

## SOP: HOW TO USE LAB MANIFEST MODULE IN KENYAEMR3.x

Last updated: Mar 2024

<b>TASK:</b>	Configure KenyaEMR3.x to receive viral load results, request viral load from the system, send the manifest and receive VL results
<b>OBJECTIVE:</b>	Allow successful return of VL results to KenyaEMR3.x
<b>WHO:</b>	Facility Admins, Clinicians, Data Staff
<b>REQUIREMENTS:</b>	Functional KenyaEMR3.x and Internet Connectivity

### SUMMARY:

To ease data exchange with regards to Viral Load and EID results return to KenyaEMR3.x, a number of configuration steps are available in KenyaEMR3.x. The goal is to reduce manual data entry thus less transcription errors and faster turnaround time, efficiency, and effectiveness.

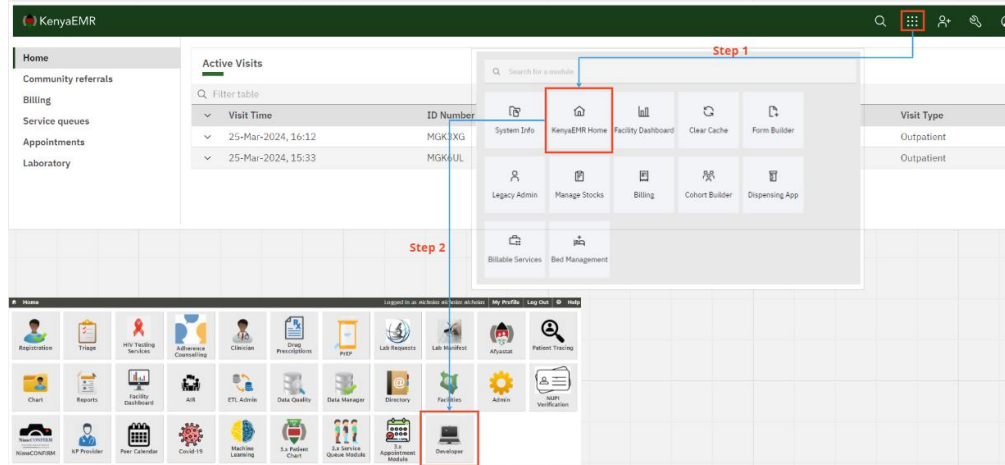
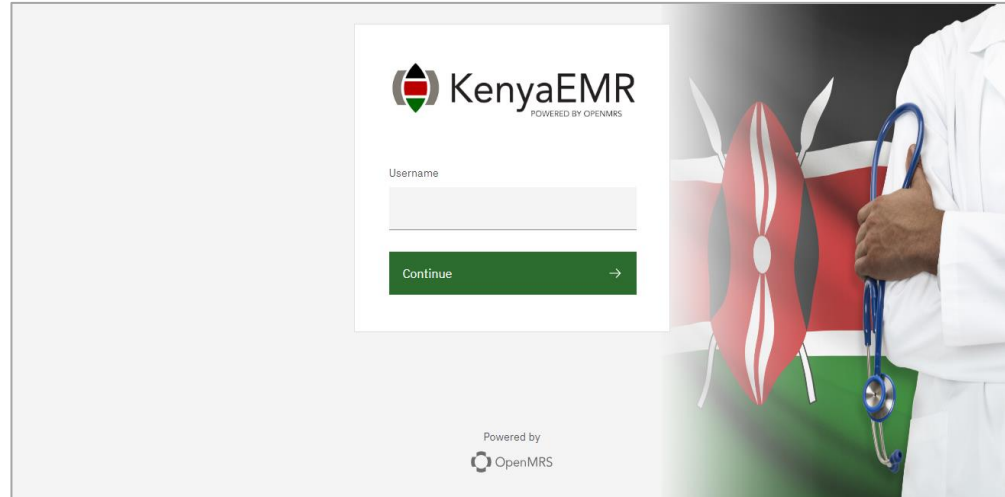
Activity

