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# Software Requirement Specifications

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# Vaccine Logistic Management Information System

**Release: R2** *DRAFT*

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# Revision History

Name	Date	Reason For Changes	Version
Pakistan Field Office		First Draft	1.0
Pakistan Field Office		Additions to Inventory Module	1.1
Pakistan Field Office		Additions to Cold Chain Module	1.2
Pakistan Field Office	2 <sup>nd</sup> September 2014	Additions to Admin Modules	2.0
Pakistan Field Office	10 <sup>th</sup> September 2014	Revision	2.1

# List of Acronyms

CCEM	Cold Chain Equipment Manager
GOP	Government of Pakistan
HF	Health Facility
ICT	Information Communications Technologies
IT	Information Technology
JSI	John Snow, Inc.
LMIS	Logistics Management Information System
MIS	Management Information System
MNHRC	Ministry of National Health Services, Regulation and Coordination
MIPC	Ministry of Inter Provincial Coordination
SDP	Service Delivery Point
SOP	Standard Operating Procedure
UC	Union Council
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

# Campaigns

## in Vaccine Logistics Management Information System

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The *Vaccine Logistics Management Information System Software Specifications (SRS) document* provides information about Vaccine Logistics Management Information System (vLMIS) functions and features.

## Introduction

This document is a part of Software requirements specifications document of Vaccines Logistics Management Information System (vLMIS) web application which includes Campaigns module requirements along-with inventory management, Routine Immunization Consumption reporting and vLMIS administration modules.

Campaigns module is a special type of vaccines consumption and part of Release-2 requirements of vLMIS which will be released in September, 2014.

# Document Conventions

- Underlined text is used for emphasis.
- If there is an outstanding question related to the requirements, it will be noted in red italics and denoted as a question.

For Example, *[QUESTION: why is such and such done in so and so way?]*

- If an item is TBD, it is similar noted, but is prefixed with TBD instead.

For Example, *[TBD: whether such and so field will be dropped]*

- In the Use Cases section, use cases IDs are prefixed with “UC”.

For Example, UC001

# Intended Audience and Reading Suggestions

This document is intended mainly for developers, development partners and Government Officials so that they can easily get important information from system features. This document can also benefit stakeholders, especially EPI managers.

# Campaigns

Supplemental Immunization Activities (SIAs) commonly known as Campaigns against Poliomyelitis or Polio. In the early 20th century, polio was one of the most feared diseases in industrialized countries, paralyzing thousands of children every year. Soon after the introduction of effective vaccines in the 1950s and 1960s, however, polio was brought under control and practically eliminated as a public health problem in these developed countries.

Deriving strength from the experience gained in the developed countries, the World Health Assembly adopted a resolution in 1988, voicing firm resolve of the nations to eradicate polio from the globe through a world-wide Polio Eradication Initiative (PEI). Although the resolution was co-sponsored by Pakistan, PEI was not launched in the country owing to the scarcity of resources. However, PEI assumed top priority in public health in Pakistan in the aftermath of a massive outbreak of polio in 1993 which crippled thousands of children and resulted in the death of hundreds of them.

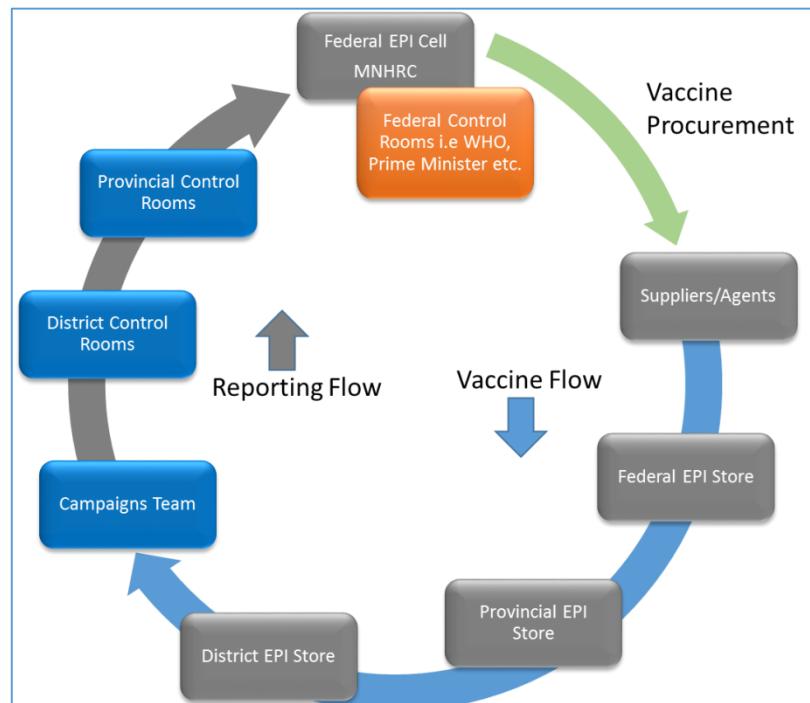
Since then, Supplemental Immunization Activities (SIAs) known as National Immunization Days (NIDs), Sub-national Immunization Days (SNIDs), Short Interval Additional Doses (SIADs), Outbreak Response and Mop-ups are being conducted in the light of the evolving epidemiologic situation in various parts of Pakistan. PEI has to continue till the goal of polio eradication is achieved and Pakistan joins the club of Polio Free Countries.

It is pertinent to mention that, at present, Pakistan is one of the three countries of the world which are polio-endemic. The other two countries are Afghanistan and Nigeria.

Vaccines are administrated to women and children in two type of Immunization Programs, Routine and Campaigns. The campaigns are different from routine Immunization. During routine immunization, people come to the health facility while during campaigns, temporary EPI teams visit door to door and immunize the children to cope with the disease outbreaks. Normally in Pakistan, Polio (Poliomyelitis) and Measles Vaccine campaigns are administered throughout the year.

## Campaign Stock and Reporting Cycle

In Current scenario, the Federal EPI cells arrange vaccines from supplier to country vaccine supply chain i.e. from Federal EPI store to provincial to district EPI store, where it is provided to each Union Council (UC) Team in-charge. Vaccines are supplied to teams through UC in-charge on daily basis. The UC Team provides coverage reports to UC in-charge who in turn, sends data to district control rooms, where data is entered into WHO Microsoft Access based software "SDMS". A file from SDMS is exported and sent to Provincial Control Rooms where that file is imported into SDMS provincial copy. A report is exported into excel and shared with the WHO control room.



# **Enhancements Scope**

**Campaigns:** In vLMIS Release-1, campaigns figures were added on monthly aggregation basis such as routine immunization. However in Release-2, campaigns are introduced as separate module instead of enhancement in consumption reporting module. It is because the users of campaigns module are different as compared to the consumption module.

The scope of this module is limited to the following features in campaigns management:

- Addition of new campaigns, dates, vaccines and other attributes
- Setting up the population targets for each campaigns
- Manage Readiness of campaigns at UC and districts levels
- Data Entry at Districts Control rooms for Campaign days and Catch up days
- Monitoring tool Lot Quality Assurance Sampling (LQAS) data entry
- Monitoring reports at Federal, provincial and districts levels
- Data export for external analysis tools

## **Next Phase Functions**

Until now, no visible analysis is being conducted based on campaign reported data except coverage reporting. Including this module within the Routine Immunization and Logistics features on the same portal will give user an opportunity to have more in-depth analysis. After implementation, an immediate need will emerge. There are a few maps required for analysis such as coverage, etc. However, these additional functions are considered in the design phase if the timeline will allow the mapping team to incorporate in this version. Otherwise, it will be incorporated in future releases.

# **Overall Description**

## **User Types (Campaigns)**

The following actors have been identified as potential users or decision makers at national and provincial levels:

- **National Users**

This category of users will be responsible for adding campaigns, targets and analytical data i.e. reports, graphs and maps. These users will view Monitoring tool reports i.e. Lot Quality Assurance Sampling (LQAS) reports.

- **Provincial Users**

This category of users will be responsible for viewing analytical part i.e. reports, graphs and maps of their provinces. These users will view Monitoring tool reports i.e. Lot Quality Assurance Sampling (LQAS) reports.

- **District Users**

This category of users will be responsible for following functions:

- Manage Readiness of campaigns at UC and districts levels
- Data Entry at Districts Control rooms for Campaign days and Catch up days
- Monitoring tool Lot Quality Assurance Sampling (LQAS) data entry
- Data Export for external analysis tools

## **Assumptions and Dependencies**

- Campaigns and targets will be entered at National level.

Campaign decisions are made at National level and targets for each UC have been set by national users on the basis of population or last campaign consumption and un-covered children.

- Campaign is for a single vaccine product

A Campaign is for a single vaccine product, normally Polio (tOPV, mOPV3, bOPV) or Measles.

## **Functional Requirements (Campaigns)**

System will provide a separate module for immunization campaigns all over the country. This module will contain data entry of each campaign. Data entry is handled on five different screens explained below:

## New Campaign

The Add New Campaign tab allows users to add a campaign which will have details such as type of campaign, targeted vaccines, level, dates and catch up days.

Manage Campaigns

Add New Campaign

Campaign Type	Name	District
Select	<input type="text"/>	<input type="button" value="District"/>
Vaccine	Date From	Catch up days
<input type="button" value="tOPV (Campaign)"/> <input type="button" value="Measles-10 (Campaign)"/> <input type="button" value="TT-20 (Campaign)"/>	<input type="text"/>	<input type="text"/>
	Date To	
		<input type="button" value="Save"/>

## Data Entry History

With the help of Data Entry History tab, users can search the data entry history of different campaigns. By using search filters, the users can narrow down the data entry history for each day of the campaign.

Campaigns Data Entry Details

Campaigns Data Search

Campaigns	Province	District	Product	Day	Search
Select	Select Campaign	Select Province	Select Campaign	Select Campaign	

## Search Campaigns

By using Search Campaigns tab, the users can search the added campaigns. By using filters, the users can narrow down the results. Users can also add and edit campaigns.

Manage Campaigns

Campaigns Search

Campaign Name	Campaign Type	Vaccine	Search	Reset
<input type="text"/>	Select	Select		

Campaigns List

Campaign Name	Product	Campaign Type	Date From	Date To	Action
SNID tOPV (Campaign) 01 Aug 2014	tOPV (Campaign)	SNID	01/08/2014	25/08/2014	Edit
hk	tOPV (Campaign)	Other	19/08/2014	21/08/2014	Edit
Mkm	tOPV (Campaign)	Other	19/08/2014	21/08/2014	Edit

Add New Campaign

## Update Campaign

Using the Update Campaign option, the users can update the campaign information. They can modify the target districts, dates, vaccine, catch up days and campaign type.

Manage Campaigns

Update Campaign		
Campaign Type	Name	District
SNID	SNID tOPV (Campaign) 01 Aug 2014	District
Vaccine	Date From	Catch up days
tOPV (Campaign)	2014-08-01	2
Measles-10 (Campaign)	Date To	
TT-20 (Campaign)	2014-08-25	
		<b>Update</b>

# Target Management

Target management tab allows users to manage data of non-vaccinated children and coverage all over the defined region where the campaign will be held. The users can set the campaign target by three different methods;

- They can import CSV file containing campaign target data.
- Secondly, the users can import data from a previous campaign and,
- Lastly, the users can enter data manually.

Campaigns Target					
Search Target For					
Province		District			
Select Campaign	Campaign Test	Bahawalpur	District	Search	Reset
5	records				
Sr.No.	Province	District	UC	Target	
1	Punjab	Bahawalpur	BHU Kudwala	250	
2	Punjab	Bahawalpur	Hospital Hasilpur	200	
3	Punjab	Bahawalpur	RHC Mubarikpur	500	
4	Punjab	Bahawalpur	RHC Lal Sohanra	-100	
5	Punjab	Bahawalpur	RHC Qaimpur	-100	
6	Punjab	Bahawalpur	RHC Uch Sharif	-100	
7	Punjab	Bahawalpur	THQ Ahmadpur East	-100	
8	Punjab	Bahawalpur	THQ KPT	-100	
9	Punjab	Bahawalpur	THQ Yazman	-100	
Showing 1 to 9 of 9 entries					
<a href="#">Add/Edit</a>		<a href="#">Import</a>		<a href="#">Close</a>	

## Readiness of Campaign Logistics

With the help of Add Campaign Readiness tab, the user can enter the status of different indicators of a campaign at District level. By using these indicators, the National user will make decision on the readiness of a campaign.

### Add Campaign Readiness

Campaign  
Select

Vaccine	Vials Required	Vials Available
No. of tally sheets received	No. of finger markers received	
Arrival date of social mobilization material	Date of DPEC Meeting	
Dco Attended Meeting <input type="checkbox"/>	Remarks	
Edo Attended Meeting <input type="checkbox"/>		
All Members Attended Meeting <input type="checkbox"/>		

**Save**

## Update Campaign Readiness

By using Edit Campaign Readiness, the users can edit/update campaign readiness data, e.g. the vaccine, required vials, number of tally sheets received, number of finger markers received, etc.

Edit Campaign Readiness X

Campaign		
Test Campaign		
Vaccine	Vials Required	Vials Available
<input type="text"/>	<input type="text"/>	<input type="text"/>
No. of tally sheets received	No. of finger markers received	
<input type="text" value="5"/>	<input type="text" value="600"/>	
Arrival date of social mobilization material	Date of DPEC Meeting	
<input type="text" value="2014-08-08 00:00:00"/>	<input type="text" value="2014-10-08 00:00:00"/>	
Dco Attended Meeting <input checked="" type="checkbox"/>	Remarks	
Edo Attended Meeting <input checked="" type="checkbox"/>	<input type="text"/>	
All Members Attended Meeting <input checked="" type="checkbox"/>		
<input type="button" value="Update"/>		

## Readiness of Campaign Logistics (UC Level)

The District users can enter readiness of campaign data at UC level by using Campaign Readiness at UC tab. The result of the readiness indicator status determines that campaign will be carried out or not.

Campaign Readiness at UC

Campaign	UC
Select	Select
Targeted	
Inaccessible Children	No. of mobile teams
Inaccessible Area	No. of fixed teams
Area In-charge	No. of Transit Points
AICs Trained	No. of Teams Trained
Areas with mobile population	Date of UPEC Meeting
<input type="button" value="Save"/>	

## Update Campaign Readiness

With the help of Edit Campaign Readiness tab, the users can edit/update status of campaign readiness indicators.

Edit Campaign Readiness

Campaign	UC
Test Campaign	BHU 183/M
Targeted	
444	
Inaccessible Children	No. of mobile teams
22	12
Inaccessible Area	No. of fixed teams
22	22
Area In-charge	No. of Transit Points
22	2
AICs Trained	No. of Teams Trained
2	5
Areas with mobile population	Date of UPEC Meeting
2	2014-04-08 00:00:00
<input type="button" value="Update"/>	

## Data Entry Campaign Days (Control Room)

By using Campaign Data Search, the users can search the data entry related to campaigns. On this screen, the users can also view detailed information of the campaigns.

Campaigns Data Entry Details

Campaigns Data Search

Campaign	Product	Day
Campaign Test	bOPV	All

5 records

Search:

Sr.No.	UC	Daily Target	Reported Teams	Age 0-5 Months	Age 6-59 Months	Total Coverage	Action
1	B.V.Hospital	0	0	0	0	0	<a href="#">View</a>
2	BHU 1/DNB	23	23	23	23	23	<a href="#">View</a>
3	BHU 106/DB	12,344	343	123	123	246	<a href="#">View</a>
4	Hospital Hasilpur	50	5	75	100	175	<a href="#">View</a>

Showing 1 to 4 of 4 entries

< 1 >

## View Details

View Details Data Entry (Control Room)

Campaign	Product	Day	UC	Daily Target
Campaign Test	bOPV	1 - 05/08/2014	B.V.Hospital	0
Household Visited	Household with Multiple Families			
0	0			
Age 0-5 Months	Age 6-59 Months	Total Coverage		
0	0	0		
Refusal Covered	Covered Mobile Children	Covered NA	Rec. NA	
0	0	0	0	
Rec. Refusal	Reported with Weakness	Zero Dose < Year	No. of Teams Reported	Inaccessible Coverage
0	0	4	0	0
Vials Given	Vials Used	Vials with stage 3 or 4	Vials Returned	
0	0	0	0	

## Data Entry Lot Quality Assurance Sampling (LQAS)

The users can search Lot Quality Assurance Sampling (LQAS) data entries by using LQAS Data Entry Search tab. On this screen, the users can add and edit LQAS data.

### LQAS Data Entry

#### LQAS Data Entry Search

Campaign  
Select

**Search** **Reset**

#### LQAS Data Entry List

10 records per page **Add LQAS**

UC	Surveyor	Checked	Unvaccinated	Remarks	Action
BHU 183/M	abc	12	1	remarks	<b>Edit</b>
BHU Kudwala	6	4	500	Good	<b>Edit</b>

## Add LQAS

### LQAS Data Entry

Campaign Select	Province Select Car	District Select Pro	Uc Select
Surveyor Select	Checked Select	Unvaccinated Select	Remarks Select

**Save**

## Edit LQAS

Edit LQAS Data Entry X

Campaign	Province	District
Mopup b	Punjab	Bahawalp
Unit		
BHU 183/M		
Surveyor		
abc		
Checked	Unvaccinated	Remarks
12	1	remarks
		<b>Update</b>

## Reported UCs

The users need to report per day consumption of particular campaign in a district and the reporting status of these districts can be viewed in Reported UCs tab.

### Reported UCs

#### Reported UCs Search

Campaign	Total UCs	Reported UCs	Reporting Rate
Campaign Test	19	4	21.05%

**Search** **Reset**

#### Reported UCs List

Sr.No.	UC	Reporting Status
1	B.V.Hospital	Reported
2	BHU 1/DNB	Reported
3	BHU 106/DB	Reported
4	BHU 113/DB	Non-Reported
5	BHU 183/M	Non-Reported

# Use Cases

A use case shows a user and a computerized system interacting to reach a goal. The following use cases are based on possible scenarios that may be encountered in different modules. The following use cases are based on possible scenarios that may be encountered in the campaigns module.

## Add Campaign

Use Case ID	UC 001
Level	National user level
Actors	National users
Goal	User need to add new campaign information.
Pre-Conditions	User has access to the campaign module.
Post-Conditions	User can successfully add new Campaign Information.
Stakeholder Interest	User need to add new campaign.
Main Success Scenario Steps	<ol style="list-style-type: none"><li>1. User selects <b>Campaign Type</b>.</li><li>1. In <b>Name</b> field, system shows a read-only name.</li><li>2. User selects multiple <b>Districts</b> from District button.</li><li>3. User selects <b>Vaccine</b>.</li><li>4. User selects campaign <b>From and To</b> date range.</li><li>5. User enters Catch up days.</li><li>6. User clicks <b>Save</b> button to save new campaign information.</li><li>7. System prompts successful saving of data.</li></ol>
Extensions	
Special Requirements	vLMIS web application access.

Requirements	7.1.1
--------------	-------

## Search for Campaign Data Entry Detail

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Campaign Data Entry
Level	User-level
Actors	National users
Goal	User can view the campaign data entry detail.
Pre-Conditions	User has access to view the detail of campaign data entry.
Post-Conditions	User can successfully view detail of Campaign Information.
Stakeholder Interest	User need to view campaign.
Main Success Scenario	<p><b>View Campaign Data Entry Detail</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Data Entry History</b> tab.</li><li>3. System displays <b>Campaign Data Entry Detail</b> screen.</li><li>4. User selects the <b>Campaign</b>.</li><li>5. User selects the <b>Province</b>.</li><li>6. User selects the <b>District</b>.</li><li>7. User selects the <b>Product</b>.</li><li>8. User selects <b>Day</b>.</li><li>9. User clicks <b>search</b>.</li><li>10. System displays searched received data table with the following fields:<ol style="list-style-type: none"><li>a. <b>Serial No</b></li><li>b. <b>UC</b></li><li>c. <b>Daily Target</b></li><li>d. <b>Reported Teams</b></li><li>e. <b>Age 0-5 Months</b></li><li>f. <b>Age 6-59 Months</b></li><li>g. <b>Total Coverage</b></li></ol></li></ol>

	<p><b>11.</b> The last column displays <b>View</b>. User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1. User recovers browser and starts over.
<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

# Search Campaign

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Campaigns
Level	User-level
Actors	National users
Goal	User can view the campaign data.
Pre-Conditions	User has access to view the campaign.
Post-Conditions	User can successfully view Campaign.
Stakeholder Interest	User need to view campaign.
Main Success Scenario	<p><b>View Campaign</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Search Campaigns</b> tab.</li> <li>3. System displays <b>Manage Campaigns</b> screen.</li> <li>4. User enters the <b>Campaign Name</b>.</li> <li>5. User selects the <b>Campaign Type</b>.</li> <li>6. User selects the <b>Vaccine</b>.</li> <li>7. User clicks <b>search</b>.</li> <li>8. System displays searched data table with the following fields:           <ol style="list-style-type: none"> <li>a. <b>Campaign Name</b></li> <li>b. <b>Product</b></li> <li>c. <b>Campaign Type</b></li> <li>d. <b>Date From</b></li> <li>e. <b>Date To</b></li> </ol> </li> <li>9. The last column displays <b>Edit</b>. User can edit campaign.</li> </ol>
Extensions	<p>a. * At any time, browser crashes.</p> <ol style="list-style-type: none"> <li>1. User recovers browser and starts over</li> </ol>

<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

# Campaign Targets

Use Case ID	UC 002
Level	National user level
Actors	National users
Goal	User need to search campaign targets information.
Pre-Conditions	User has access to the campaign module.
Post-Conditions	User can successfully view campaign targets related information.
Stakeholder Interest	User need to search campaign targets information.
Main Success Scenario	<b>View Campaign Targets</b>
Steps	<ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Campaign Targets</b> tab.</li> <li>3. System displays <b>Campaign Targets</b> screen.</li> <li>4. User selects the <b>Search Target For</b>.</li> <li>5. User selects <b>Province</b>.</li> <li>6. User selects the <b>District</b>.</li> <li>7. User clicks <b>search</b>.</li> <li>8. System displays searched received data table with the following fields:           <ol style="list-style-type: none"> <li>a. Serial No</li> <li>b. Province</li> <li>c. District</li> <li>d. UC</li> <li>e. Target</li> </ol> </li> </ol>
Extensions	<p>a.* At any time, browser crashes.      1: User recovers browser and starts over</p>
Special Requirements	vLMIS web application access.
Requirements	7.1.2

## Readiness of Campaign Logistics (District Level)

Use Case ID	UC 003
Level	Districts user level
Actors	District users
Goal	User need to add readiness of campaign logistics (District level) information.
Pre-Conditions	User has access to the campaign module.
Post-Conditions	User can successfully save readiness of campaign logistics (District level) information.
Stakeholder Interest	User need to add save readiness of campaign logistics (District level) information.
Main Success Scenario Steps	<ol style="list-style-type: none"> <li>1. User selects <b>Campaign</b>.</li> <li>2. User enters <b>Vaccines</b>.</li> <li>3. User enters <b>Vials Required</b>.</li> <li>4. User enters <b>Vials Available</b>.</li> <li>5. User enters <b>No. of tally sheets received</b>.</li> <li>6. User enters <b>No of finger marks received</b>.</li> <li>7. User enters <b>Arrival date of social mobilization material</b>.</li> <li>8. User enters <b>date of DPEC Meeting</b>.</li> <li>9. User enters <b>Vaccines</b>.</li> <li>10. User can check mark the <b>Attendees</b>:           <ol style="list-style-type: none"> <li>a. DCO attended the meeting.</li> <li>b. EDO attended the meeting.</li> <li>c. All members attended the meeting.</li> </ol> </li> <li>11. User enters <b>remarks</b>.</li> <li>12. User clicks <b>Save</b> button to save Readiness of Campaign Logistics (District Level) information.</li> <li>13. User can also search the existing records to view.           <ol style="list-style-type: none"> <li>d. User selects Campaign</li> </ol> </li> </ol>

<b>Extensions</b>	User can view search results in the grid.
<b>Special Requirements</b>	vLMIS web application access.
<b>Requirements</b>	7.1.3.

## Readiness of Campaign Logistics (UC Level)

Use Case ID	UC 004
Level	Districts user level
Actors	District users
Goal	User need to add readiness of campaign logistics (UC level) information.
Pre-Conditions	User has access to the campaign module.
Post-Conditions	User can successfully save readiness of campaign logistics (UC level) information.
Stakeholder Interest	User need to add save readiness of campaign logistics (UC level) information.
Main Success Scenario Steps	<ol style="list-style-type: none"> <li>1. User selects Campaign.</li> <li>2. User selects UC.</li> <li>3. In Targeted field, system generates a read-only targeted.</li> <li>4. User enters <b>Inaccessible Children</b>.</li> <li>5. User enters <b>No. of Mobile Teams</b>.</li> <li>6. User enters <b>Inaccessible Area</b>.</li> <li>7. User enters <b>No. of Fixed Teams</b>.</li> <li>8. User enters <b>Area in Charge</b>.</li> <li>9. User enters <b>No. of Transit Points</b>.</li> <li>10. User enters <b>AICs Trained</b>.</li> <li>11. User enters <b>No. of Teams Trained</b>.</li> <li>12. User enters <b>Areas with Mobile Population</b>.</li> <li>13. User selects <b>Date of UPEC Meeting</b>.</li> <li>14. User clicks <b>Save</b> button to save Readiness of Campaign Logistics (UC Level) information.</li> </ol>
Extensions	User can view province/district wise filtered records to view.
Special Requirements	vLMIS web application access.
Requirements	7.1.4

## Data entry campaign days (Control Room)

Use Case ID	UC 005
Level	District user level
Actors	District users
Goal	During campaigns, at the end of each day, District users need to enter coverage of each Union Council.
Pre-Conditions	User has access to the campaign module.
Post-Conditions	User can successfully enter coverage of each Union Council at the end of each day.
Stakeholder Interest	During campaigns, at the end of each day, District users need to enter coverage of each Union Council.
Main Success Scenario Steps	<ol style="list-style-type: none"> <li>1. User selects <b>campaign</b>.</li> <li>2. User selects <b>district</b>.</li> <li>3. User selects <b>UC</b>.</li> <li>4. Following fields will be filled with values automatically after above steps. <ul style="list-style-type: none"> <li>a. Ages 0-5 months</li> <li>b. Age 6-59 months</li> <li>c. Daily target</li> </ul> </li> <li>5. User enters <b>household visited</b>.</li> <li>6. User enters <b>household with multiple families</b>.</li> <li>7. User enters <b>total coverage</b>.</li> <li>8. User enters <b>Rec. reference</b>.</li> <li>9. User enters <b>coverage NA</b>.</li> <li>10. User enters <b>Rec. NA</b>.</li> <li>11. User enters <b>Coverage Mobile children</b>.</li> <li>12. User enters <b>reported with weakness</b>.</li> <li>13. User enters <b>coverage reference</b>.</li> <li>14. User enters <b>inaccessible coverage</b>.</li> </ol>

	<p>15. User enters <b>vials given</b>.</p> <p>16. User enters <b>vials used</b>.</p> <p>17. User enters <b>vials returned</b>.</p> <p>18. User enters <b>vials with stage 3 &amp; 4</b>.</p> <p>19. User clicks <b>Save</b> button to save Campaign days (Control room) information.</p>
<b>Extensions</b>	User can view province/district wise filtered records.
<b>Special Requirements</b>	vLMIS web application access.
<b>Requirements</b>	7.1.5

## Data Entry Catch up

Use Case ID	UC 006
Level	District user level
Actors	District users
Goal	User need to record catchup information.
Pre-Conditions	User has access to the campaign module.
Post-Conditions	User successfully records this information.
Stakeholder Interest	Catch up is an activity of immunization of those children who are missed due to many reasons during campaigns days, user need to record this information.
Main Success Scenario Steps	<ol style="list-style-type: none"><li>1. User selects <b>campaign</b>.</li><li>2. User enter <b>campaign day</b>.</li><li>3. User selects UC</li><li>4. User enters <b>NA covered</b>.</li><li>5. User enters <b>reference covered</b>.</li><li>6. User enters <b>campaign phase</b>.</li><li>7. User enters <b>unrecorded covered</b>.</li><li>8. User clicks <b>Save</b> button to save Data entry Catch up information.</li></ol>
Extensions	User can filters record view by province/district.
Special Requirements	vLMIS web application access.
Requirements	7.1.6

## Data entry Lot Quality Assurance Sampling (LQAS)

Use Case ID	UC 007
Level	District user level
Actors	District users
Goal	User need to add record LQAS findings.
Pre-Conditions	User has access to the campaign module.
Post-Conditions	User successfully adds record of LQAS findings.
Stakeholder Interest	Lot Quality Assurance Sampling (LQAS) is technique of monitoring campaigns, user need to record this information
Main Success Scenario Steps	<ol style="list-style-type: none"><li>1. User selects <b>Campaign</b>.</li><li>2. User selects <b>Province</b>.</li><li>3. User selects <b>District</b>.</li><li>4. User selects <b>UC</b>.</li><li>5. User enters <b>Surveyor</b>.</li><li>6. User enters <b>checked lots</b>.</li><li>7. User enters <b>unvaccinated lots</b>.</li><li>8. User enters <b>Remarks</b>.</li><li>9. User clicks <b>Save</b> button to save information.</li></ol>
Extensions	
Special Requirements	vLMIS web application access.
Requirements	7.1.7

# **Inventory Management**

**2**

## **in Vaccine Logistics Management Information System**

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vLMIS allows the Storekeepers to receive and issue stock (Stock Receive from Supplier) with basic product information which includes reference number, receive date, source of supply, batch number, VVM Type and stage, Expiry and production date, unit price and quantity.

## **Inventory Management**

System also provide some additional features added by the end user so that inventory management feature can provide desired results. These requirements are listed below:

# Product Manufacturer

System will provide an option to select manufacturer of each product. This information is available on vouchers which are received by the Storekeeper so this must be added to the system for future reference if required. Below is the screen for this feature:

The screenshot shows a 'Stock Receive' form with a green header bar labeled 'From Supplier'. The form contains several input fields and dropdown menus. Key fields include:

- Receipt No. (text input)
- Ref No. \* (text input)
- Received From (Funding Source)\* (dropdown menu: GAVI)
- Received Date (text input: 21/08/2014)
- Product \* (dropdown menu: IPV)
- Manufacturer \* (dropdown menu: Select)
- Purpose \* (dropdown menu: Select)
- Batch No. \* (text input)
- Production Date (text input)
- Expiry Date \* (text input)
- Unit Price (US\$) (text input)
- Quantity \* (text input)
- VVM Type (dropdown menu: NA)
- VVM Stage (dropdown menu: NA)
- Cold Chain (text input: Cold Chain)
- Select Cold Chain (dropdown menu: Select Cold Chain)
- Vials (checkbox)
- Comments (Max 300 Char) (text area)
- Save Entry (green button)

## Dynamic VVM Type

System will provide an option to get VVM type of every product through database. When a product is selected on Stock Receive (Supplier) screen, VVM type of that product can be retrieved from the database automatically so the user doesn't need to enter VVM type of each received product. Predefined VVM types of each product will be added to the system. Moreover, Inventory manager will be able to edit/modify VVM type of any product.

## Checksum of Received & Issued Products

System will provide a checksum of all received and issued products based on product category for cross checking the quantity received and/or issued for each product by the system.

Receive List							
Date	Product	Unit	From Warehouse	Received	Batch	Expiry Date	Action
21/08/2014	bOPV (IHR)	Vials	GAVI	20	220	31/01/2020	<button>Delete</button>

**Checksum (All Products)**

Vaccines [Vials/Pcs: 20 Doses: 400]

**Save & Print**

## Enhance Issue and Receive Voucher Printing

System will provide improved print vouchers with summary of received products as shown in the image below. Voucher header will contain information from where the stock is received or issued and the footer area contains the receiving acknowledgments.

Stock Receive Voucher									
R.V.No:		Date: 21/08/14							
202									
Date of Arrival:		21/08/2014							
Source:									
Sr.No.	Vaccine	Batch No.	Quantity		Doses Per Vial	VVM Type	VVM Stage	Production Date	Expiry Date
			Vials	Doses					
1	bOPV (IHR)	220	20	400	20	NA		08/21/2014	01/31/2020
<b>Summary</b>									
<b>Product</b>		<b>Quantity/Dose</b>							
bOPV (IHR)		20 / 400							
Received by - Name: _____					Store In-charge - Name: _____				
Designation: _____					Designation: _____				
Signature: _____					Signature: _____				
<b>Print</b>									

## Date Filters for Stock Receive Search

Stock Receive Search page will show items received in the current month on page load. Dates can be filtered any time to select a period of time.

### Inventory Management

#### Stock Receive Search

Date From 01/08/2014	Date To 21/08/2014	Warehouse/Supplier Select	Product Select
Search by Select		<b>Search</b>	<b>Reset</b>

#### Receive Search

5 records		Search:								
Date	Receive No.	Receive From	Ref. No.	Product	Batch No.	Quantity	Vials/Pcs	Doses	Doses Per Vial	Unit
08/18/2014	R000002	Federal EPI Store		BCG-20	B5555	5	100	20		Vials

## Enhance Search List Print Voucher

System will provide search voucher print with improved formatting for better readability. This voucher print provides information about supplier, reference number, batch number, quantity in number of vials and doses. It also displays the expiry date of related batch.

	Expanded Program on Immunization Government of Pakistan Store: Federal EPI Store								
Stock Receive List as on: 23/04/14									
S. No.	Date	Product	Receive From Warehouse / Supplier	Ref.No.	Batch No.	Quantity			Expiry Date
						Vials/ Pcs	Doses Per Vial	Total Doses	
1	02/04/14	bOPV	IDB	45131881	K5440-2	169,590	20	3,391,800	30/09/15
<b>Criteria:</b> From: 01/04/14, To: 02/04/14 <b>Print Date:</b> 23/04/14 by userepi									
<b>Print</b>									

# Functional Requirements (IM)

## Stock Receive (Warehouse)

With the help of Stock Receive Warehouse tab, the users can search the stock received from warehouse by using issue number. In this screen, the user can also set the VVM Stage and add Adjustments of the received stock.

The screenshot shows a 'Stock Receive' interface with a green header bar labeled 'From Warehouse'. Below it is a table with columns: Product, Batch No., Quantity, VVM Stage, Adjusted Qty, and Adjustment. A dropdown menu is open over the 'VVM Stage' field, showing 'NA'. The 'Adjusted Qty' field contains a value of 20. The 'Adjustment' field has a dropdown menu open, showing 'Theft'. At the bottom of the interface are three input fields: 'Remarks', 'Receive Reference', and 'Received Date' (set to 21/08/2014), followed by a green 'Save' button.

Product	Batch No.	Quantity	VVM Stage	Adjusted Qty	Adjustment
BCG-20	036D2054	20	NA		Theft

Remarks:   
Receive Reference:   
Received Date:  21/08/2014  
Save

## Batch Management

By using Batch Management tab, the users can manage different batches. On this screen, the users can search the batch by setting specific criteria. Furthermore, the user can also change the status of the batch i.e. make it running and make it stacked.

### Batch Management

Vaccine

Status  
 Running  
 Stacked  
 Finished  
 Total (Running + Stacked)

Search Method  
Batch No.  Ref. No.

## Batch List

### Batch List

5 records

Sr.No.	Vaccine	Batch No.	Expiry Date	Qty	Doses	Status	Action
255	AD Syringe 0.05ml	B502	31/08/2014	14,000 Pcs	14,000	Stacked	<input type="button" value="Make it Running"/>
57	BCG-20	036D2050	12/12/2014	0 Vials	0	Finished	
58	BCG-20	036D2051	31/12/2014	0 Vials	0	Finished	
59	BCG-20	036D2052	31/01/2015	0 Vials	0	Finished	
60	BCG-20	036D2053	31/01/2015	0 Vials	0	Finished	
61	BCG-20	036D2054	31/01/2015	0 Vials	0	Finished	
62	BCG-20	036D2054	31/01/2015	6,819 Vials	136,380	Running	<input type="button" value="Make it Stacked"/>

## Stock Issue Search

With the help of Stock Issue Search tab, the users can search issued stock by using different filters i.e. Supplier, Product, Date From and Date To. In results grid, the users can view details related to the issued stock.

Stock Issue Search

▼

Search by	<input style="border: none; width: 100px; height: 25px; background-color: #e0e0e0; font-size: 0.8em;" type="button" value="Select"/>	<input style="width: 150px; height: 25px; border: none;" type="text"/>
Warehouse/Supplier	<input style="border: none; width: 100px; height: 25px; background-color: #e0e0e0; font-size: 0.8em;" type="button" value="Select"/>	Product
<input style="border: none; width: 100px; height: 25px; background-color: #e0e0e0; font-size: 0.8em;" type="button" value="Select"/>	<input style="border: none; width: 100px; height: 25px; background-color: #e0e0e0; font-size: 0.8em;" type="button" value="Select"/>	
Date From	<input style="width: 150px; height: 25px; border: none;" type="text"/>	Date To
<input style="width: 150px; height: 25px; border: none;" type="text"/>	<input style="width: 150px; height: 25px; border: none;" type="text"/>	<input style="border: 1px solid #009640; background-color: #009640; color: white; padding: 2px 10px; font-size: 0.8em;" type="button" value="Search"/> <input style="border: 1px solid #ccc; background-color: #e0e0e0; padding: 2px 10px; font-size: 0.8em;" type="button" value="Reset"/>

## Issues List

Issue Search

▼

5	▼ records		Search: <input style="width: 50px; height: 25px; border: none;" type="text"/>						
Date	Issue No.	Issue To	Ref. No.	Product	Batch No.	Quantity	Unit	Expiry Date	
08/06/2014	I000283	Punjab EPI Store	IR0001000000000000	AD Syringe 0.05ml	BS02	5,000	Pcs	08/31/2014	Del
08/06/2014	I000283	Punjab EPI Store	IR0001000000000000	tOPV (Campaign)	batch0000020000000000	1,000	Vials	08/25/2014	Del
08/06/2014	I000283	Punjab EPI Store	IR0001000000000000	bOPV	AOP4A374AA	1,450	Vials	10/31/2015	Del
08/08/2014	I000284	Punjab EPI Store		AD Syringe 0.05ml	BS02	1,000	Pcs	08/31/2014	Del
08/08/2014	I000285	Punjab EPI Store		Recon. Syr 5ml	Aj001	5,000	Pcs	08/31/2014	Del
08/08/2014	I000286	Punjab EPI Store		Recon. Syr 2ml	Aj100	6,000	Pcs	08/31/2014	Del
08/08/2014	I000287	Punjab EPI Store		IPV	koyebebatch	5,000	Vials	11/25/2014	Del

## Stock Issue

By using Stock Issue tab, the users can issue stock to other warehouses. The users can choose from the available batches and issue the required quantity. The user must also select the purpose of this issuance, i.e. Routine and Campaign.

