batch number for each of the doses selected and recommends the next date the client should visit a vaccination site to take their next set of doses due.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•	•	•	•
vaccine_doses	•	•	•	•

TECHNICAL NOTES:

1. This form, at first, shows the vaccination history of the client and the doses due on the next_followup_date.
2. It then displays the list of vaccine doses that the client is eligible to receive right now or was eligible for in the past from which the user can select the doses that have been administered to the client.
3. Next up, a repeat group runs that asks for the date of administration, batch number for each of the doses selected.
4. Furthermore, if the dose selected is a first dose, vaccine_dose case is created, updated with relevant information and then closed. (Eg. dose_given = yes)
5. If the current dose is a predecessor dose, i.e. there is a follow-up dose to this dose, the case for follow-up dose is created and updated with relevant information (eg. dose_given = no).
6. If the dose being administered is a follow-up dose, vaccine_doses case is not created, rather is loaded from the casedb. It is updated with relevant information and then closed. If there is a follow-up dose to it, that case is created.
7. This form allows recording vaccination history of a client who is present within a household. There is a form with the exact same name present within the application (within menu “**Register and View Clients**”), that can be used to record vaccination history for both clients within a household/clients not present within a household.
8. Significant case properties(**person case**):
 - a. **min_followup_date** and **min_expiry_date**: Upon administration of doses, next set of doses that are due are calculated. The system calculates the next period between which the client should visit a vaccination site.
 - b. **next_doses_due**: The doses due between this period are shown to the client. On this case property, the doses are separated via two new lines.
 - c. **next_followup_date**: The client is asked to select a date when they would like to visit the vaccination site next.
 - d. **last_dose_received_date**: Holds the date of most recent vaccination visit.

- e. **last_dose_received**: Hold the doses received by the client on the most recent *last_dose_received_date*. On this case property, the doses are separated via two new lines.
 - f. **dose_administration_history**: Holds the entire vaccination history of the client in the format - date: names of doses received.
 - g. **vaccines_completed**: If the last dose of a vaccine series is administered, this case property is updated with the date and vaccine name.
 - h. **all_doses_administered**: Space-separated list of all dose_id administered to the client till date.
9. Significant case properties (**vaccine_doses**):
- a. **dose_id**: Holds the dose_unique_id for the dose as defined in the vaccine_scheule lookup table.
 - b. **last_dose**: Saved as yes if it is the last dose in the series, else no.
 - c. **dose_given**: Saved as yes if dose is administered to the client, else no.
 - d. **vaccination_centre_id**: location ID of the vaccine site where dose was administered.

CONDITIONAL FEATURE FLAGS:

1. **Save-to-case**. Used to update vaccine_doses case (extension case to person case)
2. **Sync Extension Cases**. This form is dependent on this FF since the relationship between person and vaccine_doses cases is parent-extension.

1.3.4. Form - Administer Vaccine Doses

This form allows the user to record vaccines being given to the client during a vaccination session. This form displays all vaccine doses that, as per the vaccine schedule, client is eligible to receive on the current date. Technically, this form displays all vaccine doses if today's date falls within the range defined by **dose_followup_date**(Date dose is eligible from) and **dose_expiry_date**(Date dose expires). It won't display doses that are either expired or the client is eligible to receive them in the future.

It further asks the batch number for each of the doses selected and recommends the next date the client should visit a vaccination site to take their next set of doses due.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•	•	•	•
vaccine_doses	•	•	•	•

TECHNICAL NOTES:

1. This form, at first, shows the vaccination history of the client and the doses due on the `next_followup_date`.
2. It then displays the list of vaccine doses that the client is eligible to receive on the current date. Would not display doses that are expired or client is eligible to receive them on a future date.
3. Next up, a repeat group runs that asks for the date of administration, batch number for each of the doses selected.
4. Furthermore, if the dose selected is a first dose, `vaccine_dose` case is created, updated with relevant information and then closed. (Eg. `dose_given = yes`)
5. If the current dose is a predecessor dose, i.e. there is a follow-up dose to this dose, the case for follow-up dose is created and updated with relevant information (eg. `dose_given = no`).
6. If the dose being administered is a follow-up dose, `vaccine_doses` case is not created, rather is loaded from the `casedb`. It is updated with relevant information and then closed. If there is a follow-up dose to it, that case is created.
7. This form allows recording vaccination history of a client who is present within a household. There is a form with the exact same name present within the application (within menu "**Register and View Clients**"), that can be used to record vaccination history for both clients within a household/clients not present within a household.
8. Significant case properties(**person case**):
 - a. **min_followup_date** and **min_expiry_date**: Upon administration of doses, next set of doses that are due are calculated. The system calculates the next period between which the client should visit a vaccination site.
 - b. **next_doses_due**: The doses due between this period are shown to the client. On this case property, the doses are separated via two new lines.
 - c. **next_followup_date**: The client is asked to select a date when they would like to visit the vaccination site next.
 - d. **last_dose_received_date**: Holds the date of most recent vaccination visit.
 - e. **last_dose_received**: Hold the doses received by the client on the most recent `last_dose_received_date`. On this case property, the doses are separated via two new lines.
 - f. **dose_administration_history**: Holds the entire vaccination history of the client in the format - date: names of doses received.
 - g. **vaccines_completed**: If the last dose of a vaccine series is administered, this case property is updated with the date and vaccine name.

- h. **all_doses_administered**: Space-separated list of all dose_id administered to the client till date.
10. Significant case properties (**vaccine_doses**):
- a. **dose_id**: Holds the dose_unique_id for the dose as defined in the vaccine_scheule lookup table.
 - b. **last_dose** :Saved as yes if it is the last dose in the series, else no.
 - c. **dose_given**: Saved as yes if dose is administered to the client, else no.
 - d. **vaccination_centre_id**: location ID of the vaccine site where dose was administered.

CONDITIONAL FEATURE FLAGS:

- 1. **Save-to-case**. Used to update vaccine_doses case (extension case to person case)
- 2. **Sync Extension Cases**. This form is dependent on this FF since the relationship between person and vaccine_doses cases is parent-extension.

2. Menu - Register and View Clients

This menu allows the user to manage clients registered with the vaccine site. Inside this menu, the user can access workflows to register new clients, edit an existing client's demographic details, or remove clients from the system. Additionally, users also have access to forms that allow them to administer doses to clients, record adverse reactions reported by clients and capture details during follow-up with clients when they missed a scheduled vaccine appointment.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	Person
Forms/Sub-Menus	<ul style="list-style-type: none"> • Forms <ul style="list-style-type: none"> ○ Register Client (via different case list) ○ Edit/Remove Client ○ Record First Dose ○ Record Follow-up Dose ○ Report Adverse Events Following Immunization ○ Record Details on Missed Visit • Sub-Menus <ul style="list-style-type: none"> ○ Follow-up Doses

Fields	<ul style="list-style-type: none"> ● Client ID (Search Only) ● Beneficiary Full Name ● Gender ● Age (Years and Months)
Filtering	No filters added
Sorting	Sorted in the decreasing order of date registered

CONDITIONAL FEATURE FLAGS:

1. This menu has “Case Search” enabled (feature available through “**Case Claim**” feature flag). “Case Search” can be used by users to claim cases from other locations (cases from other vaccine sites or “**Chatbot Cases**” location in case a client self-registered via chatbot).

2.1 Form - Register Client

This form allows the user to register a client in the system. It captures demographic details of the client like address, date of birth, occupation and also collects information necessary to determine which vaccines the client is eligible to receive (for example, fields like DOB, is client pregnant, did they receive Hepatitis-B vaccines during childhood etc.). By utilizing this information, the form notifies the client which vaccines they are supposed to receive. The form further calculates eligibility and expiry dates for the next set of vaccine doses the client is supposed to receive and prompts the client to choose a date for their next vaccination appointment.

FORM VISIBLE TO ROLES:

Vaccine Administrator	●
Community Advocate	●
Vaccine Site Manager	●

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	●	●	●	●

TECHNICAL NOTES:

1. This form is implemented in another menu on the application called “**Register Client**” and is available on the “**Register and View Clients**” case list via “**Registration Form accessible via another case list**” feature.

2. The template application allows registration of both clients linked to households and individual clients. Due to various CommCare’s limitations, the application consists of two forms that are used for registration of person cases. The other form that allows registration of person cases has the same name and can be found under the “**Register Client within Household**” menu.
3. While filling this form, the user is prompted with a question - “is the client already registered?”. If the user answers “No” to this question, they are not allowed to proceed further in the form.
4. The template app supports a workflow where if a client is already registered with another vaccine site, the user could pull that client to the current location using Case Claim feature. This workflow is not yet implemented in the Template application and Delivery teams could enable this workflow as per project requirements.
5. **Significant case properties:**
 - a. **all_conditional_vaccines** - saved on the person case. This CP is a space-separated string of all conditional vaccines the client is eligible for (Eg. covid_19, td vaccines)
 - b. **next_followup_date** - date when client is supposed to visit a vaccination site for their next set of doses.
 - c. **next_doses_due** - newline separated list of multiple **dose_name** (property in vaccine_schedule lookup table) the client is supposed to take on the next_followup_date

2.2. Form - Edit/Remove Client

This form allows the user to edit details of a client or remove the client from a device who is present within a household. Upon updating details, the form re-calculates the next set of doses due, and eligibility and expiry dates for these doses.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•	•	•	•

vaccine_doses	•	•	•	•
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TECHNICAL NOTES:

1. As part of the template application, the user **CANNOT** edit Date of Birth and Pregnancy details like LMP, EDD and Pregnancy status via this form. These fields are non-editable once captured via the “Register Client” form.
2. This form provided an ability to capture “Actual date of Delivery” for pregnant clients and mark them as no longer pregnant.
3. When a user selects to remove a client, the case’s owner_id is updated to a dummy location called “**Closed Cases**”. The case is NOT closed.
4. The “extension” cases of a person case (called vaccine_doses) are moved to “**Closed Cases**” location via auto-update case rules if a person is removed from the device.
5. This form allows edit/removal of clients both linked and not linked to a household. There is a form with the exact same name present within the application (within the menu “**Register and Vie Households->All Registered Members**”), that can be used to edit/remove clients ONLY present within a household.
6. **Significant case properties:**
 - a. **all_conditional_vaccines** - saved on the person case. This CP is a space-separated string of all conditional vaccines the client is eligible for (Eg. covid_19, td vaccines)
 - b. **next_followup_date** - date when client is supposed to visit a vaccination site for their next set of doses.
 - c. **next_doses_due** - newline separated list of multiple **dose_name** (property in vaccine_schedule lookup table) the client is supposed to take on the next_followup_date

2.3. Form - Record Immunization History

This form allows the user to capture the immunization history of the client. This form displays all vaccine doses that, as per the vaccine schedule, could have been administered to the client in the past and can be administered now. Technically, this form displays all vaccine doses that are either expired or the client is eligible to receive right now. It won’t display doses that the client is not eligible to receive on the current date.