Screenshot

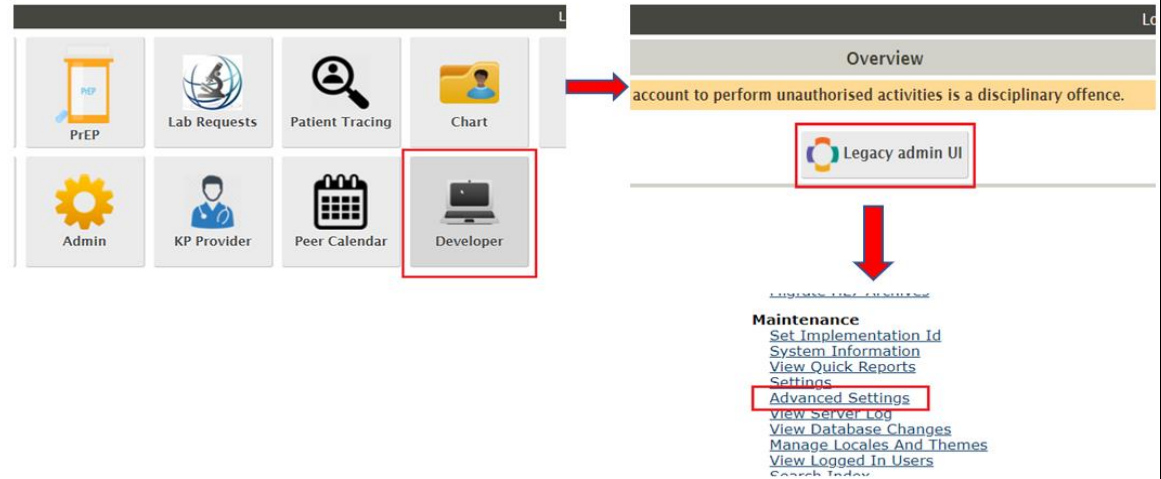
**CONFIGURING KENYAEMR TO RECEIVE VIRAL LOAD RESULTS – THIS IS A ONE-OFF ADMIN FUNCTION**

**Step 1:** Log into KenyaEMR3.x and navigate to the Advanced Settings

- Use **admin** credentials to log in to KenyaEMR3.x
- Click KenyaEMR Modules and Select “KenyaEMR Home” tab
- Click on “Developer”



- Click on "Legacy Admin UI"



**Step 3:**

Search (Ctrl+F) for the pre-defined properties. Specify property values for either CHAI or LABWARE endpoints as shown below. and configure the URLs and the following endpoints must be set correctly.


**NOTE: Please contact Palladium Service desk to obtain and setup valid API tokens.**

List of server endpoints to various reference labs in Kenya

#	Lab	chai_vl_server_result_url	chai_vl_server_url	Lab System
1	Kemri Nairobi	https://kemrinairobi.nascop.org/api/function	https://kemrinairobi.nascop.org/api/vl	CHAI
2	Kemri Kisumu	https://kemrikisumu.nascop.org/api/function	https://kemrikisumu.nascop.org/api/vl	CHAI
3	Kemri Alupe	https://kemrialupe.nascop.org/api/function	https://kemrialupe.nascop.org/api/vl	CHAI
4	CPGH	https://cpgh.nascop.org/api/function	https://cpgh.nascop.org/api/vl	CHAI
5	Walter Reed	https://wrpkericho.nascop.org/api/function	https://wrpkericho.nascop.org/api/vl	CHAI
6	KNH	https://knh.nascop.org/api/function	https://knh.nascop.org/api/vl	CHAI
7	Ampath	https://ampath.nascop.org/api/function	https://ampath.nascop.org/api/vl	CHAI
8	NHRL	https://covid2.nphl.go.ke/api/emr -exchange	https://covid2.nphl.go.ke/api/emr-exchange	LABWARE
9	EDARP	http://41.203.216.114:81/kenyaemr/vl/vl_results	http://41.203.216.114:81/kenyaemr/vl/receive	EDARP