### Stock Issue

#### New Issue

Issue No.	Date	Issue Reference	
<input type="text"/>	21/08/2014	<input type="text"/>	
Office *	Batch *	VWM Stage	Quantity *
Select	<input type="text"/>	NA	<input type="text"/> Unit
Product *	Expiry Date	Purpose *	
Select	<input type="text"/>	Routine	<input type="button" value="Add Issue"/>
Available			
<input type="text"/>			

## Search Adjustment

With the help of Adjustment tab, the users can search the adjustments and view their related information i.e. Date, Adjustment Number, Reference Number, Product, Batch Number, Quantity, Adjustment Type and Comments.

Adjustments

Stock Adjustment Search

Adjustment No.	Adjustment Type	Product
<input type="text"/>	Select	Select
Date From	Date To	<input type="button" value="Search"/> <input type="button" value="Reset"/>

Search Results

Date	Adjustment No.	Ref. No.	Product	Batch No.	Quantity	Adjustment Type	Comments
08/06/2014	A000001		BCG-20	036D2054	20	Cold Chain Break	

Showing 1 to 1 of 1 entries

## Add Adjustment

By using the Add Adjustment tab, the users can add new adjustment to a particular batch. The users need to provide information regarding the Batch Number, Adjustment Type, Quantity and Comments.

The screenshot shows a web-based application window titled 'Adjustment'. A green header bar contains the title 'New Adjustment'. Below the header, there are several input fields and dropdown menus:

- Adjustment Date \***: A date input field showing '21/08/2014'.
- Ref. No.**: An empty text input field.
- Product \***: A dropdown menu with 'Select' as the current value.
- Batch No. \***: A dropdown menu with 'Select' as the current value.
- Adjustment Type \***: A dropdown menu with 'Select' as the current value.
- Quantity \***: An empty text input field.
- Comment**: A large text area for comments.
- Save**: A green rectangular button at the bottom right.

# Functional Requirements (Stock Placement)

## Manage Location

With the help of manage location tab, the users can add location and view their related information i.e. Location Name, and also can delete the locations.

Location Status		
 Non-Vaccines Location	 Vaccines Location	
101741	101791	101835
400034	400035	400036
400037	400038	400039

## Add Location

Manage Location (Bins)

Location Details			Action
Location Name			Action
A01010101			Delete
B01010101			Delete
C01010101			Delete

Area\* Row\* Rack\*

Select Area Select Row Select Rack

Rack Type\* Pallet\* Level\*

Select Rack Type Select Pallet Select Level

**Add**

# Location Status

## Non-Vaccines

With the help of location status tab, the users can select **Area** and **Level** to show a particular location for allocating the stock.

Location Status

Non-Vaccines Location	Vaccines Location
Area*	Level*
A	01
<input type="button" value="Show Status"/>	
A01010101	
A02010101	

## Stock in Bin

### Non-Vaccines

When user clicks the placement location, the details of the product present at that location will appear.

Stock in Bin A01010101					
Back to Location					
<input type="button" value="Place More"/>					
Product	Batch No.	Carton Quantity	Quantity	Action	
DIL-BCG-20	821	40	800	<input type="button" value="Transfer"/>	
DIL-BCG-20	03337818703	140.2	1402	<input type="button" value="Transfer"/>	
Recon. Syr 2ml	AJ100	400	4000	<input type="button" value="Transfer"/>	

Showing 1 to 3 of 3 entries

## Place More

### Non-Vaccines

To add more stock to this location, click **Add More Stock**. A complete list of received stock will be displayed.

Place Stock at A01010101 from received stock list

**Add boxes of stock to allocate**

Back to Bin							
Date	Receive No.	Product	Batch No.	Packs	Allocated	Un-Allocated	Place Quantity
08/01/2014	R00002	DIL-BCG-20	1-1374	2000	0	2000	
08/01/2014	R00002	DIL-BCG-20	070512039E	13535	0	13535	
08/01/2014	R00002	DIL-BCG-20	070512042E	10643	0	10643	
08/01/2014	R00002	DIL-BCG-20	285-1	288	0	288	
08/01/2014	R00002	DIL-Measles-10	068513031E	5451	0	5451	
08/01/2014	R00002	DIL-Measles-10	068513032E	11061	0	11061	
08/08/2014	R000014	Recon. Syr 2ml	AJ100	2000	1600	400	
20/08/2014	R000024	DIL-BCG-20	821	50	40	10	

**Save**

# Transfer

## Non-Vaccines

Select the location to transfer stock to another location.

### Transfer Stock

Product	Batch No.
DIL-BCG-20	821
Location*	Quantity*
Select Loca ▼	
<b>Transfer</b>	

## Stock Pick

Manage Pick Stock

Pick From Issue Voucher List				
Issue No.				
<input type="text" value="I000319"/> ▾				
Vaccine/Product	Batch No.	Expiry Date	Unpicked Quantity	Action
BCG-20	036D2054	2015-01-31 00:00:00	300	<button>Pick</button>
Pentavalent-1	1452163	2015-05-16 00:00:00	2000	<button>Pick</button>

## Add Stock Pick

Stock Pick

[Back to Manage Pick Stock](#)

Pick Stock

Location	Available Quantity	Pick Quantity
A01010101	4000	<input type="text"/>
D01010101	5000	<input type="text"/>
D04010101	7000	<input type="text"/>

**Pick**

# Functional Requirements (Gate Pass)

## New Gate Pass

Click **New Gate Pass** under the **Manage Gate Pass** tab.

Once a stock has been picked to be transferred to another location, a new gate pass will be created.

To issue a new gate pass, you can specify the following fields:

- **Date From, Date to:** Click on date to expand the date picker tool and select dates.
- **Vehicle Type:** select a vehicle type.
- **Vehicle:** select a vehicle from the list or check other.
- **Issue No.:** select one or multiple issue numbers from the shown list.
- **Date:** Click on date to expand the date picker tool and select date.

The issued products will be displayed in the list. Add the quantity to create gate pass from the issued quantity and click **Save**.

Manage Gatepass

New Gatepass

Product	Batch No.	Issued Quantity	Quantity	Remaining Quantity
tOPV (Campaign)	batch0000020000000000	150		150
AD Syringe 0.05ml	BS02	6000		6000

**Save**

## Gate Pass List

With the help of Gate Pass tab, the users can search the gate pass and view their related information i.e. Gate Pass No, Vehicle Number, Item Name, Product, Batch Number.

### Manage Gatepass

**Gatepass List**

Date From	Date To	Vehicle Type
<input type="text"/>	<input type="text"/>	<input type="button" value="Select Vehicle Type"/>

Item	Batch
<input type="button" value="Select Product"/>	<input type="button" value="Select Item First"/>

10  records per page

S. No.	Gatepass No	Vehicle Number	Item Name	Batch Number
1	12	dfgdfgdfgdf	bOPV	AOP4A348AA
2	2962110508	dfgdfgdfgdf	BCG-20	036D2058
3	3912603853	dfgdfgdfgdf	BCG-20	036D2058
4	1156271701	dfgdfgdfgdf	BCG-20	036D2058
5	3127211770	dfgdfgdfgdf	BCG-20	036D2058
6	1172657708	x-68-2478	bOPV	K5280-1

# Use Cases

A use case shows a user and a computerized system interacting to reach a goal. The following use cases are based on possible scenarios that may be encountered in different modules. The following use cases are based on possible scenarios that may be encountered in the inventory management module.

## Receive Stock from Supplier

Use Case ID	UC 001
Description	Receive stock from supplier
Level	User-level
Actors	National or Provincial Warehouse Operators
Goal	User can receive stock from supplier in vLMIS.
Pre-Conditions	User must be logged into the system and have National or Provincial Store Operator's account.
Post-Conditions	User can successfully enter the received stock in vLMIS
Stakeholder Interest	User wants to enter received stock from warehouses/suppliers.
Main Success Scenario	<b>Stock Receive from Supplier</b> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Stock Receive from Supplier</b> tab.</li><li>3. System displays Stock Receive screen.</li><li>4. In <b>Receipt No.</b> field, system generates a read-only Receipt number.</li><li>5. User enters <b>Ref No.</b></li><li>6. User selects <b>Received From</b>.</li><li>7. User selects <b>Receive Date</b>.</li></ol>

	<p>8. User selects <b>Product</b>.</p> <p>9. User selects <b>Manufacturer</b>.</p> <p>10. User selects <b>Purpose</b>.</p> <p>11. User enters the <b>Batch No.</b></p> <p>12. User selects <b>Production Date</b>.</p> <p>13. User selects <b>Expiry Date</b>.</p> <p>14. User enters <b>Unit Price</b>.</p> <p>15. User enters <b>Quantity</b>.</p> <p>16. User selects <b>VVM Type</b>.</p> <p>17. User selects <b>VVM Stage</b>.</p> <p>18. User selects <b>Cold Chain</b>, if product is vaccine.</p> <p>19. User enters <b>Comments</b>.</p> <p>20. User clicks <b>Save Entry</b>.</p> <p>21. Entry moves to receive list.</p> <p>22. User may repeat steps <b>1 – 14</b>. When the required quantity is added to receive list.</p> <p>23. User is able to view checksum of received products for verification of his entry.</p> <p>24. User clicks <b>Save &amp; Print</b>.</p> <p><b>25.</b> System prompts successful saving of data.</p>
<b>Extensions</b>	<p>a.* At any time, browser crashes. User recovers browser and starts over.</p> <p>7a: User presses OK without selecting Warehouse. System prompts users to select warehouse for generating report.</p>
<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

# Search for Stock Data Received

(National, Provincial, Divisional, District, Tehsil Operators)

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Stock Data Received
Level	User-level
Actors	National, Provincial, Divisional, District and Tehsil Warehouse Operators
Goal	User can view the stock received in vLMIS for his assigned warehouses.
Pre-Conditions	User must be logged into the system and have National, Provincial, Divisional District or Tehsil Store Operator's account.
Post-Conditions	User can successfully view the issued stock in vLMIS.
Stakeholder Interest	User wants to view stock issued to warehouses/suppliers.
Main Success Scenario	<p><b>View Stock received</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Receive Search</b> tab.</li><li>3. System displays Stock Receive screen.</li><li>4. User selects the <b>To</b> and <b>From</b> Date.</li><li>5. User selects <b>Warehouse/Supplier</b>.</li><li>6. User selects the <b>Product</b>.</li><li>7. User selects one of the following:<ol style="list-style-type: none"><li>a. <b>Receive No.</b> to search for a record using this option, select Receive No. and then specify the issue no. in the adjacent text box.</li><li>b. <b>Receive Ref.</b> to search for a record using this option, select Receive Ref. and then specify the issue ref. in the adjacent text box.</li><li>c. <b>Batch No.</b> to search for a record using this option, select Batch No. and then specify the Batch No. in the adjacent text box.</li></ol></li></ol>

	<p>8. User clicks <b>search</b>.</p> <p>9. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. Date</li> <li>b. Receive No</li> <li>c. Receive from</li> <li>d. Ref No</li> <li>e. Product</li> <li>f. Batch No</li> <li>g. Quantity</li> <li>h. Doses Per Vial</li> <li>i. Unit</li> <li>j. Expiry Date</li> </ul> <p>10. The last column displays <b>Delete</b>.</p> <p>User can delete record.</p>
<b>Extensions</b>	<p>a.* At any time, browser crashes.</p> <p>1. User recovers browser and starts over</p> <p>7a: User presses OK without selecting Warehouse.</p> <p>1. System prompts users to select warehouse for generating report</p>
<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

# Stock Receive Warehouse

Use Case ID	UC 003
Description	Stock Receive from warehouse
Level	User-level
Actors	National or Provincial Warehouse Operators
Goal	User can stock receive from warehouse in vLMIS.
Pre-Conditions	User must be logged into the system and have National or Provincial Store Operator's account.
Post-Conditions	User can successfully receive the stock in vLMIS.
Stakeholder Interest	User wants to receive stock from warehouses.
Main Success Scenario	<p><b>Stock Receive</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Stock Receive Warehouse from</b> stock receives warehouse tab.</li> <li>3. System displays Stock Receive Warehouse screen.</li> <li>4. User enters <b>Issue No</b></li> <li>5. User clicks <b>Search</b>.</li> <li>6. Entry moves to list.</li> <li>7. <b>Product, Batch No and Quantity</b> fields, show in list.</li> <li>8. User selects <b>VVM Stage</b>.</li> <li>9. User enters <b>Adjusted Qty</b>.</li> <li>2. In <b>Adjustment</b> field, system generates a read-only adjustment.</li> <li>10. User enters <b>Remarks</b>.</li> <li>11. User enters <b>Receive Reference</b>.</li> <li>12. User selects <b>Receive Date</b>.</li> <li>13. User select check box to <b>Save</b>.</li> <li>14. System prompts successful saving of data.</li> </ol>
Extensions	<p>a.* At any time, browser crashes. 1: User recovers browser and starts over.</p>

<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

# Batch Management

Use Case ID	UC 004
Description	Batch Management
Level	User-level
Actors	National or Provincial Warehouse Operators
Goal	User can search batches and change batch status in vLMIS.
Pre-Conditions	User must be logged into the system and have National or Provincial Store Operator's account.
Post-Conditions	User can successfully manage the batch in vLMIS.
Stakeholder Interest	User wants to manage batch.
Main Success Scenario	<p><b>Batch Management</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Batch Management</b> from batch management tab.</li><li>3. System displays <b>Batch Management</b> screen.</li><li>4. User selects <b>Vaccine</b>.</li><li>5. User selects <b>Status</b>.</li><li>6. User enters <b>Batch No.</b></li><li>7. User enters <b>Reference No.</b></li><li>8. User clicks <b>Search</b>.</li><li>9. System displays searched data table with the following fields:<ol style="list-style-type: none"><li>a. <b>Serial No</b></li><li>b. <b>Vaccine</b></li><li>c. <b>Batch No</b></li><li>d. <b>Expiry Date</b></li><li>e. <b>Quantity</b></li><li>f. <b>Doses</b></li><li>g. <b>Status</b></li></ol></li></ol>

	<b>10.</b> Status can change by clicking button of <b>Make it Running</b> and <b>Make it Stacked</b> .
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over.
<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

## Stock Issue

Use Case ID	UC 005
Description	Stock Issue
Level	User-level
Actors	National or Provincial Warehouse Operators
Goal	User can issue stock in vLMIS.
Pre-Conditions	User must be logged into the system and have National or Provincial Store Operator's account.
Post-Conditions	User can successfully issue the stock in vLMIS
Stakeholder Interest	User wants to issue stock from warehouses.
Main Success Scenario	<p><b>Stock Issue</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Stock Issue from</b> stock issue tab.</li> <li>3. System displays Stock Issue screen.</li> <li>4. In <b>Issue No.</b> field, system generates a read-only Issue number.</li> <li>5. User selects <b>Date</b>.</li> <li>6. User enters <b>Issue Reference</b>.</li> <li>7. User selects <b>Office Type</b>.</li> <li>8. System populates <b>Warehouse</b>.</li> <li>9. User selects <b>Warehouse</b>.</li> <li>10. User selects <b>Product</b>.</li> <li>11. User selects the <b>Batch No.</b></li> <li>12. User selects <b>VVM Stage</b>.</li> <li>13. User enters <b>Quantity</b>.</li> <li>14. In <b>Available</b> field, system populates inserted quantity.</li> <li>15. User selects <b>Expiry Date</b>.</li> <li>16. User selects <b>Purpose</b>.</li> <li>17. User clicks <b>Add Issue</b>.</li> </ol>

	<p><b>18.</b> Entry moves to stock issue list.</p> <p><b>19.</b> User can delete record from record list.</p> <p><b>20.</b> User clicks <b>Save &amp; Print</b>.</p> <p><b>21.</b> System prompts successful saving of data.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

# Search for Stock Issue

(National, Provincial, Divisional, District, Tehsil Operators)

Use Case ID	UC 006 (Previously UC 00)
Description	Search for Stock Issue
Level	User-level
Actors	National, Provincial, Divisional, District and Tehsil Warehouse Operators
Goal	User can view the stock issued in vLMIS for his assigned warehouses.
Pre-Conditions	User must be logged into the system and have National, Provincial, Divisional District or Tehsil Store Operator's account.
Post-Conditions	User can successfully view the issued stock in vLMIS.
Stakeholder Interest	User wants to view stock issued.
Main Success Scenario	<p><b>View Stock Issued</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Stock Issue Search</b> tab.</li><li>3. System displays Stock Issue screen.</li><li>4. User selects one of the following:<ol style="list-style-type: none"><li>a. <b>Issue No.</b> to search for a record using this option, select Issue No. and then specify the issue no. in the adjacent text box.</li><li>b. <b>Issue Ref.</b> to search for a record using this option, select Issue Ref. and then specify the issue ref. in the adjacent text box.</li><li>c. <b>Batch No.</b> to search for a record using this option, select Batch No. and then specify the Batch No. in the adjacent text box.</li></ol></li><li>5. User selects <b>Warehouse/Supplier</b>.</li><li>6. User selects the <b>Product</b>.</li><li>7. User selects the <b>To</b> and <b>From</b> Date.</li><li>8. User clicks <b>search</b>.</li></ol>

	<p>9. System displays searched issued data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. Date</li> <li>b. Issue No.</li> <li>c. Issue To</li> <li>d. Ref No.</li> <li>e. Product</li> <li>f. Batch No.</li> <li>g. Quantity</li> <li>h. Unit</li> <li>i. Expiry Date</li> </ul> <p>10. The last column displays <b>Delete</b>. User can delete record.</p>
Extensions	<p>a.* At any time, browser crashes.</p> <ol style="list-style-type: none"> <li>1. User recovers browser and starts over.</li> </ol>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Add Adjustment

Use Case ID	UC 007
Description	Add Adjustment
Level	User-level
Actors	National or Provincial Warehouse Operators
Goal	User can add adjustment in vLMIS.
Pre-Conditions	User must be logged into the system and have National or Provincial Store Operator's account.
Post-Conditions	User can successfully add adjustment the stock in vLMIS
Stakeholder Interest	User wants to add adjustment.
Main Success Scenario	<p><b>Add Adjustment</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Add Adjustment from</b> add adjustment tab.</li><li>3. System displays Add Adjustment screen.</li><li>4. In <b>Issue No</b> field, system generates a read-only Issue number.</li><li>5. User selects <b>Adjustment Date</b>.</li><li>6. User enters <b>Reference No.</b></li><li>7. User selects <b>Product</b>.</li><li>8. User selects the <b>Batch No.</b></li><li>9. In <b>Available</b> field, system generates a read-only quantity.</li><li>10. User selects <b>Adjustment Type</b></li><li>11. User enters <b>Quantity</b>.</li><li>12. User enters <b>Comment</b>.</li><li>13. User clicks <b>Save</b>.</li><li>14. System prompts successful saving of data.</li></ol>
Extensions	a.* At any time, browser crashes. <ol style="list-style-type: none"><li>1. User recovers browser and starts over</li></ol>

<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

# Search for Adjustments

(National, Provincial, Divisional, District, Tehsil Operators)

Use Case ID	UC 008 (Previously UC 00)
Description	Search for Stock Adjustment
Level	User-level
Actors	National, Provincial, Divisional, District and Tehsil Warehouse Operators
Goal	User can view the stock adjustment in vLMIS.
Pre-Conditions	User must be logged into the system and have National, Provincial, Divisional District or Tehsil Store Operator's account.
Post-Conditions	User can successfully view the adjustment stock in vLMIS.
Stakeholder Interest	User wants to view adjustment stock.
Main Success Scenario	<p><b>View Stock Adjustment</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Search Adjustment</b> tab.</li><li>3. System displays Stock Adjustment screen.</li><li>4. User enters the <b>Adjustment No.</b></li><li>5. User selects <b>Adjustment Type</b>.</li><li>6. User selects <b>Product</b>.</li><li>7. User selects <b>From</b> and <b>To</b> Date.</li><li>8. User clicks <b>search</b>.</li><li>9. System displays searched adjustment data table with the following fields:<ol style="list-style-type: none"><li>a. Date</li><li>b. Adjustment No.</li><li>c. Reference No.</li><li>d. Product</li><li>e. Batch No.</li></ol></li></ol>

	<p>f. Quantity</p> <p>g. Adjustment Type</p> <p>h. Comments</p>
Extensions	<p>a.* At any time, browser crashes.</p> <p>1. User recovers browser and starts over.</p>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Manage Location

Use Case ID	UC 007
Description	Manage Location
Level	User-level
Actors	National or Provincial Warehouse Operators
Goal	User can add locations in vLMIS.
Pre-Conditions	User must be logged into the system and have National or Provincial Store Operator's account.
Post-Conditions	User can successfully add location in vLMIS
Stakeholder Interest	User wants to add location.
Main Success Scenario	<p><b>Add Location</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Add from</b> manage location tab.</li> <li>3. System displays manage location screen.</li> <li>4. User selects <b>Area</b>.</li> <li>5. User enters <b>Row</b>.</li> <li>6. User selects <b>Rack</b>.</li> <li>7. User selects <b>Rack Type</b>.</li> <li>8. User selects <b>Pallet</b></li> <li>9. User selects <b>Level</b>.</li> <li>10. User clicks <b>Add</b>.</li> <li>11. System prompts successful saving of data.</li> </ol>
Extensions	<p>a.* At any time, browser crashes.</p> <ol style="list-style-type: none"> <li>1. User recovers browser and starts over</li> </ol>
Requirements	Reference to corresponding system requirements.

Notes/Issues	None
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# Routine Immunization

3

## in Vaccine Logistics Management Information System

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This section explains the step-by-step instructions on the routine immunization features that can be used by the Vaccine Logistics Management Information system's users.

### Routine Immunization

System should allow the data provider to add vaccine logistics data to vLMIS for each Warehouse/EPI Centre. District Operators will enter data for District offices. Many EPI Center will send data to a central point in Tehsil and this tehsil operator will enter data in vLMIS against individually defined EPI Centers. Data can be entered for each month on or after the 1st date of the next month. Data entry operators can edit data for the last entered month for that warehouse/EPI Centre.

## Vaccine Consumption Data Entry Fields for EPI Centre Operators

Product	Opening Balance Doses/Pcs	Received Doses/Pcs	Dispensed Doses/Pcs	Vials Used Vials/Pcs	Unusable vials Vials/Pcs	Closing Balance Doses/Pcs	Nearest Expiry
	Doses	Doses	Doses	Vials			Date
	OB	RCV	DSP	OPVL		CB	

*Dark Gray Columns will be calculated automatically.*

## Edit/modify data of previous months

Data entry operator will be able to update data of any previous month in the list.

## Disable Vials used for non-vaccine products

System will restrict the data entry operator to add value for vials used in case of non-vaccine products.

These include syringes, safety boxes etc.

# Non-Vaccine Product Consumption Data Entry form for EPI Centre Operators

Product	Opening Balance Doses/Pcs	Received Doses/Pcs	Dispensed Doses/Pcs	Vials Used Vials/Pcs	Unusable vials Vials/Pcs	Closing Balance Doses/Pcs	Nearest Expiry
	Doses	Doses	Doses	Vials			Date
	OB	RCV	DSP	OPVL		CB	

Dark Gray Columns will be calculated automatically.

AD Syringe 0.5ml	125	800	755	755	0	170	0
AD Syringe 0.05ml			117	117	0	9	0
Recon. Syr 2ml	4	5	9	9	0	1	0
Recon. Syr 5ml	7	20	19	19	0	8	0
Safety Box	4	8	9	9	0	3	0
<input type="button" value="Save"/> <input type="button" value="Cancel"/>							

**Disabled Vials used with non-vaccine products**

# Monthly Consumption Form Print

System provides an option to print the monthly consumption form.

Product	Opening Balance		Received		Dispensed		Vials Used	Unusable Vials	Closing Balance	Nearest Expiry
	Doses/Pcs		Doses/Pcs	Doses/Pcs	Vials/Pcs	Vials/Pcs	Doses/Pcs			
bOPV	0		0	0	0	0	0	0	0	
mOPV1	0		0	0	0	0	0	0	0	
tOPV	40		360	297	17	0	0	60		
tOPV (Campaign)	0		0	0	0	0	0	0		
BCG-20	40		160	117	9	0	0	20		
Pentavalent-1	52		250	225	225	0	0	77		
Pneumococcal-2 (PCV10)	64		260	225	121	0	0	82		
Measles-10	70		200	155	19	0	0	80		

# Use Cases

A use case shows a user and a computerized system interacting to reach a goal. The following use cases are based on possible scenarios that may be encountered in different modules. The following use cases are based on possible scenarios that may be encountered in the monthly stock consumption module.

## Monthly Consumption Data (EPI Operators)

Use Case ID	UC 001
Description	Report Monthly Consumption Data
Level	User-level
Actors	EPI Operators
Goal	User can submit monthly warehouse reports in vLMIS for his assigned warehouses/EPI Centers.
Pre-Conditions	User must be logged into the system and have an EPI Operator's account.
Post-Conditions	User can successfully submit monthly warehouse reports in vLMIS for his assigned warehouses/EPI Centers.
Stakeholder Interest	User wants to submit monthly report for assigned warehouses/EPI Centers.
Main Success Scenario	<p>General</p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Monthly Consumption</b> tab.</li><li>3. System displays Monthly Consumption screen.</li><li>4. User selects the warehouse.</li><li>5. System displays the last submitted report link.</li></ol>

6. User clicks the report link.
7. System displays the last submitted warehouse/EPI Center report.
8. System populates the following fields:
  - a. Vaccines: displays the vaccine products
  - b. Opening Balance = Beginning balance from the remaining balance of previous reporting period.
  - c. Received = Total Quantity Received
  - d. Dispensed = Total Quantity Dispensed/Issued from that warehouse
  - e. Vials used = No. of vaccines vials opened during the month.
  - f. Unusable Vials = No. of vials that were not usable.
  - g. Closing Balance = Quantity remaining at month's end.
  - h. Nearest Expiry = the nearest expiry date of the vaccine.
9. User enters data for the month in all fields.
10. User clicks **Save**.  
System prompts successful saving of data.

#### **Reset Report**

1. User logs in.
2. User clicks **Monthly Consumption** tab.
3. System displays Monthly Consumption screen.
4. User selects the warehouse.
5. System displays the last submitted report link.
6. User clicks the report link.
7. System displays the last submitted warehouse report.
8. User clicks **RESET DATA** to reset data.
9. System provides the following fields for data entry:
  - a. Opening Balance = Beginning balance from the remaining balance of previous reporting period.
  - b. Received = Total Quantity Received
  - c. Dispensed = Total Quantity Dispensed/Issued from that warehouse
  - d. Vials used = No. of vaccines vials opened during the month.
  - e. Unusable Vials = No. of vials that were not usable.
  - f. Closing Balance = Quantity remaining at month's end.
  - g. Nearest Expiry = the nearest expiry date of the vaccine.
10. User clicks **Save**.

11. System prompts successful saving of data.

#### **Edit Report**

1. User logs in.
2. User clicks **Monthly Consumption** tab.

	<p><b>3.</b> System displays Monthly Consumption screen.</p> <p><b>4.</b> User selects the warehouse.</p> <p><b>5.</b> System displays the last submitted report link.</p> <p><b>6.</b> User clicks the report link.</p> <p><b>7.</b> System displays the last submitted warehouse report.</p> <p><b>8.</b> User can edit the data in the following fields:</p> <ul style="list-style-type: none"> <li><b>a.</b> Opening Balance = Beginning balance from the remaining balance of previous reporting period.</li> <li><b>b.</b> Received = Total Quantity Received</li> <li><b>c.</b> Dispensed = Total Quantity Dispensed/Issued from that warehouse</li> <li><b>d.</b> Vials used (only in case of vaccines) = No. of vaccines vials opened during the month.</li> <li><b>e.</b> Unusable Vials = No. of vials that were not usable.</li> <li><b>f.</b> Closing Balance = Quantity remaining at month's end.</li> <li><b>g.</b> Nearest Expiry = the nearest expiry date of the vaccine.</li> </ul> <p><b>9.</b> User clicks <b>Save</b>.</p> <p><b>10.</b> System prompts successful saving of data.</p> <p><b>11.</b> User can print monthly stock consumption form after save.</p>
<b>Extensions</b>	<p>a.* At any time, browser crashes.</p> <ol style="list-style-type: none"> <li>1. User recovers browser and starts over</li> </ol> <p>7a. User presses OK without selecting Warehouse.</p> <ol style="list-style-type: none"> <li>1. System prompts users to select warehouse for generating report</li> </ol>
<b>Requirements</b>	<p>Reference to corresponding system requirements.</p> <p>7.3.1</p>
<b>Notes/Issues</b>	None

# **Admin Module**

**4**

## **in Vaccine Logistics Management Information System**

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This section explains the step-by-step instructions on the general admin that can be used by the Vaccine Logistics Management Information system's administrator.

### **General Admin**

The following requirements apply to the administrator of vLMIS. The vLMIS administrator can only manage and administer all control data.

# Functional Requirements

## Manage ACL

### Assign Role Resources

The Assign Role Resources tab admin can be used to manage roles and their resources. These roles and resources are user-level specific. Through the manage role resources screen, admin can search, assign various resources to the roles and delete the undesired entries.

The mentioned screens are given below.

### Assign Resources to Role

Role Search	
Role name	Role Description
admin	
<input type="button" value="Search"/>	

### Resource List

Resource List		Assign Resources to Roles		
Resource name	Description	Resource type	Level	Action
admin/manage-lists/add	manage list add	Others	1	<input type="button" value="Delete"/>
campaign/manage-campaigns/ajax-get-ucs	ajax get ucs	Others	1	<input type="button" value="Delete"/>
admin/manage-locations/ajax-edit	manage locations ajax edit	Others	1	<input type="button" value="Delete"/>
iadmin/manage-locations/delete	delete locations	Others	1	<input type="button" value="Delete"/>
iadmin/manage-locations/get-location-types	get location types	Others	1	<input type="button" value="Delete"/>

## Add Resource

Add Resource X

Role Name	Resource Name
admin	- Cadmin - manage users update
Permission	
ALLOW	
<span style="background-color: green; color: white; padding: 5px 10px;">Save</span>	

## Manage Resources

With the help of Manage Resources tab, the admin can manage system resources, which can be visible to different user levels. Admin can search, add, edit and delete resources through manage resources screen.

The mentioned screens are given below.

The screenshot shows the 'Manage Resources' interface. At the top is a green header bar with the title 'Manage Resources'. Below it is a 'Resource Search' section with fields for 'Resource name' (a text input field), 'Resource type' (a dropdown menu set to 'Select'), and a 'Search' button. The main area is titled 'Resource List' and contains a table with the following data:

Resource name	Description	Resource type	Level	Action
cadmin/index/index	Home	Menu Items	1	<button>Edit</button> <button>Delete</button>
cadmin/manage-asset-sub-types/index	Manage asset sub types	Menu Items	1	<button>Edit</button> <button>Delete</button>
cadmin/manage-health-facility	List Health Facility	Menu Items	1	<button>Edit</button> <button>Delete</button>
cadmin/manage-health-facility/index	Manage Health Facility	Menu Items	1	<button>Edit</button> <button>Delete</button>
cadmin/manage-lists/index	Manage Lists	Menu Items	1	<button>Edit</button> <button>Delete</button>

## Add Resource

### Add Resource

Resource Name	Description
<input type="text"/>	<input type="text"/>
Resource Type Id	Parent
Select	Select
Rank	Level
1	1
<button>Save</button>	

### Edit Resource

### Edit Resource

Resource Name	Description
<input type="text" value="cadmin/index/index"/>	<input type="text" value="Home"/>
Resource Type Id	Parent
Menu Items	Select
Rank	Level
1	1
<button>Update</button>	

## Manage Roles

With the help of Manage Roles tab admin can manage system roles, which can be visible to different user levels. Admin can search, add, edit and delete roles through manage roles screen.

The mentioned screens are given below.

### Manage Roles

#### Role Search

Role name	Role Description	Search
-----------	------------------	--------

#### Role List

Role Name	Description	Category	Created Date	Action
admin	Admin	Inventory Management	2014-05-07 00:00:00	<button>Edit</button> <button>Delete</button>
campaign-district	Campaign District User	Campaign	2014-06-30 14:15:07	<button>Edit</button> <button>Delete</button>
campaign-national	Campaign National User	Campaign	2014-06-30 14:15:01	<button>Edit</button> <button>Delete</button>
campaign-provincial	Campaign Provincial User	Campaign	2014-06-30 14:15:04	<button>Edit</button> <button>Delete</button>
ccemanager-national	Cold chain Equipment Module Manager National level	Cold chain equipment module	2014-06-30 14:14:55	<button>Edit</button> <button>Delete</button>

## Add Role

Add Role X

Role Name	Description
<input type="text"/>	<input type="text"/>
Category	Status
Select <span style="border: 1px solid #ccc; padding: 2px 10px;">▼</span>	Active <span style="border: 1px solid #ccc; padding: 2px 10px;">▼</span>
<span style="background-color: green; color: white; padding: 5px 10px; border-radius: 5px;">Save</span>	

## Edit Role

Edit Role X

Role Name	Description
<input type="text" value="admin"/>	<input type="text" value="Admin"/>
Category	Status
Inventory M <span style="border: 1px solid #ccc; padding: 2px 10px;">▼</span>	Active <span style="border: 1px solid #ccc; padding: 2px 10px;">▼</span>
<span style="background-color: green; color: white; padding: 5px 10px; border-radius: 5px;">Update</span>	

# Manage Products

## Products

With the help of Products tab admin can manage system products, which are visible to different user levels. Admin can search, add and edit product through manage product screen.

The mentioned screens are given below.

The screenshot shows a web-based application for managing products. At the top, there is a green header bar labeled "Products". Below it is a "Products Search" section with four input fields: "Product" (text input), "Item Category" (dropdown menu with "Select" option), "Item Unit" (dropdown menu with "Select" option), and "Group" (dropdown menu with "Select" option). Below the search section is a "Search" button (green) and a "Reset" button (blue).

Below the search section is a "Products List" section. It includes a dropdown for "records per page" set to "10" and an "Add Product" button (green). A table lists five products:

Product	Item Category	Item Unit	Group	Action
Test-pr10121	Vaccines1	Doses	OPV	Edit
BCG-20	Vaccines1	Vials	BCG	Edit
Pentavalent-1	Vaccines1	Vials	Pentavalent	Edit
IPV	Vaccines1	Vials	OPV	Edit

At the bottom of the list, it says "Showing 1 to 4 of 4 entries".

## Add Product

Add Product X

List Rank	Item Category	Item Unit	Group
Select ▾	Select ▾	Select ▾	Select ▾
Product	Description	Percent Population Covered	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
<span style="background-color: green; color: white; padding: 5px 10px;">Save</span>			

## Edit Product

Edit Product X

List Rank	Item Category	Item Unit	Group
4 ▾	Vaccines1 ▾	Vials ▾	BCG ▾
Product	Description	Number of Doses	
<input type="text"/> BCG-20	<input type="text"/>	<input type="text"/> 20	
<span style="background-color: green; color: white; padding: 5px 10px;">Update</span>			

## Setup Barcode

With the help of Setup Barcode tab admin can manage system barcode setting up, which can visible to different user levels. Admin can search, add, edit, detail, delete product through manage setup barcode screen.

The mentioned screens are given below.

Setup Barcode

Add Barcode

Product*	Manufacturer*
Select Product	Select Manufacturer

Barcode Type*	Item GTIN
Select Barcode Type	

Pack Size*	Length	Width	Height

Expiry Date Format	Vials/Pcs
Select Expiry Date Format	

Volume (CM3)

Per Vial/PC
<input type="checkbox"/> This product don't have barcode

**Add**

Product	Manufacturer	Barcode TType	Vials Per Pack	Volume	Action
BOPV	GSK	Non GS1	10	10.00	<b>Edit</b> <b>Detail</b> <b>Delete</b>
BCG-20	GSK	GS1 Data Matrix	20	100.00	<b>Edit</b> <b>Detail</b> <b>Delete</b>

## Update Barcode

Update Barcode ×

Product*	Manufacturer*
bOPV	GSK
Barcode Type*	Item GTIN
Non GS1	testGTIN
Pack Size*	1000      123      123      123
Expiry Date Format	Vials/Pcs
yyyy-mm-d	10
Per Pack	
Volume	
10.00	
Per Vial/PC	This product don't have barcode <input checked="" type="checkbox"/>
<b>Update</b>	

## Product Barcode Detail

Product Barcode Detail				
Product				
BCG-20				
Barcode Type				
GS1 Data Matrix				
Barcode	GTINNo	Batch Lot NO	Expiry Date	
Start Position				
End Position				
Pack Size	200	500	300	200
Vials/Pcs		Expiry Date Format		
20		yyyy-mm		
Volume				
100.00				
0	This product don't have barcode			

## Item Categories

With the help of Item Categories tab admin can manage system item categories e.g. vaccines and non-vaccines. Admin can search, add, edit, delete item categories through manage item categories screen.

The mentioned screens are given below.

### Item Categories

#### Item Categories Search

Item Category  Search Reset

#### Item Categories List

10 ▾ records per page Add Item Category

Item Category	Action
Vaccines1	<button>Edit</button>
Non-Vaccines	<button>Edit</button>

## Add Item Category

### Add Item Category

Item Category

Save

## Edit Item Category

### Edit Item Category

Item Category

## Item Groups

With the help of Item Groups tab admin can manage system item groups, which can be visible to different user levels. Admin can search, add and edit product through manage item groups screen.

The mentioned screens are given below.

The screenshot shows a web-based application interface for managing items. At the top, there is a green header bar with the title "Items". Below it is a search section titled "Items Search" with a text input field labeled "Item", a "Search" button, and a "Reset" button. Underneath the search bar is another green header bar titled "Items List". This section includes a dropdown menu for selecting "records per page" (set to 10) and an "Add Item" button. The main area displays a table with two columns: "Items" and "Action". The table contains three rows, each with a value in the "Items" column and an "Edit" button in the "Action" column. The values in the "Items" column are "OPV" and "BCG".