It further asks the date of administration and batch number for each of the doses selected and recommends the next date the client should visit a vaccination site to take their next set of doses due.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•

Vaccine Site Manager	•
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CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•	•	•	•
vaccine_doses	•	•	•	•

TECHNICAL NOTES:

1. This form, at first, shows the vaccination history of the client and the doses due on the next_followup_date.
2. It then displays the list of vaccine doses that the client is eligible to receive right now or was eligible for in the past from which the user can select the doses that have been administered to the client.
3. Next up, a repeat group runs that asks for the date of administration, batch number for each of the doses selected.
4. Furthermore, if the dose selected is a first dose, vaccine_dose case is created, updated with relevant information and then closed. (Eg. dose_given = yes)
5. If the current dose is a predecessor dose, i.e. there is a follow-up dose to this dose, the case for follow-up dose is created and updated with relevant information (eg. dose_given = no).
6. If the dose being administered is a follow-up dose, vaccine_doses case is not created, rather is loaded from the casedb. It is updated with relevant information and then closed. If there is a follow-up dose to it, that case is created.
7. This form allows recording vaccination history of a client who is present within a household. There is a form with the exact same name present within the application (within menu “**View and Register Households->Registered Members**”), that can be used to record vaccination history for both clients within a household/clients not present within a household.
8. Significant case properties(**person case**):
 - e. **min_followup_date** and **min_expiry_date**: Upon administration of doses, next set of doses that are due are calculated. The system calculates the next period between which the client should visit a vaccination site.
 - f. **next_doses_due**: The doses due between this period are shown to the client. On this case property, the doses are separated via two new lines.
 - g. **next_followup_date**: The client is asked to select a date when they would like to visit the vaccination site next.
 - h. **last_dose_received_date**: Holds the date of most recent vaccination visit.
 - i. **last_dose_received**: Hold the doses received by the client on the most recent *last_dose_received_date*. On this case property, the doses are separated via two new lines.

- j. **dose_administration_history**: Holds the entire vaccination history of the client in the format - date: names of doses received.
 - k. **vaccines_completed**: If the last dose of a vaccine series is administered, this case property is updated with the date and vaccine name.
 - l. **all_doses_administered**: Space-separated list of all dose_id administered to the client till date.
9. Significant case properties (**vaccine_doses**):
- a. **dose_id**: Holds the dose_unique_id for the dose as defined in the vaccine_scheule lookup table.
 - b. **last_dose** :Saved as yes if it is the last dose in the series, else no.
 - c. **dose_given**: Saved as yes if dose is administered to the client, else no.
 - d. **vaccination_centre_id**: location ID of the vaccine site where dose was administered.

CONDITIONAL FEATURE FLAGS:

- 1. **Save-to-case**. Used to update vaccine_doses case (extension case to person case)
- 2. **Sync Extension Cases**. This form is dependent on this FF since the relationship between person and vaccine_doses cases is parent-extension.

2.4. Form - Administer Vaccine Doses

This form allows the user to record vaccines being given to the client during a vaccination session. This form displays all vaccine doses that, as per the vaccine schedule, client is eligible to receive on the current date. Technically, this form displays all vaccine doses if today's date falls within the range defined by **dose_followup_date**(Date dose is eligible from) and **dose_expiry_date**(Date dose expires). It won't display doses that are either expired or client is eligible to receive them in the future.

It further asks the batch number for each of the doses selected and recommends the next date the client should visit a vaccination site to take their next set of doses due.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•	•	•	•

vaccine_doses	•	•	•	•
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TECHNICAL NOTES:

1. This form, at first, shows the vaccination history of the client and the doses due on the `next_followup_date`.
2. It then displays the list of vaccine doses that the client is eligible to receive on the current date. Would not display doses that are expired or client is eligible to receive them on a future date.
3. Next up, a repeat group runs that asks for date of administration, batch number for each of the dose selected.
4. Furthermore, if the dose selected is a first dose, `vaccine_dose` case is created, updated with relevant information and then closed. (Eg. `dose_given = yes`)
5. If the current dose is a predecessor dose, i.e. there is a follow-up dose to this dose, the case for follow-up dose is created and updated with relevant information (eg. `dose_given = no`).
6. If the dose being administered is a follow-up dose, `vaccine_doses` case is not created, rather is loaded from the `casedb`. It is updated with relevant information and then closed. If there is a follow-up dose to it, that case is created.
7. This form allows recording vaccination history of a client who is present within a household. There is a form with the exact same name present within the application (within the menu "**View and Register Households->Registered Members**"), that can be used to record vaccination history for both clients within a household/clients not present within a household.
8. Significant case properties(**person case**):
 - a. **min_followup_date** and **min_expiry_date**: Upon administration of doses, next set of doses that are due are calculated. The system calculates the next period between which the client should visit a vaccination site.
 - b. **next_doses_due**: The doses due between this period are shown to the client. On this case property, the doses are separated via two new lines.
 - c. **next_followup_date**: The client is asked to select a date when they would like to visit the vaccination site next.
 - d. **last_dose_received_date**: Holds the date of most recent vaccination visit.
 - m. **last_dose_received**: Hold the doses received by the client on the most recent `last_dose_received_date`. On this case property, the doses are separated via two new lines.
 - n. **dose_administration_history**: Holds the entire vaccination history of the client in the format - date: names of doses received.
 - o. **vaccines_completed**: If the last dose of a vaccine series is administered, this case property is updated with the date and vaccine name.
 - p. **all_doses_administered**: Space-separated list of all `dose_id` administered to the client till date.
9. Significant case properties (**vaccine_doses**):

- a. **dose_id**: Holds the dose_unique_id for the dose as defined in the vaccine_scheule lookup table.
- b. **last_dose** :Saved as yes if it is the last dose in the series, else no.
- c. **dose_given**: Saved as yes if dose is administered to the client, else no.
- d. **vaccination_centre_id**: location ID of the vaccine site where dose was administered.

CONDITIONAL FEATURE FLAGS:

1. **Save-to-case**. Used to update vaccine_doses case (extension case to person case)
2. **Sync Extension Cases**. This form is dependent on this FF since the relationship between person and vaccine_doses cases is parent-extension.

2.5. Submenu - Follow-up Doses

This menu allows the user to see follow-up dose cases on the phone, i.e. follow-up doses which are not yet administered. This submenu has no forms within.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	vaccine_doses
Forms/Sub-Menus	<ul style="list-style-type: none"> • Forms <ul style="list-style-type: none"> ○ N/A
Fields	<ul style="list-style-type: none"> • Vaccine Dose Name • Date Dose Eligible from (dose_followup_date) • Date Dose Expires on (dose_expiry_date) • Current Status(Due/Expired)
Filtering	dose_given='no'
Sorting	Sorted in the increasing order of dose_followup_date

2.6. Form - Report Adverse Events Following Immunization

The 'Record Adverse Events Following Immunization' form resides inside the 'Register and View Clients' menu. It contains workflows that allows users to record and investigate any adverse events that occur in beneficiaries following their immunizations.

This form is visible only for clients who have received at least one dose of immunization(case property on person case - last_dose_received!=""). All the relevant information about the adverse events is stored on the person case of the individual.

This form caters to two types of functional workflows through which clients can report adverse events, i.e. if a client takes a vaccine at a vaccination centre and faces immediate side-effects, vaccine administrators at the site can use this form to record and investigate side-effects. Furthermore, if a client reports adverse events via SMS/Chatbot functionality, community advocates can follow up with such clients and investigate the adverse events faced by them further using the questions in this form.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•	•	•	•
vaccine_doses	•	•	•	•

TECHNICAL NOTES:

1. The form opens with a question that checks if the client has experienced any side effects from the previous vaccine dose and saves today() as the side_effects_reported_date.
 - a. If the response to the question is "NO", the form blocks users from proceeding and submitting the form and requests to exit from the form.
2. If the users selects to record side-effect details in this visit, the form checks for all types of adverse events that can be reported following an immunization such as pain at the injection site, fever, nausea, diarrhea, loss of taste/smell, difficulty in breathing or any other side-effects
 - a. Side_effects_faced → shows all the side effects faced by the client separated by "commas", e.g., "fever, nausea, ..."