### List of Endpoints to be set in KenyaEMR3.x

System	Property Name	Description	Default Value
<b>General</b>	kemrorder.labsystem_identifier	The name of the lab system in use. MUST be set to either <b>CHAI</b> , <b>EDARP</b> , or <b>LABWARE</b> . Please note these are case sensitive	CHAI, EDARP or LABWARE
	kemrorder.ssl_verification_enabled	Defines whether SSL verification is enabled. Should be set to false to disable SSL verification	true or false
	local.viral_load_result_end_point	Endpoint for processing viral load results from the lab (should be	http:// <b>KenyaEMR3.x_Server_IP</b> :8080/openmrs/ws/rest/v1/kemrorder/labresults
	kemrorder.retry_period_for_incomplete_vl_result	Retry period after which updates for incomplete results can be checked. An empty value will default to 2 days	2 days
	kemrorder.viral_load_result_tat_in_days	The turnaround time for VL results in days. This is to avoid premature pulling for results. An empty value will default to 4 days	10 days
<b>LABWARE</b>	labware_eid_server_api_token	API token to authenticate communication to the LABWARE EID lab system API. Contact palladium to obtain	Request from Palladium
	labware_eid_server_result_url	The URL for fetching the LABWARE EID result	Refer to step 3 for specific lab URL
	labware_eid_server_url	The URL for pushing requests to the LABWARE EID server	Refer to step 3 for specific lab URL
	labware_vl_server_api_token	API token to authenticate communication to the LABWARE VL lab system API	Refer to step 3 for specific lab URL
	labware_vl_server_result_url	The URL for fetching the LABWARE VL result	Refer to step 3 for specific lab URL
	labware_vl_server_url	The URL for pushing requests to the LABWARE VL server	Refer to step 3 for specific lab URL
<b>CHAI</b>	chai_eid_server_api_token	API token to authenticate communication to the CHAI EID lab system API. Contact Palladium to obtain	Request from Palladium
	chai_eid_server_result_url	The URL for fetching CHAI EID results	Refer to step 3 for specific lab URL
	chai_eid_server_url	The URL for pushing requests to the CHAI EID server	Refer to step 3 for specific lab URL
	chai_vl_server_api_token	API token to authenticate communication to the CHAI VL lab system API	Refer to step 3 for specific lab URL
	chai_vl_server_result_url	The URL for fetching the CHAI VL result	Refer to step 3 for specific lab URL
	chai_vl_server_url	The URL for pushing requests to the CHAI VL server	Refer to step 3 for specific lab URL



**Scheduler**  
[Manage Scheduler](#)

Status	Task / Class	Schedule	Last Execution Time	On Startup
Started Runs again in 876s	<b>Push Lab Requests to Lab</b> org.opemris.module.kenyaemrorderentry.task.PushLabRequestsTask	Runs every 30 minutes From 11:59:59PM, Starting on Apr 01 2020	03 April 2023 11:29:59 EAT	Yes (automatic)
Started Runs again in 876s	<b>Pull Viral Load results</b> org.opemris.module.kenyaemrorderentry.task.PullViralLoadLabResultsTask	Runs every 30 minutes From 11:59:59PM, Starting on Apr 01 2020	03 April 2023 11:29:59 EAT	Yes (automatic)

**Update sample details** ✕

Could not add to the manifest! LAB system is not configured! Please configure it to proceed

Sample type \* Frozen plasma ▼

Sample collection date \* 15-May-2023

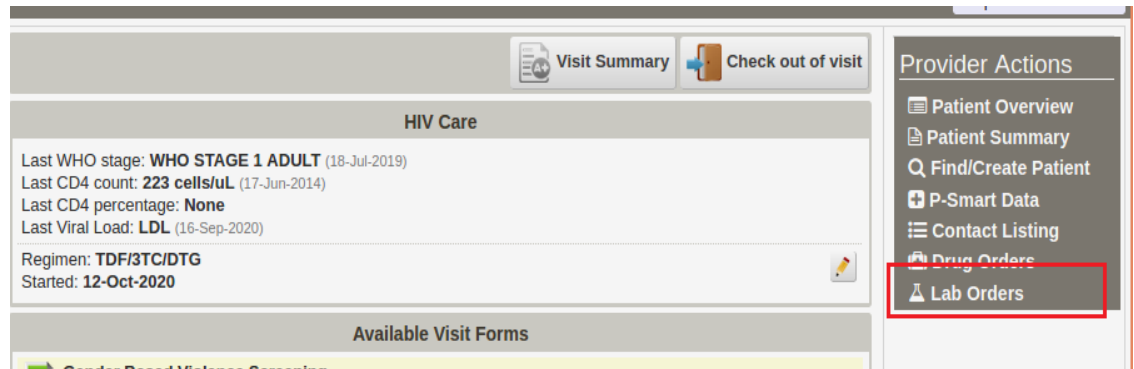
Sample separation/centrifugation date \* 15-May-2023

Cancel Save

**NB:** If `kemrdorder.labsystem.identifier` property is not specified, a similar error message will be displayed, and you will not be able to create and submit any manifest since each lab identifier expects a distinct set of payloads.