Items	Action
OPV	Edit
BCG	Edit

## Add Item

Add Item ×

---

Item

---

Save

## Edit Item

Edit Item ×

---

Item

---

Update

# Manage Stakeholders

## Stakeholders

With the help of Stakeholders tab admin can manage system stakeholders, which can visible to different user levels. Admin can search, add and edit product through manage stakeholders screen. The mentioned screens are given below.

Manage Stakeholders

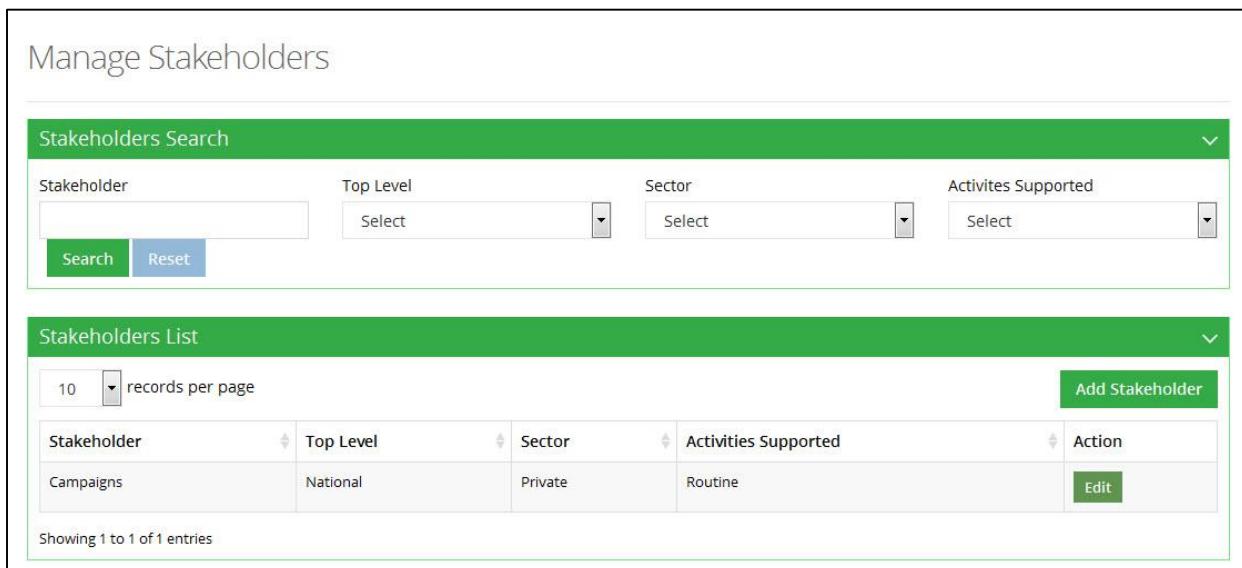
Stakeholders Search

Stakeholder	Top Level	Sector	Activites Supported
<input type="text"/>	Select	Select	Select
<button>Search</button>	<button>Reset</button>		

Stakeholders List

Stakeholder	Top Level	Sector	Activities Supported	Action
Campaigns	National	Private	Routine	<button>Edit</button>

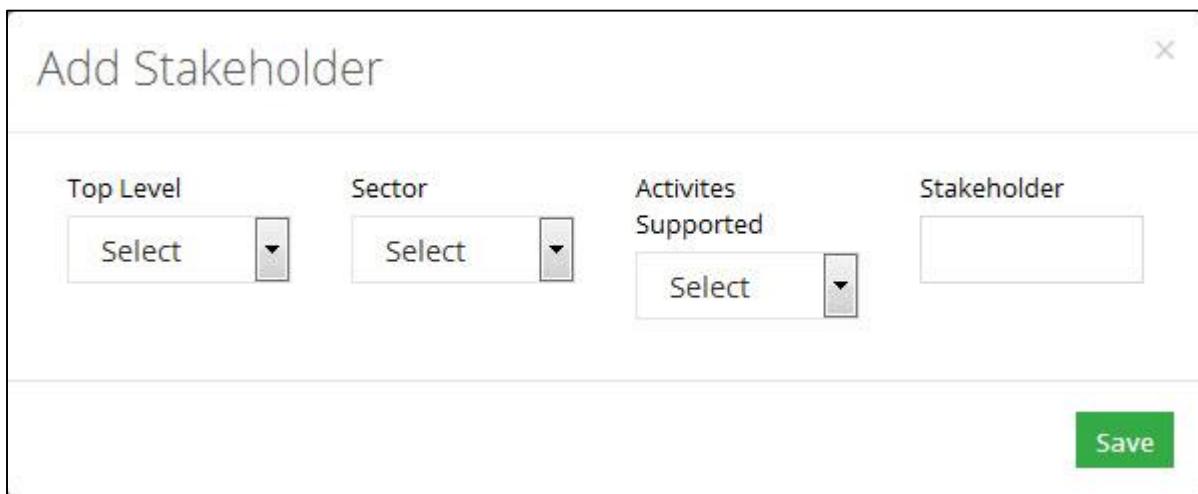
Showing 1 to 1 of 1 entries



## Add Stakeholder

Add Stakeholder

Top Level	Sector	Activites Supported	Stakeholder
Select	Select	Select	<input type="text"/>
<button>Save</button>			



## Edit Stakeholder

Edit Stakeholder X

Top Level	Sector
National	Private
Activites Supported	Stakeholder
Routine	Campaigns
<b>Update</b>	

## Office

With the help of Office tab admin can manage system offices, which can be visible to different user levels. Admin can search, add and edit office through manage product screen.

The mentioned screens are given below.

### Manage Office

**Office Search**

Stakeholder	Office	Level
Select		Select
<button>Search</button> <button>Reset</button>		

**Office List**

Office	Level	Sector	Activities Supported	Action
District Campaigns	District	Private	Routine	<button>Edit</button>

Showing 1 to 1 of 1 entries

## Add Office

### Add Office

Stakeholder	Level	Office
Select	Select	

Save

## Manufacturer

With the help of Manufacturer tab admin can manage system manufacturer, which can visible to different user levels. Admin can search, add and edit manufacturer through manage manufacturer screen.

The mentioned screens are given below.

### Manage Manufacturer

#### Manufacturer Search

Manufacturer	Sector	<input type="button" value="Search"/>	<input type="button" value="Reset"/>
--------------	--------	---------------------------------------	--------------------------------------

#### Office List

Manufacturer	Level	Sector	Action
GMTTestManu	National	Public	<input type="button" value="Edit"/>

Showing 1 to 1 of 1 entries

## Add Manufacturer

### Add Manufacturer

Sector	Manufacturer
<input type="button" value="Select"/>	<input type="text"/>
<input type="button" value="Save"/>	

## Edit Manufacturer

Edit Manufacturer X

Sector	Manufacturer
Public <span style="border: 1px solid #ccc; padding: 2px;">▼</span>	GMTestManu
<span style="background-color: green; color: white; padding: 5px 10px; border-radius: 5px;">Update</span>	

## Stakeholder Activities

With the help of Stakeholder Activities tab admin can manage system stakeholder activities, which can be visible to different user levels. Admin can search, add and edit product through manage stakeholder activities screen.

The mentioned screens are given below.

The screenshot shows the 'Stakeholder Activities' interface. At the top, there is a green header bar labeled 'Stakeholder Activities Search'. Below it is a search form with a text input field, a 'Search' button, and a 'Reset' button. The main area is titled 'Stakeholder Activities List' and contains a table with five rows of data. The columns are 'Stakeholder Activity' and 'Action'. The data rows are: 'Routine' (Edit), 'Campaign' (Edit), 'IHR' (Edit), and 'sdfa' (Edit). A green 'Add Stakeholder Activity' button is located in the top right corner of the list area.

Stakeholder Activity	Action
Routine	Edit
Campaign	Edit
IHR	Edit
sdfa	Edit

## Add Stakeholder Activity

The screenshot shows the 'Add Stakeholder Activity' interface. The title 'Add Stakeholder Activity' is at the top. Below it is a form with a single input field labeled 'Activity'. In the bottom right corner of the form area is a green 'Save' button.

## Edit Stakeholder Activity

Edit Stakeholder Activity ×

Activity

Routine

Update

## Stakeholder Types

With the help of Stakeholder Types tab admin can manage system stakeholder types, which can be visible to different user levels. Admin can search, add and edit stakeholder types through manage stakeholder types screen.

The mentioned screens are given below.

The screenshot shows the 'Stakeholder Types' management interface. At the top, there is a green header bar labeled 'Stakeholder Type Search'. Below it is a search form with a text input field, a 'Search' button, and a 'Reset' button. The main area is titled 'Stakeholder Type List' and contains a table with the following data:

Stakeholder type	Action
Supplier	Edit
Manufacturer	Edit
Reporting	Edit
test1012	Edit

At the bottom right of the list area, there is a green button labeled 'Add Stakeholder Type'.

## Add Stakeholder Type

The screenshot shows the 'Add Stakeholder Type' dialog box. The title bar says 'Add Stakeholder Type'. The main content area has a label 'Stakeholder Type' followed by a text input field. In the bottom right corner of the dialog box, there is a green 'Save' button.

## Edit Stakeholder Type

### Edit Stakeholder Type

Stakeholder Type

Supplier

**Update**

## Stakeholder Sectors

With the help of Stakeholder Sectors tab admin can manage system stakeholder sectors, which can be visible to different user levels. Admin can search, add and edit stakeholder sectors through manage stakeholder sectors screen.

The mentioned screens are given below.

The screenshot shows a web-based application for managing stakeholder sectors. At the top, there is a green header bar with the title "Stakeholder Sectors". Below it is a "Stakeholder Sectors Search" section containing a search input field, a "Search" button, and a "Reset" button. The main area is titled "Stakeholder Sectors List" and includes a dropdown for selecting "records per page" (set to 10) and a "Add Stakeholder Sector" button. A table lists five stakeholder sectors: Private, Public, Development, and new\_12, each with an "Edit" button next to it.

Stakeholder Sector	Action
Private	Edit
Public	Edit
Development	Edit
new_12	Edit

## Add Stakeholder Sector

The screenshot shows a modal dialog box titled "Add Stakeholder Sector". It contains a "Stakeholder Type" input field and a large empty text area for additional information. In the bottom right corner of the dialog, there is a prominent green "Save" button.

## Edit Stakeholder Sector

Edit Stakeholder Sector

Stakeholder Type

Private

Update



## Stakeholder Items

With the help of Stakeholder Items tab admin can manage system stakeholder items, which can be visible to different user levels. Admin can search, add, edit, delete stakeholder items through manage stakeholder items screen.

The mentioned screens are given below.

Change Stakeholder Items

Change Stakeholder Items

Leads have been successfully changed.

Stakeholders

Items

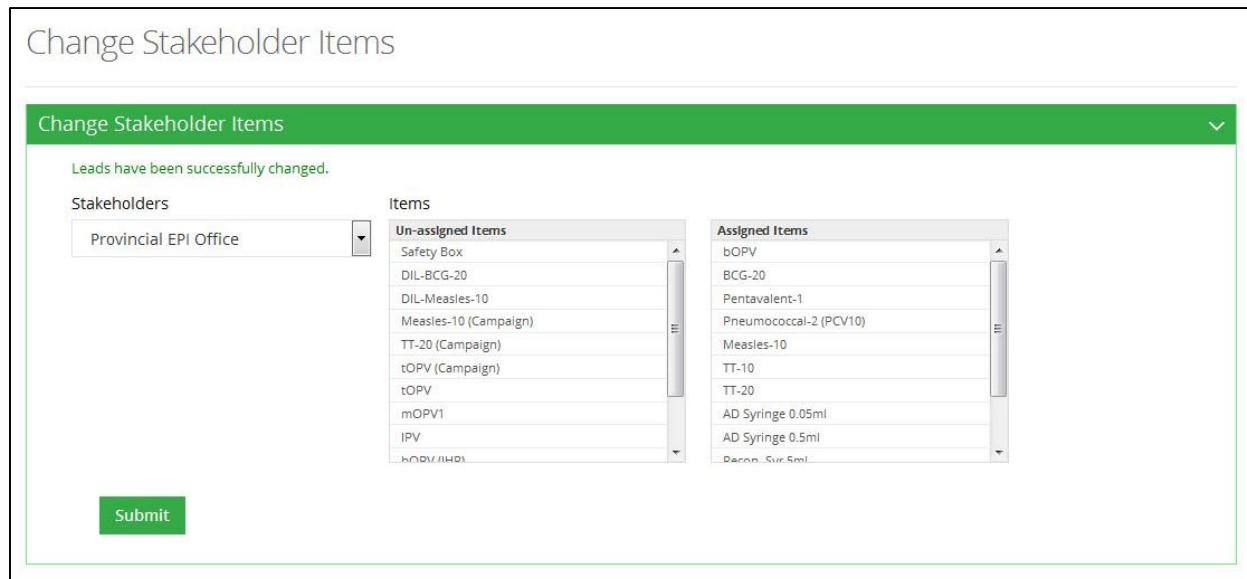
Un-assigned Items

- Safety Box
- DIL-BCG-20
- DIL-Measles-10
- Measles-10 (Campaign)
- TT-20 (Campaign)
- tOPV (Campaign)
- tOPV
- mOPV1
- IPV
- hOPV/JHPV

Assigned Items

- bOPV
- BCG-20
- Pentavalent-1
- Pneumococcal-2 (PCV10)
- Measles-10
- TT-10
- TT-20
- AD Syringe 0.05ml
- AD Syringe 0.5ml
- Dacon. Sure Seal

Submit



## Manage Locations

With the help of Manage Locations tab admin can manage system locations, which can be visible to different user levels. Admin can search, add, edit, delete locations through manage locations screen. The mentioned screens are given below.

### Manage Locations(Geographical)

#### Locations Search

Location Level \*

Select

Not Used in Warehouses

**Search** **Reset**

#### Locations List

10 ▾ records per page **Add Locations**

Location	Situated In	Administrative Level	Ccm Code	Type	Action
Bahawalpur Division	Punjab	Division		Region	<b>Edit</b> <b>Delete</b>
Dera Ghazi Khan Division	Punjab	Division		Region	<b>Edit</b> <b>Delete</b>
Faisalabad Division	Punjab	Division		Region	<b>Edit</b> <b>Delete</b>

## Add Locations

Add Locations X

Location Level \*

Type Select ▾

Location Name  

CCM Code  

Save

## Edit Locations

Edit Locations X

Location Level \*      Province

Type Division ▾      Province Punjab ▾

Location Name Bahawalpur Div

Ccm Code  

Update

# Manage Stores/Facilities

## Routine

With the help of Routine tab admin can manage system routine, which can visible to different user levels. Admin can search, add, edit, delete routine through manage routine screen.

The mentioned screens are given below.

### Manage Stores/Facilities (Routine)

**Stores/Facilities Search**

Province \*

Select

**Search** **Reset**

**Stores/Facilities List**

10 records per page

Add Store/Facility

Store/facility	UC	District	Province	Action
GOP	Islamabad	Islamabad	Islamabad	<b>Edit</b> <b>Delete</b>
storefacility	Ali Kharik	Bahawalpur	Punjab	<b>Edit</b> <b>Delete</b>
bvc	37 B/C	Bahawalpur	Punjab	<b>Edit</b> <b>Delete</b>

## Add Stores/Facilities

Add Stores/Facilities X

Office Type \* Select ▾

Type Select ▾ Store/Facility   CCM Code  

Save

## Edit Stores/Facilities

Edit Stores/Facilities X

Province \* Punjab ▾ District \* Bahawalpu ▾ Tehsil \* Hasilpur ▾ UC \* 188/M ▾

Store/Facility BHU 183/M

Update

## Campaigns Teams

With the help of Campaign Teams tab admin can manage system campaign teams, which can visible to different user levels. Admin can search, add, edit, delete campaign teams through manage campaign teams screen.

The mentioned screens are given below.

### Manage Campaigns Teams

**Stores/Facilities Search**

Province \*

Select

Search Reset

**Stores/Facilities List**

10 records per page Add Campaign Team

Team	UC	District	Province	Action
RHC Head Rajkani	HYDERABAD-2	Hyderabad	Sindh	Edit
BHU 183/M	188/M	Bahawalpur	Punjab	Edit Delete
RHC Lal Sohanra	37 B/C	Bahawalpur	Punjab	Edit Delete
RHC Dera Bakha	4 B/C	Bahawalpur	Punjab	Edit Delete

## Add Campaign Team

Add Campaign Team X

Province \*

Select ▼

Store/Facility

Save

## Edit Stores/Facilities

Edit Stores/Facilities X

Province \*      District \*      Tehsil \*      UC \*

Punjab ▼      Bahawalpur ▼      Hasilpur ▼      188/M ▼

Store/Facility

Update

## Inventory

With the help of Inventory tab admin can manage system inventory, which can be visible to different user levels. Admin can search, add and edit inventory through manage inventory screen.

The mentioned screens are given below.

### Manage Stores/Facilities (Inventory)

**Stores/Facilities Search**

Office Type \*

Select

**Search** **Reset**

**Stores/Facilities List**

10 records per page **Add Store/Facility**

Store/facility	Office	Tehsil	District	Province	Action
District Abottabad	EPI Program	Abottabad	Khyber Pakhtunkhwa	Abottabad	<b>Edit</b>
Distrtrict Rawalpindi Store	EPI Program	Rawalpindi	Punjab	Rawalpindi	<b>Edit</b>
SW Agency Store	EPI Program	SW Agency	FATA	SW Agency	<b>Edit</b>
District Astore	EPI Program	Astore	Gilgit Baltistan	Astore	<b>Edit</b>

## Add Stores/Facilities

Add Stores/Facilities X

Office Type \* \*

Select

Type

Store/Facility

CCM Code

Save

## Manage Users

### Update Cluster Leads

Change Warehouse Cluster Leads

Province

District

User

Submit

## Campaign Users

With the help of Campaign Users tab admin can manage system campaign users, which can visible to different user levels. Admin can search, add and edit campaign users through manage campaign users screen.

The mentioned screens are given below.

### Manage Campaigns Users

#### Users Search

Office Type \*

Select

**Search** **Reset**

#### Users List

10 records per page **Add User**

UserName	Type	District	Province	Action
national_campaign	campaign-national	-	-	<b>Edit</b>
username	campaign-national	-	-	<b>Edit</b>

## Add User

### Add User

Office Type \*

Select

UserName Password Confirm Password

**Save**

## Edit Users

Edit Users X

Office Type *	Province	District *
District	Punjab	Rawalpind
Username	campaign_rawa	
		<b>Update</b>

## Inventory Users

With the help of Inventory Users tab admin can manage system inventory users, which can visible to different user levels. Admin can search, add and edit inventory users through manage inventory users screen.

The mentioned screens are given below.

### Manage Inventory Users

#### Users Search

Office Type \*

Select

**Search** **Reset**

#### Users List

10 records per page **Add User**

UserName	UC	District	Province	Action
userthlakhi	Lakhi	Shikarpur	Sindh	<b>Edit</b>
userthlakhi	U.C Lakhi	Shikarpur	Sindh	<b>Edit</b>

## Add User

### Add User

Office Type \*

Select

Default Store

UserName

Password

Confirm Password

**Save**

## Edit Users

Edit Users X

Office Type *	Province	District *	Tehsil *
Tehsil	Sindh	Shikarpur	Lakhi
Default Store	Store/Facility		
Taluka Hos	userthlakhi	<span style="background-color: green; color: white; padding: 5px 10px; border-radius: 5px; text-decoration: none;">Update</span>	

## Policy Users

With the help of Policy Users tab admin can manage system policy users, which can visible to different user levels. Admin can search, add and edit policy users through manage policy users screen.

The mentioned screens are given below.

### Manage Policy Users

#### Users Search

Office Type \*

Select

**Search** **Reset**

#### Users List

10 records per page **Add User**

UserName	Type	Province	District	Action
policy_user	policyuser	Islamabad	Islamabad	<b>Edit</b>
new_policy_tst	policyuser	-	-	<b>Edit</b>

## Add User

### Add User

Office Type \*

Select

UserName      Password      Confirm Password

**Save**

## Edit Users

Edit Users X

Office Type *	Province
Provincial ▼	Islamabad ▼
Username	
policy_user	
<b>Update</b>	

# Use Cases

A use case shows a user and a computerized system interacting to reach a goal. The following use cases are based on possible scenarios that may be encountered in different modules. The following use cases are based on possible scenarios that may be encountered in the admin module.

## Add Resource

Use Case ID	UC 001
Description	Add resource.
Level	Admin-level
Actors	Administrator
Goal	Add resource.
Pre-Conditions	User must be logged into the system and have an administrator account.
Post-Conditions	Resource is created.
Stakeholder Interest	User wants to add resource.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Resources</b> tab.</li><li>3. System displays <b>Add Resource</b> button to add resource.</li><li>4. User enters <b>Resource Name</b>.</li><li>5. User enters <b>Description</b>.</li><li>6. User selects <b>Resource Type Id</b>.</li><li>7. User selects <b>Parent</b>.</li><li>8. User selects <b>Rank</b>.</li><li>9. User selects <b>Level</b>.</li><li>10. User clicks <b>Save</b>.</li></ol>

<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

## Add Role

Use Case ID	UC 002
Description	Add role.
Level	Admin-level
Actors	Administrator
Goal	Add role.
Pre-Conditions	User must be logged into the system and have an administrator account.
Post-Conditions	Role is created.
Stakeholder Interest	User wants to add role.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Roles</b> tab.</li><li>3. System displays <b>Add Role</b> button to add role.</li><li>4. User enters <b>Role Name</b>.</li><li>5. User enters <b>Description</b>.</li><li>6. User selects <b>Category</b>.</li><li>7. User selects <b>Status</b>.</li><li>8. User clicks <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add a Product

Use Case ID	UC 003
Description	Add new product.
Level	Admin-level
Actors	Administrator
Goal	New products are added.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Product is added.
Stakeholder Interest	User wants to add a new product to the system
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Products</b> tab.</li><li>9. System displays <b>Add Product</b> button to add product.</li><li>3. User selects the product order in <b>List Rank</b>.</li><li>4. User selects <b>Item Category</b>.</li><li>5. User selects <b>Item Unit</b>.</li><li>6. User selects <b>Item Group</b>.</li><li>7. User enters <b>Product</b>.</li><li>8. User enters <b>Description</b>.</li><li>9. User enters <b>Percent Population Covered</b>.</li><li>10. User presses <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Setup Barcode

Use Case ID	UC 004
Description	Setup new barcode.
Level	Admin-level
Actors	Administrator
Goal	New barcodes are added.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Barcode is added.
Stakeholder Interest	User wants to setup a new product to the system
Main Success Scenario	<ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Manage Products</b> tab.</li> <li>3. System displays <b>Setup Barcode</b> screen by clicking link of setup barcode.</li> <li>4. User selects <b>Product</b>.</li> <li>5. User selects <b>Manufacturer</b>.</li> <li>6. User selects <b>Barcode Type</b>. By selecting barcode type following fields display. <ul style="list-style-type: none"> <li>a. GTIN Start Position</li> <li>b. GTIN End Position</li> <li>c. Batch Lot No Start Position</li> <li>d. Batch Lot No End Position</li> <li>e. Expiry Date Start Position</li> <li>f. Expiry Date End Position</li> </ul> </li> <li>7. User enters <b>Pack Size</b>.</li> <li>8. User enters <b>Length</b>.</li> <li>9. User enters <b>Width</b>.</li> <li>10. User enters <b>Height</b>.</li> <li>11. User selects <b>Expiry Date Format</b>.</li> <li>12. User enters <b>Vials/Pcs</b>.</li> <li>13. User enters <b>Volume</b>.</li> </ol>

	<b>14.</b> User checks or unchecks option for product has barcode or not. <b>15.</b> User presses <b>Save</b> .
<b>Requirements</b>	Reference to corresponding system requirements.
<b>Notes/Issues</b>	None

## Add Item Category

Use Case ID	UC 005
Description	Add item category.
Level	Admin-level
Actors	Administrator
Goal	Add item category.
Pre-Conditions	User must be logged into the system and have an administrator account.
Post-Conditions	Item category is created.
Stakeholder Interest	User wants to add item category.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Products</b> tab.</li><li>3. System displays <b>Item Categories</b> by clicking link of item categories.</li><li>4. System displays <b>Add Item Category</b> button to add item category.</li><li>5. User enters <b>Category Name</b>.</li><li>6. User clicks <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Add Item

Use Case ID	UC 006
Description	Add item.
Level	Admin-level
Actors	Administrator
Goal	Add item.
Pre-Conditions	User must be logged into the system and have an administrator account.
Post-Conditions	Item is created.
Stakeholder Interest	User wants to add item.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Products</b> tab.</li><li>3. System displays <b>Item Groups</b> by clicking link of item groups.</li><li>4. System displays <b>Add Item</b> button to add item.</li><li>5. User enters <b>Item</b>.</li><li>6. User clicks <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Add Stakeholder

Use Case ID	UC 007
Description	Add resource.
Level	Admin-level
Actors	Administrator
Goal	Add stakeholder.
Pre-Conditions	User must be logged into the system and have an administrator account.
Post-Conditions	Stakeholder is created.
Stakeholder Interest	User wants to add stakeholder.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Stakeholders</b> tab.</li><li>3. System displays <b>Stakeholders</b> screen by clicking link of stakeholders.</li><li>4. System displays <b>Add Stakeholder</b> button to add stakeholder.</li><li>5. User selects <b>Top Level</b>.</li><li>6. User selects <b>Sector</b>.</li><li>7. User selects <b>Activities Supported</b>.</li><li>8. User enters <b>Stakeholder</b>.</li><li>8. User clicks <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Add Office

Use Case ID	UC 008
Description	Add new office.
Level	Admin-level
Actors	Administrator
Goal	New offices are added.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Office is added.
Stakeholder Interest	User wants to add a new office to the system
Main Success Scenario	<ul style="list-style-type: none"> <li>2. User logs in.</li> <li>3. User clicks <b>Manage Stakeholders</b> tab.</li> <li>4. System displays <b>Office</b> screen by clicking link of office.</li> <li>5. System displays <b>Add Office</b> button to add office.</li> <li>6. User selects <b>Stakeholder</b>.</li> <li>7. User selects <b>Level</b>.</li> <li>8. User enters <b>Office</b>.</li> <li>9. User presses <b>Save</b>.</li> </ul>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Add Manufacturer

Use Case ID	UC 009
Description	Add new manufacturer.
Level	Admin-level
Actors	Administrator
Goal	New manufacturers are added.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Manufacturer is added.
Stakeholder Interest	User wants to add a new manufacturer to the system
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Stakeholders</b> tab.</li><li>3. System displays <b>Manufacturer</b> screen by clicking link of manufacturer.</li><li>4. System displays <b>Add Manufacturer</b> button to add office.</li><li>5. User selects <b>Sector</b>.</li><li>6. User enters <b>Manufacturer</b>.</li><li>7. User presses <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Stakeholder Activity

Use Case ID	UC 0010
Description	Add new stakeholder activity.
Level	Admin-level
Actors	Administrator
Goal	New stakeholder activities are added.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Stakeholder activity is added.
Stakeholder Interest	User wants to add a new stakeholder activity to the system.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Stakeholders</b> tab.</li><li>3. System displays <b>Stakeholder Activities</b> screen by clicking link of stakeholder activities.</li><li>4. System displays <b>Add Stakeholder Activity</b> button to add stakeholder activity.</li><li>5. User enters <b>Activity</b>.</li><li>6. User presses <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Stakeholder Type

Use Case ID	UC 0011
Description	Add new stakeholder type.
Level	Admin-level
Actors	Administrator
Goal	New stakeholder types are added.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Stakeholder type is added.
Stakeholder Interest	User wants to add a new stakeholder type to the system.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Stakeholders</b> tab.</li><li>3. System displays <b>Stakeholder Types</b> screen by clicking link of stakeholder types.</li><li>4. System displays <b>Add Stakeholder Type</b> button to add stakeholder type.</li><li>5. User enters <b>Stakeholder Type</b>.</li><li>6. User presses <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Stakeholder Sector

Use Case ID	UC 0012
Description	Add new stakeholder sector.
Level	Admin-level
Actors	Administrator
Goal	New stakeholder sectors are added.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Stakeholder sector is added.
Stakeholder Interest	User wants to add a new stakeholder sector to the system.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Stakeholders</b> tab.</li><li>3. System displays <b>Stakeholder Sectors</b> screen by clicking link of stakeholder sectors.</li><li>4. System displays <b>Add Stakeholder Sector</b> button to add stakeholder sector.</li><li>5. User enters <b>Stakeholder Sector</b>.</li><li>6. User presses <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Create a Location

Use Case ID	UC 0013
Description	Create location.
Level	Admin-level
Actors	Administrator
Goal	New location is created.
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Location is created.
Stakeholder Interest	User wants to create a new location.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Locations</b> tab.</li><li>3. System displays <b>Add/Edit Location</b> screen.</li><li>4. User selects <b>Location Level</b>.</li><li>5. System populates <b>Province</b>.</li><li>6. User selects <b>Location Type</b>.</li><li>7. User enters <b>Location Name</b>.</li><li>8. User enters <b>CCM Code</b>.</li><li>9. User clicks Save.</li></ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

# Create a Store/Facility

Use Case ID	UC 0014
Description	Create a new store/facility.
Level	Admin-level
Actors	Administrator
Goal	New store/facility is created
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Store/facility is created.
Stakeholder Interest	User wants to create a new store/facility.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Manage Store/Facility</b> tab.</li> <li>7. System displays <b>Routine</b> screen by clicking link of routine.</li> <li>3. System displays <b>Manage Store/Facility</b> screen.</li> <li>4. System displays <b>Add Store /Facility</b> button to add store/facility.</li> <li>5. User selects <b>Province</b>.</li> <li>6. System populates <b>District</b>.</li> <li>7. User selects <b>District</b></li> <li>8. User selects <b>Tehsil</b> and <b>UC</b> in case of office type EPI Center or Tehsil Store.</li> <li>9. User selects the <b>Type</b> of Store/facility.</li> <li>10. User specifies <b>Store/Facility</b>.</li> <li>11. User specifies <b>CCM Code</b>.</li> <li>12. User clicks <b>Save</b>.</li> </ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Campaign Team

Use Case ID	UC 0015
Description	Create add campaign team.
Level	Admin-level
Actors	Administrator
Goal	Add campaign team is created
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Add campaign team is created.
Stakeholder Interest	User wants to create a add campaign team.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Store/Facility</b> tab.</li><li>3. System displays <b>Campaign Teams</b> screen by clicking link of campaign teams.</li><li>4. System displays <b>Campaign Team</b> screen.</li><li>5. System displays <b>Add Campaign Team</b> button to add campaign team.</li><li>6. User selects <b>Province</b>.</li><li>7. System populates <b>District</b>.</li><li>8. User selects <b>District</b></li><li>9. User selects <b>Tehsil</b> and <b>UC</b> in case of office type EPI Center or Tehsil Store.</li><li>10. User specifies <b>Store/Facility</b>.</li><li>11. User clicks <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements.
Notes/Issues	None

## Add Store Facility

Use Case ID	UC 0016
Description	Create add store/facility.
Level	Admin-level
Actors	Administrator
Goal	Add store/facility team is created
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Add store/facility is created.
Stakeholder Interest	User wants to create a add store/facility.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Manage Store/Facility</b> tab.</li> <li>3. System displays <b>Inventory</b> screen by clicking link of inventory.</li> <li>4. System displays <b>Manage Store/Facility(Inventory)</b>screen.</li> <li>5. System displays <b>Add Store/Facility</b> button to add store/facility.</li> <li>6. User selects <b>Province</b>.</li> <li>7. System populates <b>District</b>.</li> <li>8. User selects <b>District</b></li> <li>9. User selects <b>Tehsil</b> and <b>UC</b> in case of office type EPI Center or Tehsil Store.</li> <li>10. User selects <b>Type</b>.</li> <li>11. User specifies <b>Store/Facility</b>.</li> <li>12. User specifies <b>CCM Code</b>.</li> <li>13. User clicks <b>Save</b>.</li> </ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Routine Users

Use Case ID	UC 0018
Description	Create add routine user.
Level	Admin-level
Actors	Administrator
Goal	Add routine user is created
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Add routine user is created.
Stakeholder Interest	User wants to create a add routine user.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Manage Users</b> tab.</li> <li>3. System displays <b>Routine Immunization Users</b> screen by clicking link of routine immunization user.</li> <li>4. System displays <b>Manage Routine Immunization Users</b> screen.</li> <li>5. System displays <b>Add User</b> button to add user.</li> <li>6. User selects <b>Office Type</b>.</li> <li>7. System populates <b>Province</b>.</li> <li>8. User selects <b>Province</b>.</li> <li>9. User enters <b>User Name</b>.</li> <li>10. User enters <b>Password</b>.</li> <li>11. User enters <b>Confirm Password</b>.</li> <li>12. User clicks <b>Save</b>.</li> </ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Campaign Users

Use Case ID	UC 0018
Description	Create add campaign user.
Level	Admin-level
Actors	Administrator
Goal	Add campaign user is created
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Add campaign user is created.
Stakeholder Interest	User wants to create a add campaign user.
Main Success Scenario	<p>General</p> <p>13. User logs in. 14. User clicks <b>Manage Users</b> tab. 15. System displays <b>Campaign Users</b> screen by clicking link of campaign user. 16. System displays <b>Manage Campaign Users</b> screen. 17. System displays <b>Add User</b> button to add user. 18. User selects <b>Office Type</b>. 19. System populates <b>Province</b>. 20. User selects <b>Province</b>. 21. User enters <b>User Name</b>. 22. User enters <b>Password</b>. 23. User enters <b>Confirm Password</b>. 24. User clicks <b>Save</b>.</p>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Inventory Users

Use Case ID	UC 0019
Description	Create add inventory user.
Level	Admin-level
Actors	Administrator
Goal	Add inventory user is created
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Add inventory user is created.
Stakeholder Interest	User wants to create a add inventory user.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Manage Users</b> tab.</li> <li>3. System displays <b>IM Users</b> screen by clicking link of IM user.</li> <li>4. System displays <b>Manage Inventory Users</b> screen.</li> <li>5. System displays <b>Add User</b> button to add user.</li> <li>6. User selects <b>Office Type</b>.</li> <li>7. System populates <b>Province</b>.</li> <li>8. User selects <b>Province</b>.</li> <li>9. System populates <b>Default Store</b>.</li> <li>10. User selects <b>Default Store</b>.</li> <li>11. User enters <b>User Name</b>.</li> <li>12. User enters <b>Password</b>.</li> <li>13. User enters <b>Confirm Password</b>.</li> <li>14. User clicks <b>Save</b>.</li> </ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Policy Users

Use Case ID	UC 0020
Description	Create add policy user.
Level	Admin-level
Actors	Administrator
Goal	Add policy user is created
Pre-Conditions	User must be logged into the system and have an administrator account
Post-Conditions	Add policy user is created.
Stakeholder Interest	User wants to create a add policy user.
Main Success Scenario	<p><b>General</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Manage Users</b> tab.</li><li>3. System displays <b>Policy Users</b> screen by clicking link of policy user.</li><li>4. System displays <b>Manage Policy Users</b> screen.</li><li>5. System displays <b>Add User</b> button to add user.</li><li>6. User selects <b>Office Type</b>.</li><li>7. System populates <b>Province</b>.</li><li>8. User selects <b>Province</b>.</li><li>9. User enters <b>User Name</b>.</li><li>10. User enters <b>Password</b>.</li><li>11. User enters <b>Confirm Password</b>.</li><li>12. User clicks <b>Save</b>.</li></ol>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

# Cold Chain Management

This document is a part of Software requirements specifications document of Vaccines Logistics Management System (vLMIS) web application and limited to Cold Chain Assets' Management module related requirements. Cold Chain Assets' Management module is part of Release 2 of vLMIS which will be released by September 2014.

The Expanded Program on Immunization (EPI) was launched in 1978 in Pakistan to reduce death, disease and disability due to vaccine preventable diseases (VPDs), and to contribute towards strengthening of National Health Systems. EPI services are provided through the public health delivery network through fixed centers and outreach services.

Improving routine immunization is one of the key indicators of EPI for ensuring a reduction in childhood mortality in Pakistan. However, improving routine immunization remains a major challenge in Pakistan. Many children are being needlessly affected by measles and other vaccine preventable diseases despite the availability of safe and effective vaccines, one of the factors being that there is inadequate capacity to manage vaccine cold chain effectively. A huge part of vaccines is wasted or expired due to ineffective cold chain during the supply chain process. Therefore in June 2013, USAID | DELIVER PROJECT, in collaboration with federal and provincial Expanded Program on Immunization (EPI) stakeholders, UNINCEF and WHO collaborated to review the performance of vaccine and cold chain logistics management and supply chain systems and decided that it was essential to integrate vaccine logistics into an online system, possibly extending the existing Pakistan web-based LMIS to include Vaccine and Cold Chain Logistics modules.

The requirements of the vaccine and cold chain logistics management system were discussed and all stakeholders worked to define a common vision for the enhancement of the web-based LMIS for vaccines. Based on their review, stakeholders endorsed this Logistics Management Information System (supported by the USAID | DELIVER PROJECT and John Snow, Inc.) as a model for a new vLMIS that would be accessible through a web portal, provide transparency to all stakeholders based on user rights, is easy to use, enables reporting via mobile devices (SMS) and integrates both routine and

campaign vaccine logistics data. Standardized reporting forms were also recommended, along-with a more timely review and tracking reporting rates and timeliness. Data triangulation is recommended to validate data and improve visibility in wastage rates. One important recommendation was that resupply quantities for routine EPI should be calculated based on average monthly consumption and stock balances, and that wastage rates should be calculated automatically if feasible. Finally, there was a consensus that timely budget release, appropriate training, improved monitoring and supervision, and adequate IT support were vital to improving vaccine logistics data collection, management and usage.

This report was presented to the Ministry of National Health Services, Regulation and Coordination, includes the findings of the assessment, as well as the recommended high-level functional and system requirements for extending the web-based LMIS to include a vaccine logistics management information system (vLMIS) module.

## **Why is Cold Chain Logistics Important?**

Cold chain logistics refer to the system of people, policies, procedures, vehicles, fuel, equipment, and technologies which work together to make sure that vaccines given to people are safe and effective. Because most vaccines have specific temperature requirements, the cold chain logistics management system would prevent both excessive heat and cold from damaging the vaccines from the time of manufacturing until they are used. The refrigerated movement of temperature sensitive vaccines, pharmaceuticals and medical supplies is vital for the shelf life of vaccine therefore, such drugs rely heavily on controlled and uncompromised transfer of shipments.