- b. If user does not select any side effect, the form blocks user from proceeding and submitting the form and requests to exit from the form
- 3. To record the date on which the client experienced side effects, the form first checks if the client experienced all the mentioned side effects on the same day.
 - a. If yes, a single date input question is displayed and the value added by the user gets assigned to date for each of the side effects experienced.
 - b. If no, multiple date input questions for each of the side effects mentioned in the previous question, is displayed
- 4. Checks for the intensity of the side-effects, i.e., mild, moderate, severe.
- 5. If the client reported facing severe adverse side-effects then the system checks if the client was hospitalized due to the severity of effects, if yes then captures the date of hospitalization and if the client caught any permanent
- 6. Adverse_event_history is the log of the details of adverse events reported
 - a. concat(today(), ":", #case/last_dose_received, "-", #form/side_effects_faced, "-", #case/adverse_events_history)
- 7. **Significant form properties:**
 - a. **side_effects_reported_date**- Date when side effects were reported. (If side effects were reported via SMS/Chatbot - stores the date when client triggered the message. If side effects were reported onsite, stores today's date)
 - b. **side_effect_dose_name**- Takes the value of **last_dose_received** case property from person case. Used by the dashboard to tag adverse events reported to a particular vaccine. This form property can consist of either a single **dose_name** or multiple newline-separated **dose_name** depending upon the number of doses administered on the latest date the client took vaccine doses.
- 8. **Significant case properties:**
 - a. **last_dose_received** - This case property is loaded from the person case and is used by the form to interpret which vaccine doses led to side effects.

2.7. Form - Client Missed Follow-up Visit

The 'Client Missed Followup Visit' form resides inside the 'Register and View Clients' menu and contains workflows that allow users to record details when a client missed their followup visit for immunization.

Some of the important details are stored as case properties on the person case.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

[SAVED CASE PROPERTIES](#)

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
person	•		•	

TECHNICAL NOTES:

- The form begins with displaying a label that shows the follow up date for the client along with a list of vaccine doses that are due for the client and checks from the user if they were able to contact the client to check upon the missed followup visit
- If the user was able to contact the client the form presents questions to understand
 - Method of communication adopted by the user to check upon the missed followup visit from the client. Personal visit, phone call, etc
 - Reason for missing their follow up visit, not notified, forgot about the visit, etc
 - Checks if the client is interested in resuming the vaccine doses
 - If the client refuses to resume with the vaccine doses, the system checks the reason for it, such as, due to the side effects experienced from the last dose, lost interest in vaccination, due to other commitments, or any other reason.
 - If the client shows interest in resuming with the vaccine doses, the form lets users choose a new appointment date between today and the last set expiry date.
 - The form also presents certain labels to help users guide and provide a quick counselling to the client on the importance of vaccination and details of the next followup visit
- If the user was not able to contact the client, the form presents a label guiding the user to remove the client from the system in case they are non-contactable after several attempts, using the 'Edit/Remove Client' form.
- **Significant case properties:**
 - **next_followup_date** - This case property holds the appointment date when the client should be visiting the vaccination centre for their next set of doses. If the client agrees to resume their doses, the appointment date/this case property is updated.

3. Menu - Clients Due For Follow-up Visit

This menu can be used by the users as a "Clients Due List". On the day of vaccine administration, the vaccine administrator can use this menu to view clients scheduled for an appointment. Furthermore, community advocates can use this menu to mobilize clients/remind them of the upcoming vaccination appointment.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	person
Forms/Sub-Menus	<ul style="list-style-type: none"> • Forms <ul style="list-style-type: none"> ○ Edit/Remove Client ○ Record First Dose ○ Record Follow-up Dose ○ Report Adverse Events Following Immunization • Sub-Menus <ul style="list-style-type: none"> ○ Follow-up Doses
Fields	<ul style="list-style-type: none"> • Client ID (Search Only) • Beneficiary Full Name • Gender • Follow-up Due in Days(Days until next_followup_date)
Filtering	next_followup_date != " and next_followup_date >=today()
Sorting	Sorted in the increasing order of next_followup_date

CONDITIONAL FEATURE FLAGS:

1. This is a Shadow Module. Hence, dependent upon the “**Shadow Modules**” feature flag.

4. Menu - Clients Missed Follow-up Visit

This menu is used to view clients who didn't turn up on the date of vaccine appointment. It further provides users the access to “Record Details on Missed Visit form”, which is used to record reasons for absence on the date of vaccination.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	person
Forms/Sub-Menus	<ul style="list-style-type: none"> ● Forms <ul style="list-style-type: none"> ○ Edit/Remove Client ○ Record First Dose ○ Record Follow-up Dose ○ Report Adverse Events Following Immunization ○ Record Details on Missed Visit ● Sub-Menus <ul style="list-style-type: none"> ○ Follow-up Doses
Fields	<ul style="list-style-type: none"> ● Client ID (Search Only) ● Beneficiary Full Name ● Gender ● Days Visit Delayed by(Days since next_followup_date)
Filtering	next_followup_date!=" and next_followup_date<today()
Sorting	Sorted in the increasing order of next_followup_date

CONDITIONAL FEATURE FLAGS:

1. This is a Shadow Module. Hence, dependent upon the “**Shadow Modules**” feature flag.

5. Menu - Children and Adolescents

This menu lists all children and adolescents (clients<=18 years of age) registered at the vaccination centre. This menu can be used by community advocates to do follow-ups and provide counselling services targeted at clients under 18 years of age.

MENU VISIBLE TO ROLES:

Vaccine Administrator	●
Community Advocate	●
Vaccine Site Manager	●

CASE LIST:

Case Type	person
Forms/Sub-Menus	<ul style="list-style-type: none"> ● Forms <ul style="list-style-type: none"> ○ Edit/Remove Client ○ Record First Dose ○ Record Follow-up Dose ○ Report Adverse Events Following Immunization

	<ul style="list-style-type: none"> ○ Record Details on Missed Visit ● Sub-Menus <ul style="list-style-type: none"> ○ Follow-up Doses
Fields	<ul style="list-style-type: none"> ● Client ID (Search Only) ● Beneficiary Full Name ● Gender ● Age(Years and Months) ● Next Visit status(Due in X days/Late By X days - calculated using next_followup_date)
Filtering	today() - dob <=(365.25 * 18)
Sorting	Primary - Sorted in the increasing order of next_followup_date Secondary - Sorted in the decreasing order of dob

CONDITIONAL FEATURE FLAGS:

1. This is a Shadow Module. Hence, dependent upon the “**Shadow Modules**” feature flag.

6. Menu - Pregnant Women

This menu lists all pregnant women (is_pregnant = yes) registered at the vaccination centre. This menu can be used by community advocates to do follow-ups and provide counselling services targeted at pregnant women.

MENU VISIBLE TO ROLES:

Vaccine Administrator	●
Community Advocate	●
Vaccine Site Manager	●

CASE LIST:

Case Type	person
Forms/Sub-Menus	<ul style="list-style-type: none"> ● Forms <ul style="list-style-type: none"> ○ Edit/Remove Client ○ Record First Dose ○ Record Follow-up Dose ○ Report Adverse Events Following Immunization ○ Record Details on Missed Visit ● Sub-Menus <ul style="list-style-type: none"> ○ Follow-up Doses

Fields	<ul style="list-style-type: none"> • Client ID (Search Only) • Beneficiary Full Name • Estimated Date of Delivery(EDD) • Next Visit status(Due in X days/Late By X days - calculated using next_followup_date)
Filtering	is_pregnant ='yes'
Sorting	Primary - Sorted in the increasing order of next_followup_date Secondary - Sorted in the increasing order of beneficiary_edd

CONDITIONAL FEATURE FLAGS:

1. This is a Shadow Module. Hence, dependent upon the “**Shadow Modules**” feature flag.

7. Form - Community Mobilization & Counselling

The form contains workflows that allow users, community advocates to record details of the vaccine confidence counselling events/sessions held by them.

Additionally, the form also contains counselling contents to support users in combating vaccine hesitancy in their catchment area, by providing vaccine confidence counselling via personal counselling, household counselling or community events/sessions.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
user		•	•	•

TECHNICAL NOTES:

- The form highlights in the beginning that the user can refer to the health worker training menus for support on more content related to counselling.
- Records date of the recent community event/counselling session conducted for the community advocate

- Checks if the counselling was provided via personal counselling, household counselling or group counselling (community event) and name of the community health worker who conducted the session
- Records other details such as
 - Types of participants who attended the session
 - Topic of the event
 - Total number of attendees
 - Number of people who showed anti-vaccine sentiments
 - Reasons for not taking the vaccine
 - If the session was helpful in addressing vaccine hesitancy among people and feedback from the session
- Some of the counselling contents included in the form are:
 - Points on planning for the counselling event/session
 - General guidance for vaccine confidence counselling
 - Tips for communication
 - Discussion techniques
 - Ways to improve understanding

8. Menu - Adverse Events Reported via Message

The 'Adverse Events Reported via Message' menu is a shadow module that displays clients, who reported adverse events following immunization via message (SMS, Chatbot), in the case list. When a client reports adverse events via SMS/Chatbot, case property side_effect_contact_request is set as yes. All such person cases are visible on this menu. This menu thus can be used by users to follow-up with clients who reported an adverse event and record details found during the investigation.

MENU VISIBLE TO ROLES:

Vaccine Administrator	●
Community Advocate	●
Vaccine Site Manager	●

CASE LIST:

Case Type	person
Fields	<ul style="list-style-type: none"> ● Beneficiary ID ● Beneficiary Full Name ● Gender ● Date Side effects reported on ● Side effects Intensity (Icon if severe)

Forms/Sub-Menus	<ul style="list-style-type: none"> • Forms <ul style="list-style-type: none"> ○ Report Adverse Events Following Immunization
Filtering	side_effect_contact_request = 'yes'
Sorting	Primary - Sorted in the decreasing order of severe_aefi Secondary - Sorted in the increasing order of side_effects_reported_dat

CONDITIONAL FEATURE FLAGS:

1. This is a Shadow Module. Hence, dependent upon the “**Shadow Modules**” feature flag.

9. Form - Register Facility

This form resides in the Register Facility menu and is used for registering a facility. The form presents questions that require users to add details about the facility such as the facility name, address, pin code, etc as well as details (name, role, contact number) about the primary and secondary, if it exists, contacts at the facility. The form also picks up the facility's GPS coordinates if the form is filled at the facility. Using this form, users can also initiate stock management for the vaccines available at the facility. This workflow creates extension cases to the facility case. For each of the vaccines selected, a vaccine_stock case is created. This case stores details related to stock monitoring of the particular vaccine.