REQUESTING A VIRAL LOAD TEST FOR A PATIENT – THIS FUNCTION IS CONDUCTED BY CLINICIANS AND IS A ROUTINE FUNCTION

**Step 3:** Navigate to a patient file and select Lab Orders



Visit Summary | Check out of visit

**HIV Care**

Last WHO stage: **WHO STAGE 1 ADULT** (18-Jul-2019)  
 Last CD4 count: **223 cells/uL** (17-Jun-2014)  
 Last CD4 percentage: **None**  
 Last Viral Load: **LDL** (16-Sep-2020)

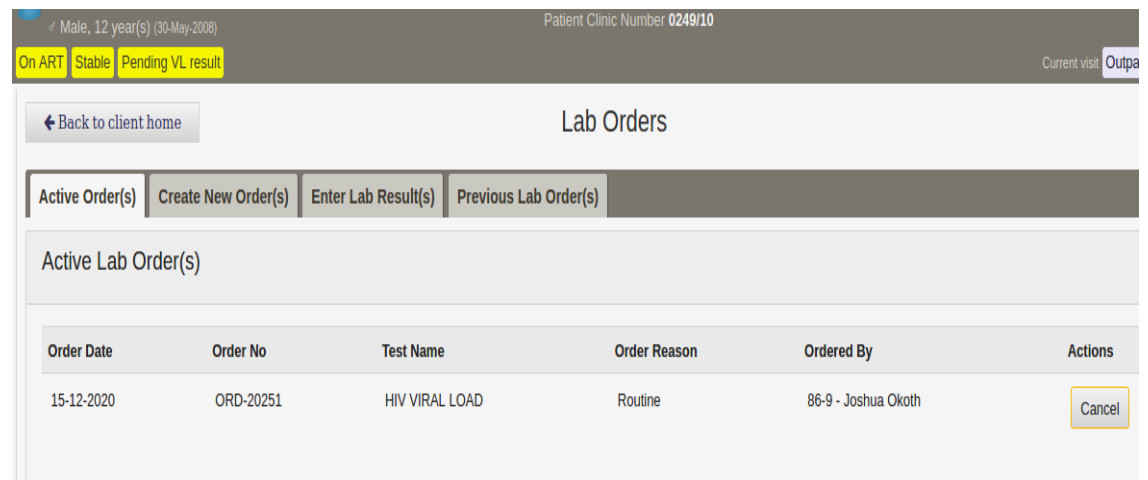
Regimen: **TDF/3TC/DTG**  
 Started: **12-Oct-2020**

Available Visit Forms

**Provider Actions**

- Patient Overview
- Patient Summary
- Find/Create Patient
- P-Smart Data
- Contact Listing
- Drug Orders
- Lab Orders**

**Step 4:** Complete the VL request and verify you have it under active orders.



Male, 12 year(s) (30-May-2008) | Patient Clinic Number 0249/10

On ART | Stable | Pending VL result | Current visit: Outpa

Back to client home

**Lab Orders**

Active Order(s) | Create New Order(s) | Enter Lab Result(s) | Previous Lab Order(s)

Active Lab Order(s)