An effective logistics system is incomplete without a well-maintained cold chain for safe and effective immunization service delivery. An improperly functioning cold chain can lead to wasted vaccines, missed opportunities to immunize due to lack of vaccines, and children receiving vaccines that do not protect them as intended or that actually make them sick.

Insufficient, outdated and broken cold chain equipment are often cited as major problems affecting routine immunization efforts during country immunization program reviews and supervisory visits. Additional problems are lack of technically-trained staff and inadequate financing for procuring new equipment and transporting technicians and/or broken equipment.

Outdated equipment is still in use and often needed as back-up due to delays in providing new equipment, insufficient stock capacity (both permanent and temporary, if the equipment is being used for immunization campaigns), or occasional problems with new equipment (e.g. lack of spare parts or appropriate tools).

There is often a lack of field-based procurement and repair plans, which means that cold chain and logistics inventories are not sufficiently linked with new equipment projections. This makes it difficult for countries to prioritize districts and provinces with the greatest need for new equipment.

## **Environmental Factors Complicate Cold Chain and Logistics Management**

Poor or unreliable energy sources, a common problem in developing countries, weaken the effectiveness of equipment and shorten its lifespan. Also, equipment in remote areas is difficult to reach with timely repairs and routine maintenance, which are necessary to avoid more costly repairs or replacement.

The Expanded Program on Immunization emphasizes monitoring vaccine stocks and temperatures at all levels of storage, distribution and administration in order to avoid or reduce wastage. Monitoring tools include vaccine vial monitors and freeze watch indicators. In addition, electronic temperature data loggers have been introduced at the regional level to 1) monitor the transportation of freeze-sensitive vaccines and 2) randomly study the storage temperatures of some refrigerators over a defined period of time.

There is inadequate capacity to manage cold chain effectively.

# **Proposed Cold Chain Module in Vaccine Logistics Management Information System (vLMIS)**

The National Vaccine Management Committee (NVMC) requested USAID to support enhancing the existing web-based LMIS to include a module for managing vaccine and cold chain data. This new module will be referred to as the vaccine logistics management information system (vLMIS).

The reason for developing an online cold chain module is the lack of cold chain data. Despite the heavy investment by development partners and the GOP, no credible information and inventory system exist at the municipal Union Council (UC), district, provincial, nor even federal levels.

Logistics management information system (LMIS) data for vaccines below the national level is mainly paper-based and therefore, largely inaccessible to vertical program managers. The data currently originates from forms filled at the health facilities and is only partially turned into accessible digital information in Excel spreadsheets at either district or provincial levels.

The limited information for vertical program managers and district administrations is manually aggregated through the districts and/or provinces. It is sometimes estimated and often incomplete. This hinders the ability of managers to procure the right quantities and effectively oversee supply chain performance.

Currently, UNICEF is supporting a national cold chain inventory that will collect data on existing cold chain equipment (age, type, capacity, operability) as well as facility profile data. This will help identify gaps in the cold chain storage capacity and functionality that need to be addressed.

However, there are significant challenges in the collection, use and management of cold chain since Wastage (due to open vial) data are under-reported and poorly tracked.

Key data requirements were also agreed, emphasizing simplicity and minimal data for the initial version of the vLMIS (with suggestions for future additions) and mandating use of stock balance, consumption and issues data, losses and adjustments as the essential data items to collect. New routine reporting forms will be developed to collect this data from service delivery points, along with

vaccine logistics standard operating procedures (SOPs) for each level of the supply chain. Data will be entered at either the Union Council level (if Internet access is available) or at the district level, and the vLMIS will also include a warehouse management system module for inventory management at the district, provincial, and national EPI stores. The vLMIS will also receive periodic SMS reports from vaccinators (more frequent than monthly, but period is yet to be determined) that include consumption, wastage, and balance. These data will be used to validate the monthly reports from service delivery points. The system will enable continued use of the existing SOPs and forms for polio campaigns, but the inventory data from stores will be integrated and vaccinators will report via SMS daily during the campaigns.

The design, construction and testing of the vLMIS is expected to be completed by December 2013, and will be deployed for a pilot phase to the polio endemic districts first before national rollout. A vLMIS Project Charter will be developed and approved by the NVMC to ensure adequate stakeholder engagement and commitment to the vLMIS, to document project parameters and deliverables, and to establish project management and governance structures.

## **Cold Chain Storage**

Currently, there is a well-established network of cold stores at each level down to the district (except in Azad Jammu and Kashmir, and Gilgit-Baltistan). At the national level, cold and bulk storage is sufficient for all commodities, but not at provincial, district, or sub-district and UC level. Punjab has upgraded cold chain equipment provided by USAID in 2013, and Khyber Pakhtunkhwa has started upgrading its cold store. Good storage conditions are maintained at federal level, while conditions vary from province to province and district to district. Cold chain equipment are maintained at all levels (with a few exceptions at district & UC levels) and cold chain failures are dealt with timely and appropriately at the provincial level, with some delays at district & sub district level. There are some personnel trained in and capable of providing cold chain maintenance.

Cold & bulk storage space is inadequate at provincial (except in Punjab), district, and SDP levels, and the cold rooms at both national and provincial levels are not purpose built for maximum operational

and energy efficiency, as they now rely on multiple smaller cold rooms that vent heat into the bulk storage area. Interruption of electricity supply is common place and there is a lack of power back up at all levels. The quality of cold chain equipment at district & sub-district levels is not optimal, and many lack voltage stabilizers. There is a shortage of trained and qualified cold chain technicians to service all EPI stores and equipment in a timely manner.

## **Enhancements Scope**

There is a need to support enhancing the existing web-LMIS to include a detailed module for managing cold chain data for vaccines in vLMIS. UNICEF has conducted a study to list down all cold chain assets across the 56 districts of Pakistan by using MS Access based CCEM2 software by PATH(acronym here). The scope of this module is to incorporate major features of CCEM2 into vLMIS to make it capable of registering more assets types i.e. generators, vehicles, stabilizers etc. and detailed features of freezers, ILRs and cold room. Also make it possible to track the cold-chain existing inventory, transfer and its status. This module will provide facility to every store or EPI Center user to update the operational status of their cold chain assets.

## **Recommendations**

The cold chain system needs to be upgraded at all levels, with particular attention to provincial level and below. Design standards that emphasize operational and energy efficiency should be developed for national, provincial, and district cold stores so that investments in upgrades contribute to optimize storage procedures, reduced energy consumption and cost containment. Upgrades must also include back up power systems; if generators are included, adequate long-term budget support is required for fuel. At lower levels, solar ice liners refrigerators (ILRs) should be based on the newest sustainable technology (solar chill) for areas with high incidence of power interruptions. Any new equipment investment must also include training for technical staff on maintaining and repairing new technology, and additional technical staff should be trained and posted at both provincial and district level to meet demand. Where possible, purpose built vehicles for the maintenance and repair of cold chain equipment should be procured and stocked with spare parts to improve efficiency of available technical staff.

Cold chain module should include the following features so that the capacity of National Immunization Programs is strengthened and every individual can benefit from vaccines of assured quality delivered in the right amount at the right time through efficient logistics, proper vaccine management, and a well-functioning cold chain system. The proposed requirements are:

- 1.** Management information system capable of collecting cold chain asset data, its capacity and working status so that adequate numbers of vaccines are stored for every immunization session.
- 2.** Cold chain asset status is provided on monthly basis so that vaccine wastage is minimized without affecting coverage and New vaccine introduction is not constrained by lack of storage/transport capacity
- 3.** cold chain inventory control system to ensure proper management and distribution of cold chain supplies
- 4.** Storage and warehouses to have adequate capacity of cold chain assets to ensure vaccine shelf life.

Tracked distribution of cold chain assets to warehouses so that Vaccines are stored and transported without temperature damage.

# **Overall Description**

A general description of the requirements was understood by consultation with the stakeholders and the users of the system, and the scenarios that are required for each feature.

## **User Types**

There are three levels of users i.e. Federal, Provincial and District users. The federal user will manage cold chain assets of health facilities and stores in the regions (FATA, Gilgit-Baltistan, AJK) and ICT area of Pakistan. Provincial users will administer their own provincial cold chain at province and division level along overall administrative functions related to cold chain. District users will administrate the cold chain at district's health facilities and stores.

For each level there are two types of user's i.e. Cold chain Manager and Operator. Specific responsibilities have been identified of these users are as following:

- **National Users**

[text]

- **Provincial Users**

[text]

- **District Users**

- [text]

## **Assumptions and Dependencies**

After integrating UNICEFF CCEM and vLMIS cold chain features it is assumed that now CCEM module covered almost every requirement of the user and cold chain assets management.

Most of the features and requirements derived from UNICEFF CCEM vLMIS cold chain functionality dependent to fulfill user requirements.

## **Functional Requirements**

System will provide a separate module for immunization campaigns all over the country. This module will contain data entry of each campaign. Data entry is handled on five different screens explained below:

### **Provincial Cold-Chain Manager User Requirements**

#### **Cold Chain Inventory Logistics**

Currently, there are significant challenges in the use and management of cold-chain equipment. Routine reporting of cold chain logistics data is impeded by poor accuracy and inadequate supervision and feedback on reporting. Because data are not available in real-time electronic form to all stakeholders, there is very limited visibility in the pipeline below the national level.

There is a need to collect data for cold chain inventory that will collect data on existing cold chain equipment (age, type, capacity, operability) as well as adding new equipment. This will help identify gaps in the cold chain storage capacity and functionality that need to be addressed. Adding the cold-chain module to vLMIS will enable the system to keep an online inventory of the cold-chain equipment. Currently, the data for cold chain equipment is mainly paper-based and therefore largely

inaccessible to vertical program managers which hinder managers to procure the right quantities and effectively oversee supply chain performance.

The module must enable the data providers to add assets to the inventory by providing the related asset's information. For each asset, a different entry form should open based on the asset's type and the information that must be recorded for that particular asset.

Currently there are 5 types of assets:

- Refrigerator Or Freezer/ ILR
- Vaccine Carriers, Cold Boxes & Ice Packs
- Voltage Regulator / stabilizers
- Generators
- Transport

Initially, the add asset form must gather the following asset information:

<b>Assets ID</b>	Auto Generated Unique ID.
<b>Assets Type</b>	ILR, Freezer, etc.
<b>Working Status</b>	None/Functional/Non-Functional
<b>Placed at</b>	Store Name/Office.

The following tables describe the entry requirements for each asset type:

<b>Asset Type</b>	<b>Entry Form Requirements</b>
Refrigerator Or Freezer/ ILR	Selecting this asset type requires the following information for registering a new Refrigerator or Freezer/ ILR. <ul style="list-style-type: none"><li>• Asset Sub type</li><li>• Catalogue ID</li><li>• Make</li><li>• Model</li><li>• CFC Free Sticker</li><li>• Net Capacity</li><li>• Capacity</li><li>• Serial number</li><li>• Working since year</li></ul>

	<ul style="list-style-type: none"> <li>• Reason</li> <li>• Equipment Utilization</li> <li>• Temperature Monitored</li> </ul> <p>Following fields must be managed by administrator:</p> <ul style="list-style-type: none"> <li>• Sub Asset Types</li> <li>• Cold Chain Makes</li> <li>• Cold Chain Models</li> <li>• Not Working Reason</li> <li>• Equipment Utilization</li> <li>• Temperature Monitored</li> </ul> <p>Also refer to mockup: Error! Reference source not found..</p>
Vaccine Carriers, Cold Boxes & Ice Packs	<p>Selecting this asset type requires the following information for registering a new Vaccine Carriers, Cold Boxes or Ice Packs:</p> <ul style="list-style-type: none"> <li>• Catalogue ID</li> <li>• Total available for vaccination activities</li> <li>• Internal Dimensions</li> <li>• Pack size</li> <li>• Quantity</li> </ul> <p>Following fields must be managed by the administrator:</p> <ul style="list-style-type: none"> <li>• Pack Sizes</li> </ul> <p>Also refer to mockup: Error! Reference source not found..</p>
Voltage Regulator / stabilizers	<p>This above screen fetches the following data from the end user.</p> <ul style="list-style-type: none"> <li>• Catalogue ID</li> <li>• Quantity</li> <li>• Make</li> <li>• Model</li> </ul> <p>Following fields are managed by administrator</p> <ul style="list-style-type: none"> <li>• Make</li> <li>• Model</li> </ul>
Generators	<p>This above screen fetches the following data from the end user.</p> <ul style="list-style-type: none"> <li>• Make</li> <li>• Model</li> <li>• Serial No</li> </ul>

	<ul style="list-style-type: none"> <li>• No of phases</li> <li>• Power Rating</li> <li>• Power Source</li> <li>• Automatic Start Mechanism</li> <li>• Used for</li> <li>• Year of supply</li> <li>• Source of supply</li> <li>• Equipment Utilization</li> </ul> <p>Following fields are managed by administrator</p> <ul style="list-style-type: none"> <li>• Make</li> <li>• Model</li> <li>• Used for</li> <li>• Source of supply</li> <li>• Equipment Utilization</li> </ul>
Transport	<p>This above screen fetches the following data from the end user.</p> <ul style="list-style-type: none"> <li>• Year of manufacture</li> <li>• % Used for EPI</li> <li>• Type of fuel</li> <li>• Comments</li> <li>• Reason</li> </ul> <p>Following fields are managed by administrator.</p> <ul style="list-style-type: none"> <li>• Reason</li> </ul>

Each Asset entry can be edited/deleted as required.

System must be able to generate a list of assets and their related details.

### Transfer Assets

System must be able to transfer assets to other warehouses. The following information must be recorded:

#### Assets ID

**From:** Province-Region/District/Tehsil/EPI Centre name

**Level:** National/Provincial-Regional/District/Tehsil/UC

**To:** Province-Region/District/Tehsil/EPI Centre name

#### **Asset's Working Status**

User must also be able to provide asset's working status (Monthly).

## **Cold Chain Reports & Graphs**

Added in Reports, Graphs and Dashboard documentation

# Use Cases

A use case shows a user and a computerized system interacting to reach a goal. The following use cases are based on possible scenarios that may be encountered in different modules. The following use cases are based on possible scenarios that may be encountered in the campaigns module.

## Add Refrigerator or Freezer/ILR to Cold Chain Inventory

Use Case ID	UC 001
Description	Providing cold chain equipment information
Level	User-level
Actors	Cold chain manager, Cold chain store operator
Goal	User can add refrigerator or freezer/ILR type assets to vLMIS
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.
Main Success Scenario	<p><b>Add Asset</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks CCEM tab.</li><li>3. User selects Add Refrigerator from the sub menu.</li><li>4. System displays <b>New/Add Refrigerator/Freezer/ILR Asset</b> screen.</li><li>5. User specifies the following information. Assets ID Source Of Supply   Stakeholder name</li></ol>

	<p>Utilization                          In use/Not in use and available for re-allocation, etc.</p> <p>Working Status                      Unallocated/Working/Out of Order</p> <p>Placed at                            Store name</p> <p>Catalogue ID                       User can either select Catalogue ID or add new one</p> <p>The following information must be recorded in <b>Select</b> case:</p> <ul style="list-style-type: none"> <li>Make</li> <li>Model</li> <li>Asset Sub Type</li> <li>Dimensions Length</li> <li>Dimensions Width</li> <li>Dimensions Height</li> <li>Gross Capacity 4</li> <li>Gross Capacity 20</li> <li>Net Capacity 4</li> <li>Net Capacity 20</li> <li>CFC Free Sticker                 Not Applicable/Yes/No</li> </ul> <p>Click on <b>Add</b> button to add new catalogue ID and related other fields i.e.</p> <p>Catalogue ID</p> <ul style="list-style-type: none"> <li>Make</li> <li>Model</li> <li>Asset Sub Type</li> <li>Dimensions Length</li> <li>Dimensions Width</li> <li>Dimensions Height</li> <li>Gross Capacity 4</li> <li>Gross Capacity 20</li> <li>Net Capacity 4</li> <li>Net Capacity 20</li> <li>CFC Free Sticker Not Applicable/Yes/No</li> </ul> <p>Serial Number</p> <p>Working Since</p> <p><b>6.</b> User presses Save.</p> <p><b>7.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Refrigerator

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Refrigerator/Freezer/ILR
Level	User-level
Actors	National users
Goal	User can view the Refrigerator/Freezer/ILR detail.
Pre-Conditions	User has access to view the detail of Refrigerator/Freezer/ILR.
Post-Conditions	User can successfully view detail of Refrigerator/Freezer/ILR Information.
Stakeholder Interest	User need to view Refrigerator/Freezer/ILR.
Main Success Scenario	<p><b>View Refrigerator/Freezer/ILR Detail</b></p> <ol style="list-style-type: none"><li>11. User logs in.</li><li>12. User clicks <b>Search Refrigerator/Freezer/ILR</b> tab.</li><li>13. System displays <b>Refrigerator/Freezer/ILR</b> screen.</li><li>14. User selects the <b>Asset Sub Type</b>.</li><li>15. User selects the <b>Source of Supply</b>.</li><li>16. User selects the <b>Working Status</b>.</li><li>17. User enters <b>Asset Id/Equipment Code</b>.</li><li>18. User enters <b>Catalogue ID</b>.</li><li>19. User selects <b>Make</b>.</li><li>20. User selects <b>Model</b>.</li><li>21. User enters <b>Serial Number</b>.</li><li>22. User enters <b>Gross Capacity From</b>.</li></ol>

	<p>23. User enters <b>Gross Capacity To</b>.</p> <p>24. User selects <b>Work Since From</b>.</p> <p>25. User selects <b>Work Since To</b>.</p> <p>26. User selects <b>CFC Free Sticker</b>.</p> <p>27. User selects <b>Placed At</b>.</p> <p>28. User clicks <b>search</b>.</p> <p>29. Report Type <b>Detail View</b></p> <p>30. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Capacity</li> <li>f. Working Status</li> <li>g. Date</li> </ul> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> <li>k. Quantity</li> </ul> <p>31. The last column displays <b>Edit - More</b></p> <ol style="list-style-type: none"> <li>1. User can edit record.</li> <li>2. User can view detail record.</li> </ol>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Vaccines Carriers, Cold Boxes to Cold Chain Inventory

Use Case ID	UC 002							
Description	Providing cold chain equipment information							
Level	User-level							
Actors	Cold chain manager, Cold chain store operator							
Goal	User can add vaccine carriers type assets to vLMIS							
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account							
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.							
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.							
Main Success Scenario	<p><b>Add Asset</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks CCEM tab.</li> <li>3. User selects Add Vaccine Carriers from the sub menu.</li> <li>4. System displays <b>Add Vaccine Carriers</b> screen.</li> <li>5. User specifies the following information.</li> </ol> <table border="0"> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Catalogue ID</td> <td>User can either select Catalogue ID or add new one</td> </tr> </table> <p>The following information must be recorded in <b>Select</b> case:</p> <ul style="list-style-type: none"> <li>Make</li> <li>Model</li> <li>Dimensions Length</li> <li>Dimensions Width</li> <li>Dimensions Height</li> </ul> <p>Click on <b>Add</b> button to add new catalogue ID and related other fields i-e</p> <table border="0"> <tr> <td>Catalogue ID</td> </tr> <tr> <td>Make</td> </tr> <tr> <td>Model</td> </tr> </table>	Placed at	Store name	Catalogue ID	User can either select Catalogue ID or add new one	Catalogue ID	Make	Model
Placed at	Store name							
Catalogue ID	User can either select Catalogue ID or add new one							
Catalogue ID								
Make								
Model								

	Dimensions Length Dimensions Width Dimensions Height Total available for vaccination activities 6. User presses Save. 7. System saves the asset.
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Vaccines Carriers

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Vaccine Carrier
Level	User-level
Actors	National users
Goal	User can view the Vaccine Carrier detail.
Pre-Conditions	User has access to view the detail of Vaccine Carrier.
Post-Conditions	User can successfully view detail of Vaccine Carrier Information.
Stakeholder Interest	User need to view Vaccine Carrier.
Main Success Scenario	<p><b>View Vaccine Carrier Detail</b></p> <p>1. User logs in.      2. User clicks <b>Search Vaccines Carriers</b> tab.      3. System displays <b>Vaccine Carrier</b> screen.      4. User enters the <b>Catalogue ID</b>.      5. User selects the <b>Make</b>.      6. User selects the <b>Model</b>.      7. User selects the <b>Placed At</b>.      8. User clicks <b>search</b>.      9. Report Type <b>Detail View</b>      10. System displays searched received data table with the following fields:          a. District          b. Facility          c. Make          d. Model          e. Date</p> <p>Report Type <b>Summary View</b></p>

	<p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>f. Store</li> <li>g. Cold Chain Type</li> <li>h. Working Status</li> <li>i. Quantity</li> </ul> <p>11. The last column displays <b>More</b></p> <p>3. User can view detail record.</p>
Extensions	<p>a.* At any time, browser crashes.</p> <p>1: User recovers browser and starts over</p>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Ice Packs to Cold Chain Inventory

Use Case ID	UC 003
Description	Providing cold chain equipment information
Level	User-level
Actors	Cold chain manager, Cold chain store operator
Goal	User can add ice pack type assets to vLMIS
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.

<b>Stakeholder Interest</b>	User wants to view the cold chain assets information in vLMIS.
<b>Main Success Scenario</b>	<p><b>Add Asset</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks CCEM tab.</li> <li>3. User selects Add Ice Pack from the sub menu.</li> <li>4. System displays <b>Add Ice Packs</b> screen.</li> <li>5. User specifies the following information.            Placed at              Store name            Quantity              Ice pack sizes         </li> <li>6. User press Add.</li> <li>7. System saves the asset.</li> </ol>
<b>Requirements</b>	<p>Reference to corresponding system requirements:</p> <p>Error! Reference source not found.</p>
<b>Notes/Issues</b>	None

## Search Ice Pack

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Ice Pack
Level	User-level
Actors	National users
Goal	User can view the Ice Pack detail.
Pre-Conditions	User has access to view the detail of Ice Pack.
Post-Conditions	User can successfully view detail of Ice Pack Information.
Stakeholder Interest	User need to view Ice Pack.
Main Success Scenario	<p><b>View Ice Pack Detail</b></p> <p>32. User logs in. 33. User clicks <b>Search Ice Pack</b> tab. 34. System displays <b>Ice Pack</b> screen. 35. User selects <b>Make</b>. 36. User selects <b>Model</b>. 37. User selects <b>Placed At</b>. 38. User clicks <b>search</b>. 39. Report Type <b>Detail View</b> 40. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"><li>a. District</li><li>b. Facility</li><li>c. Make</li><li>d. Model</li><li>e. Quantity</li><li>f. Date</li></ul>

	<p>Report Type <b>Summary View</b>        System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>g. Store</li> <li>h. Cold Chain Type</li> <li>i. Quantity</li> </ul> <p><b>41.</b> The last column displays <b>More</b></p> <p><b>4.</b> User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Cold Room to Cold Chain Inventory

Use Case ID	UC 004																								
Description	Providing cold chain equipment information																								
Level	User-level																								
Actors	Cold chain manager, Cold chain store operator																								
Goal	User can add cold room type assets to vLMIS																								
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																								
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																								
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																								
Main Success Scenario	<p><b>Add Asset</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks CCEM tab.</li> <li>3. User selects Add Cold Room from the sub menu.</li> <li>4. System displays <b>Add Cold Room</b> screen.</li> <li>5. User specifies the following information.</li> </ol> <table> <tbody> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Source of Supply</td> <td>GAVI/ WHO/GOP etc.</td> </tr> <tr> <td>Utilization</td> <td>In use/Not in use and available for re-allocation etc.</td> </tr> <tr> <td>Working Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td>Placed At</td> <td>Store name</td> </tr> <tr> <td>Type</td> <td>+4°C Cold Room/ -20°C Freezer Room</td> </tr> <tr> <td>Internal Storage Dimensions</td> <td>Length</td> </tr> <tr> <td>Internal Storage Dimensions</td> <td>Width</td> </tr> <tr> <td>Internal Storage Dimensions</td> <td>Height</td> </tr> <tr> <td>Make</td> <td>Haier/Foster etc.</td> </tr> <tr> <td>Internal Gross Volume</td> <td></td> </tr> <tr> <td>Model</td> <td>HBD-116/Chinese etc.</td> </tr> </tbody> </table>	Assets ID		Source of Supply	GAVI/ WHO/GOP etc.	Utilization	In use/Not in use and available for re-allocation etc.	Working Status	Unallocated/Working/Out of Order	Placed At	Store name	Type	+4°C Cold Room/ -20°C Freezer Room	Internal Storage Dimensions	Length	Internal Storage Dimensions	Width	Internal Storage Dimensions	Height	Make	Haier/Foster etc.	Internal Gross Volume		Model	HBD-116/Chinese etc.
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Internal Storage Dimensions	Width																								
Internal Storage Dimensions	Height																								
Make	Haier/Foster etc.																								
Internal Gross Volume																									
Model	HBD-116/Chinese etc.																								

	<p>Net Storage Volume For Vaccine/Packs</p> <p>Year of Supply</p> <p>Number of Cooling System</p> <p>Number of Phases</p> <p>Refrigerator Gas Type</p> <p>Has Voltage Stabilizer</p> <p>Has Working Backup Generator</p> <p>Temperature Recording System</p> <p>Type of Recording System</p> <p><b>6.</b> User presses Save.</p> <p><b>7.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Cold Room

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Cold Room
Level	User-level
Actors	National users
Goal	User can view the Cold Room detail.
Pre-Conditions	User has access to view the detail of Cold Room.
Post-Conditions	User can successfully view detail of Cold Room Information.
Stakeholder Interest	User need to view Cold Room.
Main Success Scenario	<p><b>View Cold Room Detail</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Search Cold Room</b> tab.</li><li>3. System displays <b>Cold Room</b> screen.</li><li>4. User selects <b>Type</b>.</li><li>5. User selects the <b>Working Status</b>.</li><li>6. User selects the <b>Source of Supply</b>.</li><li>7. User selects the <b>Number of Cooling System</b>.</li><li>8. User enters <b>Asset Id/Equipment Code</b>.</li><li>9. User selects <b>Has Voltage Stabilizer</b>.</li><li>10. User selects <b>Make</b>.</li><li>11. User selects <b>Model</b>.</li><li>12. User enters <b>Capacity From</b>.</li><li>13. User enters <b>Capacity To</b>.</li><li>14. User selects <b>Year of Supply From</b>.</li><li>15. User selects <b>Year of Supply To</b>.</li><li>16. User selects <b>Placed At</b>.</li></ol>

	<p>17. User clicks <b>search</b>.</p> <p>18. Report Type <b>Detail View</b></p> <p>19. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Capacity</li> <li>f. Working Status</li> <li>g. Date</li> </ul> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> </ul> <p>20. The last column displays <b>Edit - More</b></p> <p>5. User can edit record.</p> <p>6. User can view detail record.</p>
<b>Extensions</b>	<p>a.* At any time, browser crashes.</p> <p>1: User recovers browser and starts over</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Voltage Regulator/ Stabilizers to Cold Chain Inventory

Use Case ID	UC 005																		
Description	Providing cold chain equipment information																		
Level	User-level																		
Actors	Cold chain manager, Cold chain store operator																		
Goal	User can add voltage regulator type assets to vLMIS																		
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																		
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																		
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																		
Main Success Scenario	<p><b>Add Asset</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks CCEM tab.</li> <li>3. User selects Add Voltage Regulator from the sub menu.</li> <li>4. System displays <b>New/Add Voltage Regulator Asset</b> screen.</li> <li>5. User specifies the following information.           <table> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Catalogue ID</td> <td>User can either select Catalogue ID or add new one</td> </tr> </table>           The following information must be recorded in <b>Select</b> case:           <table> <tr> <td>Make</td> <td></td> </tr> <tr> <td>Model</td> <td></td> </tr> <tr> <td>Click on <b>Add</b> button to add new catalogue ID and related other fields i-e</td> <td></td> </tr> <tr> <td>Catalogue ID</td> <td></td> </tr> <tr> <td>Make</td> <td></td> </tr> <tr> <td>Model</td> <td></td> </tr> <tr> <td>Quantity</td> <td></td> </tr> </table> </li> <li>6. User presses Add.</li> <li>7. System saves the asset.</li> </ol>	Placed at	Store name	Catalogue ID	User can either select Catalogue ID or add new one	Make		Model		Click on <b>Add</b> button to add new catalogue ID and related other fields i-e		Catalogue ID		Make		Model		Quantity	
Placed at	Store name																		
Catalogue ID	User can either select Catalogue ID or add new one																		
Make																			
Model																			
Click on <b>Add</b> button to add new catalogue ID and related other fields i-e																			
Catalogue ID																			
Make																			
Model																			
Quantity																			

<b>Requirements</b>	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
<b>Notes/Issues</b>	None

## Search Voltage Regulator

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Voltage Regulator
Level	User-level
Actors	National users
Goal	User can view the Voltage Regulator detail.
Pre-Conditions	User has access to view the detail of Voltage Regulator.
Post-Conditions	User can successfully view detail of Voltage Regulator Information.
Stakeholder Interest	User need to view Voltage Regulator.
Main Success Scenario	<p><b>View Voltage Regulator Detail</b></p> <ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks <b>Search Voltage Regulator</b> tab.</li><li>3. System displays <b>Voltage Regulator</b> screen.</li><li>4. User enters <b>Catalogue ID</b>.</li><li>5. User selects <b>Make</b>.</li><li>6. User selects <b>Model</b>.</li><li>7. User selects <b>Placed At</b>.</li><li>8. User clicks <b>search</b>.</li><li>9. Report Type <b>Detail View</b></li><li>10. System displays searched received data table with the following fields:<ol style="list-style-type: none"><li>a. District</li><li>b. Facility</li><li>c. Make</li><li>d. Model</li><li>e. Working Status</li></ol></li></ol>

	<p>f. Date</p> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>g. Store</li> <li>h. Cold Chain Type</li> <li>i. Working Status</li> <li>j. Quantity</li> </ul> <p>11. The last column displays <b>More</b></p> <p>7. User can view detail record.</p>
Extensions	<p>a.* At any time, browser crashes. 1: User recovers browser and starts over</p>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Generators to Cold Chain Inventory

Use Case ID	UC 006																								
Description	Providing cold chain equipment information																								
Level	User-level																								
Actors	Cold chain manager, Cold chain store operator																								
Goal	User can add generator type assets to vLMIS																								
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																								
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																								
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																								
Main Success Scenario	<p><b>Add Asset</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks CCEM tab.</li> <li>3. User selects <b>Add Generator</b> from the sub menu.</li> <li>4. System displays <b>Add Generator Asset</b> screen.</li> <li>5. User specifies the following information.</li> </ol> <table> <tbody> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Source Of Supply</td> <td>Stakeholder name</td> </tr> <tr> <td>Utilization</td> <td>In use/Not in use and available for re-allocation etc.</td> </tr> <tr> <td>Working Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Make</td> <td>Lambordini/ Unknown/ Countary Man etc.</td> </tr> <tr> <td>Model</td> <td></td> </tr> <tr> <td>Serial Number</td> <td></td> </tr> <tr> <td>No of Phases</td> <td>One/Three</td> </tr> <tr> <td>Power Rating</td> <td></td> </tr> <tr> <td>Pwer Source</td> <td>Diesel/ Not applicable/ Petrol</td> </tr> <tr> <td>Automatic Start Mechanism</td> <td>Yes/No</td> </tr> </tbody> </table>	Assets ID		Source Of Supply	Stakeholder name	Utilization	In use/Not in use and available for re-allocation etc.	Working Status	Unallocated/Working/Out of Order	Placed at	Store name	Make	Lambordini/ Unknown/ Countary Man etc.	Model		Serial Number		No of Phases	One/Three	Power Rating		Pwer Source	Diesel/ Not applicable/ Petrol	Automatic Start Mechanism	Yes/No
Assets ID																									
Source Of Supply	Stakeholder name																								
Utilization	In use/Not in use and available for re-allocation etc.																								
Working Status	Unallocated/Working/Out of Order																								
Placed at	Store name																								
Make	Lambordini/ Unknown/ Countary Man etc.																								
Model																									
Serial Number																									
No of Phases	One/Three																								
Power Rating																									
Pwer Source	Diesel/ Not applicable/ Petrol																								
Automatic Start Mechanism	Yes/No																								

	<p>Year of Supply</p> <p>Use For</p> <p>Cold Rooms/ Lighting etc.</p> <p><b>6.</b> User press Save.</p> <p><b>7.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Generator

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Generator
Level	User-level
Actors	National users
Goal	User can view the Generator detail.
Pre-Conditions	User has access to view the detail of Generator.
Post-Conditions	User can successfully view detail of Generator Information.
Stakeholder Interest	User need to view Generator.
Main Success Scenario	<p><b>View Generator Detail</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks <b>Search Generator</b> tab.</li> <li>3. System displays <b>Generator</b> screen.</li> <li>4. User selects the <b>Working Status</b>.</li> <li>5. User enters <b>Serial Number</b>.</li> <li>6. User selects the <b>Source of Supply</b>.</li> <li>7. User enters <b>Asset Id/Equipment Code</b>.</li> <li>8. User selects <b>Make</b>.</li> <li>9. User selects <b>Model</b>.</li> <li>10. User selects <b>Year of Supply From</b>.</li> <li>11. User selects <b>Year of Supply To</b>.</li> <li>12. User selects <b>Placed At</b>.</li> <li>13. User clicks <b>search</b>.</li> <li>14. Report Type <b>Detail View</b></li> <li>15. System displays searched received data table with the following fields:</li> </ol>

	<ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Serial Number</li> <li>f. Working Status</li> <li>g. Working Since</li> </ul> <p>Report Type <b>Summary View</b>  System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> <li>k. Quantity</li> </ul> <p>16. The last column displays <b>Edit - More</b>  8. User can edit record.  9. User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Transport to Cold Chain Inventory

Use Case ID	UC 007																								
Description	Providing cold chain equipment information																								
Level	User-level																								
Actors	Cold chain manager, Cold chain store operator																								
Goal	User can add transport type assets to vLMIS																								
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																								
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																								
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																								
Main Success Scenario	<p><b>Add Asset</b></p> <ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks CCEM tab.</li> <li>3. User selects <b>Add Transport</b> from the sub menu.</li> <li>4. System displays <b>New/Add Transport Asset</b> screen.</li> <li>5. User specifies the following information.</li> </ol> <table> <tbody> <tr> <td>Assets ID</td> <td>Source Of Supply</td> <td>Stakeholder name</td> </tr> <tr> <td></td> <td>Utilization</td> <td>In use/Not in use and available for re-allocation etc.</td> </tr> <tr> <td></td> <td>Working Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td></td> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td></td> <td>Transport Type</td> <td>Motorcycle/ Vehicle/ Truck etc.</td> </tr> <tr> <td></td> <td>Registration No</td> <td></td> </tr> <tr> <td></td> <td>Make</td> <td>Suzuki/ Metro/ Unknown etc.</td> </tr> <tr> <td></td> <td>Model</td> <td>110 cc/800 cc etc.</td> </tr> </tbody> </table>	Assets ID	Source Of Supply	Stakeholder name		Utilization	In use/Not in use and available for re-allocation etc.		Working Status	Unallocated/Working/Out of Order		Placed at	Store name		Transport Type	Motorcycle/ Vehicle/ Truck etc.		Registration No			Make	Suzuki/ Metro/ Unknown etc.		Model	110 cc/800 cc etc.
Assets ID	Source Of Supply	Stakeholder name																							
	Utilization	In use/Not in use and available for re-allocation etc.																							
	Working Status	Unallocated/Working/Out of Order																							
	Placed at	Store name																							
	Transport Type	Motorcycle/ Vehicle/ Truck etc.																							
	Registration No																								
	Make	Suzuki/ Metro/ Unknown etc.																							
	Model	110 cc/800 cc etc.																							