All of the aforementioned information about the facility is stored on the facility case.

Once the facility is registered in the application, the 'Register Facility' menu disappears for that user in the application.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
facility	•	•	•	•
vaccine_stock	•	•	•	•

TECHNICAL NOTES:

- A list of vaccines is presented to the users to choose vaccines that the facility keeps at it's centre. The source for this list is **vaccine_schedule** lookup table.
- The system generates case IDs for users and stores it as **facility_case_id** on the facility case
- User's location ID is saved as **vaccination_centre_id** case property on the facility case.
- The form creates another case, **vaccine_stock**, which is an extension case to the facility case and stores information about vaccines stock - vaccine IDs, unique dose IDs and names of the vaccines available at the centre , key facility details - case ID of the facility, vaccination centre ID, date of the user's facility case creation and date when the form was last updated and the owner ID.

CONDITIONAL FEATURE FLAGS:

1. This form uses the “**Save to Case**” feature flag to create extension **vaccine_stock** cases to the facility case.
2. This form would require the “**Enable extension syncing**” feature flag switched on to sync down extension cases to the phone.

10. Menu - Facility Management and Stock Monitoring

The Facility Management and Stock Monitoring menu provides workflows to the vaccine site manager to register the facility and capture demographic details on the phone. Once a facility is registered, workflows to update existing facility details, conduct facility readiness assessments and capture stock management details are available to the user.

The menu has a display condition that makes it visible to users only after the facility is registered using the Register Facility form, i.e.,a facility case is created for the facility.

MENU VISIBLE TO ROLES:

Vaccine Administrator	●
Community Advocate	●
Vaccine Site Manager	●

CASE LIST:

Case Type	facility
Fields	<ul style="list-style-type: none"> ● Facility Name ● Facility readiness ● Last Assessment Date ● Vaccines in Stock

Forms/Sub-Menus	<ul style="list-style-type: none"> ● Forms <ul style="list-style-type: none"> ○ Edit Facility Details/Information ○ Facility Readiness Assessment ● Sub-menus <ul style="list-style-type: none"> ○ Vaccine Stock Management
Menu Display Condition	count(instance('casedb')/casedb/case[@case_type = 'facility'][@status = 'open']) = 1
Filtering	None
Sorting	None

10.1. Form - Edit Facility Details/Information

This form resides in the Facility Management and Stock Monitoring menu and contains workflows that allows users to edit or update information recorded during registration, such as name, demographic details, location and primary contacts at the facility. Users can also update vaccines for which stock monitoring was not initiated during registration and initiate vaccine stock management for new vaccines. Furthermore, this form has a workflow that enables users to discontinue monitoring stock of particular vaccine(s) . If the user wishes to discontinue stock management for a vaccine, that vaccine would no longer be available on Vaccine Stock Management case list.

All of the information about the facility is stored on the facility case whereas the details about the vaccines stocks are stored on the vaccine_stock case, which is an extension case to the facility case type.

FORM VISIBLE TO ROLES:

Vaccine Administrator	●
Community Advocate	●
Vaccine Site Manager	●

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
facility			●	
vaccine_stock		●		●

TECHNICAL NOTES:

- The form presents options of types of information that the user would want to edit
 - General Facility Details can be checked to update demographic details of the facility
 - Primary Contact Details can be checked to update Name, role and phone number
 - Secondary Contact Details can be checked to update secondary contact's name, role and phone number
 - Vaccine Stock Management can be checked to initiate stock monitoring for new vaccines available at the facility (**create** new vaccine_stock cases) and discontinue stock monitoring for vaccines already being tracked at the facility (**close** vaccine_stock cases)
- A list of vaccines, excluding the ones for which stock management was initiated during registration, is presented to the users to choose the new vaccines that are now available at the facility. The source for this list is **vaccine_schedule** lookup table. The list doesn't show the vaccines for which there is already a case on the device.
 - **existing_vaccine_stock_ids** → join(" ", instance('casedb')/casedb/case[@case_type = 'vaccine_stock']/vaccine_id)
- The form creates another case, vaccine_stock, which is an extension case to the facility case and stores information about vaccines stock -
 - vaccine IDs, unique dose IDs and names of the vaccines available at the centre
 - key facility details - case ID of the facility, vaccination centre ID, date of the user's facility case creation and date when the form was last updated and owner ID.

CONDITIONAL FEATURE FLAGS:

1. This form uses the “**Save to Case**” feature flag to create extension vaccine_stock cases to the facility case.
2. This form would require the “**Enable extension syncing**” feature flag switched on to sync down extension cases to the phone.

10.2. Form - Facility Readiness Assessment

This form resides in the Facility Management and Stock Monitoring menu and contains workflows that assess the facility's readiness to receive and give vaccinations to beneficiaries by gauging the following parameters

- Is staff trained to handle side-effects
- All commodities are present at the facility
- Waste management systems are installed

Based on the responses given by the user, the form generates readiness scores for each parameter, i.e., staff trained status, commodities present and waste management preparations, that indicates whether the facility is fully, partially or not ready to carry out vaccine administration.

All of the information about the facility is stored on the facility case.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

SAVED CASE PROPERTIES

CASE MANAGEMENT:

Case Type	Load	Create	Update	Close
facility			•	

TECHNICAL NOTES:

- Facility Assessment Logic:
 - The facility is mainly assessed on 3 parameters:
 - Whether Healthcare staff trained to handle potential side-effects
 - Commodities available at the vaccination site (For instance, Client Due List, Gloves, Masks, Syringes/Needles)
 - Waste Management facilities available at the vaccination site
 - Based on the responses to the aforementioned questions, following scores are calculated on a **scale of 5**:
 - Training_readiness_score
 - Commodities_readiness_score
 - Waste_management_score
 - Average of these 3 scores are taken to calculate the **facility_readiness_score**
 - Finally, the system calculates whether the facility is ready, partially ready or not ready based on the following logic.
 - If any of the 3 scores(Training_readiness_score, Commodities_readiness_score or Waste_management_score is ≤ 2), Facility is **not ready**.
 - If any of the 3 scores(Training_readiness_score, Commodities_readiness_score or Waste_management_score is ≤ 2), Facility is **partially ready**.
 - If 3 of the scores are 5, the facility is deemed **ready**.
- The readiness assessment scores are suggestive and the user is not restricted from performing any workflows based on the scores.

10.3. Submenu - Vaccine Stock Management

The Vaccine Stock Management menu provides the list of vaccine_stock cases that are being monitored by the facility. By selecting a vaccine_stock case from the case list, users can use the “Vaccine Stock Management” form to record stock monitoring data.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	vaccine_stock
Forms	Vaccine Stock Management
Fields	<ul style="list-style-type: none"> • Vaccine name • Last date of stock input • Number of vials in hand
Filtering	No filters
Sorting	No sorting

10.3.1. Form - Vaccine Stock Management

The Vaccine Stock Management form residing inside the Vaccine Stock Management menu provides for an end-of-the-day stock management workflow. Additionally, it also provides an ability for the users to set in-form alerts when the number of vials available at a facility crosses a maximum or minimum threshold. This threshold can be set by the user themselves. Based on the alert, the user can report stock oversupply or stockout for a particular vaccine . Furthermore, upon recording the number of vials present at the facility, this form predicts the number of days the current stock is going to last based on average consumption of vials.

All of the information about the vaccine stocks is stored on the vaccine_stock case.

FORM VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

[SAVED CASE PROPERTIES](#)**CASE MANAGEMENT:**

Case Type	Load	Create	Update	Close
vaccine_stock	•	•	•	•

TECHNICAL NOTES:

- This form can only be filled for one vaccine at a time. Once the user completes the stock management workflow for a vaccine, they are taken back to the Vaccine Stock case list wherein they can select another vaccine to record stock management details.
- **This form provides an end of day vaccine stock management workflow. It's recommended that users fill this form not more than ONCE a day.**
- Users first need to select the date for which they are reporting stock details. Then, they need to provide the number of vials of the vaccine (opened vials and closed vials) present at the facility. The system then saves the total stock in hand for the selected date.
- When the user fills the form for the same vaccine on the next day, user gets to view the number of vials in hand last reported by them. Post that, user needs to enter the number of vials of vaccine in hand for this day. The system then calculates the number of vials exhausted between last date to current date.
- It further calculates the average consumption rate per day. (number of vials exhausted/difference in number of days between current and previous reporting)
- Then, the system predicts for how many days the current stock will last based on average consumption rate and total stock currently at hand. (Number of days stock will last = Total stock current at hand/average consumption rate)
- Upon opening the form, the user is asked if they would like to set alerts for themselves to be notified when currently available stock won't last beyond a certain number of days. Also, they can set alerts if the currently available stock is in oversupply at the facility and would last longer than a certain number of days. The user can enter these number of days via respective Integer fields. **The alert is an IN-FORM alert which the user would see if according to stock prediction logic, the current stock lasts lesser or more than the days set by the user.**
- The user could use these alerts to take a decision on reporting a stockout/oversupply via the same form.
- The users can also record the number of vaccine vials wasted due to various reasons (expired, freezing, heating etc.). Currently, these are just data collection questions and do not add to any stock monitoring logic.

CONDITIONAL FEATURE FLAGS:

1. This form would require the “**Enable extension syncing**” feature flag switched on to sync down extension cases to the phone.

11. Menu - Health Worker Training

The Health Worker Training menu contains a set of sub-menus and forms that form an E-learning repository containing content and materials on skills, knowledge that each type of user, i.e.,

Vaccine Administrator, Community Advocate and Vaccine Site Manager should have in order to effectively carry out their services and responsibilities

None of the forms within this menu perform case management operations.