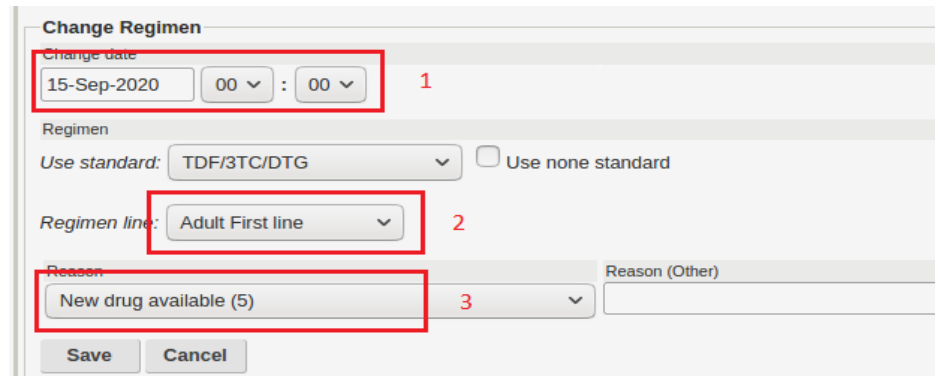
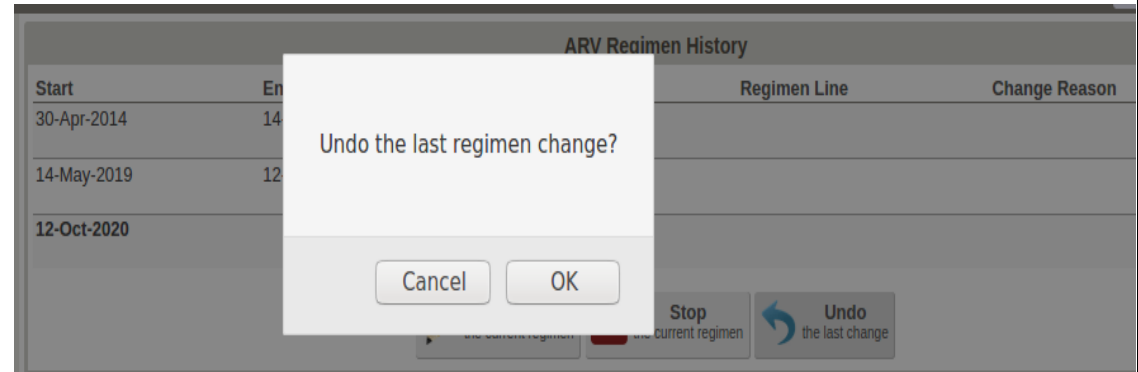
Order Date	Order No	Test Name	Order Reason	Ordered By	Actions
15-12-2020	ORD-20251	HIV VIRAL LOAD	Routine	86-9 - Joshua Okoth	Cancel

**VERIFYING AND/OR EDITING REGIMEN LINE – THIS IS A FUNCTION CONDUCTED ONLY ONCE FOR EACH PATIENT AND CAN BE DONE BY EITHER A CLINICIAN OR DATA STAFF**

**Step 5:** Navigate to the client's ARV Regimen History and Ensure the client has a regimen line. If none is available, TAKE NOTE of the current regimen then:

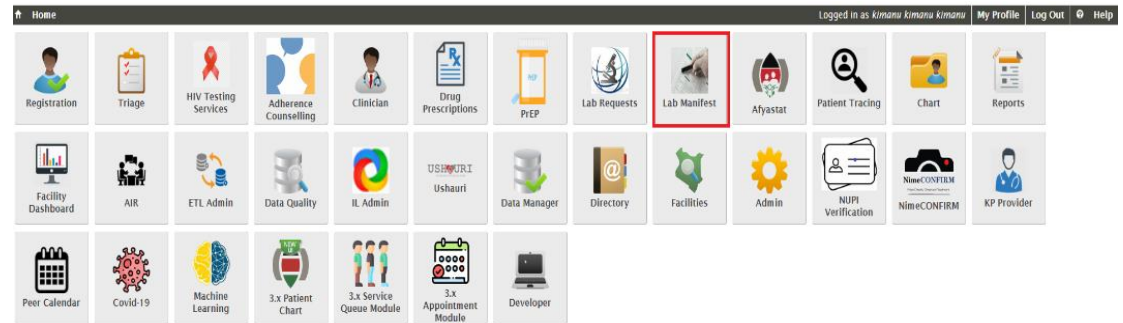
- Undo the Last Regimen Change

- Add **regimen** and be sure to input **CORRECT START DATE**, select correct **regimen line** and save.