	<p>Manufacture Year  % Used For EPI  Fuel Type Petrol/ Diesel/ Not applicable  Comments  <b>6.</b> User presses Save.  <b>7.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Transport

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Transport
Level	User-level
Actors	National users
Goal	User can view the Transport detail.
Pre-Conditions	User has access to view the detail of Transport.
Post-Conditions	User can successfully view detail of Transport Information.
Stakeholder Interest	User need to view Transport.
Main Success Scenario	<p><b>View Transport Detail</b></p> <p>17. User logs in. 18. User clicks <b>Search Transport</b> tab. 19. System displays <b>Transport</b> screen. 20. User selects the <b>Transport Type</b>. 21. User selects the <b>Working Status</b>. 22. User selects the <b>Source of Supply</b>. 23. User selects the <b>Fuel Type</b>. 24. User enters <b>Registration No.</b>. 25. User selects <b>Make</b>. 26. User selects <b>Model</b>. 27. User selects <b>Manufacture Year From</b>. 28. User selects <b>Manufacture Year To</b>. 29. User selects <b>Placed At</b>. 30. User clicks <b>search</b>. 31. Report Type <b>Detail View</b></p>

	<p>32. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Fuel Type</li> <li>f. Working Status</li> <li>g. Date</li> </ul> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> <li>k. Quantity</li> </ul> <p>33. The last column displays <b>Edit - More</b></p> <p>10. User can edit record.</p> <p>11. User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Transfer Asset from Cold Chain Inventory

Use Case ID	UC 008														
Description	Transferring assets from cold chain inventory.														
Level	User-level														
Actors	Cold chain manager, Cold chain store operator														
Goal	User can transfer cold chain equipment assets from cold chain inventory to other warehouses.														
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account														
Post-Conditions	User can successfully transfer the cold chain assets information in vLMIS.														
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.														
Main Success Scenario	<ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks Cold Chain tab.</li> <li>3. User selects Transfer Asset from the sub menu.</li> <li>4. System displays Cold chain Equipment screen.</li> <li>5. User clicks Transfer Assets. The following information must be recorded:           <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Assets Type</td> <td>ILR/Freezer</td> </tr> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Quantity</td> <td></td> </tr> <tr> <td>Transfer Quantity Asset</td> <td></td> </tr> <tr> <td>From</td> <td>Province/District/Tehsil/EPI Centre name</td> </tr> <tr> <td>To</td> <td>Province/District/Tehsil/EPI Centre name</td> </tr> <tr> <td>Level</td> <td>National/Provincial/District/Tehsil/UC</td> </tr> </table> </li> <li>1. User presses OK.</li> <li>2. System enters transfers asset information.</li> </ol>	Assets Type	ILR/Freezer	Assets ID		Quantity		Transfer Quantity Asset		From	Province/District/Tehsil/EPI Centre name	To	Province/District/Tehsil/EPI Centre name	Level	National/Provincial/District/Tehsil/UC
Assets Type	ILR/Freezer														
Assets ID															
Quantity															
Transfer Quantity Asset															
From	Province/District/Tehsil/EPI Centre name														
To	Province/District/Tehsil/EPI Centre name														
Level	National/Provincial/District/Tehsil/UC														
Requirements	Reference to corresponding system requirements:  3.2														

Notes/Issues	None
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## Asset List of Cold Chain Inventory

<b>Use Case ID</b>	UC 009																		
<b>Description</b>	Generate a list of inventory added in the cold chain module																		
<b>Level</b>	User-level																		
<b>Actors</b>	Cold chain manager, Cold chain store operator																		
<b>Goal</b>	User can view a list of cold chain equipment																		
<b>Pre-Conditions</b>	User must be logged into the system and have an Authenticated User or a Data Provider account																		
<b>Post-Conditions</b>	User can successfully view the cold chain assets information in vLMIS.																		
<b>Stakeholder Interest</b>	User wants to view the cold chain assets information in vLMIS.																		
<b>Main Success Scenario</b>	<p>1. User logs in.      2. User clicks Cold Chain tab.      3. User selects Asset List from the sub menu.</p> <p>System displays Asset List screen.</p> <table> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Assets Type</td> <td>Refrigerator/Freezer/ILR</td> </tr> <tr> <td>Serial Number</td> <td></td> </tr> <tr> <td>Model/Make</td> <td></td> </tr> <tr> <td>Estimated Life</td> <td></td> </tr> <tr> <td>Working Since</td> <td>(month and year value)</td> </tr> <tr> <td>Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Asset District</td> <td></td> </tr> </table>	Assets ID		Assets Type	Refrigerator/Freezer/ILR	Serial Number		Model/Make		Estimated Life		Working Since	(month and year value)	Status	Unallocated/Working/Out of Order	Placed at	Store name	Asset District	
Assets ID																			
Assets Type	Refrigerator/Freezer/ILR																		
Serial Number																			
Model/Make																			
Estimated Life																			
Working Since	(month and year value)																		
Status	Unallocated/Working/Out of Order																		
Placed at	Store name																		
Asset District																			
<b>Requirements</b>	<p>Reference to corresponding system requirements:</p> <p>5.2.10</p>																		
<b>Notes/Issues</b>	None																		

# Add Health Facility

Use Case ID	UC 010														
Description	Add health facilities in the cold chain module														
Level	Admin-level														
Actors	Cold chain manager, Cold chain store operator														
Goal	Admin can add health facilities.														
Pre-Conditions	Admin must be logged into the system and have an Authenticated.														
Post-Conditions	Admin can successfully add the health facilities.														
Stakeholder Interest	Admin can add health facilities.														
Main Success Scenario	<p>1. User logs in.      2. User clicks Manage Health Facility tab.      System displays the screen Add Health Facility.      Screen contains the following fields:</p> <table> <tr> <td>Office</td> <td>Type of Health Facility      National Vaccine Store, Provincial Vaccine Store etc.</td> </tr> <tr> <td></td> <td>Type of Services Provided      Outreach Immunization etc.</td> </tr> <tr> <td></td> <td>Routine Immunization Ice Pack Requirements</td> </tr> <tr> <td></td> <td>SNID/NID Ice Pack Requirements</td> </tr> <tr> <td></td> <td>EPI Vaccination Staff</td> </tr> <tr> <td></td> <td>Grid Electricity Availability</td> </tr> <tr> <td></td> <td>Solar Energy</td> </tr> </table>	Office	Type of Health Facility      National Vaccine Store, Provincial Vaccine Store etc.		Type of Services Provided      Outreach Immunization etc.		Routine Immunization Ice Pack Requirements		SNID/NID Ice Pack Requirements		EPI Vaccination Staff		Grid Electricity Availability		Solar Energy
Office	Type of Health Facility      National Vaccine Store, Provincial Vaccine Store etc.														
	Type of Services Provided      Outreach Immunization etc.														
	Routine Immunization Ice Pack Requirements														
	SNID/NID Ice Pack Requirements														
	EPI Vaccination Staff														
	Grid Electricity Availability														
	Solar Energy														
Requirements	<p>Reference to corresponding system requirements:</p> <p><b>Error! Reference source not found.</b></p>														
Notes/Issues	None														



## Manage Users

Use Case ID	UC 011
Description	Manage users in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage users.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully all the users.
Stakeholder Interest	Admin can manage users.
Main Success Scenario	<p>3. User logs in. 4. User clicks Manage Users tab. System displays the screen Manage Users. Screen contains the list of all the users</p>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Users

Use Case ID	UC 012
Description	Add user in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new user.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new user.
Stakeholder Interest	Admin can add users.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Users tab.</li><li>3. User selects Add User from. System displays User Add screen. User Name Level      Provincial/District Email Phone No</li></ol>
Requirements	Reference to corresponding system requirements:  Error! Reference source not found.
Notes/Issues	None

## **Update Users**

<b>Use Case ID</b>	UC 013
<b>Description</b>	Update user in the cold chain module
<b>Level</b>	Admin-level
<b>Actors</b>	Cold chain manager, Cold chain store operator
<b>Goal</b>	Admin can update user.
<b>Pre-Conditions</b>	Admin must be logged into the system and have an Authenticated.
<b>Post-Conditions</b>	Admin can successfully update user.
<b>Stakeholder Interest</b>	Admin can update users.
<b>Main Success Scenario</b>	<p>1. User logs in.      2. User clicks Manage Users tab.      3. User selects Update User from.</p> <p>System displays User Update screen.</p> <p>User Name      Password      Level      Provincial/District      Email      Phone No      Cell No      Designation      Department      Department Of Health, Monitoring Department etc.      Photo      Address</p>
<b>Requirements</b>	<p>Reference to corresponding system requirements:</p> <p><b>Error! Reference source not found.</b></p>
<b>Notes/Issues</b>	None

## Manage Lists

Use Case ID	UC 014
Description	Manage Lists in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage lists.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage all the lists.
Stakeholder Interest	Admin can manage lists.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Lists tab. System displays the screen Manage Lists. Screen contains all the lists of the table values</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add List

Use Case ID	UC 015
Description	Add new list in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new list.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new list.
Stakeholder Interest	Admin can add lists.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Lists tab.</li><li>3. User selects Add List from the top right corner of the grid. System displays List Add screen. List              Temperature Recording System, Gas Type, Fuel Type etc List Value Description</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Update List

Use Case ID	UC 016
Description	Update list in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update list.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update list.
Stakeholder Interest	Admin can update lists.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Lists tab.</li><li>3. User selects Update List from. System displays User Update screen. List              Temperature Recording System, Gas Type, Fuel Type etc. List Value Description</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Manage Assets Sub Types

Use Case ID	UC 017
Description	Manage Assets Sub Types in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage assets sub types.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage assets sub types.
Stakeholder Interest	Admin can manage assets sub types.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Assets Sub Types tab. System displays User Add screen.</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Asset Sub Type

Use Case ID	UC 018
Description	Add Asset Sub Type in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new Asset Sub Type.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new asset sub type.
Stakeholder Interest	Admin can add asset sub type.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Assets Sub Types tab.</li><li>3. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc. Asset Sub Type</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Update Asset Sub Type

Use Case ID	UC 019
Description	Update Asset Sub Type in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update asset sub types.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update asset sub type.
Stakeholder Interest	Admin can update sub types.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Assets Sub Types tab.</li><li>3. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc Asset Sub Type</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Manage Makes

Use Case ID	UC 020
Description	Manage makes of the assets in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage makes.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage makes.
Stakeholder Interest	Admin can manage makes.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Makes tab. System displays the screen Manage Asset makes. Screen contains the list of all the asset's makes</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Make

Use Case ID	UC 021
Description	Add make of the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new make.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new make.
Stakeholder Interest	Admin can add makes.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Makes tab.</li><li>3. User selects Add User from. System displays User Add screen. Asset Make</li></ol>
Requirements	Reference to corresponding system requirements:  Error! Reference source not found.
Notes/Issues	None

## Update Make

Use Case ID	UC 022
Description	Update makeof the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update make.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update make.
Stakeholder Interest	Admin can update makes.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Makes tab.</li><li>3. User selects Add User from. System displays User Add screen. Asset Make</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Manage Models

Use Case ID	UC 023
Description	Manage models of the assets in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage models of the assets.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage models of the assets.
Stakeholder Interest	Admin can manage models of the assets.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Models tab. System displays the screen Manage Asset models. Screen contains the list of all the asset's models.</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Model

Use Case ID	UC 024
Description	Add model of the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new model.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new model.
Stakeholder Interest	Admin can add models.
Main Success Scenario	<ol style="list-style-type: none"><li>1. User logs in.</li><li>2. User clicks Manage Models tab.</li><li>3. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc Asset Sub Type Chest freezer, AC electricity etc Make Dawlance, Haier etc Model Catalogue ID CFC Free Sticker Dimensions Capacity</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None



## Update Model

Use Case ID	UC 025
Description	Update model of the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update asset's model.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update asset's model.
Stakeholder Interest	Admin can update assets' models.
Main Success Scenario	<ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks Manage Models tab.</li> <li>3. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc Asset Sub Type Chest freezer, AC electricity etc Make            Dawlance, Haier etc Model Catalogue ID CFC Free Sticker Dimensions Capacity</li> </ol>
Requirements	<p>Reference to corresponding system requirements:</p> <p><b>Error! Reference source not found.</b></p>
Notes/Issues	None

## **Detailed Model**

Use Case ID	UC 026
Description	Display detailed information of a particular asset's model in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can view asset's model detailed information.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully view detailed information of the asset's model.
Stakeholder Interest	Admin can view detailed about a specific asset's model.
Main Success Scenario	<ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. User clicks Manage Models tab.</li> <li>3. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc Asset Sub Type    Chest freezer, AC electricity etc Make              Dawlance, Haier etc Model Catalogue ID CFC Free Sticker Dimensions Capacity</li> </ol>
Requirements	<p>Reference to corresponding system requirements:</p> <p><b>Error! Reference source not found.</b></p>
Notes/Issues	None

# CCEM Admin

[text]

## Enhancements Scope

[text]

## Overall Description

A general description of the requirements was understood by consultation with the stakeholders and the users of the system, and the scenarios that are required for each feature.

## User Types

There are three levels of users i.e. Federal, Provincial and District users. The federal user will manage cold chain assets of health facilities and stores in the regions (FATA, Gilgit-Baltistan, AJK) and ICT area of Pakistan. Provincial users will administer their own provincial cold chain at province and division level along overall administrative functions related to cold chain. District users will administrate the cold chain at district's health facilities and stores.

For each level there are two types of user's i.e. Cold chain Manager and Operator. Specific responsibilities have been identified of these users are as following:

- National Users

[text]

- Provincial Users

[text]

- District Users

[text]

## **Assumptions and Dependencies**

After integrating UNICEFF CCEM and vLMIS cold chain features it is assumed that now CCEM module covered almost every requirement of the user and cold chain assets management.

Most of the features and requirements derived from UNICEFF CCEM vLMIS cold chain functionality dependent to fulfill user requirements.

## **Functional Requirements**

System will provide a separate module for immunization campaigns all over the country. This module will contain data entry of each campaign. Data entry is handled on five different screens explained below:

### **Provincial Cold-Chain Manager User Requirements**

#### **Cold Chain Inventory Logistics**

Currently, there are significant challenges in the use and management of cold-chain equipment. Routine reporting of cold chain logistics data is impeded by poor accuracy and inadequate supervision and feedback on reporting. Because data are not available in real-time electronic form to all stakeholders, there is very limited visibility in the pipeline below the national level.

There is a need to collect data for cold chain inventory that will collect data on existing cold chain equipment (age, type, capacity, operability) as well as adding new equipment. This will help identify gaps in the cold chain storage capacity and functionality that need to be addressed. Adding the cold-chain module to vLMIS will enable the system to keep an online inventory of the cold-chain equipment. Currently, the data for cold chain equipment is mainly paper-based and therefore largely

inaccessible to vertical program managers which hinder managers to procure the right quantities and effectively oversee supply chain performance.

The module must enable the data providers to add assets to the inventory by providing the related asset's information. For each asset, a different entry form should open based on the asset's type and the information that must be recorded for that particular asset.

Currently there are 5 types of assets:

- Refrigerator Or Freezer/ ILR
- Vaccine Carriers, Cold Boxes & Ice Packs
- Voltage Regulator / stabilisers
- Generators
- Transport

Initially, the add asset form must gather the following asset information:

<b>Assets ID</b>	Auto Generated Unique ID.
<b>Assets Type</b>	ILR, Freezer, etc
<b>Working Status</b>	None/Functional/Non-Functional
<b>Placed at</b>	Store Name/Office.

The following tables describe the entry requirements for each asset type:

Asset Type	Entry Form Requirements
Refrigerator Or Freezer/ ILR	Selecting this asset type requires the following information for registering a new Refrigerator or Freezer/ ILR. <ul style="list-style-type: none"><li>● Asset Sub type</li><li>● Catalogue ID</li><li>● Make</li><li>● Model</li><li>● CFC Free Sticker</li><li>● Net Capacity</li><li>● Capacity</li></ul>

	<ul style="list-style-type: none"> <li>• Serial number</li> <li>• Working since year</li> <li>• Reason</li> <li>• Equipment Utilization</li> <li>• Temperature Monitored</li> </ul> <p>Following fields must be managed by administrator:</p> <ul style="list-style-type: none"> <li>• Sub Asset Types</li> <li>• Cold Chain Makes</li> <li>• Cold Chain Models</li> <li>• Not Working Reason</li> <li>• Equipment Utilization</li> <li>• Temperature Monitored</li> </ul> <p>Also refer to mockup: Error! Reference source not found..</p>
Vaccine Carriers, Cold Boxes & Ice Packs	<p>Selecting this asset type requires the following information for registering a new Vaccine Carriers, Cold Boxes or Ice Packs:</p> <ul style="list-style-type: none"> <li>• Catalogue ID</li> <li>• Total available for vaccination activities</li> <li>• Internal Dimensions</li> <li>• Pack size</li> <li>• Quantity</li> </ul> <p>Following fields must be managed by the administrator:</p> <ul style="list-style-type: none"> <li>• Pack Sizes</li> </ul> <p>Also refer to mockup: Error! Reference source not found..</p>
Voltage Regulator / stabilizers	<p>This above screen fetches the following data from the end user.</p> <ul style="list-style-type: none"> <li>• Catalogue ID</li> <li>• Quantity</li> <li>• Make</li> <li>• Model</li> </ul> <p>Following fields are managed by administrator</p> <ul style="list-style-type: none"> <li>• Make</li> <li>• Model</li> </ul>
Generators	<p>This above screen fetches the following data from the end user.</p> <ul style="list-style-type: none"> <li>• Make</li> </ul>

	<ul style="list-style-type: none"> <li>• Model</li> <li>• Serial No</li> <li>• No of phases</li> <li>• Power Rating</li> <li>• Power Source</li> <li>• Automatic Start Mechanism</li> <li>• Used for</li> <li>• Year of supply</li> <li>• Source of supply</li> <li>• Equipment Utilization</li> </ul> <p>Following fields are managed by administrator</p> <ul style="list-style-type: none"> <li>• Make</li> <li>• Model</li> <li>• Used for</li> <li>• Source of supply</li> <li>• Equipment Utilization</li> </ul>
Transport	<p>This above screen fetches the following data from the end user.</p> <ul style="list-style-type: none"> <li>• Year of manufacture</li> <li>• % Used for EPI</li> <li>• Type of fuel</li> <li>• Comments</li> <li>• Reason</li> </ul> <p>Following fields are managed by administrator.</p> <ul style="list-style-type: none"> <li>• Reason</li> </ul>

Each Asset entry can be edited/deleted as required.

System must be able to generate a list of assets and their related details.

### Transfer Assets

System must be able to transfer assets to other warehouses. The following information must be recorded:

#### Assets ID

**From:** Province-Region/District/Tehsil/EPI Centre name

**Level:** National/Provincial-Regional/District/Tehsil/UC

**To:** Province-Region/District/Tehsil/EPI Centre name

### **Asset's Working Status**

User must also be able to provide asset's working status (Monthly).

## **Cold Chain Reports & Graphs**

Added in Reports, Graphs and Dashboard documentation

# Use Cases

A use case shows a user and a computerized system interacting to reach a goal. The following use cases are based on possible scenarios that may be encountered in different modules. The following use cases are based on possible scenarios that may be encountered in the campaigns module.

## Add Refrigerator or Freezer/ILR to Cold Chain Inventory

Use Case ID	UC 001
Description	Providing cold chain equipment information
Level	User-level
Actors	Cold chain manager, Cold chain store operator
Goal	User can add refrigerator or freezer/ILR type assets to vLMIS
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.
Main Success Scenario	<p><b>Add Asset</b></p> <p>8. User logs in. 9. User clicks CCEM tab. 10. User selects Add Refrigerator from the sub menu. 11. System displays <b>New/AddRefrigerator/Freezer/ILR Assets</b> screen. 12. User specifies the following information. Assets ID Source Of Supply Stakeholder name</p>

	<p>Utilization                    In use/Not in use and available for re-allocation etc</p> <p>Working Status               Unallocated/Working/Out of Order</p> <p>Placed at                    Store name</p> <p>Catalogue IDUser can either select Catalogue ID or add new one</p> <p>The following information must be recorded in <b>Select</b> case:</p> <ul style="list-style-type: none"> <li>Make</li> <li>Model</li> <li>Asset Sub Type</li> <li>Dimensions Length</li> <li>Dimensions Width</li> <li>Dimensions Height</li> <li>Gross Capacity 4</li> <li>Gross Capacity 20</li> <li>Net Capacity 4</li> <li>Net Capacity 20</li> <li>CFC Free Sticker            Not Applicable/Yes/No</li> </ul> <p>Click on <b>Add</b> button to add new catalogue ID and related other fields i-e</p> <p>Catalogue ID</p> <ul style="list-style-type: none"> <li>Make</li> <li>Model</li> <li>Asset Sub Type</li> <li>Dimensions Length</li> <li>Dimensions Width</li> <li>Dimensions Height</li> <li>Gross Capacity 4</li> <li>Gross Capacity 20</li> <li>Net Capacity 4</li> <li>Net Capacity 20</li> <li>CFC Free Sticker Not Applicable/Yes/No</li> </ul> <p>Serial Number</p> <p>Working Since</p> <p><b>13.</b> User presses Save.</p> <p><b>14.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Refrigerator

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Refrigerator/Freezer/ILR
Level	User-level
Actors	National users
Goal	User can view the Refrigerator/Freezer/ILR detail.
Pre-Conditions	User has access to view the detail of Refrigerator/Freezer/ILR.
Post-Conditions	User can successfully view detail of Refrigerator/Freezer/ILR Information.
Stakeholder Interest	User need to view Refrigerator/Freezer/ILR.
Main Success Scenario	<p><b>View Refrigerator/Freezer/ILR Detail</b></p> <p>42. User logs in. 43. User clicks <b>Search Refrigerator/Freezer/ILR</b> tab. 44. System displays <b>Refrigerator/Freezer/ILR</b> screen. 45. User selects the <b>Asset Sub Type</b>. 46. User selects the <b>Source of Supply</b>. 47. User selects the <b>Working Status</b>. 48. User enters <b>Asset Id/Equipment Code</b>. 49. User enters <b>Catalogue ID</b>. 50. User selects <b>Make</b>. 51. User selects <b>Model</b>. 52. User enters <b>Serial Number</b>. 53. User enters <b>Gross Capacity From</b>.</p>

	<p>54. User enters <b>Gross Capacity To</b>.</p> <p>55. User selects <b>Work Since From</b>.</p> <p>56. User selects <b>Work Since To</b>.</p> <p>57. User selects <b>CFC Free Sticker</b>.</p> <p>58. User selects <b>Placed At</b>.</p> <p>59. User clicks <b>search</b>.</p> <p>60. Report Type <b>Detail View</b></p> <p>61. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Capacity</li> <li>f. Working Status</li> <li>g. Date</li> </ul> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> <li>k. Quantity</li> </ul> <p>62. The last column displays <b>Edit - More</b></p> <p>12. User can edit record.</p> <p>13. User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Vaccines Carriers, Cold Boxes to Cold Chain Inventory

Use Case ID	UC 002						
Description	Providing cold chain equipment information						
Level	User-level						
Actors	Cold chain manager, Cold chain store operator						
Goal	User can add vaccine carriers type assets to vLMIS						
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account						
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.						
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.						
Main Success Scenario	<p><b>Add Asset</b></p> <p>8. User logs in.      9. User clicks CCEM tab.      10. User selects Add Vaccine Carriers from the sub menu.      11. System displays <b>Add Vaccine Carriers</b> screen.      12. User specifies the following information.</p> <table> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Catalogue ID</td> <td>User can either select Catalogue ID or add new one The following information must be recorded in <b>Select</b> case: Make Model Dimensions Length Dimensions Width Dimensions Height</td> </tr> <tr> <td colspan="2">Click on <b>Add</b> button to add new catalogue ID and related other fields i-e Catalogue ID Make Model</td> </tr> </table>	Placed at	Store name	Catalogue ID	User can either select Catalogue ID or add new one The following information must be recorded in <b>Select</b> case: Make Model Dimensions Length Dimensions Width Dimensions Height	Click on <b>Add</b> button to add new catalogue ID and related other fields i-e Catalogue ID Make Model	
Placed at	Store name						
Catalogue ID	User can either select Catalogue ID or add new one The following information must be recorded in <b>Select</b> case: Make Model Dimensions Length Dimensions Width Dimensions Height						
Click on <b>Add</b> button to add new catalogue ID and related other fields i-e Catalogue ID Make Model							

	<p>Dimensions Length  Dimensions Width  Dimensions Height  Total available for vaccination activities</p> <p><b>13.</b> User presses Save.  <b>14.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None



## Search Vaccines Carriers

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Vaccine Carrier
Level	User-level
Actors	National users
Goal	User can view the Vaccine Carrier detail.
Pre-Conditions	User has access to view the detail of Vaccine Carrier.
Post-Conditions	User can successfully view detail of Vaccine Carrier Information.
Stakeholder Interest	User need to view Vaccine Carrier.
Main Success Scenario	<p><b>View Vaccine Carrier Detail</b></p> <p>12. User logs in.      13. User clicks <b>Search Vaccines Carriers</b> tab.      14. System displays <b>Vaccine Carrier</b> screen.      15. User enters the <b>Catalogue ID</b>.      16. User selects the <b>Make</b>.      17. User selects the <b>Model</b>.      18. User selects the <b>Placed At</b>.      19. User clicks <b>search</b>.      20. Report Type <b>Detail View</b>      21. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Date</li> </ul>

	<p>Report Type <b>Summary View</b>        System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>f. Store</li> <li>g. Cold Chain Type</li> <li>h. Working Status</li> <li>i. Quantity</li> </ul> <p>22. The last column displays <b>More</b>        14. User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Ice Packs to Cold Chain Inventory

Use Case ID	UC 003
Description	Providing cold chain equipment information
Level	User-level
Actors	Cold chain manager, Cold chain store operator
Goal	User can add ice pack type assets to vLMIS
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.

<b>Stakeholder Interest</b>	User wants to view the cold chain assets information in vLMIS.				
<b>Main Success Scenario</b>	<p><b>Add Asset</b></p> <p>8. User logs in.      9. User clicks CCEM tab.      10. User selects Add Ice Pack from the sub menu.      11. System displays <b>Add Ice Packs</b> screen.      12. User specifies the following information.</p> <table style="margin-left: 20px;"> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Quantity</td> <td>Ice pack sizes</td> </tr> </table> <p>13. User presses Add.      14. System saves the asset.</p>	Placed at	Store name	Quantity	Ice pack sizes
Placed at	Store name				
Quantity	Ice pack sizes				
<b>Requirements</b>	<p>Reference to corresponding system requirements:</p> <p>Error! Reference source not found.</p>				
<b>Notes/Issues</b>	None				

## Search Ice Pack

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Ice Pack
Level	User-level
Actors	National users
Goal	User can view the Ice Pack detail.
Pre-Conditions	User has access to view the detail of Ice Pack.
Post-Conditions	User can successfully view detail of Ice Pack Information.
Stakeholder Interest	User need to view Ice Pack.
Main Success Scenario	<p><b>View Ice Pack Detail</b></p> <p>63. User logs in. 64. User clicks <b>Search Ice Pack</b> tab. 65. System displays <b>Ice Pack</b> screen. 66. User selects <b>Make</b>. 67. User selects <b>Model</b>. 68. User selects <b>Placed At</b>. 69. User clicks <b>search</b>. 70. Report Type <b>Detail View</b> 71. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"><li>a. District</li><li>b. Facility</li><li>c. Make</li><li>d. Model</li><li>e. Quantity</li><li>f. Date</li></ul>

	<p>Report Type <b>Summary View</b>        System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>g. Store</li> <li>h. Cold Chain Type</li> <li>i. Quantity</li> </ul> <p>72. The last column displays <b>More</b></p> <p>15. User can view detail record.</p>
Extensions	<p>a.* At any time, browser crashes.        1: User recovers browser and starts over</p>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

## Add Cold Room to Cold Chain Inventory

Use Case ID	UC 004																								
Description	Providing cold chain equipment information																								
Level	User-level																								
Actors	Cold chain manager, Cold chain store operator																								
Goal	User can add cold room type assets to vLMIS																								
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																								
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																								
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																								
Main Success Scenario	<p><b>Add Asset</b></p> <p>8. User logs in.      9. User clicks CCEM tab.      10. User selects Add Cold Room from the sub menu.      11. System displays <b>Add Cold Room</b> screen.      12. User specifies the following information.</p> <table> <tbody> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Source of Supply</td> <td>GAVI/ WHO/GOP etc</td> </tr> <tr> <td>Utilization</td> <td>In use/Not in use and available for re-allocationetc</td> </tr> <tr> <td>Working Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td>Placed At</td> <td>Store name</td> </tr> <tr> <td>Type+4°C Cold Room/ -20°C Freezer Room</td> <td></td> </tr> <tr> <td>Internal Storage Dimensions</td> <td>Length</td> </tr> <tr> <td>Internal Storage Dimensions</td> <td>Width</td> </tr> <tr> <td>Internal Storage Dimensions</td> <td>Height</td> </tr> <tr> <td>MakeHaier/ Foster etc</td> <td></td> </tr> <tr> <td>Internal Gross Volume</td> <td></td> </tr> <tr> <td>ModelHBD-116/ Chinese etc</td> <td></td> </tr> </tbody> </table>	Assets ID		Source of Supply	GAVI/ WHO/GOP etc	Utilization	In use/Not in use and available for re-allocationetc	Working Status	Unallocated/Working/Out of Order	Placed At	Store name	Type+4°C Cold Room/ -20°C Freezer Room		Internal Storage Dimensions	Length	Internal Storage Dimensions	Width	Internal Storage Dimensions	Height	MakeHaier/ Foster etc		Internal Gross Volume		ModelHBD-116/ Chinese etc	
Assets ID																									
Source of Supply	GAVI/ WHO/GOP etc																								
Utilization	In use/Not in use and available for re-allocationetc																								
Working Status	Unallocated/Working/Out of Order																								
Placed At	Store name																								
Type+4°C Cold Room/ -20°C Freezer Room																									
Internal Storage Dimensions	Length																								
Internal Storage Dimensions	Width																								
Internal Storage Dimensions	Height																								
MakeHaier/ Foster etc																									
Internal Gross Volume																									
ModelHBD-116/ Chinese etc																									

	<p>Net Storage Volume For Vaccine/Packs</p> <p>Year of Supply</p> <p>Number of Cooling System</p> <p>Number of PhasesOne/ Three</p> <p>Refrigerator Gas TypeR134A/ Unknown etc</p> <p>Has Voltage Stabilizer Yes/ No</p> <p>Has Working Backup GeneratorNo/Yes-manual startupetc</p> <p>Temperature Recording System Not provided/ Provided, operating etc</p> <p>Type of Recording System Manual/ Fridge etc</p> <p><b>13.</b> User presses Save.</p> <p><b>14.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Cold Room

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Cold Room
Level	User-level
Actors	National users
Goal	User can view the Cold Room detail.
Pre-Conditions	User has access to view the detail of Cold Room.
Post-Conditions	User can successfully view detail of Cold Room Information.
Stakeholder Interest	User need to view Cold Room.
Main Success Scenario	<p><b>View Cold Room Detail</b></p> <ol style="list-style-type: none"> <li>21. User logs in.</li> <li>22. User clicks <b>Search Cold Room</b> tab.</li> <li>23. System displays <b>Cold Room</b> screen.</li> <li>24. User selects <b>Type</b>.</li> <li>25. User selects the <b>Working Status</b>.</li> <li>26. User selects the <b>Source of Supply</b>.</li> <li>27. User selects the <b>Number of Cooling System</b>.</li> <li>28. User enters <b>Asset Id/Equipment Code</b>.</li> <li>29. User selects <b>Has Voltage Stabilizer</b>.</li> <li>30. User selects <b>Make</b>.</li> <li>31. User selects <b>Model</b>.</li> <li>32. User enters <b>Capacity From</b>.</li> <li>33. User enters <b>Capacity To</b>.</li> <li>34. User selects <b>Year of Supply From</b>.</li> <li>35. User selects <b>Year of Supply To</b>.</li> <li>36. User selects <b>Placed At</b>.</li> </ol>

	<p>37. User clicks <b>search</b>.</p> <p>38. Report Type <b>Detail View</b></p> <p>39. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Capacity</li> <li>f. Working Status</li> <li>g. Date</li> </ul> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> </ul> <p>40. The last column displays <b>Edit - More</b></p> <p>16. User can edit record.</p> <p>17. User can view detail record.</p>
<b>Extensions</b>	<p>a.* At any time, browser crashes.</p> <p>1: User recovers browser and starts over</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Voltage Regulator/ Stabilizers to Cold Chain Inventory

Use Case ID	UC 005																
Description	Providing cold chain equipment information																
Level	User-level																
Actors	Cold chain manager, Cold chain store operator																
Goal	User can add voltage regulator type assets to vLMIS																
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																
Main Success Scenario	<p><b>Add Asset</b></p> <p>8. User logs in.      9. User clicks CCEM tab.      10. User selects Add Voltage Regulator from the sub menu.      11. System displays <b>New/Add Voltage RegulatorAsset</b> screen.      12. User specifies the following information.</p> <table> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Catalogue ID</td> <td>User can either select Catalogue ID or add new one</td> </tr> </table> <p>The following information must be recorded in <b>Select</b> case:</p> <table> <tr> <td>Make</td> <td></td> </tr> <tr> <td>Model</td> <td></td> </tr> <tr> <td colspan="2">Click on <b>Add</b> button to add new catalogue ID and related other fields i-e Catalogue ID</td> </tr> <tr> <td>Make</td> <td></td> </tr> <tr> <td>Model</td> <td></td> </tr> <tr> <td>Quantity</td> <td></td> </tr> </table> <p>13. User presses Add.      14. System saves the asset.</p>	Placed at	Store name	Catalogue ID	User can either select Catalogue ID or add new one	Make		Model		Click on <b>Add</b> button to add new catalogue ID and related other fields i-e Catalogue ID		Make		Model		Quantity	
Placed at	Store name																
Catalogue ID	User can either select Catalogue ID or add new one																
Make																	
Model																	
Click on <b>Add</b> button to add new catalogue ID and related other fields i-e Catalogue ID																	
Make																	
Model																	
Quantity																	

<b>Requirements</b>	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
<b>Notes/Issues</b>	None

# Search Voltage Regulator

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Voltage Regulator
Level	User-level
Actors	National users
Goal	User can view the Voltage Regulator detail.
Pre-Conditions	User has access to view the detail of Voltage Regulator.
Post-Conditions	User can successfully view detail of Voltage Regulator Information.
Stakeholder Interest	User need to view Voltage Regulator.
Main Success Scenario	<p><b>View Voltage Regulator Detail</b></p> <p>12. User logs in. 13. User clicks <b>Search Voltage Regulator</b> tab. 14. System displays <b>Voltage Regulator</b> screen. 15. User enters <b>Catalogue ID</b>. 16. User selects <b>Make</b>. 17. User selects <b>Model</b>. 18. User selects <b>Placed At</b>. 19. User clicks <b>search</b>. 20. Report Type <b>Detail View</b> 21. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"><li>a. District</li><li>b. Facility</li><li>c. Make</li><li>d. Model</li><li>e. Working Status</li></ul>

	<p>f. Date</p> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>g. Store</li> <li>h. Cold Chain Type</li> <li>i. Working Status</li> <li>j. Quantity</li> </ul> <p>22. The last column displays <b>More</b></p> <p>18. User can view detail record.</p>
Extensions	<p>a.* At any time, browser crashes.</p> <p>1: User recovers browser and starts over</p>
Requirements	Reference to corresponding system requirements:
Notes/Issues	None

# Add Generators to Cold Chain Inventory

Use Case ID	UC 006																								
Description	Providing cold chain equipment information																								
Level	User-level																								
Actors	Cold chain manager, Cold chain store operator																								
Goal	User can add generator type assets to vLMIS																								
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																								
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																								
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																								
Main Success Scenario	<p><b>Add Asset</b></p> <p>8. User logs in.      9. User clicks CCEM tab.      10. User selects <b>Add Generator</b> from the sub menu.      11. System displays <b>Add Generator Asset</b> screen.      12. User specifies the following information.</p> <table> <tbody> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Source Of Supply</td> <td>Stakeholder name</td> </tr> <tr> <td>Utilization</td> <td>In use/Not in use and available for re-allocationetc</td> </tr> <tr> <td>Working Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Make</td> <td>Lambordini/ Unknown/ Countary Man etc</td> </tr> <tr> <td>Model</td> <td></td> </tr> <tr> <td>Serial Number</td> <td></td> </tr> <tr> <td>No of Phases</td> <td>One/Three</td> </tr> <tr> <td>Power Rating</td> <td></td> </tr> <tr> <td>Pwer Source</td> <td>Diesel/ Not applicable/ Petrol</td> </tr> <tr> <td>Automatic Start Mechanism</td> <td>Yes/No</td> </tr> </tbody> </table>	Assets ID		Source Of Supply	Stakeholder name	Utilization	In use/Not in use and available for re-allocationetc	Working Status	Unallocated/Working/Out of Order	Placed at	Store name	Make	Lambordini/ Unknown/ Countary Man etc	Model		Serial Number		No of Phases	One/Three	Power Rating		Pwer Source	Diesel/ Not applicable/ Petrol	Automatic Start Mechanism	Yes/No
Assets ID																									
Source Of Supply	Stakeholder name																								
Utilization	In use/Not in use and available for re-allocationetc																								
Working Status	Unallocated/Working/Out of Order																								
Placed at	Store name																								
Make	Lambordini/ Unknown/ Countary Man etc																								
Model																									
Serial Number																									
No of Phases	One/Three																								
Power Rating																									
Pwer Source	Diesel/ Not applicable/ Petrol																								
Automatic Start Mechanism	Yes/No																								

	<p>Year of Supply Use For</p> <p><b>13.</b> User presses Save. <b>14.</b> System saves the asset.</p>	Cold Rooms/ Lighting etc
<b>Requirements</b>	Reference to corresponding system requirements:	
<b>Notes/Issues</b>	None	

## Search Generator

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Generator
Level	User-level
Actors	National users
Goal	User can view the Generator detail.
Pre-Conditions	User has access to view the detail of Generator.
Post-Conditions	User can successfully view detail of Generator Information.
Stakeholder Interest	User need to view Generator.
Main Success Scenario	<p><b>View Generator Detail</b></p> <p>34. User logs in.  35. User clicks <b>Search Generator</b> tab.  36. System displays <b>Generator</b> screen.  37. User selects the <b>Working Status</b>.  38. User enters <b>Serial Number</b>.  39. User selects the <b>Source of Supply</b>.  40. User enters <b>Asset Id/Equipment Code</b>.  41. User selects <b>Make</b>.  42. User selects <b>Model</b>.  43. User selects <b>Year of Supply From</b>.  44. User selects <b>Year of Supply To</b>.  45. User selects <b>Placed At</b>.  46. User clicks <b>search</b>.  47. Report Type <b>Detail View</b>  48. System displays searched received data table with the following fields:</p>

	<ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Serial Number</li> <li>f. Working Status</li> <li>g. Working Since</li> </ul> <p>Report Type <b>Summary View</b>  System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> <li>k. Quantity</li> </ul> <p>49. The last column displays <b>Edit - More</b>  19. User can edit record.  20. User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Add Transport to Cold Chain Inventory

Use Case ID	UC 007																								
Description	Providing cold chain equipment information																								
Level	User-level																								
Actors	Cold chain manager, Cold chain store operator																								
Goal	User can add transport type assets to vLMIS																								
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account																								
Post-Conditions	User can successfully view the cold chain assets information in vLMIS.																								
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.																								
Main Success Scenario	<p><b>Add Asset</b></p> <p>8. User logs in.      9. User clicks CCEM tab.      10. User selects <b>Add Transport</b> from the sub menu.      11. System displays <b>New/Add Transport Asset</b> screen.      12. User specifies the following information.</p> <table> <tbody> <tr> <td>Assets ID</td> <td>Source Of Supply</td> <td>Stakeholder name</td> </tr> <tr> <td></td> <td>Utilization</td> <td>In use/Not in use and available for re-allocationetc</td> </tr> <tr> <td></td> <td>Working Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td></td> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td></td> <td>Transport Type</td> <td>Motorcycle/ Vehicle/ Truck etc</td> </tr> <tr> <td></td> <td>Registration No</td> <td></td> </tr> <tr> <td></td> <td>Make</td> <td>Suzuki/ Metro/ Unknown etc</td> </tr> <tr> <td></td> <td>Model</td> <td>110 cc/ 800 cc etc</td> </tr> </tbody> </table>	Assets ID	Source Of Supply	Stakeholder name		Utilization	In use/Not in use and available for re-allocationetc		Working Status	Unallocated/Working/Out of Order		Placed at	Store name		Transport Type	Motorcycle/ Vehicle/ Truck etc		Registration No			Make	Suzuki/ Metro/ Unknown etc		Model	110 cc/ 800 cc etc
Assets ID	Source Of Supply	Stakeholder name																							
	Utilization	In use/Not in use and available for re-allocationetc																							
	Working Status	Unallocated/Working/Out of Order																							
	Placed at	Store name																							
	Transport Type	Motorcycle/ Vehicle/ Truck etc																							
	Registration No																								
	Make	Suzuki/ Metro/ Unknown etc																							
	Model	110 cc/ 800 cc etc																							