The menu and the forms within are visible to all types of users.

MENU VISIBLE TO ROLES:

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•

CASE LIST:

Case Type	None
Fields	N/A
Filtering	N/A
Sorting	N/A

Below is a recommended list of training content for each type of user:

Worker Type	Accessible Content
Community Advocate	<ol style="list-style-type: none"> 1. Introduction of Vaccines <ol style="list-style-type: none"> a. How does vaccines work? b. Body's response to vaccine c. Implications of "NO" vaccines 2. Vaccine Confidence counseling (Vaccine Hesitancy) 3. Vaccine Myths and Facts ? 4. AEFI Monitoring
Vaccine Administrator	<ol style="list-style-type: none"> 1. Introduction of Vaccines <ol style="list-style-type: none"> a. How does vaccines work? b. Body's response to vaccine c. Implications of "NO" vaccines 2. Storage, handling, delivery, and waste management 3. Vaccine Administration

	4. AEFI Monitoring
Vaccine Site Manager	<ol style="list-style-type: none"> 1. Introduction of Vaccines <ol style="list-style-type: none"> a. How does vaccines work? b. Body's response to vaccine c. Implications of "NO" vaccines 2. Vaccine Confidence counseling (Vaccine Hesitancy) 3. Storage, handling, delivery, and waste management of vaccines

Additionally, this section also contains the details for the training content accessible through chatbot. The content has been designed for vaccine recipients and health workers. The users can interact with the whatsapp based chatbot by sending keywords and receiving relevant content. Details are covered in sub-section 7.6

11.1. Form - Introduction to Vaccines

The 'Introduction to Vaccines' is a single form inside the Health Worker Training menu that contains training content on the following:

- Introduction to Vaccines
- How do Vaccines Work
- Body's Response after Vaccination
- Implications of NO Vaccination

TECHNICAL NOTES:

- The form begins with a greetings label followed by a label that describes the objectives of the course
- The Education group in the form displays the training contents to introduce the user to vaccines, their functioning, body's response to vaccination and the implications if vaccination isn't given to people
- The educational content is followed by a confirmation on the readiness of the user to undertake an assessment to test their knowledge
- If the user agrees to participate in the assessment, the form displays quiz questions on the topic explained in the form/module
 - Based on the response, labels for both correct and incorrect responses are displayed on the screen
- This is followed by a self assessment check question, which is to seek confirmation from the user they would like to record their confidence to explain/deliver services based on the content in the form/module
- If the user agrees to participate in the self-assessment, the form displays self assessment questions to check if the user is very confident, somewhat confident, not very confident or not at all confident

- In cases where the user does not take at least one quizzes (assessment, self-assessment), the system blocks users from submitting the form
- The reference from where the content was taken is mentioned on the last screen

11.2. Submenu - Storage, Handling, Delivery and Waste Management

The 'Storage, Handling, Delivery and Waste Management' sub-menu inside the Health Worker Training menu contains the following three forms:

11.2.1. Form - Standard Operating Procedures & Equipment Maintenance

The form contains training content on the following:

- Introduction to Standard Operating Procedures
- Staff
 - Training
 - Vaccine Coordinator and their roles
- Equipment Maintenance

11.2.2 Form - Organizing & Storing Vaccines

The form contains training content on the following:

- Organizing & Storing Vaccines in Storage Units
- Temperature Ranges
 - Optimal Temperature for Storage
 - Monitoring Vaccine Temperatures
 - Steps to be Taken for Temperature Excursions

11.2.3. Form - Vaccine Inventory Management

The form contains training content on the following:

- Vaccine Inventory Management
 - Importance of Proper Vaccine Management
 - Vaccine Deliveries
 - Scheduling & Receiving Deliveries
 - Unpacking Deliveries
- Inventory Accounting
 - Steps for Inventory Accounting
 - Understanding Expiration Dates
 - Importance of Understanding Expiration Dates
 - Understanding Vaccine Usage based on Expiration Dates
- Vaccine Equipment Disposal

- How to Dispose off Vaccines and Equipments

TECHNICAL NOTES:

(These notes apply to forms **10.2.1, 10.2.2 and 10.2.3**)

- The form begins with a greetings label followed by a label that describes the objectives of the course
- The Education group in the form displays the training contents
- The educational content is followed by a confirmation on the readiness of the user to undertake an assessment to test their knowledge
- If the user agrees to participate in the assessment, the form displays quiz questions on the topic explained in the form/module
 - Based on the response, labels for both correct and incorrect responses are displayed on the screen
- This is followed by a self assessment check question, which is to seek confirmation from the user they would like to record their confidence to explain/deliver services based on the content in the form/module
- If the user agrees to participate in the self-assessment, the form displays self assessment questions to check if the user is very confident, somewhat confident, not very confident or not at all confident
- In cases where the user does not take at least one quizzes (assessment, self-assessment), the system blocks users from submitting the form
- The reference from where the content was taken is mentioned on the last screen

11.3. Form - Vaccine Confidence Counselling

The 'Vaccine Confidence Counselling' is a single form residing inside the Health Worker Training menu that contains training content on the following:

- Addressing Vaccine Hesitancy
 - Factors Influencing Vaccination Hesitancy
 - Steps to Effectively Address Vaccine Hesitancy
 - Preparation for Interaction
 - Listening to Patients
 - Guiding Decisions
 - Planning Together
 - Don'ts during counselling

TECHNICAL NOTES:

- The form begins with a greetings label followed by a label that describes the objectives of the course
- The Education group in the form displays the training contents to introduce the user to factors influencing vaccination hesitancy followed by steps to effectively address them.
- The educational content is followed by a confirmation on the readiness of the user to undertake an assessment to test their knowledge

- If the user agrees to participate in the assessment, the form displays quiz questions on the topic explained in the form/module
 - Based on the response, labels for both correct and incorrect responses are displayed on the screen
- This is followed by a self assessment check question, which is to seek confirmation from the user they would like to record their confidence to explain/deliver services based on the content in the form/module
- If the user agrees to participate in the self-assessment, the form displays self assessment questions to check if the user is very confident, somewhat confident, not very confident or not at all confident
- In cases where the user does not take at least one quizzes (assessment, self-assessment), the system blocks users from submitting the form
- The reference from where the content was taken is mentioned on the last screen

11.4. Form - Vaccine Myths & Facts

The 'Vaccine Myths & Facts' sub-menu is a single form residing inside the Health Worker Training menu that contains a list of myths around vaccines and oppose those myths with the help of facts that can act as a guide for users in trying to tackle common myths among people in their area.

TECHNICAL NOTES:

- The form begins with a greetings label followed by a label that describes the objectives of the course
- The Education group in the form displays the training contents on the common myths and facts
- This is followed by a self assessment check question, which is to seek confirmation from the user they would like to record their confidence to explain/deliver services based on the content in the form/module
- If the user agrees to participate in the self-assessment, the form displays self assessment questions to check if the user is very confident, somewhat confident, not very confident or not at all confident
- In cases where the user does not take the self-assessment, the system blocks users from submitting the form
- The reference from where the content was taken is mentioned on the last screen

11.5. Form - Vaccine Administration Practices

The 'Vaccine Administration Practices' is a single form sub-menu inside the Health Worker Training menu that contains training content on the following:

- Patient Education Skills & Techniques
- Preparation for Vaccination
 - Steps to prepare for vaccine administration
- Administering Vaccination
 - Procedures to follow while administering vaccines

- Patient Care After Vaccination
 - Procedures for identifying adverse events after vaccination and making an attempt to address them

TECHNICAL NOTES:

- The form begins with a greetings label followed by a label that describes the objectives of the course
- The Education group in the form displays the training contents to introduce the user to the skills and techniques to interact with the patient and begin with vaccine administration, the preparation required for administering vaccines and the aftercare.
- The educational content is followed by a confirmation on the readiness of the user to undertake an assessment to test their knowledge
- If the user agrees to participate in the assessment, the form displays quiz questions on the topic explained in the form/module
 - Based on the response, labels for both correct and incorrect responses are displayed on the screen
- This is followed by a self assessment check question, which is to seek confirmation from the user they would like to record their confidence to explain/deliver services based on the content in the form/module
- If the user agrees to participate in the self-assessment, the form displays self assessment questions to check if the user is very confident, somewhat confident, not very confident or not at all confident
- In cases where the user does not take at least one quizzes (assessment, self-assessment), the system blocks users from submitting the form
- The reference from where the content was taken is mentioned on the last screen

11.6. Form - Adverse Events Following Immunization (AEFI)

The 'Adverse Event Following Immunization', is a single form sub-menu inside the Health Worker Training menu that contains the following training content:

- AEFI and it's causes
 - Introduction to AEFI
 - What is an AEFI
 - What can be the causes if an AEFI
 - Vaccine Reaction & their Classification
- Other important terms and definitions
- Prevention of Immunization error-related AEFI
- AEFI Reporting
 - What should you report and how
 - What should you be aware of for quality reporting

TECHNICAL NOTES:

- The form begins with a greetings label followed by a label that describes the objectives of the course

- The Education group in the form displays the training contents to introduce the user to adverse events following immunizations, their causes, prevention and guidance on effective and quality reporting.
- The educational content is followed by a confirmation on the readiness of the user to undertake an assessment to test their knowledge
- If the user agrees to participate in the assessment, the form displays quiz questions on the topic explained in the form/module
 - Based on the response, labels for both correct and incorrect responses are displayed on the screen
- This is followed by a self assessment check question, which is to seek confirmation from the user they would like to record their confidence to explain/deliver services based on the content in the form/module
- If the user agrees to participate in the self-assessment, the form displays self assessment questions to check if the user is very confident, somewhat confident, not very confident or not at all confident
- In cases where the user does not take at least one quizzes (assessment, self-assessment), the system blocks users from submitting the form
- The reference from where the content was taken is mentioned on the last screen

Add-On Integrations

As part of our design add-on integrations are available that could add value to our partners. One of these is an [Integration with DDCC: VS compliant version of DIVOC](#), which is added to the Dimagi Vaccine Solution to enable the ability to create, edit and remove vaccine certificates via commcare application. DIVOC uses DHIS2, an open source product that enables countries to digitally orchestrate large scale vaccination and public health programs using open source digital infrastructure, which integrates well with the commcare system, to enable case sharing & allocate data in vaccination certificates on need.