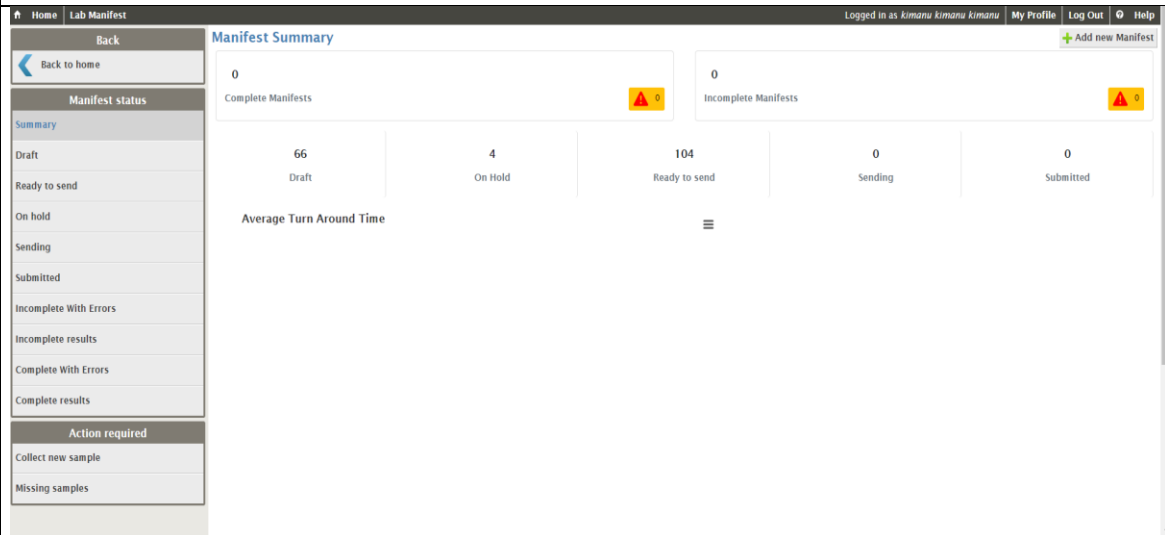


**CREATING NEW LAB MANIFEST – THIS IS A ROUTINE FUNCTION AND CAN BE CONDUCTED BY EITHER A LAB TECH, DATA STAFF, OR CLINICIAN**

**Step 6:** Navigate to the Lab Manifest tab on the KenyaEMR3.x Homepage



This lands you to the Lab Manifest Summary page





**Step 7:** Click on Draft then on click Add New Manifest.

Home Lab Manifest Logged in as Kimanu Kimanu Kimanu My Profile Log Out Help

Back

Back to home

Manifest status

Summary

**Draft Step 1**

Ready to send

On hold

Sending

Submitted

Incomplete With Errors

Incomplete results

Complete With Errors

Complete results

Action required

Collect new sample

Missing samples

**Manifest list [ Draft ]**

**+ Add new Manifest Step 2**

Start Date	End Date	Type	Courier	Manifest ID	Lab person contact	Status	Dispatch	Action
13-Jul-2023	19-Jul-2023	VL	Deche		0706352687	Draft Total samples: 0	19-Jul-2023	View Edit
13-Jul-2023	19-Jul-2023	VL	Deche		0706352687	Draft Total samples: 0	19-Jul-2023	View Edit
14-Jul-2023	19-Jul-2023	VL	C4s		0706352687	Draft Total samples: 2	19-Jul-2023	View Edit
14-Jul-2023	19-Jul-2023	VL	Rider		0706352687	Draft Total samples: 0	19-Jul-2023	View Edit
14-Jul-2023	19-Jul-2023	VL	Muye		0706352687	Draft Total samples: 0	19-Jul-2023	View Edit
10-Jul-2023	27-Jul-2023	VL	Samuel		0706352687	Draft Total samples: 1	27-Jul-2023	View Edit
14-Jul-2023	19-Jul-2023	VL	Chelsea		0706352687	Draft Total samples: 0	19-Jul-2023	View Edit
12-Jul-2023	15-Jul-2023	VL	Jm services		0706352687	Draft Total samples: 0	15-Jul-2023	View Edit
14-Jul-2023	28-Jul-2023	VL	D.m		0706352687	Draft Total samples: 0	Today	View Edit
14-Jul-2023	19-Jul-2023	VL	Juma		0706352687	Draft Total samples: 0	19-Jul-2023	View Edit

First Previous 1 2 3 4 5 Next Last

**Step 8:** Complete the details of the New Manifest taking into special consideration the fields:

- **Date Range** – This is the range for which you will fill Viral Load samples have been collected and for which you require results to be returned.
- **Manifest Type** – This should be set to either **Viral Load** or **IED** depending on the type of samples expected in the manifest.

- **Dispatch Details**

Add the dispatch details, *please note* the Dispatch date is a mandatory field.

**Address**

Verify the auto populated facility address details and edit accordingly.

- **Manifest Status** – The status should be set to “**Draft**” during the period of adding samples to the manifest. Other options are:

*Ready to Send:* Set when all valid samples have been added and are ready to be submitted.

*On Hold:* This is set if for some reason the manifest should not be submitted yet.

- Once done, click **Create Lab Manifest** to save the manifest.