	<p>Manufacture Year  % Used For EPI  Fuel Type Petrol/ Diesel/ Not applicable  Comments  <b>13.</b> User presses Save.  <b>14.</b> System saves the asset.</p>
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Search Transport

Use Case ID	UC 002 (Previously UC 00)
Description	Search for Transport
Level	User-level
Actors	National users
Goal	User can view the Transport detail.
Pre-Conditions	User has access to view the detail of Transport.
Post-Conditions	User can successfully view detail of Transport Information.
Stakeholder Interest	User need to view Transport.
Main Success Scenario	<p><b>View Transport Detail</b></p> <p>50. User logs in. 51. User clicks <b>Search Transport</b> tab. 52. System displays <b>Transport</b> screen. 53. User selects the <b>Transport Type</b>. 54. User selects the <b>Working Status</b>. 55. User selects the <b>Source of Supply</b>. 56. User selects the <b>Fuel Type</b>. 57. User enters <b>Registration No.</b>. 58. User selects <b>Make</b>. 59. User selects <b>Model</b>. 60. User selects <b>Manufacture Year From</b>. 61. User selects <b>Manufacture Year To</b>. 62. User selects <b>Placed At</b>. 63. User clicks <b>search</b>. 64. Report Type <b>Detail View</b></p>

	<p>65. System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>a. District</li> <li>b. Facility</li> <li>c. Make</li> <li>d. Model</li> <li>e. Fuel Type</li> <li>f. Working Status</li> <li>g. Date</li> </ul> <p>Report Type <b>Summary View</b></p> <p>System displays searched received data table with the following fields:</p> <ul style="list-style-type: none"> <li>h. Store</li> <li>i. Cold Chain Type</li> <li>j. Working Status</li> <li>k. Quantity</li> </ul> <p>66. The last column displays <b>Edit - More</b></p> <p>21. User can edit record.</p> <p>22. User can view detail record.</p>
<b>Extensions</b>	a.* At any time, browser crashes. 1: User recovers browser and starts over
<b>Requirements</b>	Reference to corresponding system requirements:
<b>Notes/Issues</b>	None

## Transfer Asset from Cold Chain Inventory

Use Case ID	UC 008														
Description	Transferring assets from cold chain inventory.														
Level	User-level														
Actors	Cold chain manager, Cold chain store operator														
Goal	User can transfer cold chain equipment assets from cold chain inventory to other warehouses.														
Pre-Conditions	User must be logged into the system and have an Authenticated User or a Data Provider account														
Post-Conditions	User can successfully transfer the cold chain assets information in vLMIS.														
Stakeholder Interest	User wants to view the cold chain assets information in vLMIS.														
Main Success Scenario	<p>6. User logs in.      7. User clicks Cold Chain tab.      8. User selects Transfer Asset from the sub menu.      9. System displays Cold chain Equipment screen.      10. User clicks Transfer Assets. The following information must be recorded:</p> <table> <tr> <td>Assets Type</td> <td>ILR/Freezer</td> </tr> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Quantity</td> <td></td> </tr> <tr> <td>Transfer Quantity Asset</td> <td></td> </tr> <tr> <td>From</td> <td>Province/District/Tehsil/EPI Centre name</td> </tr> <tr> <td>To</td> <td>Province/District/Tehsil/EPI Centre name</td> </tr> <tr> <td>Level</td> <td>National/Provincial/District/Tehsil/UC</td> </tr> </table> <p>3. User presses OK.      4. System enters transfers asset information.</p>	Assets Type	ILR/Freezer	Assets ID		Quantity		Transfer Quantity Asset		From	Province/District/Tehsil/EPI Centre name	To	Province/District/Tehsil/EPI Centre name	Level	National/Provincial/District/Tehsil/UC
Assets Type	ILR/Freezer														
Assets ID															
Quantity															
Transfer Quantity Asset															
From	Province/District/Tehsil/EPI Centre name														
To	Province/District/Tehsil/EPI Centre name														
Level	National/Provincial/District/Tehsil/UC														
Requirements	Reference to corresponding system requirements:  3.2														

Notes/Issues	None
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## Asset List of Cold Chain Inventory

<b>Use Case ID</b>	UC 009																		
<b>Description</b>	Generate a list of inventory added in the cold chain module																		
<b>Level</b>	User-level																		
<b>Actors</b>	Cold chain manager, Cold chain store operator																		
<b>Goal</b>	User can view a list of cold chain equipment																		
<b>Pre-Conditions</b>	User must be logged into the system and have an Authenticated User or a Data Provider account																		
<b>Post-Conditions</b>	User can successfully view the cold chain assets information in vLMIS.																		
<b>Stakeholder Interest</b>	User wants to view the cold chain assets information in vLMIS.																		
<b>Main Success Scenario</b>	<p>4. User logs in.        5. User clicks Cold Chain tab.        6. User selects Asset List from the sub menu.        System displays Asset List screen.</p> <table> <tr> <td>Assets ID</td> <td></td> </tr> <tr> <td>Assets Type</td> <td>Refrigerator/Freezer/ILR</td> </tr> <tr> <td>Serial Number</td> <td></td> </tr> <tr> <td>Model/Make</td> <td></td> </tr> <tr> <td>Estimated Life</td> <td></td> </tr> <tr> <td>Working Since</td> <td>(month and year value)</td> </tr> <tr> <td>Status</td> <td>Unallocated/Working/Out of Order</td> </tr> <tr> <td>Placed at</td> <td>Store name</td> </tr> <tr> <td>Asset District</td> <td></td> </tr> </table>	Assets ID		Assets Type	Refrigerator/Freezer/ILR	Serial Number		Model/Make		Estimated Life		Working Since	(month and year value)	Status	Unallocated/Working/Out of Order	Placed at	Store name	Asset District	
Assets ID																			
Assets Type	Refrigerator/Freezer/ILR																		
Serial Number																			
Model/Make																			
Estimated Life																			
Working Since	(month and year value)																		
Status	Unallocated/Working/Out of Order																		
Placed at	Store name																		
Asset District																			
<b>Requirements</b>	<p>Reference to corresponding system requirements:        5.2.10</p>																		
<b>Notes/Issues</b>	None																		

## Add Health Facility

Use Case ID	UC 010														
Description	Add health facilities in the cold chain module														
Level	Admin-level														
Actors	Cold chain manager, Cold chain store operator														
Goal	Admin can add health facilities.														
Pre-Conditions	Admin must be logged into the system and have an Authenticated.														
Post-Conditions	Admin can successfully add the health facilities.														
Stakeholder Interest	Admin can add health facilities.														
Main Success Scenario	<p>5. User logs in.      6. User clicks Manage Health Facility tab.      System displays the screen Add Health Facility.      Screen contains the following fields:</p> <table> <tr> <td>Office</td> <td>Type of Health Facility      National Vaccine Store, Provincial Vaccine Store etc.</td> </tr> <tr> <td></td> <td>Type of Services Provided      Outreach Immunization etc.</td> </tr> <tr> <td></td> <td>Routine Immunization Ice Pack Requirements</td> </tr> <tr> <td></td> <td>SNID/NID Ice Pack Requirements</td> </tr> <tr> <td></td> <td>EPI Vaccination Staff</td> </tr> <tr> <td></td> <td>Grid Electricity Availability</td> </tr> <tr> <td></td> <td>Solar Energy</td> </tr> </table>	Office	Type of Health Facility      National Vaccine Store, Provincial Vaccine Store etc.		Type of Services Provided      Outreach Immunization etc.		Routine Immunization Ice Pack Requirements		SNID/NID Ice Pack Requirements		EPI Vaccination Staff		Grid Electricity Availability		Solar Energy
Office	Type of Health Facility      National Vaccine Store, Provincial Vaccine Store etc.														
	Type of Services Provided      Outreach Immunization etc.														
	Routine Immunization Ice Pack Requirements														
	SNID/NID Ice Pack Requirements														
	EPI Vaccination Staff														
	Grid Electricity Availability														
	Solar Energy														
Requirements	<p>Reference to corresponding system requirements:</p> <p><b>Error! Reference source not found.</b></p>														
Notes/Issues	None														



## Manage Users

Use Case ID	UC 011
Description	Manage users in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage users.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully view all the users.
Stakeholder Interest	Admin can manage users.
Main Success Scenario	<p>7. User logs in. 8. User clicks Manage Users tab. System displays the screen Manage Users. Screen contains the list of all the users</p>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Users

Use Case ID	UC 012
Description	Add user in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new user.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new user.
Stakeholder Interest	Admin can add users.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Users tab.</li><li>6. User selects Add User from. System displays User Add screen. User Name Level      Provincial/District Email Phone No</li></ol>
Requirements	Reference to corresponding system requirements:  Error! Reference source not found.
Notes/Issues	None

## **Update Users**

<b>Use Case ID</b>	UC 013
<b>Description</b>	Update user in the cold chain module
<b>Level</b>	Admin-level
<b>Actors</b>	Cold chain manager, Cold chain store operator
<b>Goal</b>	Admin can update user.
<b>Pre-Conditions</b>	Admin must be logged into the system and have an Authenticated.
<b>Post-Conditions</b>	Admin can successfully update user.
<b>Stakeholder Interest</b>	Admin can update users.
<b>Main Success Scenario</b>	<p>4. User logs in.        5. User clicks Manage Users tab.        6. User selects Update User from.        System displays User Update screen.        User Name        Password        Level      Provincial/District        Email        Phone No        Cell No        Designation        DepartmentDepartment Of Health, Monitoring Department etc        Photo        Address</p>
<b>Requirements</b>	<p>Reference to corresponding system requirements:  <b>Error! Reference source not found.</b></p>
<b>Notes/Issues</b>	None

## Manage Lists

Use Case ID	UC 014
Description	Manage Lists in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage lists.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage all the lists.
Stakeholder Interest	Admin can manage lists.
Main Success Scenario	<p>3. User logs in. 4. User clicks Manage Lists tab. System displays the screen Manage Lists. Screen contains all the lists of the table values</p>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add List

Use Case ID	UC 015
Description	Add newlistin the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new list.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add newlist.
Stakeholder Interest	Admin can add lists.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Lists tab.</li><li>6. User selects Add List from the top right corner of the grid. System displays List Add screen. List              Temperature Recording System, Gas Type, Fuel Type etc List Value Description</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Update List

Use Case ID	UC 016
Description	Update listin the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update list.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update list.
Stakeholder Interest	Admin can updatelists.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Lists tab.</li><li>6. User selects Update List from. System displays User Update screen. List              Temperature Recording System, Gas Type, Fuel Type etc List Value Description</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Manage Assets Sub Types

Use Case ID	UC 017
Description	Manage Assets Sub Types in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage assets sub types.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage assets sub types.
Stakeholder Interest	Admin can manage assets sub types.
Main Success Scenario	<ol style="list-style-type: none"><li>3. User logs in.</li><li>4. User clicks Manage Assets Sub Types tab. System displays User Add screen.</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Asset Sub Type

Use Case ID	UC 018
Description	Add Asset Sub Type in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new Asset Sub Type.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new asset sub type.
Stakeholder Interest	Admin can add asset sub type.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Assets Sub Types tab.</li><li>6. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc Asset Sub Type</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Update Asset Sub Type

Use Case ID	UC 019
Description	Update Asset Sub Type in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update asset sub types.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update asset sub type.
Stakeholder Interest	Admin can update sub types.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Assets Sub Type tab.</li><li>6. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc Asset Sub Type</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Manage Makes

Use Case ID	UC 020
Description	Manage makes of the assets in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage makes.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage makes.
Stakeholder Interest	Admin can manage makes.
Main Success Scenario	<p>3. User logs in. 4. User clicks Manage Makes tab. System displays the screen Manage Asset makes. Screen contains the list of all the asset's makes</p>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Make

Use Case ID	UC 021
Description	Add make of the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new make.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new make.
Stakeholder Interest	Admin can add makes.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Makes tab.</li><li>6. User selects Add User from. System displays User Add screen. Asset Make</li></ol>
Requirements	Reference to corresponding system requirements:  Error! Reference source not found.
Notes/Issues	None

## Update Make

Use Case ID	UC 022
Description	Update makeof the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update make.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update make.
Stakeholder Interest	Admin can update makes.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Makes tab.</li><li>6. User selects Add User from. System displays User Add screen. Asset Make</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Manage Models

Use Case ID	UC 023
Description	Manage models of the assets in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can manage models of the assets.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully manage models of the assets.
Stakeholder Interest	Admin can manage models of the assets.
Main Success Scenario	<p>3. User logs in. 4. User clicks Manage Models tab. System displays the screen Manage Asset models. Screen contains the list of all the asset's models.</p>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

## Add Model

Use Case ID	UC 024
Description	Add model of the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can add new model.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully add new model.
Stakeholder Interest	Admin can add models.
Main Success Scenario	<p>4. User logs in.        5. User clicks Manage Models tab.        6. User selects Add User from.        System displays User Add screen.        Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc        Asset Sub Type Chest freezer, AC electricity etc        Make Dawlance, Haier etc        Model        Catalogue ID        CFC Free Sticker        Dimensions        Capacity</p>
Requirements	<p>Reference to corresponding system requirements:  <b>Error! Reference source not found.</b></p>
Notes/Issues	None



## Update Model

Use Case ID	UC 025
Description	Update model of the asset in the cold chain module
Level	Admin-level
Actors	Cold chain manager, Cold chain store operator
Goal	Admin can update asset's model.
Pre-Conditions	Admin must be logged into the system and have an Authenticated.
Post-Conditions	Admin can successfully update asset's model.
Stakeholder Interest	Admin can update assets' models.
Main Success Scenario	<ol style="list-style-type: none"><li>4. User logs in.</li><li>5. User clicks Manage Models tab.</li><li>6. User selects Add User from. System displays User Add screen. Asset Type      Refrigerators/Freezers/ILR, Vaccine Carriers etc Asset Sub Type Chest freezer, AC electricity etc Make            Dawlance, Haier etc Model Catalogue ID CFC Free Sticker Dimensions Capacity</li></ol>
Requirements	Reference to corresponding system requirements:  <b>Error! Reference source not found.</b>
Notes/Issues	None

# **Reports, Graphs and Dashboards**

[text]

## **Enhancements Scope**

[text]

## **Overall Description**

This document is composed to have detail information about reports, graph and dashboards section for all level users.

## **User Types**

There are three levels of users i.e. Federal, Provincial and District users. The federal user will manage cold chain assets of health facilities and stores in the regions (FATA, Gilgit-Baltistan, AJK) and ICT area of Pakistan. Provincial users will administer their own provincial cold chain at province and division level along overall administrative functions related to cold chain. District users will administrate the cold chain at district's health facilities and stores.

For each level there are two types of user's i.e. Cold chain Manager and Operator. Specific responsibilities have been identified of these users are as following:

- National Users

[text]

- Provincial Users

[text]

- District Users

- [text]

## **Assumptions and Dependencies**

After integrating UNICEFF CCEM and vLMIS cold chain features it is assumed that now CCEM module covered almost every requirement of the user and cold chain assets management.

Most of the features and requirements derived from UNICEFF CCEM vLMIS cold chain functionality dependent to fulfill user requirements.

## **Functional Requirements**

### **Inventory Management Reports**

#### **Shipment Reports**

System will provide a report of all issued and received stock province and national. It will also provide the status of issued stock i.e. received or pending and a detail of each voucher.

Report will provide a detailed view of all transactions showing the stores to which the stock is issued, or from where it is received. Detail views will also shows a status transactions to provide the user with latest updated on issued/received transaction.

It also provides information of each transaction voucher containing the detail of products that were issued/received in a particular transaction.

This report will provide a dynamic filter of year which will show last six months of the selected ending year.

It will also provide a filter to view stock transactions based on store types i.e. central, provincial, district and tehsil.

Below screenshot shows the report grid with transaction count in a particular month for every store.

## Central Warehouse Shipment Report

Filter by

Ending Month: Year: Warehouse:

Apr 2014 Central GO

Central Warehouse Shipment Report As on 22/04/2014

Store	Nov-13		Dec-13		Jan-14		Feb-14		Mar-14		Apr-14	
	Receive	Issue										
Federal EPJ Store	0	0	0	0	22	34	21	41	16	44	8	24

Click for transaction detail

Click for transaction bar chart

## Transaction Details

Receive Transaction Details for Federal EPI Store(01/2014)

Sr. No.	Transaction Date	Transaction No.	Receive from
1	08/01/14	R000001	GOP
2	08/01/14	R000002	GOP
3	08/01/14	R000003	GOP
4	09/01/14	R000004	GAVI
5	21/01/14	R000005	IDB
6	08/01/14	R000006	IDB
7	09/01/14	R000007	IDB
8	09/01/14	R000008	GAVI
9	14/01/14	R000009	GAVI
10	14/01/14	R000010	GAVI

**Click for transaction  
voucher**

On clicking the number of received stock in the month of February, the report shows a detail of

transactions containing the store where the

## Voucher Details

Transaction Voucher will be shown when a user clicks the transaction number this voucher can be used for reference.

	Expanded Program on Immunization Government of Pakistan Store:								
Stock Recieve From Warehouse Voucher as on: 22/04/14									
R.V.No.: R000010 Source: GAVI				Receive Date: 14/01/14					
S. No.	Product	Batch No.	Quantity			VVM Type	VVM Stage	Production Date	Expiry Date
			Vials/ Pcs	Doses Per Vial	Total Doses				
1	Pentavalent-1	1453238	264,600	1	264,600	VVM 14	1	19/07/13	18/07/16
2	Pentavalent-1	1453239	260,400	1	260,400	VVM 14	1	21/07/13	20/07/16

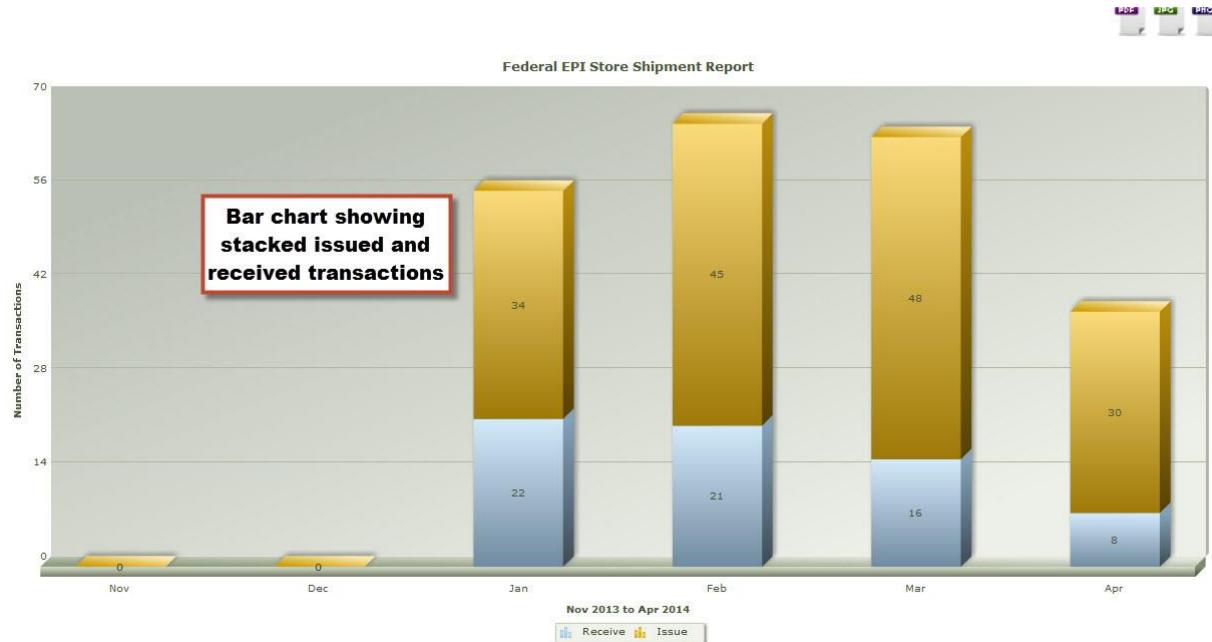
  

Received by - Name: _____ Designation: _____ Signature: _____	Store In-charge - Name: _____ Designation: _____ Signature: _____
---------------------------------------------------------------------	-------------------------------------------------------------------------

**Print**

## Graphs and Charts

A graphical view of transactions shows transactions over the last six months of selected year.



## **Consumption Reports (Routine Immunization)**

### **Wastages Report**

System provides a report for the calculated wastages of each product. This is calculated by comparing the used percentage of a product with a predefined acceptance wastage percentage which is unique for each product.

There is a filter to view wastages of products province wise individually or all provinces.

System provides an option to export report to pdf and excel format.

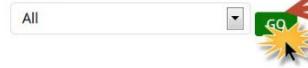
### **Product wise Wastage Report**

System will provide product wise wastage report for each district. User will be able to filter wastage of any product at any location level i.e. district, tehsil store or health facility.

Screen Below shows wastage report. The entries colored red are those which exceed the acceptance limit percentage.

## Vaccine Wastages Report

Province:



**Click to select a province**

RR: Reporting Rate



Vaccine Wastages Report - As on 22/04/2014

Product	Acceptable Wastage Limit %	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
		RR: 59%	RR: 57%	RR: 61%	RR: 46%	RR: 38%
bOPV	10%	3.4%	4.1%	6.1%	7.6%	3.9%
BCG-20	50%	24.7%	31.6%	31.2%	31.4%	30.4%
Pentavalent-1	10%	0.5%	0.7%	0.6%	0.5%	0.4%
Pneumococcal-2 (PCV10)	10%	2.8%	3%	3.1%	3.3%	3.3%
Measles-10	40%	14.6%	17.7%	18.4%	19.2%	18.2%
TT-10	20%	27%	23%	41.3%	2.7%	
TT-20	20%	15.9%	18.2%	18.7%	19.4%	17.6%
Measles-10 (Campaign)	40%	11.7%	16.1%	24.3%	15.1%	14.4%
TT-20 (Campaign)	20%	17.7%	16.7%	19.5%	21.9%	0%
tOPV (Campaign)	10%	12.5%	11.6%	2.9%	2%	8.7%
tOPV	10%	9.3%	9.5%	10.1%	10.5%	9.5%

**Reporting rate is the percentage of reported stores**

**wastage percentage with more than acceptance limit of a particular product**

## **Reported Districts**

There are three sub categories of previously added reported districts report for a more detailed analysis of vaccine distribution over the country.

### **Reported districts Categories**

Categories are listed below.



## By Union Council

This report shows a detail of total and reported UCs within a province. It also shows an aggregate of the percentage reported UCs at the end.

A line graph is provided that shows consumption of a district over the last six months.

A detail of reported UCs is also provided, which shows both reported and non-reported.

Consumption Data Reporting Status (By UC)

Province: All  Click "go" to select a province

Consumption Data Reporting Status (By UC) - As on 22/04/2014

District	Total UCs	Nov-13		Dec-13		Jan-14		Feb-14		Mar-14	
		Reported UCs	%	Reported UCs	%						
Bahawalpur	107	106	99 %	105	98 %	106	99 %	105	98 %	88	82 %
Bajaur Agency	39	32	82 %	31	79 %	32	82 %	21	54 %	24	62 %
Baldia	8	4	50 %	1	13 %	0	0 %	0	0 %	0	0 %
Charsadda	49	37	76 %	38	78 %	38	78 %	32	65 %	30	61 %
Dera Ghazi Khan	68	59	87 %	58	85 %	58	85 %	36	53 %	16	24 %
Faisalabad	289	196	68 %	195	67 %	192	66 %	20	7 %	12	4 %
FR Bannu	7	7	100 %	7	100 %	7	100 %	7	100 %	6	86 %

## By User

This report shows a detail of total and reported UC Users within a province. It also shows an aggregate of the percentage reported users at the end.

A line graph is provided that shows consumption of a district over the last six months.

A detail of reported users is also provided, which shows assigned UCs to that users and also user details both reported and non-reported.

Consumption Data Reporting Status (By User)

Province:

All  Click 'go' to select province

District	Total Users	Nov-13		Dec-13		Jan-14		Feb-14		Mar-14	
		Reported Users	Reported %								
Bahawalpur	16	16	100 %	16	100 %	16	100 %	16	100 %	12	75 %
Bajaur Agency	8	7	88 %	8	100 %	8	100 %	5	63 %	5	63 %
Baldia	2	2	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Charsadda	9	9	100 %	9	100 %	9	100 %	9	100 %	8	89 %
Dera Ghazi Khan	9	9	100 %	9	100 %	9	100 %	6	67 %	2	22 %
Faisalabad	24	23	96 %	23	96 %	23	96 %	8	33 %	7	29 %
FR Bannu	3	3	100 %	3	100 %	3	100 %	3	100 %	3	100 %
FR Dera Ismail Khan	2	2	100 %	2	100 %	2	100 %	2	100 %	1	50 %

## By Facility

This report shows a detail of total and reported facilities within a province. It also shows an aggregate of the percentage reported facilities at the end.

A line graph is provided that shows consumption of a district over the last six months.

A detail of reported facilities is also provided, which shows both reported and non-reported facilities.

Consumption Data Reporting Status (By Facility)

Province:

Click 'go' to select a province

District	Health Facilities	Nov-13		Dec-13		Jan-14		Feb-14		Mar-14	
		Reported HFs									
Bahawalpur	126	107	85 %	105	83 %	106	84 %	105	83 %	88	70 %
Bajaur Agency	38	32	84 %	31	82 %	32	84 %	21	55 %	24	63 %
Baldia	9	4	44 %	1	11 %	0	0 %	0	0 %	0	0 %
Charsadda	51	38	75 %	39	76 %	39	76 %	33	65 %	31	61 %
Dera Ghazi Khan	73	59	81 %	58	79 %	58	79 %	36	49 %	16	22 %
Faisalabad	320	197	62 %	196	61 %	193	60 %	20	6 %	12	4 %
FR Bannu	8	8	100 %	8	100 %	8	100 %	8	100 %	7	88 %
FR Dera Ismail Khan	5	5	100 %	5	100 %	5	100 %	5	100 %	4	80 %
FR Kohat	10	3	30 %	4	40 %	3	30 %	2	20 %	2	20 %
FR Lakki Marwat	4	2	50 %	2	50 %	2	50 %	2	50 %	4	100 %
FR Peshawar	9	2	22 %	2	22 %	2	22 %	2	22 %	2	22 %

# Consumption Reports (Campaign)

## Campaigns Summary (Search)

This report helps user to get list of all campaigns. The list can be generated on all parameters required for adding a campaign. The mock of the report is as following:

Title  
http://lmis.gov.pk/campaigns

### Campaign Summary (History)

Type	Select NIDs SIARDs	Product	Select tOPV(Campaign) Measles (Campaign)	Level	Select Provincial District
From	4/23/2014 <input type="button" value=""/>	To	4/23/2014 <input type="button" value=""/>	Province	Select Province
Catch Up Days	District list is displayed only if level is provincial or district				Select District All
<input type="button" value="Search"/>					
S.No.	Product	Units	Date From	Date To	Catch up Days
1	tOPV(Campaign)	vials	04/20/2014	04/23/2014	2



## **Coverage Report –Campaigns Summary**

Filters: Province, Year

# Coverage Report –Campaigns Detail

Filters: Province, District, Campaign

Tehsil	UC	Daily_target	No. of Teams reported in the evening	0-5 Months	6-59 Months	Recorded_NA	Recorded_Refusal	Covered_NA	Covered_Refusal	Number of Mobile / Migratory children covered	TotalCov
GUJAR KHAN	BEWAL	1246	9	97	1107	117	0	40	0	14	1204
GUJAR KHAN	BHADANA	868	6	70	773	92	0	25	0	35	843
GUJAR KHAN	CHANGA MERA	982	7	82	874	88	0	25	0	10	956
GUJAR KHAN	DEVI	726	5	64	646	86	0	29	0	0	710
GUJAR KHAN	DOUTALA	1409	10	119	1248	111	4	33	3	0	1367
GUJAR KHAN	G. KHAN 02	1924	11	159	1712	186	2	52	2	9	1871
GUJAR KHAN	G.KHAN 03	1087	8	95	967	129	1	46	1	0	1062
GUJAR KHAN	GHANGRILA	638	5	54	568	55	0	17	0	0	622
GUJAR KHAN	GUJAR KHAN CITY 01	1476	14	128	1314	143	2	51	0	0	1442
GUJAR KHAN	GULYANA	939	6	81	836	69	0	23	0	19	917
GUJAR KHAN	JAND MEHLU	910	6	76	810	98	0	33	0	5	886
GUJAR KHAN	JARMOT KALAN	908	6	74	808	113	0	37	0	3	882
GUJAR KHAN	JATTLI	763	7	65	679	91	2	29	1	60	744
GUJAR KHAN	JHUNGAL	659	5	60	587	57	0	18	0	17	647
GUJAR KHAN	KALYAM AWAN	932	7	83	829	101	2	35	1	4	912
GUJAR KHAN	KANIT KHALIL	873	6	77	777	85	0	27	0	39	854
GUJAR KHAN	KOUNTRILA	720	6	67	641	74	0	25	0	0	708
GUJAR KHAN	KRUMB ILYAS	799	6	68	711	117	0	37	0	17	779

## Coverage Report –Catch-Up

It is a monitoring report to find how much this campaign effective.

Filters: Province, District, Campaign

Tehsil	UC	Still Missed Children After Campaign Activity	Still NA	Still Refusal	Catch-up (Missed Children Covered After Campaign Activity)	NA Covered	Refusals Covered	Un-recorded Missed Children Covered
ATTOCK	AKHORI				225	0	0	
ATTOCK	ATTOCK CANTT				73	0	0	
ATTOCK	ATTOCK I				234	0	0	
ATTOCK	ATTOCK II				67	0	42	
ATTOCK	ATTOCK III				237	0	0	
ATTOCK	BARYAR				96	0	0	
ATTOCK	DAKHNAIR				0	0	0	
ATTOCK	GOLRRA				187	0	7	
ATTOCK	HAIJ SHAH				92	0	0	
ATTOCK	KAMRA				64	0	0	

## Lot Quality Assurance Sampling (LQAS) Report

It is a monitoring report to find how much this campaign effective.

Filters: Province, Year, Month

District	Children checked n	Un-vaccinated children	Lots collected	Not rejected at 95%	Rejected at 95%	Rejected at 90%	Rejected at 80%
ABOTABAD	60	3	1	1	0	0	0
BADIN	50	4	1	1	0	0	0
BAHAWALPUR	50	4	1	1	0	0	0
PESHAWAR	360	15	6	6	0	0	0
PISHIN	200	41	4	1	1	1	1
QUETTA	50	8	1	0	0	1	0
RAJAN PUR	50	7	1	0	1	0	0
RAWALPINDI	100	4	2	2	0	0	0
ZHOB	50	2	1	1	0	0	0
Grand Total	6,760	512	129	100	16	11	2

# CCEM Reports (added by me)

## Storage

### Report Name: Capacity at +2c to +8c

#### Report Filters:

User needs to select following filters according to their requirements, Filters are

Vaccine storage capacity at +2c to +8c against requirements												
Province	District	Facility Name	Facility Type	Actual Capacity (Ltr)	Required Capacity (Ltr)	Difference (Ltr)	Surplus > 30%	Surplus 10-30%	Match +/- 10%	Shortage 10-30%	Shortage >30%	
Punjab	Rawalpindi	RHC Chountra	Basic Health Ur	0.00	2.30	-2.30	0	0	0	0	1	
Punjab	Rawalpindi	THQ G.Khan	Basic Health Ur	0.00	3.22	-3.22	0	0	0	0	1	
Punjab	Rawalpindi	CT-8 B	Basic Health Ur	0.00	3.10	-3.10	0	0	0	0	1	
Punjab	Rawalpindi	SSH CT-10 B	Basic Health Ur	10.00	0.89	9.11	1	0	0	0	0	
Punjab	Rawalpindi	Adyala	Basic Health Ur	0.00	2.72	-2.72	0	0	0	0	1	
Punjab	Rawalpindi	THQ Taxila	Basic Health Ur	0.00	4.05	-4.05	0	0	0	0	1	
Punjab	Rawalpindi	RHC Mandra	Basic Health Ur	0.00	3.63	-3.63	0	0	0	0	1	
Punjab	Rawalpindi	RHC Lehtrar	Basic Health Ur	0.00	3.38	-3.38	0	0	0	0	1	
Punjab	Rawalpindi	RHC Kotli Sattie	Basic Health Ur		1.95		0	0	0	0	0	

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )

2. Office (eg National, Province etc)

3. Province (shown upon after province/district office selection)

4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

#### Report Result:

**Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Capacity at -20c

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Vaccine storage capacity at -20c against requirements												
Facility Type		Office		Province *		District *						
Facility Type	Office	District	Province	District	Search	Export	Excel					
Province	District	Facility Name	Facility Type	Actual Capacity (Ltr)	Required Capacity (Ltr)	Difference (Ltr)	Surplus > 30%	Surplus 10-30%	Match +/- 10%	Shortage 10-30%	Shortage >30%	
Islamabad	Islamabad	BHU Jagiot	Basic Health Unit	20.00	0.00	20.00	0	0	0	0	0	
Islamabad	Islamabad	BHU Chirrah	Basic Health Unit	20.00	0.00	20.00	0	0	0	0	0	
Islamabad	Islamabad	BHU Bhukkar	Basic Health Unit	20.00	0.00	20.00	0	0	0	0	0	
Islamabad	Islamabad	BHU Sohan	Basic Health Unit	20.00	0.00	20.00	0	0	0	0	0	
Islamabad	Islamabad	BHU Shah Allah	Basic Health Unit	10.00	0.00	10.00	0	0	0	0	0	
Islamabad	Islamabad	BHU Jhang Syed	Basic Health Unit	20.00	0.00	20.00	0	0	0	0	0	
Islamabad	Islamabad	BHU Tumair	Basic Health Unit	10.00	0.00	10.00	0	0	0	0	0	

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Coldbox and Vaccine Carrier Capacity

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Coldbox And Vaccine Carrier Capacity By Facility								
Facility Type	Office	Province *						
Basic Health Unit	Province	Islamabad						
<b>Coldbox And Vaccine Carrier Capacity By Facility</b>								
Province	District	Tehsil	UC	Facility Name	Facility Type	Net Storage	Quantity Present	Quantity Not Working
Islamabad	Islamabad	Rural Islamabad	Chirrah	BHU Chirrah	Basic Health Unit	56.7000000000001	56	4
Islamabad	Islamabad	Rural Islamabad	Jagiot	BHU Jagiot	Basic Health Unit	28	150	4
Islamabad	Islamabad	Rural Islamabad	Kirpa	BHU Jhang Syedan	Basic Health Unit	28	260	0

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Capacity Shortages (+4C)

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Capacity shortages 4c by area											
Facility Type		Office		Province *		District *					
Province	District	Facility Type	Net Storage (Ltr) Actual	Net Storage (Ltr) Required	Net Storage (Ltr) Difference	Surplus > 30%	Surplus 10-30%	Match +/- 10%	Shortage 10-30%	Storage >30%	
Islamabad	Islamabad	Basic Health Unit	10.00	6.39	3.61	4	2	0	0	2	
<b>Capacity shortages 4c by area</b>											
 											

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Capacity Shortages (-20C)

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Capacity Shortages -20c by area											
Province	District	Facility Type	Net Storage (Ltr) Actual	Net Storage (Ltr) Required	Net Storage (Ltr) Difference	Surplus > 30%	Surplus 10-30%	Match +/- 10%	Shortage 10-30%	Storage >30%	
Punjab	Rawalpindi	Basic Health Unit	10.00	0.00	10.00	0	0	0	0	0	

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## **Inventory**

### **Report Name: All Cold Chain Equipment**

#### **Report Filters:**

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

#### **Report Result:**

**missing**

#### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "**Excel**" "**PDF**" export buttons.

## Refrigerators Freezers

### Report Name: By Working Status Facility Type and Area

#### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )

Refrigerator/Freezers by Working Status Facility Type and Area										
Province	District	Facility Type	Equipment Type	Total Refs/Freezers	Working #	Working %	Working Needs Service #	Working Needs Service %	Not Working #	Not Working %

2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

#### Report Result:

**Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Refrigerators/Freezers Models by Working Status

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Refrigerator/Freezers Models by Working Status							
Model	Total #	Working Well #	Working Well %	Working Needs Service #	Working Needs Service %	Not Working #	Not Working %
FCW 200	1	1	100.0	0	0.0	0	0.0
FCW 300	1	1	100.0	0	0.0	0	0.0
MF 114	8	8	100.0	0	0.0	0	0.0
MF 214	1	1	100.0	0	0.0	0	0.0
Mk142	1	1	100.0	0	0.0	0	0.0
PC 2009	1	1	100.0	0	0.0	0	0.0

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Refrigerators/Freezers Models by Age Group

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Refrigerator/Freezers Models by Age Group												
Model	Total #	0-2 Years #	0-2 Years %	3-5 Years #	3-5 Years %	6-10 Years #	6-10 Years %	>10 Years #	>10 Years %	Unknown #	Unknown %	
131	2	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	
1990	1	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	
407-A	1	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	
9144	3	0	0.00	2	66.67	0	0.00	1	33.33	0	0.00	
9155	2	0	0.00	0	0.00	1	50.00	1	50.00	0	0.00	
9166AD	3	0	0.00	1	33.33	1	33.33	1	33.33	0	0.00	
9170WBAD	1	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Refrigerators/Freezers Utilization

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Refrigerator/Freezers Utilization										
Model	Total #	In Use #	In Use %	In Store #	In Store %	Not Used #	Not Used %	Unknown Status #	Unknown Status %	
MF 314	2	2	100.0	0	0.0	0	0.0	0	0.0	
MK 074	3	3	100.0	0	0.0	0	0.0	0	0.0	
MK304	1	1	100.0	0	0.0	0	0.0	0	0.0	
TCW 1990	3	3	100.0	0	0.0	0	0.0	0	0.0	
TCW3000 AC	7	7	100.0	0	0.0	0	0.0	0	0.0	
VC-65 F	1	1	100.0	0	0.0	0	0.0	0	0.0	

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "**Excel**" "**PDF**" export buttons.