CHATBOT WORKFLOWS

1. Register Clients via D2C Chatbot

The client can directly register themselves via a D2C provider (SMS/WhatsApp) into the system. It provides data fields to capture demographic details of the client like state, district, address, DOB, gender. The form asks if they wish to provide additional registration information via the chatbot, if not they can complete that information once they visit the facility.

2. View Immunization Data via D2C Chatbot

The client can view their Immunization history and data through the D2C chatbot once they have received a dose of vaccine. The View Immunization section will show the clients the following:

- Next Dose Due
- Vaccine Dose Administration History
- Last Dose Received

3. Report Adverse Events Following Immunization via D2C Chatbot

- The client can report AEFI via a D2C provider (SMS/WhatsApp) into the system once they have taken a vaccine at their facility.
- The client can classify if their AEFI is severe or not.
- The list of AEFI reported through D2C chatbot would be shown on the Commcare application under the “Adverse Event reported via Chatbot” menu to the mobile user

4. Chatbot Training and FAQs Content

Users/Clients can access training content through Chatbot by sending the keyword ‘Training’ on the whatsapp chatbot line.

Training topics are divided and spread as follows:

1. Training Content for Vaccine Recipients

Introduction To Vaccines	How does vaccine work?
	Body's response to vaccine
	Implications of NO Vaccines
Increasing Vaccine Confidence	Common questions related to vaccination
	Vaccination Myths v/s Facts

Adverse Events Following Immunization	Introduction and Causes of AEFI
	Vaccine Product and Quality Related Reactions
	Immunization Error and Anxiety Related Reactions
	Coincidental Events
	Prevention of Error Related Reactions

2. Training Content for Health Workers:

Introduction To Vaccines	How does vaccine work?
	Body's response to vaccine
	Implications of NO Vaccines
Vaccine Confidence Counselling	Factors that Influence Vaccine Hesitancy
	How to increase vaccine confidence
	Vaccination Myths v/s Facts
	Vaccination related communication - DOs and DONTs
Adverse Events Following Immunization	Introduction and Causes of AEFI
	Vaccine Product and Quality Related Reactions
	Immunization Error and Anxiety Related Reactions
	Coincidental Events
	Prevention of Error Related Reactions
Storage, handling and disposal of vaccines	Storage and Handling
	Monitoring Vaccine Temperature
	Disposal of Vaccines

CONTENT DESIGNED AND CUSTOMIZED FOR :

Vaccine Administrator	•
Community Advocate	•
Vaccine Site Manager	•
Clients/ Vaccine Recipients	•

LIST OF KEYWORDS

CASE MANAGEMENT: N/A

TECHNICAL NOTES:

1. Keywords trigger educational messages on selected topics to be sent to the user over whatsapp
2. The gateway is turn.io and the training content and keywords are defined on turn

5. Conditional Alerts

CAVEATS & POINTS TO NOTE FOR WA BASED CONDITIONAL ALERTS

1. For a client to receive an instant message/alert on whatsapp, there needs to be an initiation of interaction/connection from the client's side with the WA bot. For this purpose, we have added a note to the beneficiary content question in the registration and edit details forms, which prompt the user to send a hi on whatsapp on the respective chatbot number if they provide consent to receiving messages. This basically means that we can't send proactive messages to clients, the client needs to initiate first.
2. Conditional alerts can be thought of as session messages over WA. WA has a 24 hour rule for session messages which becomes a restriction for conditional alerts over WA. This 24 hour rule means that when a user initiates a conversation with you on your chat service, you're allowed to respond with any type of content within 24 hours. It won't cost anything, and no rules apply. However, once the 24-hour chat window has expired, you can only reconnect with users by using paid-for message templates (or in our case for alerts, if the 24 hour window is re initiated). More information can be found [here](#).
3. Reasons for not using WA template messages are that one they are paid for, and two, and more importantly, they cannot be customized; we won't be able to use case properties from commcare to customize the template messages.
4. Alternatives to achieve better notification/alert mechanisms for clients could be one, to identify if there are any ways to bypass the 24 hour rule on WA and two, to use SMSes to send alerts/notifications to clients instead of WA.

ALERTS CONFIGURED IN THE SOLUTION

1. [VACCINATION RECEIVED ACKNOWLEDGEMENT CCHQ ALERT](#): This alert has been set up to send out a message to the clients once they have received a vaccination dose. After each dose of vaccination, this message is sent out immediately.
 - a. The rules for this alert are as follows:
 - Client must have a phone number
 - Client must consent to receiving messages
 - Client should have received a dose
 - Last Vaccination date should not be blank

Can be sent over Whatsapp?	Is WA notification subject to caveats?	Can be sent over SMS?	Is SMS notification subject to caveats?
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Yes	Yes	Yes	No
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2. [NEXT FOLLOW UP REMINDER CCHQ REPORT](#): This alert has been set up to send a visit reminder to the clients 2 days before their scheduled follow up vaccine appointment. This message is sent at 12:00 pm, 2 days before the next followup date.

- a. The rules for this alert are as follows:
 - Client must have a phone number
 - Client must consent to receiving messages
 - Client should have a scheduled appointment in future
 - Schedule dose due should not be blank

Can be sent over Whatsapp?	Is WA notification subject to caveats?	Can be sent over SMS?	Is SMS notification subject to caveats?
Yes	Yes	Yes	No

DASHBOARD TECHNICAL DOCUMENTATION

Dashboard Overview

Dimagi Vaccine Solution dashboard is built using the open source data visualization tool called Apache Superset. Superset uses SQL tables in the background to store and populate data on to the visualizations. Hence, data from CommCare (forms and cases) are converted to SQL based data (SQL tables), and sent across from CommCare project space to an SQL database using CommCare Sync.

The DVS dashboard consists of 6 tabs and each tab has a set of visualizations that solve a specific use case common across vaccination programs . It is envisioned to be used by country-level, state level, and district-level administrators. Hence, all the data can be drilled down to the lowest level of service delivery, i.e., vaccination centres. Following is the list of tabs available as part of DVS dashboard:

- Key Program Indicators
- Population Demographics
- Vaccine Delivery
- Adverse Events Following Immunization
- Community Counselling
- Vaccine Stock Management

Dashboard Links

- [Superset URL](#)(Demo Username: demo, PW: dimagi123)
- [CommCare Sync](#)
- [Superset Onboarding Material](#)

Data Sources

To populate data on the dashboard, data sources need to be setup. At first, Commcare forms and cases are converted into SQL-based tables. These are called **raw tables**. Furthermore, these tables are then joined to create views. **Views** are combinations(also called **joins**) of two or more tables which are used to create visualizations.

Raw Tables

SQL Table	Equivalent Data model on CommCare
household_case	household case
person_case	person case
vaccine_doses_case	vaccine_doses case

adverse_events	Report Adverse Events Following Immunization form
community_mobilization	Community Mobilization and Counselling form
vaccine_stock_form	Vaccine Stock Management form
commcare_locations	Locations

The DET configuration for all the aforementioned raw tables can be found [here](#) (forms) and [here](#) (cases).

Views

View Name	Raw Tables combined	Definition
vw_person_case	<ul style="list-style-type: none"> • person_case • commcare_locations 	<pre>CREATE OR REPLACE View vw_person_case AS Select p.caseid,p.add,p.date_of_regi stration,p.dob,p.dose_adminis tration_history,p.gender,p.la st_dose_received_date,p.last_ dose_received,p.next_followup _date,p.occupation ,p.vaccination_centre_id AS "person_centre_id",p.whether_ commorbidities,p.vaccines_com pleted,p.vaccination_centre_i d,p.all_dose_id_administered, p.is_pregnant,l.name as "vaccination_centre", ls.name as "state", ld.name as "district", p.dummy_cp,p.all_conditional_ vaccines,substring(ls.locatio n_data,position(',' in ls.location_data)-6,5) as "iso_3166_2_code" FROM person_case p INNER JOIN commcare_locations l ON p.vaccination_centre_id = l.vaccine_site INNER JOIN commcare_locations ls ON l.state=ls.location_id INNER JOIN commcare_locations ld ON l.district=ld.location_id where l.name like 'VS%';</pre>
vw_person_vaccine_doses	<ul style="list-style-type: none"> • person_case • vaccine_doses_case • commcare_locations 	<pre>CREATE OR REPLACE View vw_person_vaccine_doses AS Select p.caseid,p.add,p.date_of_regi stration,p.dob,p.dose_adminis tration_history,p.gender,p.la st_dose_received_date,p.last_ dose_received,p.next_followup _date,p.occupation ,p.vaccination_centre_id AS "person_centre_id",p.whether_</pre>