Home
Edit Lab Manifest

---

**Manifest date range**

Start Date	End Date
01-Apr-2021	06-Apr-2021

---

**Manifest type**

Type \*  
 Viral Load ▾

---

**Dispatch Details**

Dispatch Date	Courier Name	Person handed to
01-Apr-2022		

---

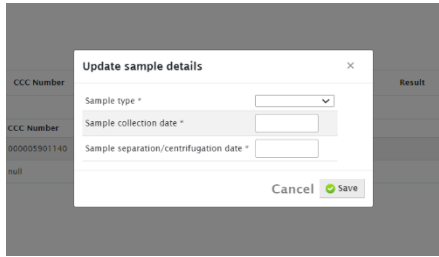
**Address**

County	Sub-County
Muranga ▾	gatanga ▾
Facility Email	Facility Phone contact
hhjjkkj	0713322215
Clinician Name	Clinician Phone contact
jane	0710123456
Lab person Phone number	
0710121212	

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**Manifest status**

Status \*  
 Draft ▾

<p><b>Step 8:</b> Add patient records to the Manifest. To do this you will need to navigate to the Manifest List, Click view and Add Patients.</p>	<p><b>Manifest list</b></p> <p>+ Add new Manifest</p> <p>Page 1</p> <table border="1"> <thead> <tr> <th>Start Date</th> <th>End Date</th> <th>Courier</th> <th>County/Sub-county</th> <th>Facility Email</th> <th>Facility Phone</th> <th>Clinician name</th> <th>Clinician contact</th> <th>Lab person contact</th> <th>Status</th> <th>Dispatch</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>01-Jul-2021</td> <td>13-Jul-2021</td> <td>Ambulance</td> <td>Kisumu/Central</td> <td>email@facility.com</td> <td>0711222111</td> <td>His name</td> <td>0799111222</td> <td>0790111000</td> <td>Draft Total samples: 3</td> <td>13-Jul-2021</td> <td> <a href="#">View</a>  <a href="#">Edit</a> </td> </tr> </tbody> </table>	Start Date	End Date	Courier	County/Sub-county	Facility Email	Facility Phone	Clinician name	Clinician contact	Lab person contact	Status	Dispatch	Action	01-Jul-2021	13-Jul-2021	Ambulance	Kisumu/Central	email@facility.com	0711222111	His name	0799111222	0790111000	Draft Total samples: 3	13-Jul-2021	<a href="#">View</a> <a href="#">Edit</a>			
Start Date	End Date	Courier	County/Sub-county	Facility Email	Facility Phone	Clinician name	Clinician contact	Lab person contact	Status	Dispatch	Action																	
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<p>Ensure to add all patients for whom samples are ready for dispatch.</p>	<table border="1"> <tbody> <tr><td>1302804325</td><td>04-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1302806972</td><td>08-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1302802722</td><td>02-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1302803475</td><td>15-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1302803704</td><td>15-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1302804574</td><td>04-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1302807096</td><td>09-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1302800346</td><td>02-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> <tr><td>1687007993</td><td>08-Dec-2020</td><td><a href="#">Add to manifest</a></td></tr> </tbody> </table>	1302804325	04-Dec-2020	<a href="#">Add to manifest</a>	1302806972	08-Dec-2020	<a href="#">Add to manifest</a>	1302802722	02-Dec-2020	<a href="#">Add to manifest</a>	1302803475	15-Dec-2020	<a href="#">Add to manifest</a>	1302803704	15-Dec-2020	<a href="#">Add to manifest</a>	1302804574	04-Dec-2020	<a href="#">Add to manifest</a>	1302807096	09-Dec-2020	<a href="#">Add to manifest</a>	1302800346	02-Dec-2020	<a href="#">Add to manifest</a>	1687007993	08-Dec-2020	<a href="#">Add to manifest</a>
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1302803704	15-Dec-2020	<a href="#">Add to manifest</a>																										
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1302807096	09-Dec-2020	<a href="#">Add to manifest</a>																										
1302800346	02-Dec-2020	<a href="#">Add to manifest</a>																										
1687007993	08-Dec-2020	<a href="#">Add to manifest</a>																										
<p>Update sample details based on the sample type i.e. Frozen Plasma or Whole Blood, Sample collection date and Sample Separation/centrifugation dates</p>																												

**Step 9:**

The Manifest will be available under the Draft Manifest status until we are ready to send.