## Report Name: Distribution of Refrigerators/Freezers by Model & Facility Type

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)

After these filters selection user need to click **Search** button.

### Report Result:

Distribution of Refrigerators/Freezers by Model and Facility Type															
District/ Agency vaccine store	Rural health centre	Basic Health Unit	DHQ hospital	MCH Center	Others	Civil Hospital CH	Dispensary	Hospital - Private	Teaching hospital	Tehsil/ Taluka HQ Hospital	Tehsil/ Town vaccine store	Community Health Center CHC	Urban Health Center UHC	Provincial vaccine store	Clinic Private
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Distribution of CFC-Free Equipment By Facility Type

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Distribution of CFC-Free Equipment by Facility Type							
Facility Type	Total #	CFC Free #	CFC Free %	Not CFC Free #	Not CFC Free %	Unknown #	Unknown %
Provincial vaccine stor	36	35	97.22	1	2.78	0	0.00
District/Agency vaccin	367	326	88.83	41	11.17	0	0.00
DHQ hospital	38	34	89.47	4	10.53	0	0.00
Teaching hospital	15	14	93.33	1	6.67	0	0.00
Hospital - Private	38	34	89.47	4	10.53	0	0.00
Rural health centre	200	180	90.00	20	10.00	0	0.00
Basic Health Unit	763	709	92.92	54	7.08	0	0.00

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Refrigerators/Freezers Not Working or Needs Service

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Refrigerators/Freezers not working or needs service														
Province	District	Tehsil	UC	Facility Name	Facility Type	Catalog ID	Model	Make	Serial No	Net Vol +4 -20	Net Vol -20	Year of Supply	Working Status	Equipment Utilization
Islamabad	Islamabad	Rural Islami Chirrah	BHU Chirrah	Basic Health E003010	MK 074	Vestfrost	20004110737	9.999999999 0		2000		Working we In use		
Islamabad	Islamabad	Rural Islami Jagiot	BHU Jagiot	Basic Health Domestic	PR 23 2D	PEL	6975	9.999999999 9.999999999	2007			Working we In use		
Islamabad	Islamabad	Rural Islami Kirpa	BHU Jhang	Basic Health Domestic	PR 23 2d Alt	PEL	6965	9.999999999 9.999999999	1999			Working we In use		
Islamabad	Islamabad	Rural Islami Koral	BHU Bhukka	Basic Health Domestic	PR 232 D Alt	PEL	6932	9.999999999 9.999999999	2004			Working we In use		
Islamabad	Islamabad	Rural Islami Shah Allah	BHU Shah Al	Basic Health Domestic	PR-23 2D Alt	PEL	6905	9.999999999 9.999999999	2007			Working we In use		
Islamabad	Islamabad	Rural Islami Sohan	BHU Sohan	Basic Health E352M	TCW 1990	Domestic	1111019	9.999999999 0	2000			Working we In use		
Islamabad	Islamabad	Rural Islami Tumair	BHU Tumair	Basic Health Domestic	PR-23-2D	PEL	6872	9.999999999 9.999999999	1999			Working we In use		

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Refrigerators/Freezers not in use

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)

After these filters selection user need to click **Search** button.

### Report Result:

Refrigerators/Freezers not in use													
Province	District	Tehsil	UC	Facility Name	Facility Type	Catalog ID	Model	Make	Serial No	Net Vol +4	Net Vol -20	Year of Supply	Working Status
Punjab	Punjab	Punjab	Rahim Yar KI	District Rahi	District/Ager	SB300	131	Vestfrost	90370742	0.0	0.0	2000	Working well
Punjab	Punjab	Punjab	Lahore	District Lab	District/Ager	E397M	MF 214	Vestfrost	20034600008	0.0	10.0	2000	Working well
Punjab	Punjab	Punjab	Muzaffargari	District Muz	District/Ager	E003010	MK 074	Vestfrost	20013405847	10.0	0.0	2000	Working well
Punjab	Rawalpindi	City	U. Council No. MCD Ratta A/	Dispensary		E357M	MK 144	Vestfrost	20073889367	10.0	0.0	2011	Working well
Punjab	Lahore	Lahore	Gujjar Pora S 16A	Others		E003010	MK 074	Vestfrost	20122351155	10.0	0.0	2012	Working well
Punjab	Multan	Multan Rural	18-MR	BHU 18/MR	Basic Health	E003010	MK 074	Vestfrost	20113642444	10.0	0.0	2012	Working well
Punjab	Rahim Yar KI	Rahim Yar KI	THQ Liaquat	THQ Hospital	Tehsil/Taluk	E396M	MF 114	Vestfrost	200848238954	0.0	10.0	2009	Working well

### Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Cold Rooms

### Report Name: 4 and -20 by Model and Working Status

#### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)

Cold Rooms +4C and -20C By Model And Working Status										
Facility Type	Model Name	Manufacturer	Equipment Type	Total	Working #	Working %	Working Needs Service #	Working Needs Service %	Not Working #	Not Working %
Provincial vaccine	HURRE	HURRE	Cold Rooms	1	1	100.00	0	0.00	0	0.00
Provincial vaccine	POV90L	Porkka	Cold Rooms	2	0	0.00	2	100.00	0	0.00
Provincial vaccine	Local	Local	Cold Rooms	1	1	100.00	0	0.00	0	0.00
Provincial vaccine	Local	Local	Cold Rooms	1	0	0.00	0	0.00	1	100.00
Provincial vaccine	Solo Plus	FOSTER	Cold Rooms	4	1	25.00	1	25.00	1	25.00
Provincial vaccine	M170RFP	HURRE	Cold Rooms	1	0	0.00	0	0.00	1	100.00

3. Province (shown upon after province/district office selection)

4. District (shown upon after province selection)

After these filters selection user need to

click Search button.

#### Report Result:

### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Cold Room Facilities and Working Status

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Report Result:

Listing Of Cold Room Facilities And Working Status											
Facility Type	Model Name	Manufacturer	Equipment Type	Total	Working #	Working %	Working Needs Service #	Working Needs Service %	Not Working #	Not Working %	Serial No
Provincial vaccine	HBC-70	Haier	Cold Rooms	1	1	100.00	0	0.00	0	0.00	
Provincial vaccine	Unknown	Haier	Cold Rooms	2	2	100.00	0	0.00	0	0.00	
Provincial vaccine	Euromon P21A NIM	HURRE	Cold Rooms	2	2	100.00	0	0.00	0	0.00	
Provincial vaccine	A 23680	HURRE	Cold Rooms	4	4	100.00	0	0.00	0	0.00	
Provincial vaccine	Euromon P21A NIM	HURRE	Cold Rooms	2	2	100.00	0	0.00	0	0.00	
Provincial vaccine	Unknown	Unknown	Cold Rooms	2	2	100.00	0	0.00	0	0.00	
Provincial vaccine	Hurree	Unknown	Cold Rooms	1	1	100.00	0	0.00	0	0.00	

### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Cold Boxes

### Report Name: 4Cold box and Vaccine Carriers By Working Status

#### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)

Coldbox And Vaccine Carriers By Working Status						
Facility Type	Model Name	Manufacturer	Equipment Type	Total	Working	Not Working
Provincial vaccine store	Rotary International	Unknown	Vaccine Carrier	5243	5243	0
Provincial vaccine store	RCW12	Dometric	Vaccine Carrier	4649	4649	0
Provincial vaccine store	RCW25	Dometric	Vaccine Carrier	600	600	0
Provincial vaccine store	TESTING MODEL	TESTING MAKE	Vaccine Carrier	97	97	0

4. District (shown upon after province selection)
- After these filters  
selection user need to  
click **Search** button.

#### Report Result:

### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Cold Boxes/Carriers Quantity

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

Quantity Of Cold Boxes Carriers			
Facility Type	Vaccine Carriers (Min)	Vaccine Carriers (Max)	Vaccine Carriers (Mean)
Basic Health Unit	1	50	7

After these filters  
selection user need to  
click **Search** button.

**Report Result:**

### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Generators and Stabilizers

### Report Name: Standby Generators by Facility Type and Working Status

#### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)

Facility Type	Total	Working #	Working %	Working Needs Service #	Working Needs Service %	Not Working #	Not Working %
Basic Health Unit	4	4	100.00	0	0.00	0	0.00

4. District (shown upon after province selection)
- After these filters selection user need to click **Search** button.

#### Report Result:

### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## **Report Name: Voltage Stabilizers and Regulators Working Status**

### **Report Filters:**

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### **Report Result:**

Facility Type	Model Name	Manufacturer	Equipment Type	Total	Working #	Working %	Working Needs Service #	Working Needs Service %	Not Working #	Not Working %
Select										

#### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

# CCEM Graphs (added by me)

## Storage

### Graph Name: Capacity at +2c to +8c

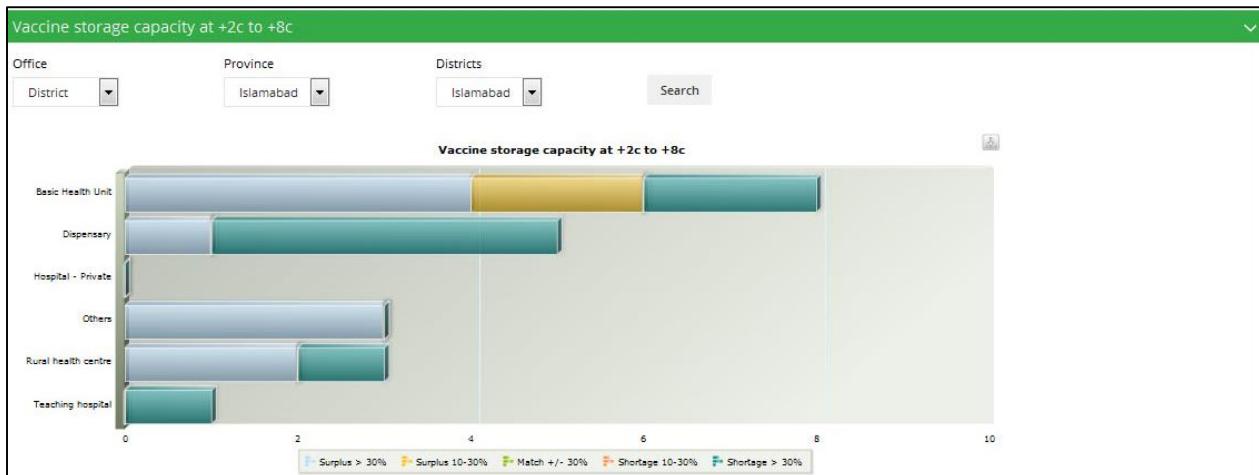
#### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

#### Graph Result:



## Graph Name: Capacity at -20C

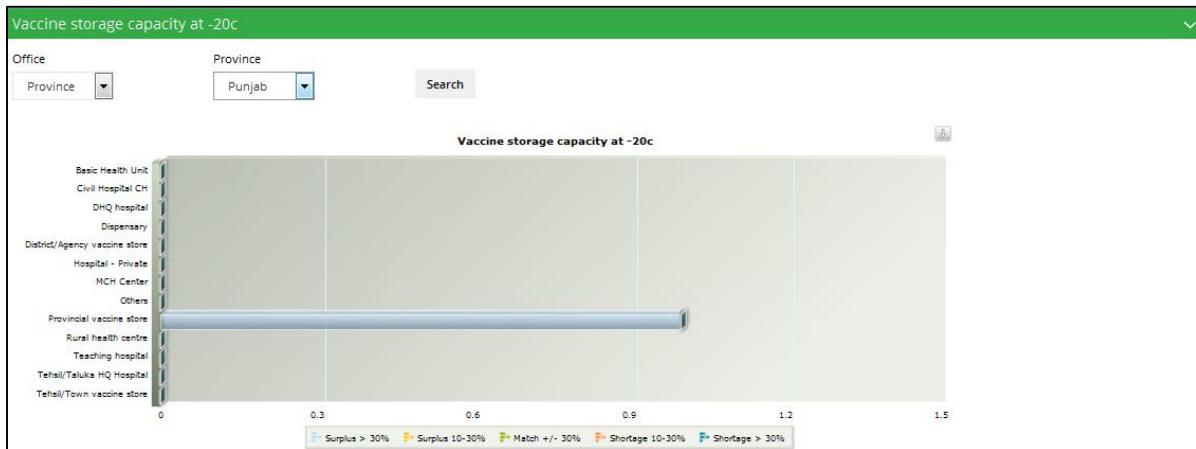
### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)
3. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Graph Result:



## Graph Name: Icepack Capacity (RI)

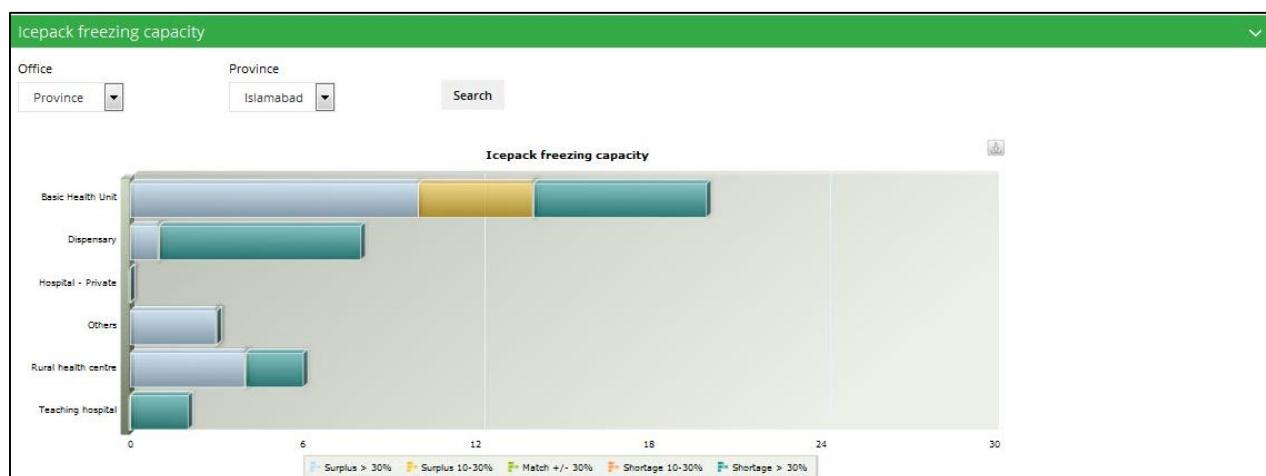
### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)
3. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Graph Result:



# Refrigerator Freezers

## Graph Name: Working Status by Refrigerators Model

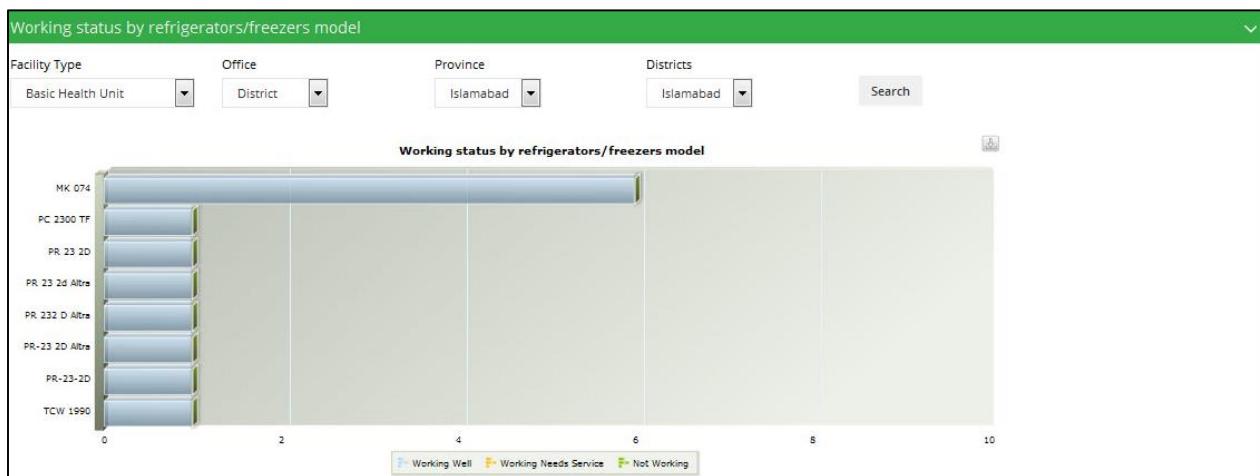
### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Graph Result:



## Graph Name: Refrigerators/Freezers Model By Age Group

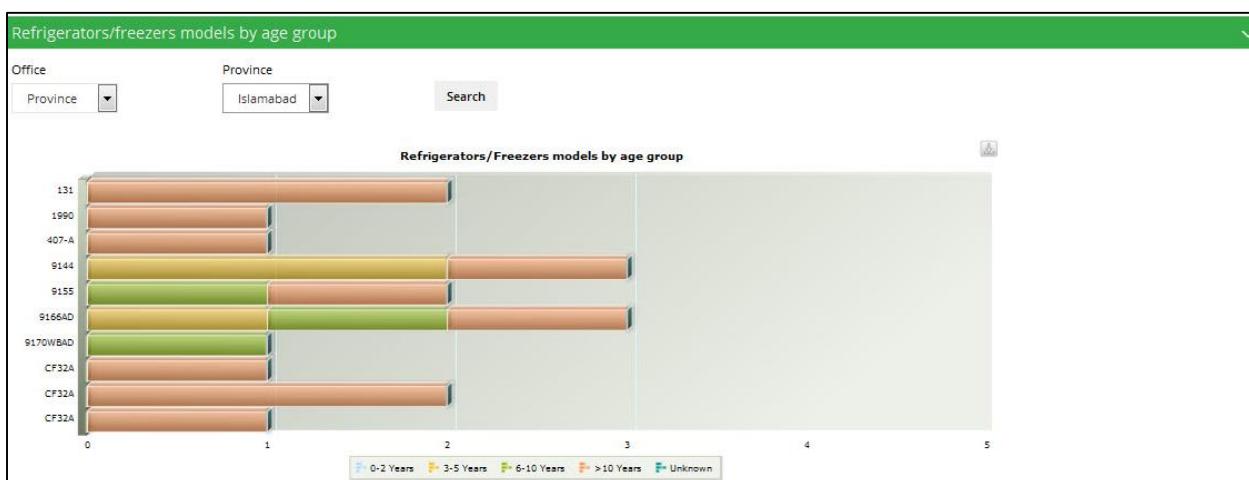
### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)
3. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Graph Result:



## Graph Name: Refrigerators/Freezers Utilization

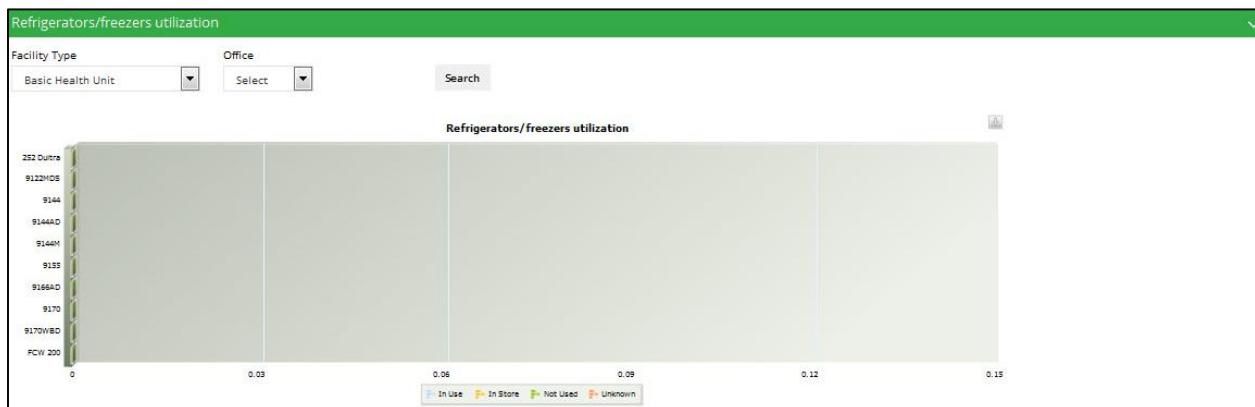
### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Facility Type (eg Provincial vaccine store, District/Agency vaccine store etc )
2. Office (eg National, Province etc)
3. Province (shown upon after province/district office selection)
4. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Graph Result:



## Cold Boxes

## Graph Name: Coldbox and Vaccine Carriers Working Status

### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)
3. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Graph Result:



## Graph Name: Coldboxes/Carrier Quantity

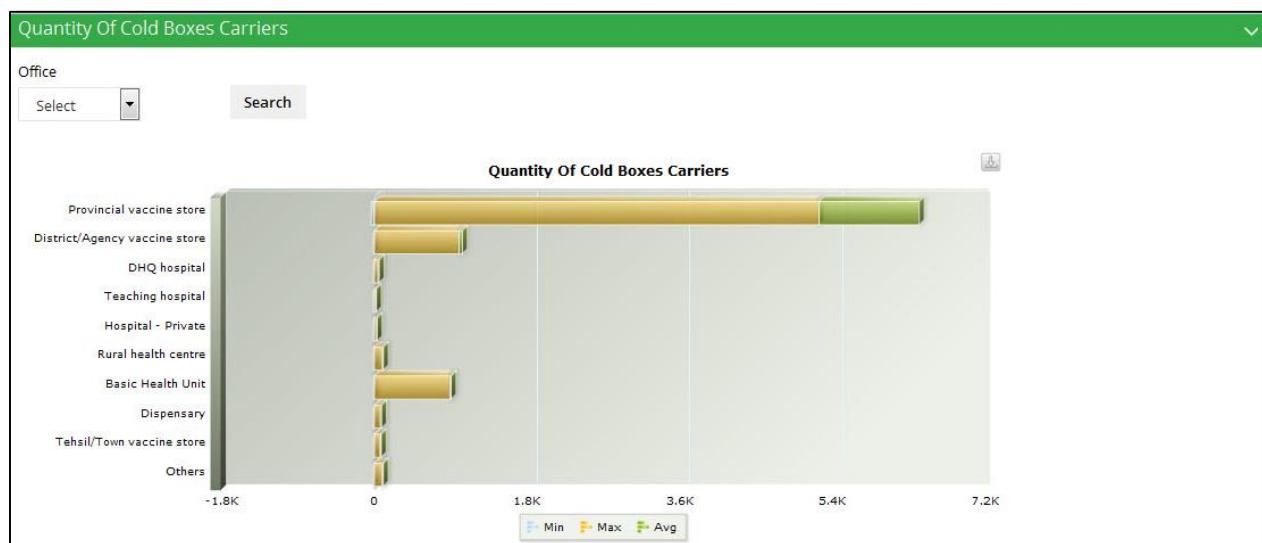
### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)
3. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

### Graph Result:



## Generators Stabilizers

### Graph Name: Working Status of Standby Generator by Model

#### Graph Filters:

User needs to select following filters according to their requirements, Filters are

1. Office (eg National, Province etc)
2. Province (shown upon after province/district office selection)
3. District (shown upon after province selection)

After these filters selection user need to click **Search** button.

#### Graph Result:



## **Campaign Reports (added by me)**

### **Report Name: Campaign Summary(Search)**

#### **Report Filters:**

User needs to select following filters according to their requirements, Filters are

1. Province
2. District(shown upon after province selection)
3. Year
4. Campaigns

After these filters selection user need to click **Search** button.

#### **Report Result:**

Not Completed yet

**Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Campaign Summary(Coverage)

### Report Filters:

User needs to select following filters according to their requirements, Filters are

#### 1. Province

Coverage Report – Campaign Summary

Province \*  Year \*

Coverage Report – Campaign Summary										
District	Daily Target	No. of Teams Reported in the evening	0-5 Months	5-59 Months	Recorded NA	Recorded Refusal	Covered NA	Covered Refusal	Number of Mobile-Migratory children covered	Total Coverage
Bahawalpur	12795	380	1076	1178	1265	1268	1281	1289	232	2254
Hyderabad	1250	36	200	990	5	5	0	0	0	1190
Quetta	2900	114	468	3163	275	162	230	181	176	3631
Rawalpindi	170	3	28	117	15	0	0	1	10	145

2.

Year

After these filters selection user need to click **Search** button.

### Report Result:

**Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Campaign Detail (Coverage)

### Report Filters:

User needs to select following filters according to their requirements, Filters are

1. Province
2. District(shown upon after province selection)
3. Campaigns

After these filters selection user need to click **Search** button.

### Report Result:

Coverage Report – Campaign Detail												
Province *			District *			Campaigns *						
Tehsil	UC	Daily Target	No. of Teams Reported in the evening	0-5 Months	5-59 Months	Recorded NA	Recorded Refusal	Covered NA	Covered Refusal	Number of Mobile-Migratory children covered	Total Coverage	
Hasilpur	188/M	123	9	831	823	13	13	14	17	62	1654	
Yazman	1/OND	58	23	30	56	25	25	25	25	28	86	
Hasilpur	H-38 Urban	250	5	81	126	15	17	18	12	14	207	
Bahawalpur City	Urban No. 3	20	0	11	50	0	1	1	2	6	61	
Yazman	106/DB	12344	343	123	123	1212	1212	1223	1233	122	248	
Hyderabad Rural	Moosa Khatiyan E	1250	36	200	990	5	5	0	0	0	1190	
Quetta	Ward 10	1200	90	468	1748	154	110	22	22	68	2216	
Quetta	Ahmed Khanzai	1000	0	0	600	68	0	86	90	108	600	

## Report Export Options:

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: Catch up

### Report Filters:

User needs to select following filters according to their requirements, Filters are

4. Province
5. District(shown upon after province selection)
6. Campaigns

After these filters selection user need to click **Search** button.

### Report Result:

Coverage Report – Catch Up									
Province *		District *		Campaigns *		Search			
Select	▼	Select Province	▼	Select	▼	Search	Export PDF	Export Excel	
Coverage Report – Catch Up									
Tehsil	UC	Still Missed After Campaign Activity	Still NA	Still Refusal	Catch-up Missed Children Covered After Campaign Activity	NA Covered	Refusals Covered	Un-recorded Missed Children Covered	
Hasilpur	188/M	-5	-1	-4	31	14	17	26	
Yazman	1/DHB	0	0	0	50	25	25	50	
Hasilpur	H-38 Urban	2	-3	5	30	18	12	32	
Bahawalpur City	Urban No. 3	-2	-1	-1	3	1	2	1	
Yazman	106/DB	-32	-11	-21	2456	1223	1233	2424	
Hyderabad Rural	Moosa Khatiyan B	10	5	5	0	0	0	10	
Quetta	Ward 10	220	132	88	44	22	22	264	
Quetta	Ahmed Khanzai	-108	-18	-90	176	86	90	68	

### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

## Report Name: LQAS

### Report Result:

Lot Quality Assurance Sampling (LQAS) Report					
Area	Facility Type	No. of Facilities	Minimum	Maximum	Mean
9	9	9	9	9	
7	7	7	7	7	
3	3	3	3	3	

### **Report Export Options:**

User can export report results in Excel and PDF formats by clicking "Excel" "PDF" export buttons.

# Use Cases

These are the generic use cases for all users.

## Reports & Graphs

Use Case ID	UC 001
Description	Viewing a report or graph.
Level	All-level
Actors	All users
Goal	Viewing a report or graph.
Pre-Conditions	User must be logged into the system
Post-Conditions	Report or graph populated.
Stakeholder Interest	User wants to view a report and graph
Main Success Scenario	<ol style="list-style-type: none"><li>11. User logs in.</li><li>12. User clicks <b>Reports or graphs</b> menu.</li><li>13. System displays different reports or graph links.</li><li>14. User click a report or graph link.</li><li>15. Report or graphs page displays.</li><li>16. User selects filters and click <b>Show</b>.</li><li>17. Graph or Report displays</li></ol>
Requirements	All Graphs and Reports

Notes/Issues	None
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## Dashboards

Use Case ID	UC 002
Description	Providing Highly Summarized Information
Level	User-level
Actors	Authenticated Users
Goal	User can review the provided statistics in dash board mode and use for decision making
Pre-Conditions	User must be logged into the system
Post-Conditions	User can successfully view the dashboard
Stakeholder Interest	User wants to view the stats for decision making.
Main Success Scenario	<ol style="list-style-type: none"> <li>1. User logs in.</li> <li>2. Systems displays Dashboard.</li> <li>3. User selects filters and click <b>Show</b>.</li> <li>4. Graph or Report as dashlets displays</li> </ol>

# **Web Mapping**

## **Why Web Mapping is important?**

Cold chain logistics refer to the system of people, policies, procedures, vehicles, fuel, equipment, and technologies that work together to make sure that vaccines given to people are safe and effective. Because most vaccines have specific temperature requirements, the cold chain logistics management system would prevent both excessive heat and cold from damaging the vaccines from the time of manufacturing until they are used. The refrigerated movement of temperature sensitive vaccines, pharmaceuticals and medical supplies is vital for the shelf life of vaccine drugs relies heavily on controlled and uncompromised transfer of shipments.

An effective logistics system is incomplete without a well-maintained cold chain for safe and effective immunization service delivery. An improperly functioning cold chain can lead to wasted vaccines, missed opportunities to immunize due to lack of vaccines, and children receiving vaccines that do not protect them as intended or that actually make them sick.

**Insufficient, outdated and broken cold chain equipment are often cited as major problems** affecting routine immunization efforts during country immunization program reviews and supervisory visits. Additional problems are lack of technically-trained staff and inadequate financing for procuring new equipment and transporting technicians and/or broken equipment.

Outdated equipment is still in use and often needed as back-up due to delays in providing new equipment, insufficient stock capacity (both permanent and temporary, if the equipment is being used for immunization campaigns), or occasional problems with new equipment (e.g. lack of spare parts or appropriate tools).

There is often a lack of field-based procurement and repair plans, which means that cold chain and logistics inventories are not sufficiently linked with new equipment projections. This makes it

difficult for countries to prioritize districts and provinces with the greatest need for new equipment.

## **Module Scope**

There is a need to support enhancing the existing web-LMIS to include a detailed module for interactive web maps of routine LMIS data. The scope of this module is to make it possible to visually display web-LMIS on a map to assist the use of web-LMIS data in decision making. This module will be capable of visually displaying key indicators that users can interact with to gain understanding of the status and impact of the supply chain and secondly use these maps to demonstrate to others the insights that they have gained from maps. Each month, along with other logistics data, users will see the new maps of the web-LMIS data.

## **Overall Description**

The web maps will be primarily displayed through the map dashboard on the web LMIS website, this will be a separate tab on the website. The map dashboard would provide the user with the ability to select the key indicators as listed in module scope. For each indicator the user will be able to select the certain parameters for example product, time period, these are outlined in section 6.2 List of maps. The map dashboard will allow the user interact with the maps as described in module scope. The purpose of the map dashboard through the interactive maps is to facilitate the use of data in informing decision-making.

Maps, will be of single indicator maps, allowing the user to focus on message been demonstrated via the map and then allow the user to query specific data points to gain further insights based on the picture shown by the map. The overall style of the maps to be clean and lean as to help ensure the story of the map is easily seen and not lost in a complex style, secondly, using a light style will also minimize the bandwidth of the maps.

For most key indicators it would be single map on the dashboard. However, for some indicators it would be defaulted as two maps because the ability to interpret one of the indicators is dependent on another indicator, for example vaccine coverage is dependent on the reporting

rate. The user will also have the ability select two indicators to put side by side that user can compare the two indicators and/or parameters for example comparing stock status of condoms in January 2012 to January 2013. Allowing the user to either look at one map at time or compare two maps will provide the user with ability to both explore and easily get insights in what the logistics data is showing about the status and impact of supply of commodities.

#### Benefits

As has been described in module scope and above the primary value of the interactive maps is that a) provides a visual method of interactive with the logistics data that uses a known context to allow the user to interpret the story been told. For example, with stock status these map is that provide users with visual snapshot of status of commodities for whole country indicating which districts are adequately stocked, over stocked, stock shortage, and stock outs. This will provide the user with ability to both identify where to target actions what actions are required. The interactivity is able not only to get a picture of the situation but also exact details, for the districts/tehsils that action is identified, they query this sites and get exact details that they can use in their decision making.

Also, the interactive maps are useful for use in strategic planning and demonstrating impact. Maps have long history of been used in strategy decision making when location matters and logistics and supply chains location matters “where are the commodities? Where are the gaps? Where are the resources?” The value of the interactive maps is that it enables the logistics data to be easily available and used during the strategic planning at multiple levels and facilitate discussions across level, for example from national planning to district level planning, as the maps provide a common platform for discussion.

Demonstrating Impact is one the values of using interactive maps for example generating a map of CYP, will provide the users with snapshot of the impact of the supply of the commodity, but unlike a table or chart, with over 100 districts on the map allows the user to compare districts in context of their neighbors thus allowing the user to determine where the programs is having most impact, it gaps and is the impact uniform across the country or not. This something unique to maps is that able to give the user in one image a snapshot and an ability to interpret quickly and easily to gain understanding of the impact of the project, that is very useful when you

consider volume of data that now been made available through the web-LMIS website without applications like interactive web mapping it is difficult to see the full picture.

## **User Types**

There are three levels of users i.e. Federal, Provincial and District users. The federal user will manage cold chain assets of health facilities and stores in the regions (FATA, Gilgit-Baltistan, AJK) and ICT area of Pakistan. Provincial users will administer their own provincial cold chain at province and division level along overall administrative functions related to cold chain. District users will administrate the cold chain at district's health facilities and stores.

For each level there are two types of user's i.e. Cold chain Manager and Operator. Specific responsibilities have been identified of these users are as following:

- **National Users**

This category of users will be looking at full Pakistan map and can be zoom-in to province and up to district level.

- **Provincial Users**

This category of users will be looking at provincial map of his/her respective province and can be zoom-in up to district level. However, the provincial user can zoom-out to any province and further zoom-in to districts of other provinces.

- **District Users**

This category of users will be looking at his/her provincial map. However, the district user can zoom-out to his/her respective province or any other province and further zoom-in to districts or tehsil level of other provinces.

# **Assumptions and Dependencies**

- All users are expected to know how to use basic Internet tools.

The interactive web maps are been designed to intuitive to be used someone familiar with basic internet tools, these include for example navigate using mouse, use dropdown menus.

- Open source software

The software been used to generate and support this is all open source that has strong community support behind software, the reason is that using open source software removing/reduces licensing cost and constraints. Using a software with a strong community support is reduces the risk of a software becoming obsolete and a larger pool of resources available to maintain and update the application.

- Background tiles for 3<sup>rd</sup> party

As described in section 6.1 interactive maps will be overlay on a map tile service provided by a 3<sup>rd</sup> party provider (e.g. Google, Open Layers, Open Street Map). The interactive web maps will function without the maps, however, the map tiles will provide context where the map is in the world. Generally 3<sup>rd</sup> party provider the tile are provided “as is” they cannot be adjusted, this is a known and is highly unlikely to cause any issue, if it is identified as issue options can be explored to resolve this, however, would have cost implications.

- Survey of Pakistan

The main assumption is that based on the description of the role of Survey of Pakistan in the Survey and Mapping Act 2013, given that interactive web mapping are to use data either provided by the Survey of Pakistan or matching the data from the Survey of Pakistan for the boundaries of Provinces, Districts and Tehsils. Then this activity compiles with the Survey and Mapping Act 2013 that is the use of “geospatial data among all users ... to enhance and improve objective decision making.” By using the data from the Survey of Pakistan we will doing what the Survey of Pakistan is promoting use of official geospatial data for improved decision making.

# **Functional Requirements**

## **Common Functions for all interactive web maps**

For the interactive web maps there are some functions that common across all maps these are described here, specific function and descriptions for individual maps is described in the 6.2 List of Maps. The common functions are:

- **Zoom In/ Zoom Out**

The user will be able zoom in and zoom out across the maps (with zoom extents as defined by the user type). The limit of the zoom out should to where the national level takes up the full space on the map, the zoom in should to were smallest district/tehsil is clearly visible and identifiable. The smoothness of the line work for the outline district/tehsil to be set so that smallest district/tehsil the shape is well represented highest zoom, the reason is that more detailed the line work the larger the file size thus by minimizing the file size will reduce the bandwidth been occupied by the map.

- **Panning across the map**

The user will be able to pan around the maps within the extent as defined by the user type.

- **Identity Pop-up**

When the user scrolls over a District then a pop-up appears containing data of the district. It should contain the name(Province, District or Tehsil), Product, Stakeholder (for cLMIS) and the indicator been mapped. If the indicator has a numerator and denominator this is also to be included. In the descriptions for individual maps is described in the 6.2 List of Maps it lists some specific information to be also be included in the pop up.

- **Color Selection for key indicators to be used in the maps,**

The color should match with colors already in use in the web LMIS website, for example for stock status it should match the colors to be used in tables and charts for stock status. The reason is that this will allow the user to easily switch between table, charts and maps

as the colors represent the same thing for example if red is used for stock outs in tables it is also used in the charts and maps to represent stock outs, this uniformity will allow easier understanding and use of tables, chart and maps together.

- Filtering structure of commodities, level (province, district) and stakeholders (PWD, LHW, DOH)

The filtering structure for section of key indicators should match existing filtering structure for tables and charts, as it should be using the same base data for generating of maps, the difference is that it will be limited the key maps listed in 6.2 List of maps.

- Search for District/province and then zoom to that location

An additional search function on the Map dashboard is the ability to search for a specific province or district be able to either enter or select a specific district or province and then map would zoom into that district and it would be in the middle of the map. This will allow the user to easily find and focus a specific area of interest.

- Use of OpenLayers for the tiles in the background

The interactive maps would be overlay on a map tile service provided by a 3<sup>rd</sup> party provider for example, Google, OpenLayers or Open Street Map. The background tile service that is selected needs to be both sustainable and represent Pakistan in accordance with maps provided by the Survey of Pakistan as this website is to be house of GOP website.

- Identification of data problems

All indicators require where a known data problem has been identified for example negative months of stock, that data identified having a data issue that as requiring investigation. In the interactive maps these locations are identified by a grey color. In the pop up it to also highlight there is an issue with the data.