		<pre> commorbidities,p.vaccines_completed,p.vaccination_centre_id,p.all_dose_id_administered,p.is_pregnant,v.id,v.dose_administered_recorded_on,v.dose_expiry_date ,v.dose_followup_date,v.dose_given,v.dose_id,v.dose_name,v.dose_number,v.dose_update_on,v.last_dose,v.vaccination_centre_id AS "dose_centre_id",v."indices.person",v.vaccine_dose_record_type,v.vaccine_name,l.name as "vaccination_centre", ls.name as "state", ld.name as "district",p.dummy_cp ,p.all_conditional_vaccines,substring(ls.location_data,position(', ' in ls.location_data)-6,5) as "iso_3166_2_code" FROM vaccine_doses_case v INNER JOIN person_case p ON p.caseid = v."indices.person" INNER JOIN commcare_locations l ON v.vaccination_centre_id = l.vaccine_site INNER JOIN commcare_locations ls ON l.state=ls.location_id INNER JOIN commcare_locations ld ON l.district=ld.location_id where l.name like 'VS%'; </pre>
vw_household_case	<ul style="list-style-type: none"> ● household_case ● commcare_locations 	<pre> CREATE OR REPLACE View vw_household_case AS Select h.caseid,h.household_date_of_registration,h.household_area_urban_rural,h.vaccination_centre_id,l.name as "vaccination_centre", ls.name as "state", ld.name as "district", h.household_date_of_registration as "date_of_registration" FROM household_case h INNER JOIN commcare_locations l ON h.vaccination_centre_id = l.vaccine_site INNER JOIN commcare_locations ls ON l.state=ls.location_id INNER JOIN commcare_locations ld ON l.district=ld.location_id where l.name like 'VS%'; </pre>
vw_vaccine_stock	<ul style="list-style-type: none"> ● vaccine_stock_form ● commcare_locations 	<pre> CREATE OR REPLACE View vw_vaccine_stock AS Select vs.formid,vs.date_of_stock_in_put,vs.report_potential_stock_out_check,vs.report_oversupply_check,vs.vaccination_centre_id ,l.name as </pre>

		<pre> "vaccination_centre",ls.name as "state", ld.name as "district",substring(ls.locat ion_data,position(',' in ls.location_data)-6,5) as "iso_3166_2_code" FROM vaccine_stock_form vs INNER JOIN commcare_locations l ON vs.vaccination_centre_id = l.vaccine_site INNER JOIN commcare_locations ls ON l.state=ls.location_id INNER JOIN commcare_locations ld ON l.district=ld.location_id where l.name like 'VS%'; </pre>
vw_community_mobilization	<ul style="list-style-type: none"> ● community_mobilization ● commcare_locations 	<pre> CREATE OR REPLACE View vw_community_mobilization AS Select cm.formid,cm.event_session_da te,cm.counselling_type,cm.ses sion_participants,cm.other_pa rticipant ,cm.event_topic ,cm.reasons_antivaccine,cm.se ssion_feedback,cm.date_sessio n_organized,cm.vaccination_ce ntre_id,l.name as "vaccination_centre",ls.name as "state", ld.name as "district",substring(ls.locat ion_data,position(',' in ls.location_data)-6,5) as "iso_3166_2_code" FROM community_mobilization cm INNER JOIN commcare_locations l ON cm.vaccination_centre_id = l.vaccine_site INNER JOIN commcare_locations ls ON l.state=ls.location_id INNER JOIN commcare_locations ld ON l.district=ld.location_id where l.name like 'VS%'; </pre>
vw_adverse_events	<ul style="list-style-type: none"> ● person_case ● adverse_events ● commcare_locations 	<pre> CREATE OR REPLACE View vw_adverse_events AS Select ae.formid,ae.hospitalized_che ck,ae.date_of_hospitalization ,p.vaccination_centre_id,ae.p erson_case_id,ae.side_effect_ dose_name,ae.side_effect_dose _received_date,ae.se_fever_in tensity,ae.se_nausea_intensit y, ae.se_breathing_difficulty_in tensity,ae.se_other_intensity ,ae.side_effects_reported_dat e,ae.se_injection_site_swell_ intensity ,ae.se_loss_of_taste_intensit y,ae.se_diarrhea_intensity,ae .se_injection_site_swell,ae.s e_fever,ae.se_nausea,ae.se_di arrhea,ae.se_loss_of_taste,ae </pre>

		<pre> .se_breathing_difficulty,ae.se e_other,l.name as "vaccination_centre",ls.name as "state", ld.name as "district",ae.dob ,p.all_dose_id_administered,a e.has_adverse_side_effect,ae. case_id,ae.all_vaccines,ae.va ccination_centre_id as "ae_vaccination_centre_id" FROM person_case p LEFT JOIN adverse_events ae ON ae.case_id=p.caseid INNER JOIN commcare_locations l ON ae.vaccination_centre_id = l.vaccine_site INNER JOIN commcare_locations ls ON l.state=ls.location_id INNER JOIN commcare_locations ld ON l.district=ld.location_id where l.name like 'VS%'; </pre>
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Visualizations

Dashboard Tab 1 - Key Program Indicators

This tab is part of the **Vaccine Delivery** micro-application.

Chart Name	Description	Configuration	Data Source
Clients Registered Till Date	<ul style="list-style-type: none"> Total number of clients registered till date. Also shows the percentage change in registrations from last week. Trendline shows the cumulative number of client registrations done by each registration date. Total clients include clients registered both within households or as individual clients. 	http://dvs-demo.dimagi.com/r/10	vw_person_case

<p>Doses Administered Till Date</p>	<ul style="list-style-type: none"> • Total number of doses recorded till date. • Also shows the percentage change in dose administration from last week. • Trendline shows the cumulative number of doses administered by each dose administration date. 	<p>http://dvs-demo.dimagi.com/r/11</p>	<p>vw_person_vaccine_doses</p>
<p>Adverse Events Reported Till Date</p>	<ul style="list-style-type: none"> • Total number of adverse events reported till date. • Also shows the percentage change in adverse events reported from last week. • Trendline shows the cumulative number of adverse events reported by each reporting date. 	<p>http://dvs-demo.dimagi.com/r/12</p>	<p>vw_adverse_events</p>
<p>Clients Fully Vaccinated with COVID-19 Till Date</p>	<ul style="list-style-type: none"> • Total number of clients who have received all doses of the COVID-19 vaccine they were taking. • Also shows the percentage change in clients fully vaccinated from last week. • Trendline shows the cumulative number of clients vaccinated with COVID-19 by each last dose 	<p>http://dvs-demo.dimagi.com/r/14</p>	<p>vw_person_case</p>

	received date.		
Percentage of Infants Fully Vaccinated Per State	<ul style="list-style-type: none"> For each state, Children under 1 year who have completed All Doses of DPT, Hepatitis B, OPV, and First Dose of Measles Vaccine as a percent of all children under 1 year of age in the state. 	http://dvs-demo.dimagi.com/r/15	vw_person_case
Percentage of Population Fully Vaccinated Per State	<p>For each state,</p> <ul style="list-style-type: none"> Infants Fully Vaccinated % - Children under 1 year who have completed All Doses of DPT, Hepatitis B, OPV, and First Dose of Measles Vaccine as a percent of all Children under 1 year of age in the state. Pregnant Women Fully Vaccinated %- Pregnant Women who have completed either 2 doses of Tetanus Diptheria or 1 dose of Tetanus Diptheria Booster as a percent of all Pregnant Women in the state. COVID-19 Fully Vaccinated Population %- 	http://dvs-demo.dimagi.com/r/16	vw_person_case

	<p>Clients who have received all doses of a COVID-19 vaccine as a percent of the entire population of the state.</p>		
Filters	<p>The following filters are applicable to all visualizations on this tab(except the map viz):</p> <ol style="list-style-type: none"> 1) State 2) District 3) Vaccination Centre 		vw_person_vaccine_doses

Dashboard Tab 2 - Population Demographics

This tab is part of the **Client Registry** micro-application.

Chart Name	Description	Configuration	Data Source
Households Registered Till Date	<ul style="list-style-type: none"> • Total number of households registered till date. • Trendline shows the cumulative number of household registrations done by each registration date. 	http://dvs-demo.dimagi.com/r/17	vw_household_case
Clients Registered Till Date	<ul style="list-style-type: none"> • Total number of clients registered till date. • Trendline shows the cumulative number of client registrations done by each registration date. • Total clients 	http://dvs-demo.dimagi.com/r/18	vw_person_case

	include clients registered both within households or as individual clients.		
Registered Clients by Age Group	<ul style="list-style-type: none"> Total number of clients registered belonging to each age group. Age groups are: <ol style="list-style-type: none"> 1) Infant(<=1 year) 2) Child(1-10 years) 3) Adolescent(10-18 years) 4) Adult(>18 years) This chart shows the total number of clients by age group per year by default. Registration Date Time Grain filter can be used to see these numbers for other time periods like month, quarter etc. 	http://dvs-demo.dimagi.com/r/19	vw_person_case
Registered Households By Area Type	<ul style="list-style-type: none"> Total Households Registered by Area Type (Urban or Rural) 	http://dvs-demo.dimagi.com/r/20	vw_household_case
Registered Clients By Occupation	<ul style="list-style-type: none"> Total Clients Registered by Occupation(student, admin, banker, unemployed etc.) 	http://dvs-demo.dimagi.com/r/21	vw_person_case

Filters (All)	<p>The following filters are applicable to all visualizations on this tab:</p> <ol style="list-style-type: none"> 1) State 2) District 3) Vaccination Centre 4) Registration Date - Time Range 5) Registration Date - Time Grain 		<ul style="list-style-type: none"> • vw_person_vaccine_doses(1,2,3) • vw_person_case(4,5)
Filters (ONLY Client)	<p>The following filters are applicable to ONLY client-related visualizations and NOT household-related visualizations on this tab:</p> <ol style="list-style-type: none"> 1) Gender 2) Age Group 3) Pregnancy 4) Comorbidities 		<ul style="list-style-type: none"> • vw_person_case

Dashboard Tab 3 - Vaccine Delivery

This tab is part of the **Vaccine Delivery** micro-application.