Sending the manifest requires changing the status of the manifest to **“Ready to send”**

- Date Range – This is the range for which you will Viral Load samples have been collected and for which you require results to be returned.
- Manifest Status – The status should be set to **“Ready to send”**
- Save Changes

Home
Edit Lab Manifest

**Manifest date range**

Start Date	End Date
01-Apr-2021	06-Apr-2021

**Manifest type**

Type \*  
Viral Load ▾

**Dispatch Details**

Dispatch Date	Courier Name	Person handed to
01-Apr-2022	<input type="text"/>	<input type="text"/>

**Address**

County	Sub-County
<span style="border: 1px solid #ccc; padding: 2px;">Muranga ▾</span>	<span style="border: 1px solid #ccc; padding: 2px;">gatanga ▾</span>
Facility Email	Facility Phone contact
<input type="text" value="hhjjkk"/>	<input type="text" value="071332215"/>
Clinician Name	Clinician Phone contact
<input type="text" value="jane"/>	<input type="text" value="0710123456"/>
Lab person Phone number	
<input type="text" value="0710121212"/>	

Lab person Phone number

Status  
Draft  
Ready to send  
On hold  
Draft ▾

✔ Save Changes
✖ Cancel

### VIEWING LAB RESULTS

**Step 10:** Navigate to the Manifest list and click on view. If the results are back the manifest status should read **“Received Results”**

**Manifest list**

+ Add new Manifest

Start Date	End Date	Courier	County/Sub-county	Facility Email	Facility Phone	Clinician name	Clinician contact	Lab person contact	Status	Dispatch	Action
16-Mar-2021	18-Mar-2021	Test Courier	Kisumu / Seme	facility@email.org	0711999999	Test provider	0711888888	0781000000	Draft	17-Mar-2021	<span style="background-color: #0070c0; color: white; padding: 2px 5px;">View</span> <span style="background-color: #0070c0; color: white; padding: 2px 5px;">Edit</span>
16-Mar-2021	18-Mar-2021	Courier one	Bungoma / Bukusu	facility@email.com	0700000000	Clinician One	0711111111	0790111111	Submit	18-Mar-2021	<span style="background-color: #0070c0; color: white; padding: 2px 5px;">View</span>

**Step 11:** View the Status of the individual samples noting the Status and Result columns.

### Manifest details

Start Date	End Date	Status	Dispatch Date
08-Dec-2020	10-Dec-2020	Received result	10-Dec-2020

[Print Manifest](#)

### Samples in the manifest

Patient Name	CCC Number	Sample type	Date requested	Status	Result	Result Date	
christine mwamisi mbithe	2111700002	Frozen plasma	16-Mar-2021	Pending	Not ready		<a href="#">Remove</a> <a href="#">Print Label</a>
prudence kavosi ndeva	1848403457	Whole Blood	16-Mar-2021	Pending	Not ready		<a href="#">Remove</a> <a href="#">Print Label</a>

### Active requests

Patient Name	CCC Number	Date requested
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## TRACKING A MANIFEST

### Step 12:

A manifest will be available under different manifest Status categories depending on the Status assigned and the progress of events.

#### Different Manifest Categories:

- **Draft**- Samples are still being added to the manifest and the manifest date range has not elapsed, and samples are not ready for transportation.
- **Ready to Send**: Set when all valid samples have been added and are ready to be submitted.
- **On Hold**: This is set if for some reason the manifest should not be submitted yet.
- **Submitted**- A manifest that was changed to **Ready to send** from a machine with internet connectivity. A verified manifest, where all samples have been added within the manifest date range.
- **Incomplete results**- A manifest results for some samples and others pending results

Manifest status
Draft
Ready to send
On hold
Submitted
Incomplete results
Complete results

- **Complete results-** A manifest with results available for all the samples added to it.

**Please note:** All samples with results available should have the same mapped in the patient records and visible from the previous lab orders tab of the Lab Request module in KenyaEMR3.x

**REVIEW UNPROCESSED SAMPLES**

**STEP 13:**

Unprocessed samples or samples without results with feedback from the reference lab to be actioned.

All samples that need to be collected again will be available in the **Collect New sample** Tab and All missing samples that did not reach the reference lab will be visible from the **Missing Samples** tab.

Action required						
Collect new sample						
Missing samples						
Collect New Sample list [ total = 0 ]						
Patient Name	Patient Identifier	Sample type	Date requested	Status	Result	Result Date
Samples missing in the lab [ total = 0 ]						
Patient Name	Patient Identifier	Sample type	Date requested	Status	Result	Result Date

**THE END**