## **Prerequisite for maps been available**

As described in section 6.1.3 List of Maps, for all indicator maps for data for each district requires that the reporting rate is sufficiently high for the indicator to be used by decision makers. For

example, if district A has a reporting rate of 100% and its neighboring district B only has reporting rate of 50%, then where comparing any indicator will likely give a false picture. Therefore, show any locations where the reporting rate is greater than 90%, if the reporting rate is between 75 and 90 percent then mark hatching across the location (district) indicating that reporting is as high as desired, however the indicator value should be reasonably representing the location (district) and if the reporting rate is below 75% then it should be shown as it is not truly comparable.

## List of Maps

The following maps will be included in the all LMIS products: We have marked some of the indicators as lower priority than others. The highlighted were being made during 6-10 April meeting in Dubai

Sr.No	Indicator	cLMIS	vLMIS	Presentation	Priority
1.	Stock Status (MOS)	X	X	Category/Define Intervals	High
2.	CYP / CYP Normalized By Population	X		Continuous/Equal Interval	High
3.	Consumption or Doses Administered/AMC	X	X	Continuous/Equal Interval	High
4.	Reporting rate	X	X	Continuous/ <sup>1</sup> Percentage	High
5.	Wastage		X	Category/Percentage	High
6.	Expiry alerts (less than 6 months)		X	Category/Percentage	High
7.	Vaccine Coverage		X	Category / Percentage	High
8.	Cold Chain Capacity		X	Category / Equal Interval	High
9.	CCM Working Status (Functional/Non-Functional)		X	Category / Percentage	Low
10.	CCM Reporting Status		X	Category / Percentage	Low
11.	CCM Aging		X	Category/Define Intervals	Medium
12.	Wastage vs. Reporting Rate		X	Category / Percentage (Two maps)	High
13.	VVM stage 2		X	Continuous/Percentage	Low
14.	Completeness of Reporting	X		Continuous / Define Intervals	Medium

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<sup>1</sup>Reporting rate for vLMIS will be percentage and for cLMIS It is binary, either it is reported or it is non-reported

## Maps in both cLMIS and vLMIS

### Months of Stock

#### Description

This map will be choropleth map, with 5 categories, stock out, stock shortage, adequate stock, over stocked, and data quality issue. Stock categories will be based on the min/max rules for the commodity and supply chain level matching what is already used for the tables on cLMIS/vLMIS websites. The data issues category will contain identified inconsistencies for example negative months of stock. Field and Districts Month of stocks will be shown side by side maps to show the stock status in both district and field stores.

**Benefits:** This will allow the user to where and at what level(s) stock are at and if, where and what action is required

**Users:** National Users, Provincial Users, District Users

**Parameters of map:** Month, Year, Province, Stakeholder<sup>2</sup> (All, PWD, DOH, LHW etc.), Product, Level (District + Field / District / Field)

**Formula of MOS:** SOH / AMC

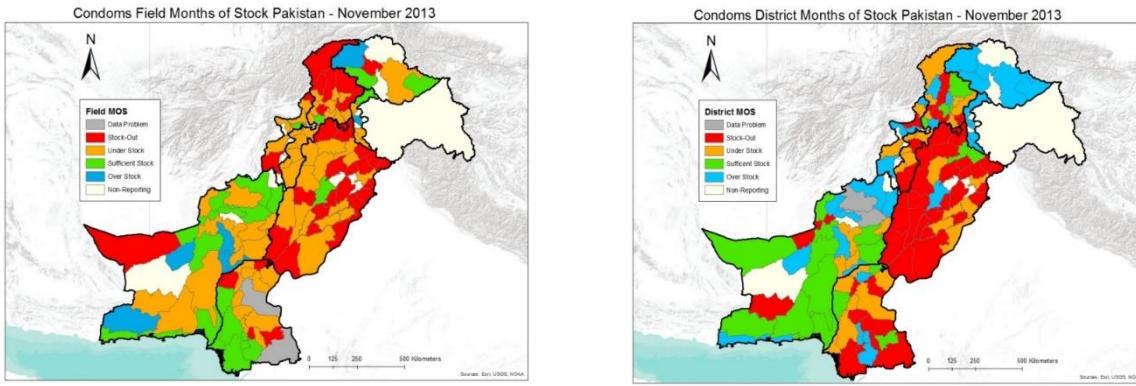
**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.

**Popup District:** Province, District, Product, Stakeholder, District MOS

**Popup Field:** Province, District, Product, Stakeholder, Field MOS

---

<sup>2</sup>Stakeholders are not applicable for vLMIS



## Consumption: Doses Administered or Average Monthly Consumption (AMC)

### Description

This map will show the consumption of contraceptives or vaccine products. This map will be a gradient color map, with darker tone color equaling higher consumption value and lighter tone color indicating lower consumption and the coloring ramp to be one tone.

The min and max values to be driven by the data been mapped for example if minimum is 20 and the max is 20,000 then this will define the range. The method to determine the break points to be equal interval. 5 classes in the legend (this number of classes the eye can easily differentiate).

The map will appear in continuous color

**Benefits:** This map will help the managers to see the high consumption area for further supply planning. In addition, the consumption then can compare with population distribution map as well to compare that higher consumption areas have high population.

**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Stakeholder (All, PWD, DOH, LHW etc.), Product, Level, Type(consumption or doses / AMC)

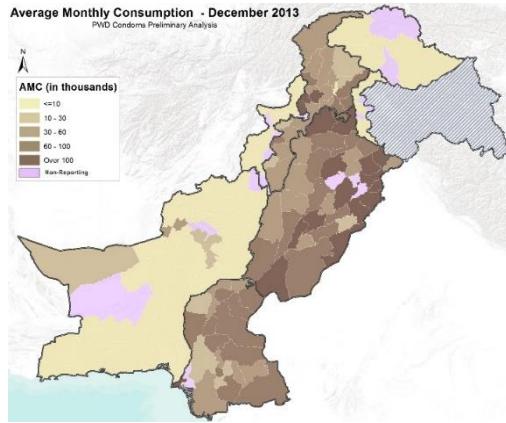
**Formula:** Consumption or Doses Administered or <sup>3</sup>AMC

**Popup:** Province, District, Product, Stakeholder, Consumption/AMC

---

<sup>3</sup>AMC is average monthly consumption calculated from last three non-zero months

**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.



## Reporting rate

### Description:

Reporting rate map is applicable at the district level for the Vaccine LMIS in this release and at the province level for cLMIS. This map will be choropleth map, with 5 categories of the reporting rate in percentage in each district/province. The ranges will be fixed initially set at 0-20, 21-40, 41-60, 61-80, 81-100, after feedback from key stakeholders and users these maybe adjust to ranges that are more strategically useful to the users.

**Benefits:** This map will allow the user to see the reporting percentage in each district. This map will be helpful for provincial & district managers to investigate issues in non-reporting UCs.

**Users:** National Users, Provincial Users, District Users

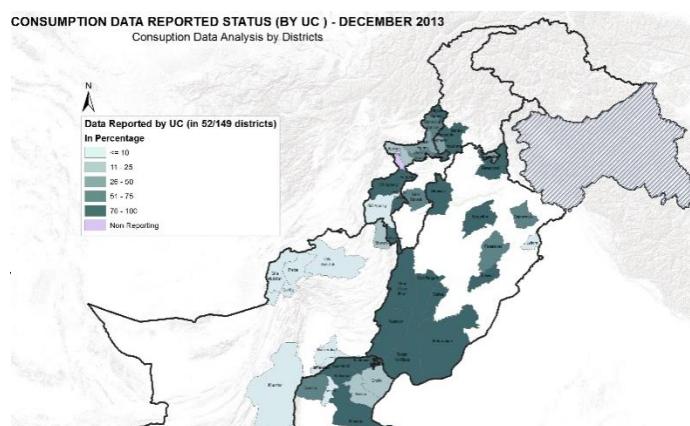
**Parameters of map** Month, Year, Province, Product, Stakeholder (a. applicable for cLMIS)

**Formula of vLMIS Reporting Rate:** No. of UCS Reported in a District / No. of UCs in a District %

**Formula of cLMIS reporting Rate:** No of districts reported / Total number of districts %

**Popup vLMIS:** Province, District, Reporting rate %, Number of reported UCs, Total number of UCs

**Popup cLMIS:** Province, Reporting Rate



## Maps in cLMIS only

### Couple year Protection (CYP)

#### Description

This map is an indicator of estimated impact of provision of family planning methods. As like the Consumption map it is gradient color map, with darker tone color equaling higher CYP value and lighter tone color indicating lower CYP and the coloring ramp to be one tone. As like the consumption map the method to determine the break points to be equal interval. Use 5 classes in the legend.

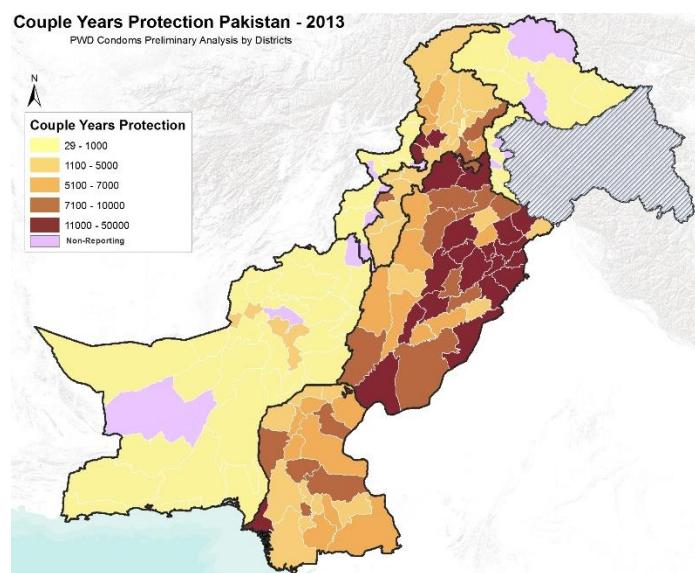
**Benefit:** Couple Year Protection is the indicator to inform managers that how many couples are protected in a year. The map below shows that by couples protected for one year by using condom method from November 2012 to November 2013 in each district. Dark color is shows high CYPs generated. But this indicator is highly dependent on population; therefore, high CYP should correlate with high population and vice versa for low population.

**Users:** National Users, Provincial Users, District Users

**Parameters of CYP map:** (one year time periods) Month, Year, Province, stakeholders (Selected), Product (All or selected)

**Formula for CYP** = Consumption (for one year period) / CYP factor

**Popups:** Province, District, Stakeholder, CYP Generated



**Prerequisite:** CYP will be calculated by using CYP factor for each product already present in database and using the CYP factors from USAID. The District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it not mapped.

## **Couple year Protection normalized by Population:**

### **Description**

This map will be a gradient color map, with darker tone color equaling higher CYP value and lighter tone color indicating lower CYP and the coloring ramp to be one tone. The min and max values to be driven by the data been mapped for example if minimum is 20 and the max is 20,000 then this will define the range. The method to determine the break points to be equal interval. Use 5 classes in the legend.

**Benefit:** CYP normalized by population allows the impact of population size on CYP to be taken in account. In the map below population is from land scan 2010 and used it with CYP generated in November 2013 for condoms. The value to the user is it highlights which districts are having a greater impact on population than others, thus giving the users an indication of performance without it is masked by population difference.

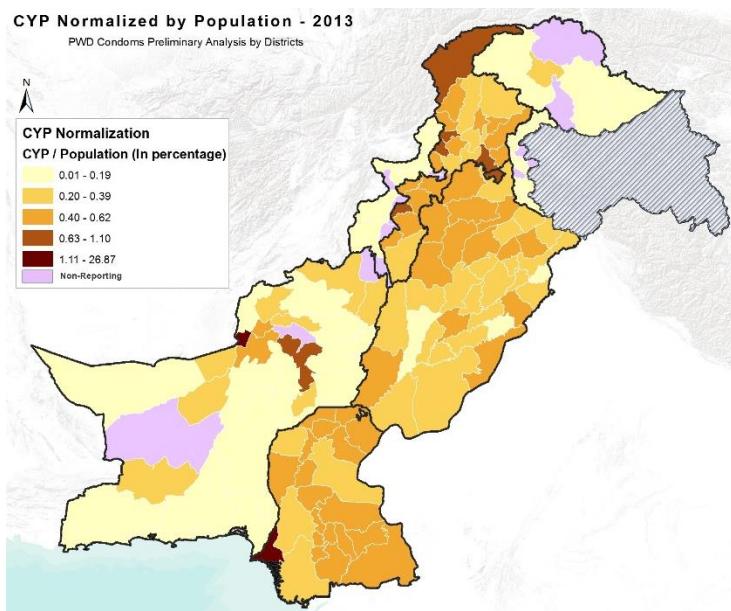
**Users:** National Users, Provincial Users, District Users

**Parameters for map:** (one year time periods, November 2012 to November 2013) Month, Year, Province, stakeholders (Selected), Product (All or selected)

**Formula:** Consumption (for one year period) CYP / Population = Percentage of Population generated CYPs

**Popup:** Province, District, Stakeholder, CYP Generated, Normalized CYP value population

**Prerequisite:** Population is at district level is available



## Completeness of Reporting

### Description:

The completeness of reporting tells that all three public sector stakeholders i.e. PWD, DOH & LHW at district level have entered their monthly logistics report in cLMIS. The map will be gradient color and darker tone color will represent the high number of reports entered by districts and coloring ramp will be one tone.

This map will show the reports entered in last six months and will allow users to select all stakeholders or individual stakeholder. If all stakeholder selected in parameters of map then 18 reports will indicate complete reporting and the range will be set as 1-6 reports, 7-12 reports, 13-17 reports and 18 reports. For individual stakeholder reporting, the 6 reports will indicate complete reporting and range will be 1-2, 3-5 and 6 reports

### Benefit

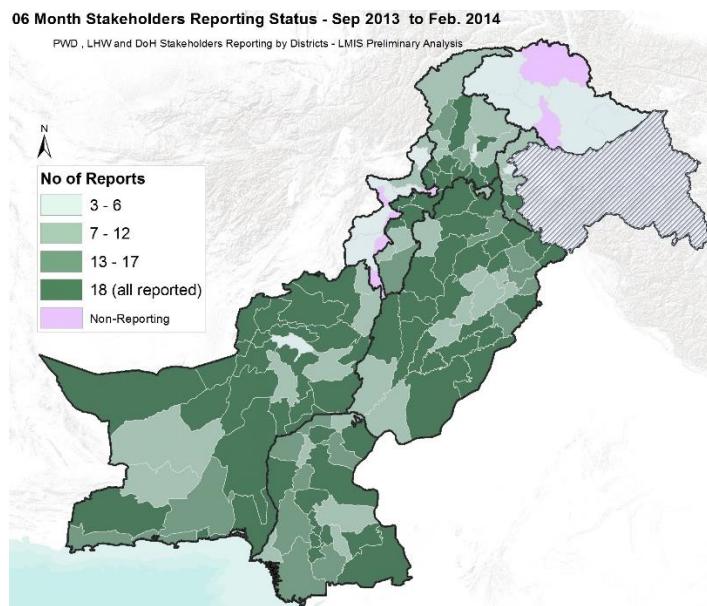
This map will be helpful for the managers to see that how many districts are completing the LMIS reporting by all stakeholders. 18 reports of a district is an ideal condition of reporting in 6 months' time period. If there are less than 18 reports in districts then there is a need to improve reporting.

**Users:** National Users, Provincial Users, District Users

**Parameters for map:** Month (last six months), Year, Province, stakeholder (All or Selected)

**Popup:** Province, District, Name of Stakeholders reported

**Formula:** cLMIS reports will be counted by district and by stakeholder in given period of time.



## Maps in only vLMIS

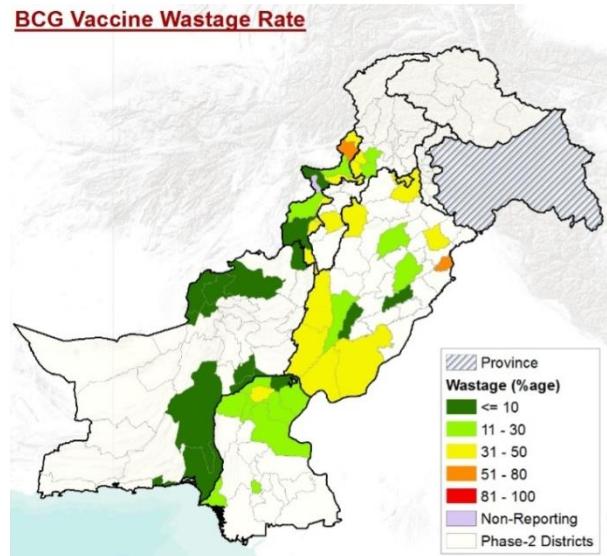
### Wastage

Description

Wastage of vaccines is an important performance indicator that impacts on the supply chain both in its consuming and procurement of the vaccines. This map will be showing the wastage rate of selected product at the district level. This map will be choropleth map, with 5 categories of the reporting rate in percentage in each district/province. The ranges will be fixed initially set at 0-20, 21-40, 41-60, 61-80, 81-100, after feedback from key stakeholders and users these maybe adjust to ranges that are more strategically useful to the users.

#### **Benefits:**

The Vaccine wastage is an important indicator to be showed on map for quick investigation. Each type of vaccine has different acceptable wastage rate. The example used below is for



BCG for January 2014 and acceptable wastage is 50%. So anything above 50% is a need for investigation.

**Users:** National Users, Provincial Users, District Users

**Parameters:** Month, Year, Province, Product, Level (District)

**Formula of Wastage Rate:**  $((\text{Vials used} + \text{Unusable Vials}) * \text{Doses per Vial}) - \text{Doses Administered}$ .

**Popup:** Province, District, Vaccine, Wastage %, Acceptable wastage

**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.

## **Expiry alerts (less than 6 months)**

**Description:** This map will show the expiry of the selected products at district level. The map will be similar to the reporting rate maps and show the percentage of volume of commodity with 1-6 months level it will be a choropleth map, with 5 categories. The ranges will be fixed initially set at 0-20, 21-40, 41-60, 61-80, 81-100, after feedback from key stakeholders and users these maybe adjust to ranges that are more strategically useful to the users. The popup will have percentage of commodity in the three following categories of the expiry dates; 1 - 6 months, 7 – 12 months and 13 months and above. Also in the pop up it will have the actual volume for the 1 - 6 months category.

**Benefits:** This map will allow EPI managers to take quick action for the vaccines close to expiry.

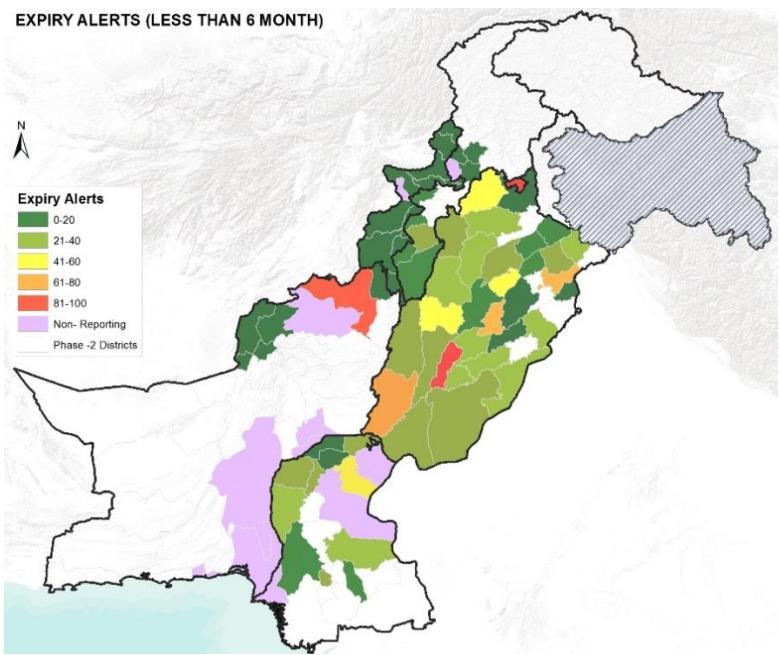
**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Product, Level (District)

**Formula of Expiry alerts:** Query is needed to extract expiry information from vLMIS database.

**Popup:** Province, District, %age of commodities expires 1-6 months& volume, %age of commodities expired 7-12 months& volume, %age of commodities expires 13 months and above& volume

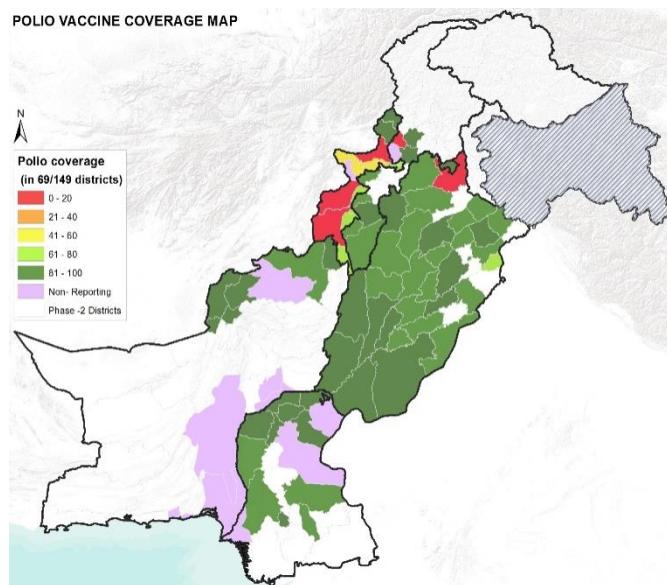
**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.



# Vaccine Coverage

## Description

There are two types of vaccine coverage maps a) Routine Immunization and b) Campaign coverage. In the vLMIS vaccines are differentiated between Routine Immunization and Campaign. The vaccines used in routine and campaigns are identified in vLMIS, therefore, the doses administered in campaign and routine are recorded separately. For vaccines that are administered through routine immunization then the target population is 0-11 month old children, The target is derived from total population i.e. 3.5% of population. For vaccines that are administered through campaigns the target population is under 5 years of age. The map will be similar to the reporting rate maps and show the percentage of coverage again it will be a choropleth map, with 5 categories. The ranges will be fixed initially set at 0-20, 21-40, 41-60, 61-80, 81-100, after feedback from key stakeholders and users these maybe adjust to ranges that are more strategically useful to the users. The coverage will be derived from target and vaccine consumed during the time period.



**Benefits:** This will allow managers to see logistics based coverage using consumption data and demographic population targets.

**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Product, Level (District, or Field)

Population target and consumption will be extracted from database

**Formula of Vaccine Coverage =** Percentage of Vaccine Consumption /Target

**Popup:** Province, District, Vaccine coverage, Target population, Population

**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.

## Cold Chain Capacity

### Description:

This map will show the total volume of cold room storage that available in each district. As like the consumption map this map will also be a category map. The volume would be based only the functioning cold chain assets in a district. Also, there are two main types of Cold Chain equipment a) Cold Rooms b) ILR/Refrigerators the capacity mapped would be the total capacity of both types. In the pop up, it will contain the total volume and the percentage of two main types.

**Benefits:** This map will benefit to find-out the volume of storage in districts/field and helps to evaluate how much vaccines can be stored, if it likely to be stored in a cold room or refrigerators and how much of the cold chain capacity is functioning.

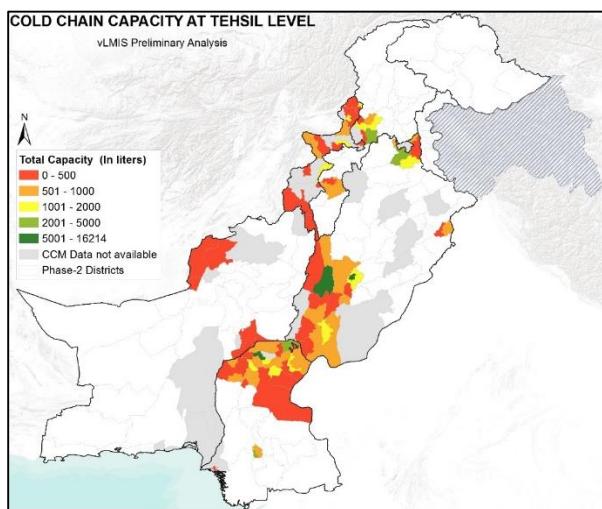
**Users:** National Users, Provincial Users, District Users

**Parameters of map** Province, Type of Cold Chain

**Formula:** Volume will be extracted from vLMIS database

**Popup:** Province, District, Capacity (Litre)

**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.



## CCM Working Status

### Description

The purpose of CCM working status is to provide the health of the available cold chain assets.

There are two main types of working status i.e. functional and non-functional. The map will be similar to the reporting rate maps and show the percentage of functional capacity again it will be a choropleth map, with 5 categories. The ranges will be fixed initially set at 0-20, 21-40, 41-60, 61-80, 81-100, after feedback from key stakeholders and users these maybe adjust to ranges that are more strategically useful to the users.

**Benefits:** This will help the provincial and district managers to see the percentage of functional or non-functional assets. This map should be viewed to with the map of CCM reporting status.

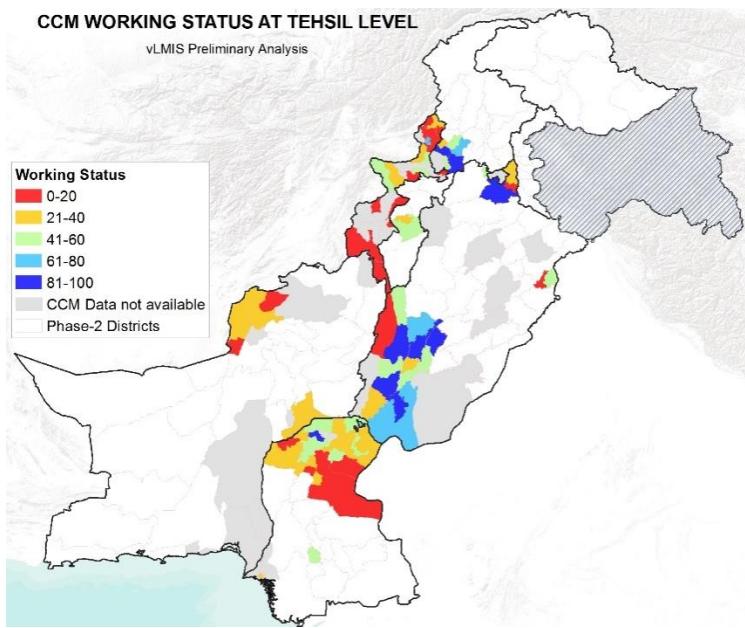
**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Product, Level (District, or Field), Status

**Formula:** Total functional or non-functional assets / Total no. of Cold Chain Assets %

**Popup:** Province, District, Tehsil, CCM Asset, Total functional volume, percentage of functional assets.

**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.



## CCM Reporting status

CCM reporting status is meant to inform about the updated status of cold chain equipment irrespective of that asset is functional or non-functional. The percentage of reporting status will be appeared on the map. The map will be similar to other reporting rate maps and show the percentage of reporting status again it will be a choropleth map, with 5 categories. The ranges will be fixed initially set at 0-20, 21-40, 41-60, 61-80, 81-100, after feedback from key stakeholders and users these maybe adjust to ranges that are more strategically useful to the users. The dominator is the number of cold chain assets in a district and the numerator number of updated the status for each asset.

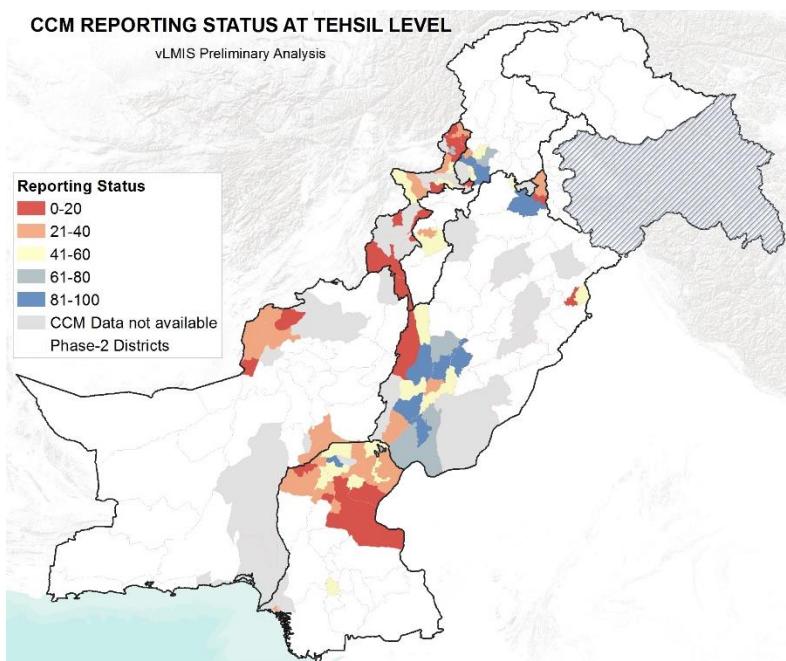
**Benefits:** This will be helpful for the managers and stakeholders to view the updated reporting percentage of the cold chain equipment. This is helpful in assessing the CCM cold chain capacity and working status map.

**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Product, Level (District, or Field)

**Formula:** No. of assets reported / Total Cold Chain no. of assets %

**Popup:** Province, District, Tehsil, Reporting percentage



## CCM Aging (Lower Priority)

### Description

This map will inform about cold chain assets that for how long it is in use. As with the Stock status map this will be a choropleth map, with two categories cold chain equipment ages e.g. 1-5 years, 6-10 years of age, the district value will be the average age of assets in the district. In the popup it would have average, maximum, minimum ages of the assets. After feedback from key stakeholders and users these maybe adjust to ranges that are more strategically useful to the users.

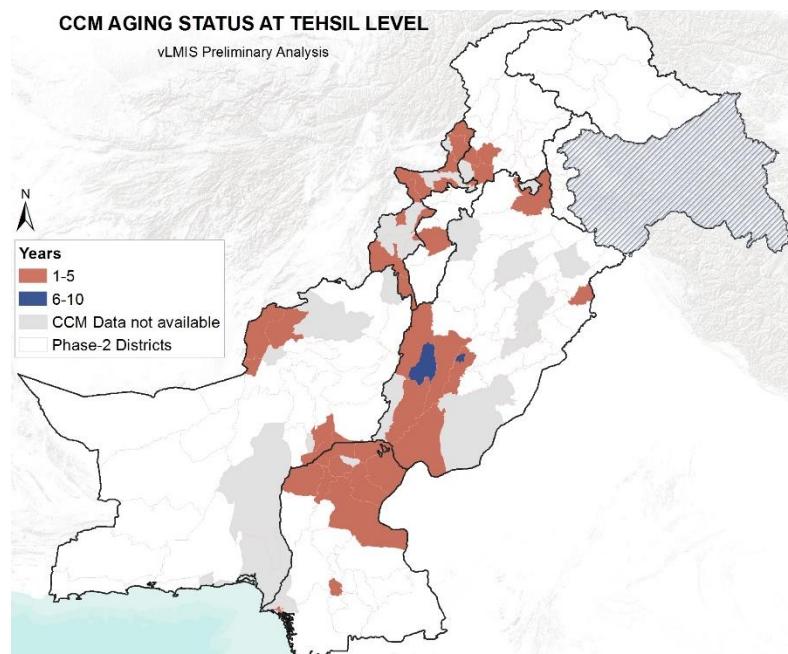
**Benefits:** This map will be helpful for the provincial and district manager to view the life of the assets and help to decide when it is needed to be replaced.

**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Product, Level

**Popup:** Province, District, CCM Assets, Total Assets, Average age, Maximum age and minimum age.

**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it is not mapped.





## **Wastage vs. Reporting Rate**

### **Description**

When assessing wastage rate one also needs to consider the reporting rate, if reporting rate is low the map of the Wastage rate may not be accurate. It is for this reason the single wastage rate use the reporting rate as a prerequisite for how and which districts are visible on the map. This map is with the wastage rate side by side with the reporting rate for the same vaccine for same time period. Use the same map descriptions for these maps as they are described individually.

**Benefits:** This will allow district and provincial level managers to see the pattern between wastage rates and reporting rates so they can better understand how well they use the wastage rate data for decision making given the variation in reporting rate. If the reporting rate and wastage rate is high in province A and reporting rate and wastage rater is low in province B, then the decision maker can see that data quality is an issue in province B and wastage rate is unknown and cannot compared to province A. Also that issue in Province A is not data quality but has wastage rate issue. This allows the decision maker to understand and identify the issue clearly. This map is highly useful when the reporting rate is inconsistent.

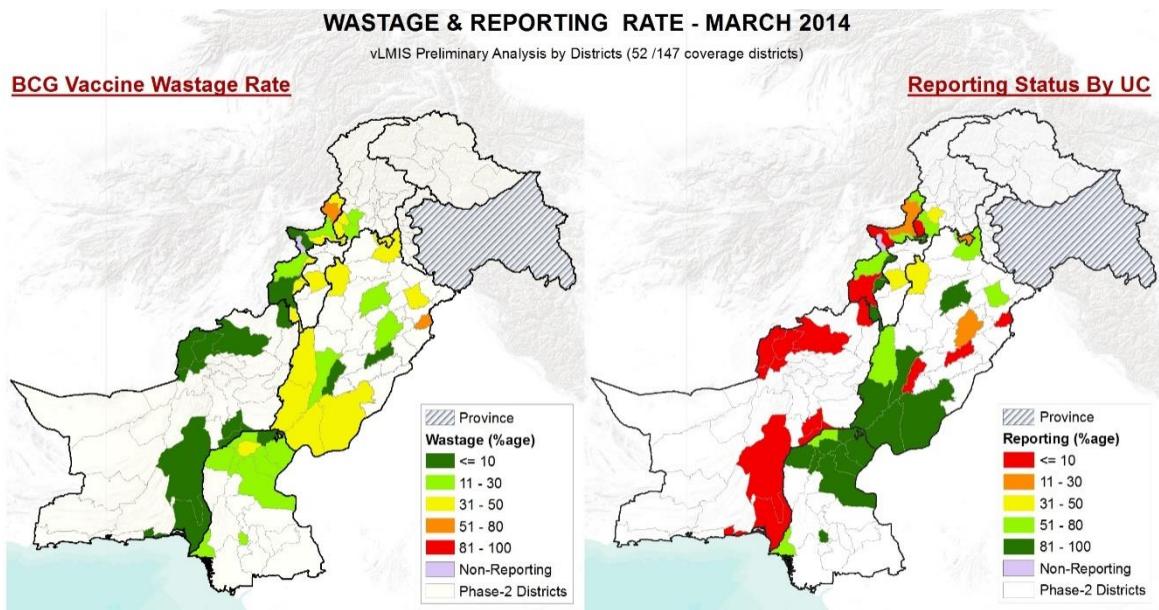
**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Product

**Formula:** Wastage and reporting rate is already being calculated by the vLMIS system.

Popup Wastage map: Province, District, Vaccine, Wastage%

Popup Reporting rate map: Province, District, Vaccine, Reporting rate



## VVM Stage 2 Map

Description:

A vaccine vial monitor (VVM) is a thermochromic label put on vials containing vaccines which gives a visual indication of whether the vaccine has been kept at a temperature which preserves its potency.

There are four stages of VVM i.e. 1 to 4. The VVM stage 1 and 2 can be vaccinated and 3 & 4 stages cannot be used and meant to discard. As with the Stock status map this will be a chloropleth map, with 5 categories. The ranges will be fixed initially set at 0-20, 21-40, 41-60, 61-80, 81-100 for the percentage of stock in VVM stage 1 & 2. After feedback from key stakeholders and users these may be adjust to ranges that are more strategically useful to the users. The popup will contain the actual amount of viable does at stages 1 & 2.

**Benefit:** The VVM stage overrides the expiry. If vaccines are in VVM stage 2 then it needs to be utilized first regardless of the expiry. This map will allow program managers to see the stock in VVM stage 2 in all districts of Pakistan to for quick consumption planning of vaccines.

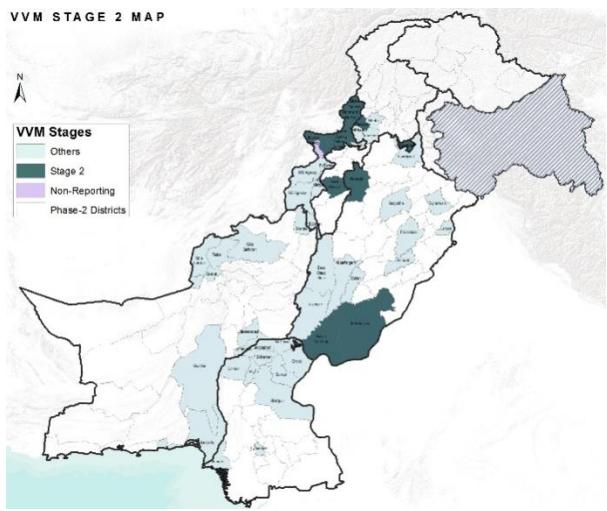
**Users:** National Users, Provincial Users, District Users

**Parameters of map** Month, Year, Province, Product, level (Provincial or District)

**Formula:** VVM stage2 will be extracted from database

**Popup:** Province, District, Vaccine, No. of Doses, Total Doses, VVM stage

**Prerequisite:** the District reporting rate must be above 90% to be shown on the maps, if the reporting rate is between 90% and 75% then district has gray hatching across the district and if the district reporting rate is below 75% it not mapped.



# Use Cases

*[As all maps are based on same types of filters so rendering of every web map will follow same use case]*

A use case shows a user and a computerized system interacting to reach a goal.

The following use cases are based on possible scenarios that may be encountered in the cLMIS or vLMIS system.

Use case ID	UC 001 Whenever a Map will be called either as whole or as a Dashlet
Level	Multiple-levels
Actors	Guest/Federal/Provincial/District user
Goal	User will select filters and perform search for data to be rendered as map.
Pre-Conditions	A user has a selected filters as per requested map
Post-Conditions	User can successfully see the map
Stakeholder Interest	Discussed with every map
Main Success Scenario	<ol style="list-style-type: none"><li>1. User Logs in.</li><li>2. User navigates to main menu.</li><li>3. User clicks <b>Maps</b> and select a map from the menu.</li><li>4. System displays <b>Map with filters</b>.</li><li>5. User selects the criteria for each map.</li><li>6. System displays the map.</li></ol>
Extensions	None
Special Requirements	
Requirements	Reference to corresponding system requirements: from 8.1.1 to 8.1.6
Notes/Issues	None