Chart Name	Description	Configuration	Data Source
Doses Administered Till Date	<ul style="list-style-type: none"> • Total number of doses recorded till date. • Trendline shows the cumulative number of doses administered by each dose administration date. 	http://dvs-demo.dimagi.com/r/11	vw_person_vaccine_doses

<p>Doses Received By Clients Till Date</p>	<p>For each vaccine,</p> <ul style="list-style-type: none"> • Total number of first dose administered till date. • Total number of clients eligible to receive final dose till date • Total number of final doses administered till date. 	<p>http://dvs-demo.dimagi.com/r/22</p>	<p>vw_person_vaccine_doses</p>
<p>Completely Immunized Infants</p>	<p>From all children under 1 year of age,</p> <ul style="list-style-type: none"> • Fully Immunized - Children under 1 year who have completed All Doses of DPT, Hepatitis B, OPV and First Dose of Measles Vaccine. • Not Fully Immunized - Children under 1 year who haven't received all the aforementioned doses yet. 	<p>http://dvs-demo.dimagi.com/r/23</p>	<p>vw_person_case</p>
<p>Completely Immunized Pregnant Women</p>	<p>From all women eligible to receive TD or TD-Booster vaccines,</p> <ul style="list-style-type: none"> • Fully Vaccinated - women who have received either 2 doses of TD or 1 dose TD- 	<p>http://dvs-demo.dimagi.com/r/24</p>	<p>vw_person_case</p>

	<ul style="list-style-type: none"> Booster Not Fully Vaccinated - women who haven't received all the aforementioned doses yet. 		
Percentage of Eligible Population Fully Vaccinated	Eligible Population Fully Vaccinated as a percent of Total Eligible Population For Each Vaccine Type.	http://dvs-demo.dimagi.com/r/25	vw_person_case
Population Eligible For Each Vaccine	Number of Clients Currently Eligible For Each Vaccine Type	http://dvs-demo.dimagi.com/r/26	vw_person_case
Clients Due for Follow-up Doses	Total number of Clients per vaccine who are currently eligible to receive a follow-up dose, but haven't been administered the dose yet.	http://dvs-demo.dimagi.com/r/43 (NOTE: The chart filters BCG, IPV and COVID-19 J&J vaccines since these are single-dose vaccines, but DVS team created follow-up doses as well for these as part of demo data creation)	vw_person_vaccine_doses
Vaccine Drop-off Rates	Total Number of Clients who did not receive a Follow-up Dose before Expiry Date as a percent of Total Number of Clients who received the First Dose.	http://dvs-demo.dimagi.com/r/27 (NOTE: The chart filters BCG, IPV and COVID-19 J&J vaccines since these are single-dose vaccines, but	vw_person_vaccine_doses

		DVS team created follow-up doses as well for these as part of demo data creation)	
Filters(All)	The following filters are applicable to all visualizations on this tab: <ol style="list-style-type: none"> 1) State 2) District 3) Vaccination Centre 		vw_person_vaccine_doses

Dashboard Tab 4 - Adverse Events Following Immunization

This tab is part of the **AEFI Tracking** micro-application.

Chart Name	Description	Configuration	Data Source
Adverse Events Reported Till Date	<ul style="list-style-type: none"> • Total number of adverse events reported till date. • Trendline shows the cumulative number of adverse events reported by each reporting date. 	http://dvs-demo.dimagi.com/r/33	vw_adverse_events
Adverse Events Reported Per Age Group	Distribution of adverse events reported by clients' age group. <ol style="list-style-type: none"> 1) Infant (<=1 year) 2) Child(1-10 years) 3) Adolescent (10-18 years) 	http://dvs-demo.dimagi.com/r/34	vw_adverse_events

	4) Adult (>18 years)		
Adverse Events Reported Per Vaccine	Total Number of Adverse Events reported per each vaccine type	http://dvs-demo.dimagi.com/r/35	vw_adverse_events
Type of Side-Effects Reported	<ul style="list-style-type: none"> Total number for each type of side-effect reported. This chart shows the total number for each type of side-effect reported per year by default. Event Reported Date Time Grain filter can be used to see these numbers for other time periods like month, quarter etc. 	http://dvs-demo.dimagi.com/r/36	vw_adverse_events
Filters(All)	<p>The following filters are applicable to all visualizations on this tab:</p> <ol style="list-style-type: none"> 1) State 2) District 3) Vaccination Centre 4) Side Effects Reported Date - Time Range 5) Age Group 		<ul style="list-style-type: none"> vw_person_vaccine_doses(1,2,3) vw_adverse_events(4,5)

Dashboard Tab 5 - Community Counselling

This tab is part of the **Community Mobilization and Counselling** micro-application.

Chart Name	Description	Configuration	Data Source
Community Events Organized Till Date	<ul style="list-style-type: none"> Total number of community events organized till date. Trendline shows the cumulative number of community events organized by each session date. 	http://dvs-demo.dimagi.com/r/28	vw_community_mobilization
Total Events by Topic Covered	Total number of times each topic has been covered in a community based event.	http://dvs-demo.dimagi.com/r/29	vw_community_mobilization
Total Events By Participant Type	Total number of times community based events were attended by each participant type.	http://dvs-demo.dimagi.com/r/30	vw_community_mobilization
Reasons for Anti-Vaccine Sentiments	Total number of times each anti-vaccine sentiment was observed during community based events	http://dvs-demo.dimagi.com/r/31	vw_community_mobilization
Word Cloud - Feedback From Sessions	Word cloud depicting feedback received from sessions	http://dvs-demo.dimagi.com/r/32	vw_community_mobilization
Filters(All)	<p>The following filters are applicable to all visualizations on this tab:</p> <ol style="list-style-type: none"> 1) State 2) District 3) Vaccination Centre 		<ul style="list-style-type: none"> vw_person_vaccine_doses(1,2,3) vw_community_mobilization(4,5)

	<p>4) Stock Report Date - Time Range</p> <p>5) Stock Report Date - Time Grain</p>		
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Dashboard Tab 6 - Vaccine Stock Management

This tab is part of the **Facility and Stock Management** micro-application.

Chart Name	Description	Configuration	Data Source
Total Instances of Vaccine Stockout Reported	<ul style="list-style-type: none"> Total number of vaccine stockout reports till date. Also shows the percentage change in vaccine stock outs from last week/month/year etc. depending upon the Time Range selected. Trendline shows the cumulative number of vaccine stock outs reported by each stock report date. 	http://dvs-demo.dimagi.com/r/37	vw_vaccine_stock
Stockouts Reported Per Vaccine Type	Percentage and Total number of stockouts reported per vaccine type	http://dvs-demo.dimagi.com/r/38	vw_vaccine_stock
Stockouts Reported by Vaccination Centres Per Vaccine	Pivot table showing total number of vaccine stock outs reported by each vaccination centre for	http://dvs-demo.dimagi.com/r/39	vw_vaccine_stock

	each vaccine type		
Total Instances of Vaccine Stock Oversupply Reported	<ul style="list-style-type: none"> • Total number of vaccine stock oversupply reports till date. • Also shows the percentage change in vaccine stock oversupply from last week/month/year etc. depending upon the Time Range selected. • Trendline shows the cumulative number of vaccine stock oversupply reported by each stock report date. 	http://dvs-demo.dimagi.com/r/40	vw_vaccine_stock
Stock Oversupply Reported Per Vaccine Type	Percentage and Total number of stock oversupply reported per vaccine type	http://dvs-demo.dimagi.com/r/41	vw_vaccine_stock
Stock Oversupply Reported by Vaccination Centres Per Vaccine	Pivot table showing total number of vaccine stock oversupplies reported by each vaccination centre for each vaccine type	http://dvs-demo.dimagi.com/r/42	vw_vaccine_stock
Filters(All)	The following filters are applicable to all visualizations on this tab: 1) State		<ul style="list-style-type: none"> • vw_person_vaccine_doses(1,2,3) • vw_vaccine_stock(4,5)

	2) District 3) Vaccination Centre 4) Stock Report Date - Time Range 5) Stock Report Date - Time Grain		
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Hacks and Things to Know

- One key thing to know about views is that - [You cannot drop columns from a view in Postgres](#). Hence, if you have already added a column to a view, you cannot remove it. You can always add a new column. Please be aware of this limitation as a view can only support a finite number of columns.
- In the configuration of charts, some of the metrics and visualizations have been hardcoded with date - '2021-09-30'. Basically, current_date has been replaced by this hard-coded date so as to prevent visualizations from dynamically changing with current_date.
- In all the view definition queries, you would find a filter applied - commcare_locations.name LIKE 'VS%'. This is done so that visualizations pick up data only from the locations where genuine error-free data is present on the application's organizational structure.

APPENDIX

1. Open Issues

This section lays out any issues or change requests which are ideal to include in the solution, but could not be picked up due certain limitations.

Issue	Proposed Resolution
<p>Conditional Alerts not possible via Whatsapp if no session activated within the last 24 hours Currently, Conditional alerts are sent to a beneficiary only if they conversed with the bot in the last 24 hours. WA doesn't allow the system to send messages 24 hours after a conversation ends. Only the user can re-initiate conversation or the system can send paid template messages (which are not currently customizable as per each user)</p>	<p>Possible future integrations with custom template messaging that can reinitiate a session. Note: Template messages are paid messages that WA charges as it re-initiates a conversation</p>
<p>Inability to register multiple cases with the same phone number for Messaging workflows in a single project space. As of now, CommCare doesn't support registering multiple cases with the same phone number to communicate with CommCare via SMS/Chatbot. (across multiple project spaces as well!). One phone number can only be assigned to one case on a server.</p>	<ul style="list-style-type: none"> ● Make the following Feature Flags generally available <ul style="list-style-type: none"> ○ Allow multiple contacts to share a single phone number(ONE_PHONE_NUMBER_MULTIPLE_CONTACTS) ○ Inbound SMS leniency on domain-owned gateways.
<p>Not possible to assign clients registered via Chatbot/SMS directly to a location since SMS Registration workflows do not enable access to the locations/lookup tables fixtures.</p>	